Sixth Annual Texas Environmental Superconference

August 4 - 5, 1994
Thursday and Friday



Four Seasons Hotel

98 San Jacinto Blvd.
Austin, Texas



1994 *Sixth Annual* Texas Environmental Superconferen

18

Regional Offices:

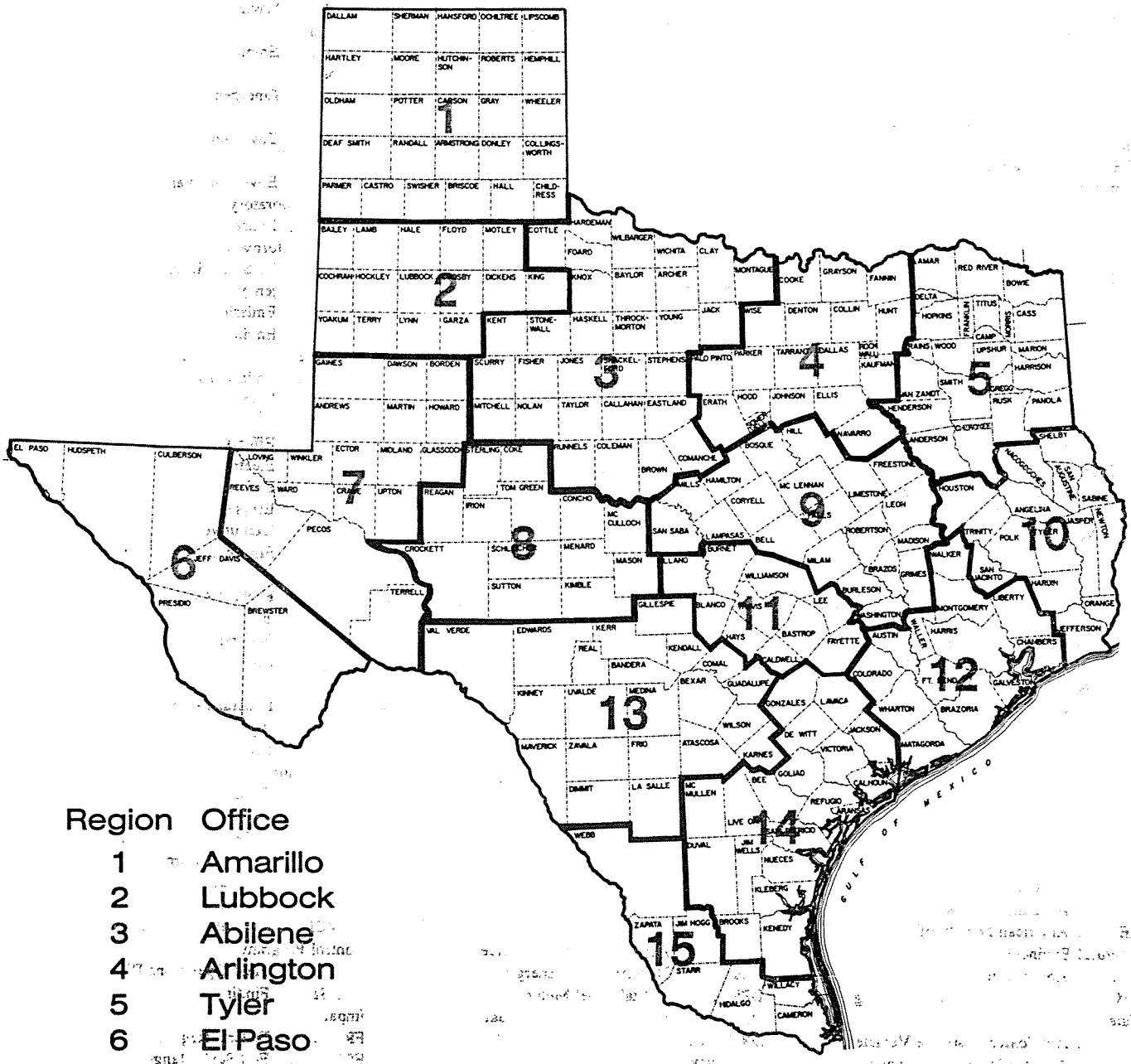
Organization --

15 Regional Service Areas
Conforming to Legislatively Mandated
Uniform State Service Region (USSR) Plan;
Field Staff of 650 Employees.

Consolidation --

Consolidated Regional Office in
San Antonio, Lubbock, Austin, Amarillo,
San Angelo and Abilene;
Remaining Offices Consolidated by September 1, 1994

TNRCC REGIONS



Region	Office
1	Amarillo
2	Lubbock
3	Abilene
4	Arlington
5	Tyler
6	El Paso
7	Odessa
8	San Angelo
9	Waco
10	Beaumont
11	Austin
12	Houston
13	San Antonio
14	Corpus Christi
15	Harlingen

JJV-6

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ACRONYMS

AAFA . . . Administrative Audits & Financial Assurance Division
AAS . . . . Atomic Absorption Spectrometry
AASHTO . American Association of State Highway & Transportation Officials
AC . . . . . Acquisitions & Compliance Division
ACGIH . . American Conference of Governmental Industrial Hygienists
ACIN . . . Abatement Control Identification Number
ACTS . . . Alternative Control Techniques
ADA . . . . Americans with Disabilities Act
ADMIN . . Administration
ADR . . . . Alternative Dispute Resolution
ADT . . . . Average Daily Traffic
AER . . . . Allowable Emission Rate
AERCO . . Area Emission Reduction Credit Organization
AFJ . . . . Agreed Final Judgment
AFR . . . . Air/Fuel Ratio or Annual Financial Report
AG . . . . . Agriculture Division
AIRS . . . . Aerometric Information Retrieval System
ALAPCO . Association of Local Air Pollution Control Officials
AP-42 . . . Compilation of Air Pollutant Emission Factors
API . . . . American Petroleum Institute
AQA . . . . Air Quality Assessment Program
AQAC . . Air Quality Advisory Committee
AQCR . . Air Quality Control Region
AQMP . . Air Quality Modeling Procedures
AQP . . . . Air Quality Planning
ASA . . . . Air Stagnation Advisory
ASAE . . . American Society of Agricultural Engineers
AST . . . . Aboveground Storage Tank
ASTM . . American Society for Testing & Materials
ATRV . . . Air Toxics Response Vehicle
AVO . . . Average Vehicle Occupancy
AWMA . . Air & Waste Management Association
BACM . . Best Available Control Measures
BACT . . Best Available Control Technology
BAR . . . Bureau of Automotive Repair
BART . . . Bay Area Rapid Transit (in San Francisco)
BIF . . . . . Boilers Industrial Furnace (EPA's)
BMPs . . . Best Management Practices
BP . . . . . Budget & Planning Division
CAA . . . . Clean Air Act
CAFOs . . Confined Animal Feeding Operation
CAMS . . . Continuous Air Monitoring Station
CAP . . . . Compliance Advisory Panel (Small Business Program)
CAP . . . . Capacity Assurance Plan
CARB . . California Air Resources Board
CAS . . . . Carbon Adsorption System
CATOX . . Catalytic Oxidation Unit
CCN . . . . Certificate of Convenience & Necessity
CCNEP . . Corpus Christi National Estuary Program
CDBGP . Community Development Block Grant Program
CDS . . . . Compliance Data System
CEIS . . . Computerized Emissions Inventory System
CEMS . . . Continuous Emission Monitoring System
CERCLA . Comprehensive Environmental Responsibility, Compensation and Liability Act
CFC . . . . Chlorofluorocarbon
CFR . . . . Code of Federal Regulations
CIN . . . . Control Equipment Identification Number
CMA . . . . Chemical Manufacture Association
CMSA . . . Consolidated Metropolitan Statistical Area
COG . . . . Council of Government
COH . . . . Coefficient of Haze
CONTOP Continuous Smelting-top Blowing
CPI . . . . Consumer Price Index
CRT . . . . Cathode Ray Tube
CTG . . . . Control Techniques Guidelines
DOC . . . . Department of Commerce
DOE . . . Department of Energy
DPM . . . . Digital Panel Meter
DPS . . . . Department of Public Safety
DRE . . . . Destruction & Removal Efficiency
DVM . . . Digital Volt Meter
EA . . . . Environmental Assessment
EC . . . . . Electron Capture
ECO . . . . Engineering Change Order
EDF . . . . Environmental Defense Fund
EDRC . . . Episode Data Reporting Center
EEOC . . . Equal Employment Opportunity Commission
EERS . . . Excess Emission Reports
EGR . . . Exhaust Gas Recirculation
EI . . . . . Emissions Inventory
EIS . . . . . Environmental Impact Statement
EKMA . . . Empirical Kinetic Modeling Approach
EMC . . . . Emergency Management Center
EMR . . . . Environmental Management Report
EMSL . . . Environmental Monitoring Systems Laboratory
EMTIC . . Emission Measurement Technical Information Center
EPA . . . . U. S. Environmental Protection Agency
EPN . . . . Emission Point Number
E&QA . . . Engineering & Quality Assurance
ERC . . . . Emission Reduction Credit
ERGO . . . Extended Reports & Graphic Output
ESL . . . . Effects Screening Level
ESP . . . . Electrostatic Precipitator
ESR . . . . Enforcement System Review
ETI . . . . . Elapsed Time Indicator
EXEC . . . Executive Director's Office
FA . . . . . Financial Administration Division
FAA . . . Federal Aviation Administration
FCAA . . . Federal Clean Air Act
FEC . . . . Formal Enforcement Conference
FEMA . . . Federal Emergency Management Agency, U.S.
FHWA . . Federal Highway Administration
FID . . . . Flame Ionization Detector
FIN . . . . Facility Identification Number
FIP . . . . Federal Implementation Plan
FIPS . . . Federal Information Processing Standards
FLSA . . . Fair Labor Standards Act
FMVCP . . Federal Motor Vehicle Control Program
FO . . . . Field Operations Division
FONSI . . Finding of No Significant Impact
FR . . . . Federal Register
FSR . . . . Full Scale Range or Financial Status Report
FY . . . . . Fiscal Year
GACT . . Generally Available Control Technology
GAQM . . Guideline on Air Quality Models
GBNEP . . Galveston Bay National Estuary Program
GC . . . . Gas Chromatograph
GCCES . . Gulf Coast Community Exposure Study

TNRCC Priorities:

Achieve 50% reduction in discharges of hazardous/toxic waste, land disposal of municipal solid waste, and discharges of waterborne pollutants by year 2000

Meet federal Clean Air Act requirements

Be responsive to citizens seeking information/reporting environmental problems

Develop more efficient enforcement process and eliminate backlogs

Increased technical assistance to Texas businesses and local government

Manage limited resources wisely

Ensure actions and decisions consistently meet the test of fairness and common sense

Working environment that promotes high morale and productivity among employees

CLARK, THOMAS & WINTERS
A PROFESSIONAL CORPORATION

John J. Vay
Attorney at Law

Practice Emphasis:

Professional Legal Counseling in Environmental, Water and Utility Related Matters

Professional Associations:

Admitted to State Bar of Texas, November 1984
Council Member, Secretary, Administrative Law Section, State Bar of Texas, 1993-94
Board Member, Treasurer, Administrative Law Section, Travis County Bar Ass'n., 1993-94
Member, Environmental Law Section, State Bar of Texas, 1993-94

Education:

Graduate of St. Mary's University, School of Law, San Antonio, Texas
Attained Juris Doctorate, May 1984
St. Mary's University Law Journal, Staff Member
Dean's Honor List: Fall 1981
Officer, Phi Delta Phi International Honorary Legal Fraternity

Graduate of Susquehanna University, Selinsgrove, Pennsylvania
Attained Bachelor of Arts Degree, May 1981
Double Major: Economics/Political Science

Graduate of Susquehanna University International Summer Studies Program,
University College, Oxford, England,
Completed Studies in British History & Politics and British Literature, 1979

Professional Experience:

Shareholder, Clark, Thomas & Winters, P.C., Austin, Texas, September 1992 - Present.
Principal, Law Offices of John J. Vay, Austin, Texas, January 1992 - August 1992.
Director, Legal Services, Texas Water Commission, Austin, Texas, Oct. 1991 - Dec. 1991.
General Counsel, Texas Water Commission, Austin, Texas, August 1989 - October 1991.
Ass't. Chief Hearings Examiner, Texas Water Commission, Austin, Texas, Feb. 1989 - Aug. 1989.
Hearings Examiner, Texas Water Commission, Austin, Texas, April 1988 - February 1989.
Special Agent, Federal Bureau of Investigation, Seattle, Washington, June 1986 - March 1988.
Staff Attorney, Texas Department of Water Resources, Austin, Texas, February 1985 - June 1986.

John J. Vay

A graduate of St. Mary's University School of Law, in San Antonio, Texas, Mr. Vay entered the field of environmental, water and utility law in 1985 as a Staff Attorney for the Texas Department of Water Resources (predecessor agency to the Texas Water Commission). At that time, Mr. Vay gained extensive experience in the areas of wastewater discharge permitting and enforcement and water quality management. Upon his return to the Texas Water Commission in 1988, following two years with the U.S. Department of Justice, Mr. Vay served as a Hearings Examiner and presided over numerous contested case proceedings involving applications for wastewater discharge permits, the establishment of wholesale and retail water and sewer rates, the permitting of surface water reservoirs, and other agency matters. Within a year, Mr. Vay was appointed to the position of Assistant Chief Hearings Examiner in which he supervised the conduct of contested case proceedings and the preparation of Proposals for Decision within the Commission's Office of Hearings Examiners.

In 1989, Mr. Vay was appointed to the position of General Counsel, where he served for more than two years as the direct legal advisor to the three Texas Water Commissioners. As General Counsel, Mr. Vay was directly involved in all contested and uncontested matters presented to the Commissioners for final decision, and he assisted the Attorney General's Office in its representation of the agency in the State's district and appellate courts. In 1991, Mr. Vay was selected to head the Commission's Legal Services Division, where he supervised the activities of five Senior Attorneys and approximately twenty Staff Attorneys.

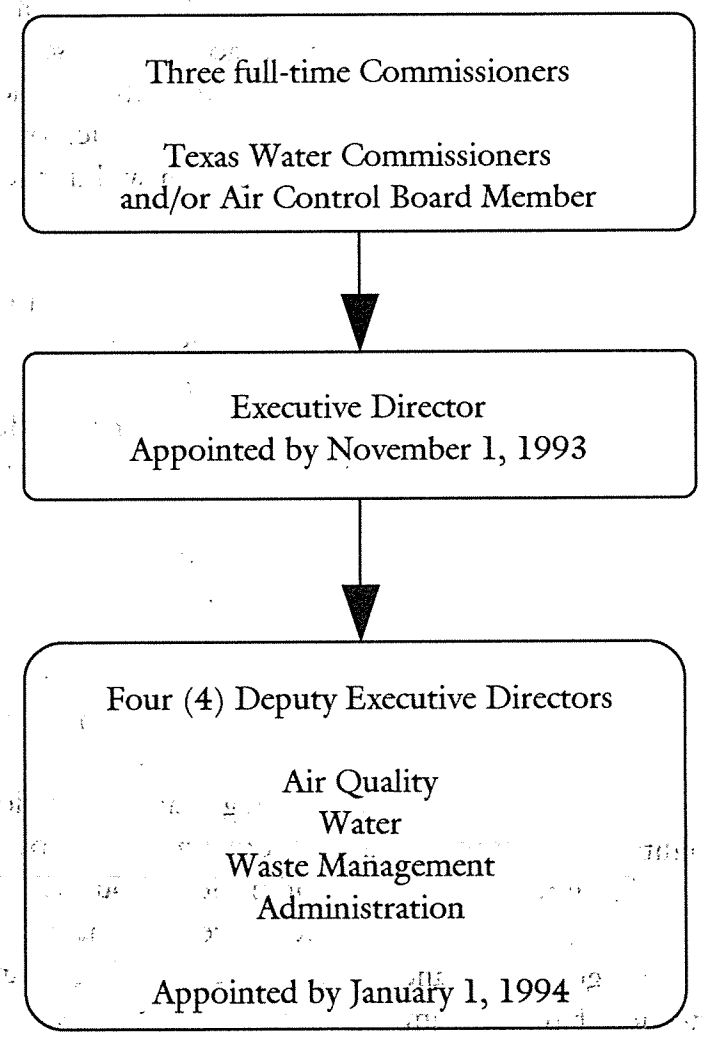
During his five-year tenure with the Commission, Mr. Vay gained broad policy and regulatory experience in the areas of solid and hazardous waste management, wastewater discharges and water quality management, water and sewer utility certification and ratesetting, petroleum storage tank regulation, surface and subsurface water rights, water district supervision, and numerous other agency programs. Mr. Vay's ability to provide outstanding legal counseling in connection with complex regulatory and politically sensitive matters ultimately transcended the administrations of three governors and each of the resulting changes in agency leadership. Few attorneys have the same breadth of regulatory experience with the Commission or its predecessor agencies.

On December 31, 1991, Mr. Vay concluded his service with the State of Texas to pursue a career in the private sector. In January 1991, Mr. Vay established his own law office in Austin, Texas, representing a variety of clients in connection with matters pending at the Texas Water Commission. In September 1992, Mr. Vay merged his environmental and administrative law practice with the well-respected Austin law firm of Clark, Thomas, Winters & Newton, P.C..

Transition Organization

Senate Bill 2, Section 1.0171
Texas Water Code Section 5.222

Texas Natural Resource Conservation Commission



Implemented Transition Organization
by October 10, 1991

Continuing Study and Reporting Obligations

March 1, 1994

Executive Director to study and report to the TNRCC, Governor, Lt. Governor, and Speaker concerning integrating similar agency support functions inherited from TACB/TWC; to be implemented by September 1, 1994

September 1, 1994

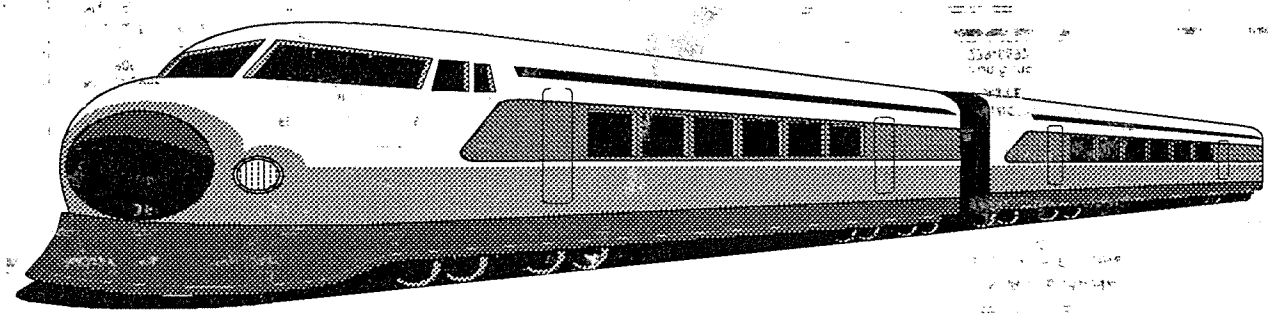
Executive Director to similarly study and report concerning benefits of consolidating laboratory functions inherited from TACB/TWC, including recommendations for establishing uniform enforcement policies and procedures within the agency and restructuring of agency attorneys performing primarily enforcement functions; complete to extent practicable by September 1, 1996.

September 1, 1995

Executive Director to similarly study and report concerning the streamlining of permit procedures, consolidated permits, and alternative agency organizational structures; complete to extent practicable by September 1, 1997.

"Shining Time Station"

TNRCC Consolidation Update



by John J. Vay
Clark, Thomas & Winters, P.C.
Austin, Texas

Advanced Environmental Law Course

San Antonio, Texas
January 20-21, 1994

TNRCC ORGANIZATION

December 22, 1993

HEARINGS EXAMINERS
Claire Arenson
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CHIEF CLERK
Gloria Vasquez
463-7898

EXECUTIVE ASSISTANT TO THE COMMISSIONERS
Fritzi Pikes 463-7783

INTERNAL AUDIT
Caroline Maclay-Beyer
475-2220

PROGRAM EVALUATION
Melissa Schenker
239-6335

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Peggy Garner 512/463-7910

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475-1740

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475-2222

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Diana Borja
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Mark Jordan
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WATER UTILITIES
Dean Robbins
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WATERSHED MANAGEMENT
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Galveston Bay NEP
Corpus Christi NEP

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South Texas Watermaster

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AIR POLICY
239-1107

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Manuel Aguirre
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AIR QUALITY PLANNING
239-1457

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WASTE POLICY
Daniel Eden
239-6813

POLLUTION CLEANUP
Jack Kramer
239-2454

PETROLEUM STORAGE TANK
Joe Woodard
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MUNICIPAL SOLID WASTE
Ron Bond
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INDUSTRIAL & HAZARDOUS WASTE
Susan Ferguson
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Nancy Lynch
463-8091

LEGAL SERVICES
Mary Ruth Holder
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239-6300

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239-0413
Central Office Operations
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Region 2-Lubbock
Region 3-Abilene
Region 4-Arlington
Region 5-Tyler
Region 6-El Paso
Region 7-Odessa
Region 8-San Angelo
Region 9-Waco
Region 10-Beaumont
Region 11-Austin
Region 12-Houston
Region 13-San Antonio
Region 14-Corpus Christi
Region 15-Harlingen
TNRCC Lab-Houston

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Terry Parmley
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HUMAN RESOURCES
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Bill Briggs
463-8126

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EQUAL OPPORTUNITY DEVELOPMENT
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463-7846

SUPPORT SERVICES
Ed House
463-7821

PUBLIC INFORMATION & EDUCATION
M.A. Bengtson
239-0014

GENERAL ASSISTANCE OPERATORS
512/239-1000

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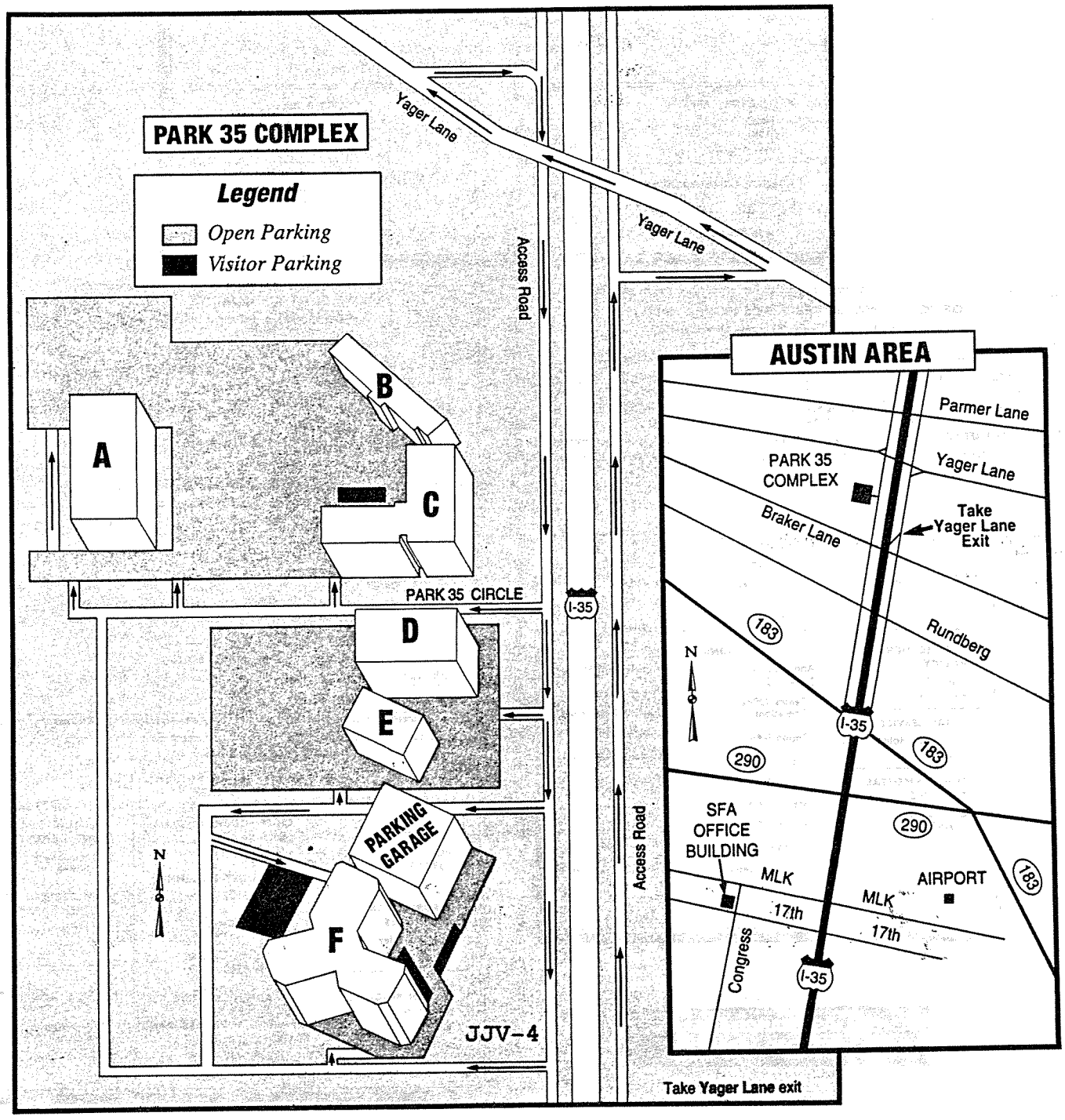
TNRCC AUSTIN LOCATIONS

TNRCC main offices are located at Park 35, an office complex nine miles north of downtown Austin, off interstate 35 at Yager Lane. The bulk of TNRCC technical programs regarding air, water and waste are already located at the complex. By Spring of 1994 the entire TNRCC will be located at Park 35.

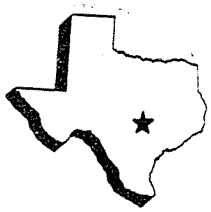
Until that time, Commission Agenda meetings will continue to be held each Wednesday in room 118 of the Stephen F. Austin Building, 1700 North Congress Avenue.

The Commission will maintain limited offices in the Capitol Complex, to be available for Legislative sessions and other needs.

The TNRCC staff will total approximately 3,000 by the end of 1994. The additional staff is necessary to implement the Clean Air Act and due to increased Superfund cleanups.



SIXTH ANNUAL TEXAS



ENVIRONMENTAL SUPERCONFERENCE

c/o Kelly, Hart & Hallman
301 Congress Avenue, Suite 2000
Austin, Texas 78701
(512) 495-6400

MEMORANDUM

TO: Attendees

FROM: Planning Committee

DATE: August 4, 1994

On behalf of the Environmental and Natural Resources Section of the State Bar, the Air and Waste Management Association, Southwest Section, the Water Environment Association, and the Texas and Central Texas Hazardous Waste Management Societies, welcome to the Sixth Annual Texas Environmental Superconference. As you know, the conference is an annual event established to create a dialogue among the attendees, who are drawn from the public and private sector and from the legal and technical professions. The conference provides excellent continental breakfasts and plate lunches and plenty of breaks to encourage participants to discuss environmental issues informally.

As is clear from the program, this year there is an excellent line-up of speakers. We are especially pleased to have a presentation by Jane Saginaw, Regional Administrator of EPA Region 6, and an open mike discussion with various TNRCC department heads, moderated by TNRCC Commissioner Pam Reed. On Friday, there will be a series of hypothetical problems, which participants will address by role playing. There are several changes from the original program: Paul Elliott will participate in the session on Administrative Law, Gregg Cooke will participate in the Open Mike Session, and Larry Feldcamp will participate in the session on air quality. Additionally, on Thursday there will be a PC set up in the lobby in conjunction with Carol Batterton's presentation, to demonstrate how to access TNRCC data bases.

As always, there are evaluation forms for the program. We appreciate your taking the time to complete them. The organizers of this program take into account these forms in planning next year's conference. In addition, if you have an interest in having a particular topic presented, or in speaking on a particular topic, the evaluation form is the appropriate place to provide that information. Suggestions for themes for next year also are being solicited. Next year's conference is scheduled for August 3 and 4, 1995. Please mark your calendars.

If you have any questions or comments, please do not hesitate to contact any of the Planning Committee members at the conference, or, thereafter, Jeff Civins at the above listed number.

Sixth Annual Texas Environmental Superconference

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Four Seasons Hotel

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SIXTH ANNUAL TEXAS ENVIRONMENTAL SUPERCONFERENCE
Thursday and Friday, August 4-5, 1994
"Mother Goose Revisited"

Thursday, August 4, 1994

8:30 - 8:45 **Welcoming Remarks**

Jeff Civins
Kelly, Hart & Hallman
Austin, Texas

Fran Phillips
Gardere & Wynn
Dallas, Texas

Moderator: Carol Batterton
TNRCC
Austin, Texas

8:45 - 9:25 **Administrative Law Update -- "Remedies for procedural evils"**
For every evil under the sun There is a remedy or there is none. If there be one, seek till you find it; If there be none, never mind it. -- For Every Evil

Speaker: Claire Arenson
TNRCC
Office of Hearings Examiners
Austin, Texas

Paul Elliot
Office of the Attorney General
Austin, Texas

9:25 - 10:00 **RCRA -- State and Federal -- "On the cutting edge"**
Three blind mice! See how they run! They all ran after the farmer's wife, Who cut off their tails with a carving knife. Did you ever see such a thing in your life As three blind mice? -- Three Blind Mice

Speaker: Eva Fromm
Fulbright & Jaworski, L.L. P.
Houston, Texas

10:00 - 10:30 **Municipal Solid Waste -- "Having your fill"**
Jack Sprat could eat no fat, His wife could eat no lean, And so between them both, you see, They licked the platter clean. -- Jack Sprat

Speaker: Roliff Purrington
Mayor, Day, Caldwell & Keeton
Austin, Texas

10:30 - 10:45 **Coffee Break**

Moderator Pat Finn
Fulbright & Jaworski L.L.P.
Austin, Texas

10:45 - 11:30 **Coastal Management -- "Out to Sea"**
Rub-a-dub-dub, Three men in a tub, And who do you think they be? The butcher, the baker, The candlestick-maker, And all of them out to sea. -- Three Men In a Tub

Speakers: Jim Wiersema
Lee Sherrod
Horizon Environmental Services, Inc.
Austin, Texas

11:30 - 12:00 **EPA Region 6 Update -- "What's cooking"**
Pat-a-cake, pat-a-cake Baker's man! Bake me a cake, As fast as you can. -- Pat-a-Cake

Speaker: Jane Saginaw
Administrator for EPA - Region 6
Dallas, Texas

12:00 - 1:30 **Lunch**

Moderator Paul Thornhill
CH 2M Hill
Dallas, Texas

1:30 - 2:00 **Water Quality – "The bucket stops here"**

Jack and Jill went up the hill, To fetch a pail of water; Jack fell down, and broke his crown, And Jill came tumbling after. – Jack and Jill

Speaker: *Jim Davenport*
TNRCC
Watershed Management Division
Austin, Texas

2:00 - 3:30 **Air Quality Issues – "Brushing cobwebs off the sky"**

There was an old woman tossed up in a basket, Seventeen times as high as the moon; Where she was going I couldn't but ask it, For in her hand she carried a broom. Old woman, old woman, old woman, said I, Where are you going up so high? To brush the cobwebs off the sky! Shall I go with you? Aye, by-and-by. – An Old Woman

Speakers:

Steven Cook
Bracewell & Patterson
Houston, Texas

Larry Feldcamp
Baker & Botts
Houston, Texas

Jim Braddock
Kelly, Hart & Hallman
Austin, Texas

Beverly Hartsock
TNRCC
Air Quality Planning Division
Austin, Texas

3:30 - 3:45 **Cookie Bar Break**

Moderator: *Mark White*
Baker & Botts
Austin, Texas

3:45 - 4:30 **Indirect Risk Assessment – Panel Discussion – "What if....?"**

If all the world was paper, And all the seas were ink, If all the trees were bread and cheese, What should we have to drink. – If All The World Was Paper

Speakers: *Laurie Haws, PhD.*
TNRCC
Toxicology and Risk Assessment
Austin, Texas

Steve Washburn
ENVIRON
Princeton, New Jersey

4:30 - 5:00 **Obtaining Information from TNRCC – "Here we go round the mulberry bush..."**

Here we go round the mulberry bush, The mulberry bush, the mulberry bush, Here we go round the mulberry bush, On a cold and frosty morning. – The Mulberry Bush

Speaker: *Carol Batterton*
TNRCC
Legal and Regulatory Services
Austin, Texas

5:00 - 6:00 **Cash Bar Reception**

Friday, August 5, 1994

Moderator: *Jennifer Keane*
Baker & Botts
Austin, Texas

8:45 - 9:45 **Project Development Hypothetical – "Being nimble"**

Jack be nimble, Jack be quick, Jack jump over the candle stick. – Jack

Speakers:

John Vay
Clark, Thomas & Winters
Austin, Texas

Mike James
Occidental Chemical Corporation
Dallas, Texas

Lial Tischler
Tischler & Kocurek
Round Rock, Texas

9:45 - 10:15 **Mediation** (Hypothetical Continued) – **"Resolving Quarrels"**

Tweedle-dum and Tweedle-dee Resolved to have a battle, For Tweedle-dum said Tweedle-dee Had spoiled his nice new rattle. Just then flew by a monstrous crow, As big as a tar barrel, Which frightened both the heroes so, They quite forgot their quarrel. – Tweedle-Dum and Tweedle-Dee

Speakers: *Bill Zeis*
TNRCC
Legal &
Regulatory
Services
Austin, Texas

Leslie Limes
TNRCC
Office of
Hearings
Examiners
Austin,Texas

Mary Carter
Blackburn & Carter
Houston, Texas

Mary Kathryn Sahs
Gardere & Wynn
Dallas, Texas

Charles Thrash
Office of the Public
Interest Counsel
Austin, Texas

10:15 - 10:30 **Coffee Break**

Moderator: *Walt James*
Winstead, Sechrest & Minick, P.C.
Dallas, Texas

10:30 - 11:00 **Continuation of Mediation** (Hypothetical Continued)

11:00 - 11:30 **Argument to the Commission** (Hypothetical Continued) -- **"Fighting tooth and nail"**
There were once two cats of Kilkenny. Each thought there was one cat too many; So they fought and they fit, And they scratched and they bit, Till, excepting their nails, And the tips of their tails, Instead of two cats, there weren't any. -- The Kilkenny Cats

Speakers: *David Frederick*
Henry, Lowerre,
Hess & Frederick
Austin, Texas

Molly Cagle
Vinson & Elkins
Austin, Texas

Kerry Sullivan
TNRCC
Office of Hearings
Examiners
Austin, Texas

11:30 - 12:00 **Offsite Disposal** (Hypothetical Continued) -- **"A waste is a terrible thing to mind"**
Little Bo-Peep has lost her sheep, And can't tell where to find them; leave them alone, and they'll come home, And bring their tails behind them. -- Little Bo-Peep

Speakers: *Teresa Salamone*
Geraghty & Miller, Inc.
Austin, Texas

Roland Guerrero
Advanced Micro Devices
Austin, Texas

12:00 - 1:30 **Lunch**

Moderator: *Mary Kathryn Sahs*
Gardere & Wynn
Dallas, Texas

1:30 - 3:00 **Historical Spill Scenario** (Hypothetical Continued) -- **"Putting the pieces together"**
Humpty Dumpty sat on a wall, Humpty Dumpty had a great fall; All the King's horses, and all the King's men Cannot put Humpty Dumpty together again. -- Humpty Dumpty

Speakers:: *Steve Morton*
Brown, McCarroll
& Oaks Hartline
Austin, Texas

Gail Woodside
IBM
Austin, Texas

Davis Ford, PhD.
Davis L. Ford & Associates
Austin, Texas

Marianne Baker
TNRCC
Legal & Regulatory
Services
Austin, Texas

3:00 - 3:15 **Ice Cream Bar Break**

3:15 - 5:00 **Open Mike -- TNRCC Program Representatives -- "The Rule of Three"**
Multiplication is vexation, Division is bad; The Rule of Three doth puzzle me, And Practice drives me mad. -- Multiplication is Vexation

Moderator/Overview: *Commissioner Pam Reed*
TNRCC
Austin, Texas

Speakers:	*Mark Jordon* TNRCC Water Policy Division Austin, Texas	*Jody Henneke* TNRCC Air Quality Planning Division Austin, Texas	*Suzie Ferguson* TNRCC Industrial/Hazardous Waste Division Austin, Texas
	Nancy Lynch TNRCC Legal & Regulatory Services Austin, Texas	*Mark Alvarado* TNRCC Office of the Public Interest Counsel Austin, Texas	*Gregg Cooke* Office of the Attorney General Austin, Texas

5:00 **Adjourn**

Texas Environmental Superconference
Co-sponsored by:

State Bar of Texas Environmental and Natural Resources Law Section
Texas and Central Texas Hazardous Waste Management Societies
Water Environment Association of Texas
Air & Waste Management Association, Southwest Section

This course has been approved by the State Bar of Texas for **12.50 Hours in Continuing Legal Education Credits, including 1 Hour of Ethics**, and by the Texas Board of Legal Specialization for credit towards the continuing legal education requirements for certification in Administrative Law.

1994 Planning Committee

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PROJECT DEVELOPMENT HYPOTHETICAL

Simple Simon Petrochemicals, Inc. is seeking to find a suitable site for a new petrochemical manufacturing facility along the Texas Gulf Coast. Simple Simon has narrowed down its potential sites to locations in three counties: Harris County, a severe ozone non-attainment area; Victoria County, an un-designated ozone non-attainment area; and Cameron County, an attainment area.

The location in Harris County is in St. Ives, a town in an industrial area; the nearest neighborhood is approximately 1/2 mile away and is predominantly black. A portion of the site is subject to periodic inundation. The location in Victoria County is rural and lightly populated and in an unincorporated area. A wildlife preserve is located approximately one mile away and the bay near the site is highly productive of marine resources. The location in Cameron County is in a city near the Mexican border and is near an industrial ship channel. A colonia is located within a quarter mile of this site.

The facility will generate air pollutants, wastewater and stormwater runoff, and hazardous and non-hazardous industrial waste. The company is considering constructing an onsite incinerator to destroy hazardous solid wastes, as well as to destroy toxic air contaminants. In addition to a manufacturing facility, the plant will have a number of storage tanks for raw materials, product, and hazardous and non-hazardous industrial solid waste. One of the materials the company intends to handle is toxic and highly volatile.

MEDIATION HYPOTHETICAL

After evaluating the relevant considerations, the company has selected the site in Harris County in the town of St. Ives. In response to the notices of application for the various required permits, a local citizen's group, headed by Missy Muffett, has requested a hearing on the application, asserting that: air emissions will adversely affect Wee Willie Winkie Elementary School, located approximately 1/2 mile away; the transportation of raw materials, product, and waste poses a hazard to area residents, especially school children; discharges from the facility will adversely affect marine life in the waterway where the residents fish and crab; and there is a significant risk to the community from catastrophic occurrences. Peter Piper, a residence of the black community nearby, also requested a hearing, raising similar concerns and concerns of racial injustice.

ARGUMENT HYPOTHETICAL

For purposes of this session, assume that the mediation was unsuccessful. Assume further that the processing of the various applications was consolidated into one proceeding, which was highly contested, and that there was extensive discovery.

The applicant and the protestants are now making their arguments to the Commission, represented in this hypothetical, by Kerry Sullivan.

OFFSITE DISPOSAL HYPOTHETICAL

Georgy Porgy, environmental manager for Simple Simon, had been responsible for, among other things, offsite disposal of industrial and hazardous waste. Recently, however, he was discharged for sexual harassment, and was replaced by Bo Peep. Bo has discovered that Georgie did not accurately characterize onsite waste and may have sent hazardous waste to a municipal facility. The company generates significant amounts of industrial and hazardous waste and is attempting to deal with past problems and to minimize both regulatory and CERCLA/toxic tort liability for future disposal activities.

SPILL REPORTING AND REMEDIATION HYPOTHETICAL

Simple Simon, Inc. has been operating now for 20 years now. The management of the company, which, by the way, is the only maker of biodegradable landfill liners in the world, is in the process of selling the company to the highest of three different bidders (the demand for these liners is expected to increase dramatically, due to EPA's recent rulemaking requiring all waste management facilities to utilize biodegradable products to the maximum extent possible.)

Gail Hazwopper, the company's new environmental manager, has just been informed by her consultant that shallow groundwater beneath the facility may be impacted, based on a groundwater sample taken from the shallow groundwater exhibiting 70 part per million total organic carbon. Ms. Hazwopper has no idea what the source of this material may be and has called on her trusted environmental consultant, Humpty, and her environmental attorney, Dumpty, to help her address several questions:

1. What steps need to be undertaken to characterize the nature and extent of the release. All kinds of new techniques for quickly and economically obtaining this information are available.

2. How much will the cleanup likely cost? Pump and treat systems running since 1982 at another site will never achieve restoration of the aquifer. Gail Hazwopper doesn't want to get into that situation again.

3. What needs to be reported to the Feds, the State, or to local governments; much more work needs to be done to investigate the shallow groundwater.

In addition to her other concerns, Ms. Hazwopper received a notice last week that her facility would be inspected by representatives from the State's Natural Resource Conservation Commission. Under a new policy recently initiated, the agency is attempting to provide its attorneys with more "hands on" experience, and as a result, attorney Marianne Kingshorseman will conduct the inspection. Gail Hazwopper and her staff have been working extremely hard to make sure that nothing goes wrong during the inspection; however, the best laid plans of mice and men . . .

SIXTH ANNUAL TEXAS ENVIRONMENTAL SUPERCONFERENCE

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Administrative Law Update

"Remedies for procedural evils"

Claire Arenson

Paul Elliott

CLAIRE ARENSON
OFFICE OF HEARINGS EXAMINERS
TEXAS NATURAL RESOURCE CONSERVATION COMMISSION

Claire Arenson, Chief Hearings Examiner of the Texas Natural Resource Conservation Commission, has served in that capacity since August of 1991. She began her legal career at the Commission's predecessor agency in 1984.

A native of Jackson, Mississippi, Ms. Arenson went to undergraduate school at the University of Mississippi where she received a Bachelor of Arts in Education. She taught English and French in Mississippi and Texas before entering St. Mary's University Law School in San Antonio, Texas in 1981. She received her Juris Doctor degree in May of 1984. Active in state and local bar activities, Ms. Arenson is a past president of the Administrative Law Section of the Travis County Bar Association, a member of the College of the State Bar, and a Fellow of the Texas Bar Foundation.

UPDATE ON HEARING PROCEDURES AT THE TNRCC

Claire P. Arenson
Chief Hearings Examiner
Texas Natural Resource
Conservation Commission
P. O. Box 13087
Austin, Texas 78711-3087
August 4, 1994

Update on Hearing Procedures at the TNRCC

The purpose of this paper is to inform practitioners before the environmental superagency, the Texas Natural Resource Conservation Commission (TNRCC), of new hearing procedures. The Administrative Procedures Act, TEX. GOV'T CODE ANN. §§2001, *et seq.* (Vernon's 1994) prescribes hearing procedures for state agencies, but each agency is able (and arguably is required) to develop procedures to address its own needs. TEX. GOV'T CODE ANN. §2001.004(1). The predecessor agencies of the TNRCC--the Texas Water Commission and the Texas Air Control Board--each had rules regarding hearing procedures. See 31 Tex. Admin. Code, Chapters 261-275 and 31 TAC Chapter 103, respectively. Upon consolidation of the two agencies in September of 1993, however, it became necessary to have uniform procedures. This paper will address the changes in the rules resulting from consolidation. In addition, the agency has promulgated some new procedural rules to be used in controversial cases, "Special Rules for Freezing the Process," 30 TAC §§265.20-.51. Because the "freeze rules" have generated more interest and debate, I will address them first.

The Freeze Rules

In light of the continual expansion of the agency's regulatory authority combined with the public's growing awareness of the environment, permitting actions are subject to more and more in-depth public scrutiny, frequently resulting in long, complicated legal proceedings worthy of Court TV. Consequently, the regulated community has become increasingly distressed about the length of the hearing process as well as the cost involved. In order to try to address the concerns, the Texas Water Commission in 1991 developed the "Complex Hearing Rules," 31 TAC Ch. 274. Chapter 274 provided that in cases which the agency believed to be highly controversial, the hearing process would be initiated just after the application was filed. In that way parties could conduct discovery during technical review, obviating the need for significant discovery after technical review. Unfortunately in the few cases in which the process was used, the technical review portion of the permitting process was significantly extended, offsetting any time savings to be gained during the hearing phase.

In addition to complaints from applicants about the length of time to get an application processed, citizen groups and attorneys representing them had certain specific concerns. As one might expect, in all hearings protestants raise issues which they believe should defeat the application. To address their issues, hearings examiners and/or staff in the past have typically allowed amendments to applications and/or changes to the draft permit. While these additional provisions may provide more environmental protection, the protestants are not comforted. Their goal is to defeat the application.

As a result of the increasing dissatisfaction with the TNRCC hearing process, the Commission assembled a task force--the "Permit Hearing Task Force"--to attempt to reach consensus on solutions to the problems. The Task Force, including representatives from industry, law firms which represent applicants, law firms which represent protestants, citizen groups, and various divisions in the agency, met on several occasions to come up with ways to make the permitting process more efficient and predictable. One subgroup of the task force compiled written recommendations specifically as to the hearing process. Drawing from those recommendations, the Office of Hearings Examiners developed draft rules. Those rules were sent to members of the task force with a request for comments. Several meetings were convened to discuss the comments prior to submitting the rules to the Commission.

On December 8, 1993 at a policy agenda, the Commission directed the Office of Hearings Examiners to publish the rules in the Texas Register. Published on February 4, 1994, the new rules were added to 30 TAC Chapter 265. That chapter had contained Sections 265.1-265.20 entitled "Procedures Before Public Hearing." The new structure of the chapter breaks those provisions into Subchapter A (§§265.1-.9), "General Procedures," and Subchapter B (265.10-.20), "General Discovery Rules." The freeze rules are found at Subchapter C (265.21-.35), "Special Procedures for Freezing the Process"; Subchapter D (§§265.36-.49), "Discovery in Hearings Held Under Subchapter C"; and Subchapter E (§§265.50-.51), "Special Sanction Rules Relating to Freezing the Process." The process as proposed would accomplish the following:

- Chapter 274, the complex hearing rules, would be repealed.

- The applicant, after technical review but prior to discovery, at a prehearing conference would present a proposed final order which would include all those facts [and conclusions of law] which the applicant can and must establish to be granted the permit.

- The protestants would have a predetermined period of time to discover the applicant's case. At the end of the period, the protestants would present a "List of Issues," a comprehensive list of specific concerns, including the factual basis for the issue.

- A second discovery period would ensue, wherein the applicant would discover the protestants' case to determine the validity of the concerns enumerated in the issue list. At the end of this period the applicant could amend its application to respond to the protestants.

- A third discovery period would be allowed whereby all parties could discover matters relative to the changes and the listed issues.

- Prior to the hearing, the parties would prepare a prehearing order which would set out the remaining issues to be resolved in the case. No changes to this order could be made once the hearing began. In other words, the positions of all parties would be frozen.

- The hearing would extend no more than two to four weeks.

After the February 4 publication the agency received voluminous written and oral comments on the rules, resulting in some changes, although the process described above remains essentially intact. Changes other than those in response to comments were made to the rules by agency staff for an improved and fairer process, or to provide for internal consistency or for proper reference and grammar. The final changes were filed with the Texas Register on July 6, 1994, and the new rules were published on July 15, 1994. That publication is attached to this article identified as Attachment A. A summary of the comments and the agency's response is included therein, along with the rules as adopted.

Some of the more significant changes to the published rules resulting from the comments are as follows:

Many comments were received in reference to Section 265.25. The rule originally provided for three discovery periods with the protestant identifying issues at the end of the first discovery period. However, the protestants could raise new issues of environmental concern at any time if the examiner determined that parties could not reasonably have anticipated the concern. Many commenters viewed Section 265.25, as originally drafted, as allowing protestants to intentionally delay raising new issues until the point at which the applicant's ability to respond is limited to "minor amendments." As a result Section 265.25 has been withdrawn and Section 265.24 has been changed to make it clear that parties who do not identify issues, make amendments, propose findings of fact and conclusions of law or submit responses in accord with the schedules established under this subchapter and with the examiner's orders will be regarded as having waived the right to pursue them in an evidentiary hearing conducted pursuant to this subchapter. See 30 TAC Sections 265.24(d) and (i).

In addition, new subsections have been added to Section 265.24. The first new provision is Section 265.24(f), which requires protestants to submit a second list of issues on the last day of the third discovery period limited in scope to any amendments made by the applicant prior to the third discovery period. In turn, Section 265.24(g) allows the applicant to respond with a minor amendment upon a showing of good cause and by leave of the examiner. To further ensure that parties raise issues in a timely manner as contemplated by these rules, the Commission has added Section 265.24(o), providing that a party may not raise for the first time in motion for rehearing an issue not included in that

party's issue list except for procedural irregularity or changed circumstance. Section 265.23(8) has also been amended to allow the examiner to set a procedural schedule for the executive director to file responses or issues lists in accord with the time period set out in Section 265.24.

Many commenters provided opinions on proposed Section 265.23(3), which has been renumbered to Section 265.23(4), recommending that an applicant should not be forced to incur the substantial cost of preparing proposed findings of fact prior to the jurisdictional hearing. They reasoned that this rule implies that a person requesting a public hearing must be able to prove standing. Similarly, these commenters believe that proposed Section 265.23(5), which has been renumbered to Section 265.23(6), unfairly requires applicants to identify witnesses at the jurisdictional hearing without any knowledge of the scope of the opposition to the application, potentially resulting in unnecessary costs to all parties.

The Commission acknowledges that the applicant is required to prepare findings of fact and conclusions of law and identify witnesses at the jurisdictional hearing for applications proceeding under these rules. The Commission notes, however, that these rules will generally apply to more complex cases and cannot be held to be applicable until invoked with reasonable notice. It is intended that reasonable notice that the application will proceed under Subchapter C of Chapter 265 will be provided prior to the jurisdictional hearing, where there is a large degree of certainty that the matter will go to hearing. Otherwise, the matter would not be noticed under the freeze rules, and the applicant would not be required to have findings of fact and conclusions of law and witness lists prepared in advance of the jurisdictional hearing. If the examiner subsequently invokes the freeze rules, the applicant would be afforded a reasonable amount of time to prepare those documents.

Subchapters D and E relate to discovery and sanctions, respectively, to be used in conjunction with Subchapter C. Basically the provisions replicate the discovery and sanction provisions in Chapter 274, the Complex Hearing Rules, now repealed. There are some differences, however. For example, the new discovery rules include provisions unique to the freeze process, such as limiting the first discovery period to the protestants' discovery of the applicant's case. Also, the new sanction rules omit any reference to the award of costs and/or attorney fees. Again, all the changes are included in Attachment A.

To further illustrate the new procedure, a flow chart delineating the new process is attached to this paper as Attachment B.

Consolidation Rules

Consolidated procedural rules were developed beginning in summer of 1993 by an internal work group made up of representatives from different divisions in the TWC and the TACB. This consolidation team decided to repeal the old TACB procedural rules, but incorporate certain provisions from those rules into the old TWC procedural rules. In addition certain new rules were added to conform the rules to actual practice at both agencies. The consolidation rules as adopted, including a summary of the comments received and the agency's responses, are included in Attachment A. These rules apply to all hearings conducted by the TNRCC, including the freeze rules hearings (except that freeze rules trump in the event of conflict.)

The noteworthy aspects of the rules as published and the agency's response for final adoption are enumerated below.

Rule Number	Action Proposed	Final Action
§263.2(e)	Clarifies authority of examiner to align parties	Adopted
§263.2(j)	Authorizes examiner to set prehearing conferences and require prehearing orders	Adopted
§263.2(10)(11)	Authorizes examiner to limit witnesses and time of presentation	Adopted
§263.25	Allows examiner to require applicant to purchase transcript	Adopted
§263.35	Clarifies when an application may be withdrawn without prejudice	Changes were withdrawn; old rule remains in effect
§263.36	Provides for appeal of permit actions under the Texas Clean Air Act	Adopted with changes

Rule Number	Action Proposed	Final Action
§263.37	Provides criteria for determining response to requests that an air quality hearing be granted	Adopted with minor change
§265.6(c)	Allows examiner to schedule additional preliminary conferences prior to the hearing	Adopted
§265.20(c) (8) & (9)	Allows examiner to admit previously excluded evidence as a sanction	Adopted
§267.11	Clarifies responsi-bilities of the parties as to order of presentation of evidence	Adopted with changes
§267.13	Allows examiner to call witnesses	Adopted with minor change
§269.6	Provides that the times for filing exceptions and replies (10 days and 20 days, respectively) may be changed by agreement of the parties	Adopted
§275.130-132	Provides for variance hearing pursuant to the Texas Clean Air Act	Adopted

As previously stated, 31 TAC Ch. 103, the old TACB rules, were repealed. Most of those provisions are either duplicated in the new rules or are added as discussed above. One notable, nonduplicative provision which was not retained was Section 103.33(b)-(d). That provision established a process whereby the staff would gather information relative to the reasonableness of a hearing request. The rule was not retained, because the reasonableness of hearing requests will at the TNRCC be determined by the Office of Hearings Examiners, not the Executive Director. Further, the repeal of Section 103.33(b)-(d) in no way

inhibits the agency from making preliminary inquiries into the validity of hearing requests.

Conclusion

While no doubt there will be glitches that arise as these rules are implemented, we do believe that given the tremendous amount of input from practitioners and staff, the rules will go a long way toward making the hearing process more efficient and workable for all parties involved.

This agency hereby certifies that the rule as adopted has been reviewed by legal counsel and found to be a valid exercise of the agency's legal authority.

Issued in Austin, Texas, on July 6, 1994.

TRD-9443545 John T. Richards
Assistant General Counsel
Texas Department of Health

Effective date: July 27, 1994

Proposal publication date: April 5, 1994

For further information, please call: (512) 458-7236

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Chapter 41. Utilization Review

Waiver for Utilization Review Procedures

• 25 TAC §41.102, §41.104

On behalf of the State Medicaid Director, the Texas Department of Health (department) adopts amendments to §41.102 and §41.104 without changes to the proposed text as published in the April 19, 1994, issue of the *Texas Register* (19 TexReg 2829).

The sections cover waivers for utilization review procedures. Specifically the sections cover the case selection process and the Texas Medical Review Program; and the diagnosis related group assignment for secondary diagnoses in newborns.

The amendments improve the sampling methodology for utilization review and conform to guidelines of the American Hospital Association.

The amendments include the Texas Medical Review Program which will review cases where admission denials for a given diagnosis-related group are 5.0% or greater. The amendments will also more closely follow Coding Clinic Guidelines published First Quarter 1994 by the American Hospital Association.

The department received one written comment on the proposed amendments during the public comment period.

COMMENT: The commenter expressed concern that the proposed rules were not specific enough to communicate what conditions defined a normal newborn. The comment attempted to define, through examples, these conditions; however, the department believes that the comment did not address routine procedures that are disregarded for diagnosis related group assignment.

RESPONSE: The department contends that the proposed wording is appropriate and adequate and made no changes as a result of the comment.

The comment was received from the Texas Hospital Association.

The amendments are adopted under the Human Resources Code, §32.021 and Texas Civil Statutes, Article 4413 (502), §16, which provides the Health and Human Services Commission with the authority to adopt rules to administer the state's medical assistance program and is submitted to the Texas Department of Health under its agreement with the Health and Human Services Commission to operate the purchased health services program and as authorized under Chapter 15, §1.07, Acts of the 72nd Legislature, First Called Session (1991).

This agency hereby certifies that the rule as adopted has been reviewed by legal counsel and found to be a valid exercise of the agency's authority.

Issued in Austin, Texas, on July 6, 1994.

TRD-9443544 John T. Richards
Assistant General Counsel, Office of General Counsel
Texas Department of Health

Effective date: July 27, 1994

Proposal publication date: April 19, 1994

For further information, please call: (512) 338-6511

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TITLE 30. ENVORINMENTAL QUALITY

Part I. Texas Natural Resource Conservation Commission

Chapter 103. Procedural Rules

The Texas Natural Resource Conservation Commission (Commission) adopts the repeal of §§103.1-103.6, 103.11, 103.12, 103.21-103.24, 103.31-103.34, 103.41-103.66, 103.71-103.74, 103.81-103.87, and 103.91-103.94, concerning procedural rules of the former Texas Air Control Board (TACB), which continued in effect after that agency's merger with the Texas Water Commission (TWC) to become the Commission, without changes to the proposed text as published in the February 8, 1994, issue of the *Texas Register* (19 TexReg 885).

The repeal of Chapter 103 was necessitated by the statutorily-mandated survival of the rules of both the TACB and the TWC upon the merger of the two agencies. The purpose of this refinement of the rules is to eliminate confusion and create one broad set of rules to cover the procedure of hearings under the enabling statutes of both former agencies. As a consequence, these changes are expected to aid in the speedy and orderly progression of hearings while preserving the due process rights of the parties.

A public hearing was held February 28, 1994, in Austin. The comment period closed on March 14, 1994.

There was no oral testimony given during the public hearing. However, the Commission received written testimony on the repeal proposal from two commenters, Brown McCarroll and Oaks Hartline and the Texas Chemical Council. The commenters took the position that one rule from Chapter 103 should be retained, §103.33(b)-(d), and relocated to proposed new §263.37. Proposed §263.37 provides the criteria for determining an air hearing request while §103.33(b)-(d) is a process by which the Commission staff gathers information on hearing requests. The commenters suggested the proposed new section be changed by the addition of the text of the former TACB rule. The commenters suggested the retention and relocation would complete the new section by adding a necessary process.

The Commission disagrees and does not believe that the process described in §103.33(b)-(d) is necessary. Hearing requests in the consolidated agency are not determined by the staff but instead, by the Office of Hearings Examiners, and where appropriate, reviewed by the Commission.

General

• 30 TAC §§103.1-103.6

The repeals are adopted under the Texas Water Code, Title 2, Subtitle A, Chapter 5, §5.103 and §5.105, which authorizes the Commission to adopt any rules necessary to carry out its powers and duties under the Code and other laws of this state and to establish and approve all general policy of the Commission. The repeals are also adopted under the Health and Safety Code, Subtitle B, Chapter 382, §382.017, which authorizes the Commission to adopt rules consistent with that chapter.

This agency hereby certifies that the rule as adopted has been reviewed by legal counsel and found to be a valid exercise of the agency's legal authority.

Issued in Austin, Texas, on May 25, 1994.

TRD-9443580 Mary Ruth Holder
Director, Legal Division
Texas Natural Resource Conservation Commission

Effective date: July 27, 1994

Proposal publication date: February 8, 1994

For further information, please call: (512) 239-0615

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Public Hearing-General

• 30 TAC §103.11, §103.12

The repeals are adopted under the Texas Water Code, Title 2, Subtitle A, Chapter 5, §5.103 and §5.105, which authorizes the Commission to adopt any rules necessary to carry out its powers and duties under the Code and other laws of this state and to establish and approve all general policy of the Commission. The repeals are also adopted under the Health and Safety Code, Subtitle B, Chapter 382, §382.017, which authorizes the Commission to adopt rules consistent with that chapter.

This agency hereby certifies that the rule as adopted has been reviewed by legal counsel and found to be a valid exercise of the agency's legal authority.

Issued in Austin, Texas, on May 25, 1994.

TRD-9443579 Mary Ruth Holder
Director, Legal Division
Texas Natural Resource Conservation Commission

Effective date: July 27, 1994

Proposal publication date: February 8, 1994

For further information, please call: (512) 239-1500

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Rulemaking Hearings

• 30 TAC §§103.21-103.24

The repeals are adopted under the Texas Water Code, Title 2, Subtitle A, Chapter 5, §5.103 and §5.105, which authorizes the Commission to adopt any rules necessary to carry out its powers and duties under the Code and other laws of this state and to establish and approve all general policy of the Commission. The repeals are also adopted under the Health and Safety Code, Subtitle B, Chapter 382, §382.017, which authorizes the Commission to adopt rules consistent with that chapter.

This agency hereby certifies that the rule as adopted has been reviewed by legal counsel and found to be a valid exercise of the agency's legal authority.

Issued in Austin, Texas, on May 25, 1994.

TRD-9443578 Mary Ruth Holder
Director, Legal Division
Texas Natural Resource Conservation Commission

Effective date: July 27, 1994

Proposal publication date: February 8, 1994

For further information, please call: (512) 239-0615

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Initiation of Other Than Rulemaking Hearings

• 30 TAC §§103.31-103.34

The repeals are adopted under the Texas Water Code, Title 2, Subtitle A, Chapter 5, §5.103 and §5.105, which authorizes the Commission to adopt any rules necessary to carry out its powers and duties under the Code and other laws of this state and to establish and approve all general policy of the Commission. The repeals are also adopted under the Health and Safety Code, Subtitle B, Chapter 382, §382.017, which authorizes the Commission to adopt rules consistent with that chapter.

This agency hereby certifies that the rule as adopted has been reviewed by legal counsel and found to be a valid exercise of the agency's legal authority.

Issued in Austin, Texas, on May 25, 1994.

TRD-9443577 Mary Ruth Holder
Director, Legal Division
Texas Natural Resource Conservation Commission

Effective date: July 27, 1994

Proposal publication date: February 8, 1994

For further information, please call: (512) 239-0615

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Adjudicative Hearings

• 30 TAC §§103.41-103.66

The repeals are adopted under the Texas Water Code, Title 2, Subtitle A, Chapter 5, §5.103 and §5.105, which authorizes the Commission to adopt any rules necessary to carry out its powers and duties under the Code and other laws of this state and to establish and approve all general policy of the Commission. The repeals are also adopted under the Health and Safety Code, Subtitle B, Chapter 382, §382.017, which authorizes the Commission to adopt rules consistent with that chapter.

This agency hereby certifies that the rule as adopted has been reviewed by legal counsel and found to be a valid exercise of the agency's legal authority.

Issued in Austin, Texas, on May 25, 1994.

TRD-9443576 Mary Ruth Holder
Director, Legal Division
Texas Natural Resource Conservation Commission

Effective date: July 27, 1994

Proposal publication date: February 8, 1994

For further information, please call: (512) 239-0615

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Board Agenda

• 30 TAC §§103.71-103.74

The repeals are adopted under the Texas Water Code, Title 2, Subtitle A, Chapter 5, §5.103 and §5.105, which authorizes the Commission to adopt any rules necessary to carry out its powers and duties under the Code and other laws of this state and to establish and approve all general policy of the Commission. The repeals are also adopted under the Health and Safety Code, Subtitle B, Chapter 382, §382.017, which authorizes the Commission to adopt rules consistent with that chapter.

This agency hereby certifies that the rule as adopted has been reviewed by legal counsel and found to be a valid exercise of the agency's legal authority.

Issued in Austin, Texas, on May 25, 1994.

TRD-9443575 Mary Ruth Holder
Director, Legal Division
Texas Natural Resource Conservation Commission

Effective date: July 27, 1994

Proposal publication date: February 8, 1994

For further information, please call: (512) 239-0615

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Miscellaneous

• 30 TAC §§103.81-103.87

The repeals are adopted under the Texas Water Code, Title 2, Subtitle A, Chapter 5, §5.103 and §5.105, which authorizes the Commission to adopt any rules necessary to carry out its powers and duties under the Code and other laws of this state and to establish and approve all general policy of the Commission. The repeals are also adopted under the Health and Safety Code, Subtitle B, Chapter 382, §382.017, which authorizes the Commission to adopt rules consistent with that chapter.

This agency hereby certifies that the rule as adopted has been reviewed by legal counsel and found to be a valid exercise of the agency's legal authority.

Issued in Austin, Texas, on May 25, 1994.

TRD-9443574 Mary Ruth Holder
Director, Legal Division
Texas Natural Resource Conservation Commission

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For further information, please call: (512) 239-0615

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Alternate Dispute Resolution Procedures

• 30 TAC §§103.91-103.94

The repeals are adopted under the Texas Water Code, Title 2, Subtitle A, Chapter 5, §5.103 and §5.105, which authorizes the Commission to adopt any rules necessary to carry out its powers and duties under the Code and other laws of this state and to establish and approve all general policy of the Commission. The repeals are also adopted under the Health and Safety Code, Subtitle B, Chapter 382, §382.017, which authorizes the Commission to adopt rules consistent with that chapter.

This agency hereby certifies that the rule as adopted has been reviewed by legal counsel and found to be a valid exercise of the agency's legal authority.

Issued in Austin, Texas, on May 25, 1994.

TRD-9443573 Mary Ruth Holder
Director, Legal Division
Texas Natural Resource Conservation Commission

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For further information, please call: (512) 239-0615

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General Rules

• 30 TAC §§263.2, 263.25. 263.36, 263.37

The Texas Natural Resource Conservation Commission (Commission) adopts amend-

ments to §263.2 and §263.25 and new §263.36 and §263.37, concerning the procedure of hearings; specifically, providing for authority to the hearings examiners to align parties, set preliminary conferences and require preliminary orders, establish time for presentation and confine testimony to subjects within the jurisdiction of the Commission, and require transcripts. The rules are adopted with changes to the proposed text as published in the February 8, 1994, issue of the *Texas Register* (19 TexReg 885).

The proposed changes are necessitated by the merger of the Texas Air Control Board and the Texas Water Commission in order to combine and refine the rules to meet the needs of a broad range of hearing types at the new agency. The proposed changes are consistent with current practices at the agency.

A public hearing was held on February 28, 1994, in Austin. The comment period closed March 14, 1994.

There was no oral testimony given during the public hearing. Written comments were received from the Texas Lone Star Chapter of the Solid Waste Association of North America, USA Waste Services, Inc., the City of Arlington, the City of Irving, the City of Garland, ASARCO, Inc., Texas Chemical Council, Valero Petroleum Company, Henry, Lowerre, Hess and Frederick, Kelly, Hart and Hallman, and Brown McCarroll and Oaks Hartline.

No written testimony was received regarding the proposed changes to §263. 2 or §263.36.

Some commenters did not support adoption of §263.25(e) and challenged the basis for this rule. This provision states that in contested hearings expected to last three days or more, the applicant may be required by the examiner or the Commission to pay for the hearing transcript up front, subject to reimbursement from other parties upon assessment of costs. Two commenters stated that the Commission already has authority to assess transcript costs, that all parties benefit from transcripts, and that the result will be that applicants will pay the full cost in all hearings. One commmenter suggested that it is arbitrary to impose this cost on applicants.

The Commission responds that in a lengthy hearing, a transcript provides a written record for: the examiner to review in order to prepare the best proposal for decision; and the parties to prepare briefs and replies. The comment that the Commission already has the authority to assess transcript costs is correct (§263.25(d) and §263.27), and the addition of §263.25(e) , which is not a mandatory provision, serves primarily to allow that the transcript be prepared early in the process so that it can be made available to the examiner and the parties prior to final Commission decision. Section 263.27(c) allows the parties an opportunity to present evidence and argument on this cost assessment. This provision is not changed. Examiners will–as they have in the past–assess costs if warranted. The effect of the rule relates more to the timing of the preparation of the transcript rather than putting an additional burden on any party.

Several commenters urged the deletion of §263.35. The proposed changes to §263.35 are withdrawn and this issue will be addressed in a subsequent rulemaking proceeding.

Section 263.36 is changed so that the process for appeal of decisions on air quality permits will generally conform to that of other program areas.

Several commenters urged the Commission to retain the rules in §103.33(b) -(d) relating to the reasonableness of the hearing request.

The Commission responds that the repeal of §103.33 is intended to make the procedures for determination on requests for hearings on air quality applications consistent with procedures in the other program areas. In doing so, the Commission does not forego the authority to inquire as necessary to make objective, reasoned decisions regarding the reasonableness of a hearing request.

One commenter opposed adoption of §263.37, a rule listing seven factors to be considered in determining the reasonableness of the hearing request on air quality permit applications, stating that it provides no guidance, and that the factors have been inconsistently applied and improperly used by the Commission to deny hearing requests. Further, the commenter stated that application of the §263.37 factors would result in denial of public participation in a hearing.

The Commission responds that the rule is intended to implement the statute by establishing objective criteria for determining whether hearing requests are reasonable. A request alleging potential adverse impact on the requestor will be evaluated fairly, and the request and not the requestor will be evaluated, except insofar as information about the requestor is relevant to the factors, e.g., the extent to which the requestor is likely to be impacted by the emissions and the project's location. According to one commenter, §263.27(1), whereby net emissions reductions is a factor to be considered, does not address net reductions due to combined facility expansion, where such proposals often involve complex issues deserving review. The Commission responds that all relevant facts will be reviewed to ascertain whether other factors or issues in such a case warrant a contested case hearing.

One commenter urged that §263.37(2)-(4) are of little value because they provide no guidance as to what significance and weight are to be given to each factor, and whether other factors can be more or less important in the determination.

The Commission responds that the factors are of value in making a determination regarding an air quality hearing request, as they provide guidance regarding relevant issues that should be considered.

Several commenters noted the omission of the word "air" in §263.37(5), a provision that contains factors relevant only in the decision to grant or deny a hearing request for air quality permits. The Commission has corrected the rule in accordance with these comments and added the word "air."

One commenter stated that §263.37(5) requires speculation in determining the requestor's motivation, and could lead to harassment of persons in the guise of determining motivation. In response, the Commission intends §263. 37(5) for use only where it may be determined that the sole motivation for the hearing request is unrelated to air pollution concerns. The Commission has reworded the rule accordingly.

One commenter objected to §263.37(6), stating that any person alleging air pollution impacts has a right to prove that interest, and that it is improper to have the Commission decide, without calling a contested case hearing, whether to allow the person to present evidence of a justiciable interest.

The Commission responds that such a hearing would be necessary only to resolve disputed facts.

One commenter argued that §263.37(7) provides no guidance on the underlying issues regarding the applicant's compliance history. This commenter states that this factor does not go to the issue of whether a request is reasonable.

In response, the Commission believes that if there is a known compliance history, it is a factor which should be considered along with all the other factors in deciding whether to call a hearing.

The amendments and new rules are adopted under the Texas Water Code, Title 2, Subtitle A, Chapter 5, §5.103 and §5.105, which authorizes the Commission to adopt any rules necessary to carry out its power and duties under the code and other laws of this state and to establish and approve all general policy of the Commission.

§263.2. Powers of the Examiner. The presiding examiner shall have authority to do the following:

(1) set hearing dates;

(2) convene the hearing at the time and place specified in the notice for the public hearing;

(3) establish the jurisdiction of the Commission concerning the subject matter under consideration;

(4) rule on motions and on the admissibility of evidence and amendments to pleadings;

(5) designate and align parties and establish the order for presentation of evidence;

(6) administer oaths to all persons presenting testimony;

(7) examine witnesses;

(8) issue subpoenas when required to compel the attendance of witnesses, or the production of papers and documents related to the hearing;

(9) commission and require the taking of depositions, to compel other forms

of discovery in accordance with these sections, and to issue sanctions under these sections for noncompliance with discovery rulings;

(10) set prehearing conferences and require prehearing orders;

(11) ensure that information and testimony are introduced as conveniently and expeditiously as possible, including limiting the time of presentation without prejudicing any rights of parties to the proceeding;

(12) limit testimony to matters under the Commission's jurisdiction;

(13) recess any hearing from time to time and from place to place;

(14) reopen the record of a hearing, prior to issuance of a proposal for decision, for additional evidence where necessary to make the record more complete; and

(15) exercise any other appropriate powers necessary or convenient to carry out his or her responsibilities.

§263.25. Requests for Hearings Reporter Services.

(a)-(d) (No change.)

(e) In hearings expected to last three days or more, the applicant may be required to pay for the transcript up front, by the hearings examiner or the Texas Natural Resource Conservation Commission, subject to reimbursement from other parties upon assessment of costs.

§263.36. Appeal of Air Quality Permits.

(a) Any person, including the applicant, affected by a decision of the executive director made under the Texas Health and Safety Code, §§283. 051-382.055, may appeal any such decision to the Texas Natural Resource Conservation Commission (Commission), with the exception of a decision regarding a federal operating permit, not later than the 30th day after the date on which notice of the decision was mailed. Any person filing an appeal under this section must identify with specificity the issues that form the basis of the appeal.

(b) The Commission, at the hearing held to consider the appeal, may take appropriate action, including:

(1) affirm, modify, stay, or reverse the executive director's decision;

(2) remand the matter to the Office of Hearings Examiners for an evidentiary hearing;

(3) remand the matter for alternative dispute resolution or mediation;

(4) remand the matter to the executive director; or

(5) continue the matter to a future date.

(c) A decision made by the executive director, including a permit issued by the executive director, is not affected by the filing of an appeal under this section unless expressly so ordered by the Commission. A final order by the Commission reversing or modifying the executive director's decision takes effect when it becomes final and appealable.

§263.37. Factors for Consideration in Calling Air Quality Hearings Prior to Issuance of Permit. Upon receipt of a request for an air quality hearing prior to issuance of a permit, the Office of Hearings Examiners shall consider at least the following factors in determining whether to grant a request for such hearing:

(1) whether the project is an emissions reduction project including:

(A) whether there are no increases in emissions of any contaminants and the reduction project is not driven by a non-compliance situation; and

(B) whether the project will have both emission reductions and incidental increases where the net effect is an emission reduction;

(2) whether the project is mandated by Texas Natural Resource Conservation Commission rule;

(3) the location of the proposed project;

(4) whether the applicant requests authority to substitute an equivalent or more efficient control device;

(5) whether the request for a contested case hearing is based solely on something other than concerns about air pollution;

(6) the extent to which the person requesting a hearing is likely to be impacted by the emissions; and

(7) the applicant's compliance history.

This agency hereby certifies that the rule as adopted has been reviewed by legal counsel and found to be a valid exercise of the agency's legal authority.

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TRD-9443572 Mary Ruth Holder
Director, Legal Division
Texas Natural Resource Conservation Commission

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For further information, please call: (512) 239-0615

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Chapter 265. Procedures Before Public Hearing

• 30 TAC §265.6, §265.20

The Texas Natural Resource Conservation Commission (Commission) adopts amendments to §265.6 and §265.20, concerning hearing procedures and matters preliminary to hearings; specifically, providing for additional prehearing conferences and allowing, within the reasonable discretion of the hearings examiner, admission of "new evidence" not previously disclosed during discovery procedures. Section 265.20 is adopted with changes to the proposed text as published in the February 8, 1994, issue of the *Texas Register*. Section 265.6 is adopted without changes and will not be republished (19 TexReg 885).

The proposed changes are necessitated by the merger of the Texas Air Control Board and the Texas Water Commission in order to combine and refine the rules to meet the needs of a broad range of hearing types at the new agency. The proposed changes are consistent with current practices at the agency.

A public hearing was held on February 28, 1994 in Austin. The comment period closed March 14, 1994. Comments were received from the City of Arlington and the City of Irving.

No written testimony was received regarding the proposed changes to §265. 6. The commenters stated that §265.20(c)(8)-(9) would authorize an examiner to impose two additional types of sanctions after finding a party has abused discovery. Both stated that the rule needs to be made clear that it is to allow a victim of discovery abuse to present such evidence or witnesses. The Commission concurs and amends the proposed rules as follows: §265.20(c)(8) allows evidence to be introduced against a party abusing discovery which would otherwise be excluded for not meeting the deadline for exchange of such evidence. Section 265.20(c)(9) allows the testimony against a party abusing discovery which would otherwise be excluded for not meeting the deadline for listing potential witnesses.

The amendments are adopted under the Texas Water Code, Title 2, Subtitle A, Chapter 5, §5.103 and §5.105, which authorizes the Commission to adopt any rules necessary to carry out its power and duties under the code and other laws of this state and to establish and approve all general policy of the Commission.

§265.20. Sanctions for Failure to Comply with Discovery Ruling.

(a)-(b) (No change.)

(c) If the presiding officer finds a party is abusing compelled discovery initiated pursuant to §§265.11(b), 265.16, or

265.19 of this title (relating to Compellable Discovery; Dis- covery of Documents and Things; or Requests for Information); (or the Administrative Procedure Act, the Government Code, Chapter 2001), in seeking, making, or resisting discovery, the presiding officer may do any of the following:

(1)-(7) (No change.)

(8) allow evidence to be introduced against a party abusing discovery which would otherwise be excluded for not meeting the deadline for exchange of such evidence; and

(9) allow testimony against a party abusing discovery which would otherwise be excluded for not meeting the deadline established for listing potential witnesses.

This agency hereby certifies that the rule as adopted has been reviewed by legal counsel and found to be a valid exercise of the agency's legal authority.

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Director, Legal Division
Texas Natural Resource Conservation Commission

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The Texas Natural Resource Conservation Commission (Commission) adopts new §§265.21-265.24, 265.26-265.35, concerning Special Procedures for Freezing the Process; §§265.36-265.49, concering Discovery; and §§265.50, 265.51, 265.53-265.55, concerning Sanctions. Sections 265.21-265.24, 265.26-265.29, 265.31, 265.33-265.34, 265.36-265.37, 265.42, 265.45, 265.49-265.55 are adopted with changes to the proposed text as published in the February 4, 1994, issue of the *Texas Register* (19 TexReg 763). Sections 265.30, 265.32, 265.35, 265.38-265.44, and 265.46-265.48 are adopted without changes and will not be republished. Sections 265.25 and 265.52 are withdrawn.

Current §§265.1-265.20 have been divided into Subchapters A and B, with Subchapter A, §265.1-265.9, entitled "General Procedures" and Subchapter B, §265.10-265.20, entitled "General Discovery Rules."

The rules as proposed in the February 4, 1994, issue of the *Texas Register* were based on recommendations of the Permit Hearing Task Force (Task Force), a group composed of attorneys, representatives for industry-related interests, individuals representing environmental interests and other interested persons. The purpose of the revisions is to streamline and expedite the hearing process for complex cases, reduce the costs associated with the process and promote certainty and fairness in the process. The rules serve these goals by requiring parties to list and narrow issues during the discovery process, and by freezing the process prior to hearing. It is anticipated that generally the contested hearing process will take from 156 to 343 days. In some cases the process may take much less time. It should be noted that the longer time periods provided for in these rules are envisioned as the maximum time-frames in the most complex cases. It is anticipated that most cases will not require the maximum time allowable.

Most changes to text of rules as published in the February 4, 1994, issue of the *Texas Register* were made as a result of commentary. Other changes, however, were made by commission staff for an improved and fairer process, or to provide for internal consistency or for proper reference and grammar.

Comments were received orally or in writing from the following commenters: City of Arlington; Asarco; Texas Chemical Council; Texas Lone Star Chapter of the Solid Waste Association of North America; City of Brownwood; Brown McCarroll and Oaks Hartline; Citizens to Save Lake Waco; Kelly, Hart and Hallman; North Texas Municipal Water District; Waste Management of Texas, Inc.; USA Waste Services, Inc.; City of Garland; GASP; City of Wilmer; City of Carrollton; Henry, Lowerre, Hess and Frederick; Coastal Bend Council of Governments; City of Plano; Harris County Attorney Mike Driscoll; Texas Municipal League; City of Lubbock; City of Brownwood; Phillips Petroleum Company; Laidlaw Waste Systems, Inc.; City of Irving; City of Tyler; Texas Mid-Continent Oil and Gas Association; City of Beaumont; City of Argyle; Sanders, Mumm, O'Hanlon and Motley; and the Public Interest Counsel of the Texas Natural Resource Conservation Commission.

Comments received regarding the overall effect of the proposed rules are as follows:

Many commenters voiced strong support in favor of streamlining the permit process and indicated that the proposed rules will improve the process. Such efforts may be especially critical once the State begins issuing Title V Clean Air Act permits, according to one commenter. One commenter noted that streamlining the hearing process will address concerns of all parties. On the one hand, according to one commenter, applicants have been concerned about proceeding in good faith to identify problems with their application and proposed facility, only to have a fatal issue raised at the last moment with no chance to respond. On the other hand, protestants have been justifiably concerned about exhausting their financial and other resources, only to see an application amended at the last moment to address issues known to the applicant from the beginning. The rule changes address both concerns.

Some commenters critiqued the option of freezing the hearing process under the proposed rules. Some commenters observed that the existing hearing process is complex and expensive; however, they also expressed concern about "Freezing the Process," as imposing new obstacles to the permitting of facilities such as municipal landfills. One commenter opposed the concept of freezing the hearing process because it could have the effect of requiring an applicant to pay costs to protestants in order to withdraw its application. Another commenter noted that the freezing process could cause delays and thereby cause excessive expense to applicants, especially in the highly technical area of municipal solid waste. The commission would note that the new rules and particularly §265.24 as now revised, are intended to streamline the hearing process and avoid costly delays.

Some commenters praised the existing hearing process which has allowed amendment to an application throughout the hearing. They perceive that the new rules may lengthen the process and add risk such that companies will be discouraged from making applications. One commenter noted that Subtitle D (Federal Resource Conservation and Recovery Act (RCRA) issued by the EPA on October 9, 1991) currently provides for a reasonable freeze while not disrupting a process that can be enhanced to the benefit of the environment. Nor does Subtitle D, in its view, preclude improvements as they become available or known. The commission would note that these rules do allow for some amount of flexibility with regard to amendments and limit amendments where such amendments would be disruptive of the process.

Some commenters disagreed with the concept of streamlining the hearing process. Some opposed any acceleration of the process, which they believe could result in inhibiting effective public participation. They concluded that efforts to accelerate the hearing process could adversely affect persons not represented by an attorney. The commission intends that the new rules will apply fairly to all parties. Further, because the new rules bring greater certainty to the hearing process, participation will be facilitated.

Some commenters disagreed with the fiscal impact of the proposed rules, stating that rules which include three discovery periods could subject applicants to burdensome costs. One commenter recommended that the cost analysis should be re- evaluated and republished for comment, stating that applicants, especially small businesses, will experience increased costs.

The commission disagrees with these commenters and concludes that the revised rules will streamline the process and produce cost savings for all affected participants.

In §265.21, some commenters suggested that the provision allowing the examiner to include or exclude applications for "good cause" should be more narrowly defined. They added that the term "lack of complexity" should also be defined. They also suggested that permit hearings be exempted from this rule if the number of parties is small or, added two commenters, where technical issues are relatively straightforward. It is finally suggested that §265.21(b) delineate the specific rules that do not conflict with Subchapter C, partiicularly any procedural rules dealing with discovery.

The commission responds by amending the rule to clarify the applicability of the subchapter, and by preserving the provision allowing the examiner to include or exclude applications for good cause.

Some commenters provided opinions on proposed §265.22(a)(1) which requires the executive director to develop an initial position on the application and also to specify in a separate document any provisions that are different from those espoused in its initial position. Many of these commenters recommended that the rule explicitly state that all parties may offer evidence in support of or in opposition to such provisions, which resemble special provisions. Certain commenters expressed concern that the rule allows the executive director to take a position on a permit and still reserve his right to make a final decision after all evidence is heard.

Another commenter noted that this paragraph also seems to require the executive director to prepare a permit even if he is recommending denial. The commenter recommended that the rule require the executive director to prepare an "initial draft recommendation" rather than a "proposed permit."

Another commenter suggested that §265.22(a)(1), which requires the executive director to issue a document summarizing the basis for his position if his recommendation is that a permit be denied, be clarified to require the executive director to either issue a draft permit or a statement denying the application once the application is deemed technically complete. The commenter further favored explicit language that issuance of a draft permit is not an endorsement of the application by the executive director.

The commission responds that because the executive director must tender special provisions prior to commencement of the procedural schedule and hearing on the merits, any proposed special provisions are thereby subject to discovery and evidence during the hearing process. The intent of the rule is that the executive director will take a position insofar as possible after technical review and prior to commencement of the hearing. Should the executive director subsequently change his position, the executive director is required to timely notify all parties on the record or in writing and the other parties are afforded an opportunity to respond.

Regarding the comment that the rule should require the executive director to issue a draft permit or issue a statement declining to issue a permit, the commission disagrees. The rule provides for the preparation of a proposed permit that is based on the contents of the application submitted. The proposed permit is to be prepared based on the application and may or may not, depending on the circumstances, embody the position of the executive director. In any event, the executive director's position will be made clear so that all parties understand whether the executive director's initial position is to issue the permit, issue the permit with additional or different permit provisions or deny the permit.

Several comments were received regarding §265.22(a)(2), providing that the executive director may change his position based on evidence or other new information. One commenter noted that the executive director should be allowed to change his position if environmental and public health concerns are rethought and greater risks perceived as well as for "new" information, as currently provided for in the rule.

Some commenters requested that "timely" notification of a change in the executive director's position be more clearly defined. They suggested that an applicant be allowed to respond to changes in the executive director's staff position with revised proposed findings of fact and, if appropriate, a major amendment or a proposed special permit provision. Further, they proposed that the executive director be allowed to change position only for good cause.

The commission believes that the rule's provision authorizing the executive director to change his position based "on evidence or other new information" allows for a change in position if environmental and public health concerns are rethought and greater risks perceived. TNRCC notes that the term "timely" as used in the rule is sufficiently clear. The commission believes that allowing the executive director to change position for "good cause" may broaden the rule rather than restricting its use.

The commission agrees that all parties should be kept abreast of the executive director's position during prehearing discovery where there is opportunity for amendment. To this extent the commission adds language to §265.23 related to first preliminary hearing, allowing the executive director to file responses or issues lists in accord with the time periods set out in §265.24.

Comments were also received on §265.22(b), which provides that the Public Interest Counsel shall comply with all timeframes and procedures required of protestants pursuant to this chapter. The commenters recommend that the Public Interest Counsel as a statutory party be given all rights afforded all other statutory parties.

The commission responds that this rule is promulgated only for procedural convenience and is in no way meant to abrogate any rights of the Public Interest Counsel. The commission has, however, amended §265.22(b) to provide that the Public Interest Counsel shall comply with all time-frames relevant to protestants, rather than just those required of protestants, unless otherwise determined by the examiner.

In connection with §265.23, some commenters noted that the rule may force parties immediately into discovery rather than allowing a period of time for mediation under Chapter 264. One commenter recommended a 21-day mediation period rather than the 45-day period currently provided for in Chapter 274. Some commenters further observed that mediation, in some instances, is an appropriate way to address issues without going to full hearing.

Two commenters state that the rule seems to be inconsistent with the recent practice of taking early jurisdiction over municipal solid waste applications. They claim that the taking of early jurisdiction may limit the amount of time to respond to reviewing agencies and force reviewing agencies to become parties to a hearing without the opportunity to adequately consider the application. Other commenters concurred, stating that jurisdiction should only be taken after an application is technically complete. The commission notes that the promulgation of these rules incorporates a process whereby jurisdiction is taken after technical review is completed.

Some commenters noted that no mention is made of the public meeting required by §3261.088(d) of the Texas Health and Safety Code.

The commission notes that the public meeting requirement contained in the Texas Health and Safety Code does not apply to all hearings held pursuant to these rules and therefore the provision will not be incorporated into these rules.

The commission also states that parties may engage in mediation from receipt of earliest filed protest letters and throughout the prehearing and hearing process. A formal provision within the rules for a 21-45-day period for mediation would be in conflict with the rules' purpose of streamlining the process. It is envisioned that the process may be abated on agreement of all parties for purposes of mediation and serious movement toward resolution of all issues in controversy.

In §265.23, where there were references to findings of fact, reference to conclusions of law has been added.

Many commenters provided opinions on §265.23(3), which has been redesignated as §265.23(4), recommending that an applicant should not be forced to incur the substantial cost of preparing proposed findings of fact prior to the jurisdictional hearing. They reasoned that this rule implies that a person requesting a public hearing will be able to prove standing. It is agreed that if no persons are admitted as protesting parties, then the applicant should not be forced to prepare proposed findings of fact. Some commenters concurred that applicants should submit proposed findings of fact later in the process, and emphasized that protestants may wish to have their own findings of fact. Three commenters state that they believe all findings of fact should be submitted after the evidence is heard.

Similarly, these commenters believe that §265.23(5), which has been redesignated as §265.23(6), unfairly requires applicants to identify witnesses at the jurisdictional hearing without any knowledge of the scope of the opposition to the application, potentially resulting in unnecessary costs to all parties. Accordingly, these commenters suggested that the deadline for the applicant to file its witness list should occur later in the process, at least after parties have been admitted.

The commission acknowledges that the applicant is required to prepare findings of fact and conclusions of law and identify witnesses at the jurisdictional hearing for applications proceeding under these rules. The commission notes, however, that these rules will generally apply to more complex cases and cannot be held to be applicable until invoked with reasonable notice. It is intended that reasonable notice that the application will proceed under Subchapter C of Chapter 265, will be provided prior to the jurisdictional hearing, where there is a large degree of certainty that the matter will go to the hearing. Otherwise, findings of fact and conclusions of law and witness lists will be required to be submitted only after the rules have been invoked with reasonable notice.

Many comments were received on §265.23(4), which has been redesignated as §265.23(5), which requires the applicant to identify at the First Preliminary Hearing what constitutes the application and to provide two copies for use by all of the protestants. One commenter argued that this section does not relieve the applicant of the responsibility to provide a copy of the application in a public location when filed.

Certain commenters stated that a copy of the application, each notice of deficiency by the executive director and the applicant's response to each notice should be provided to each protesting party (or representative of aligned protesting parties) and the Office of Public Interest Counsel. Another commenter maintained that a copy of the application should be provided to all protestants and one copy each should be provided to local governments within which the proposed facility lies.

The commission agrees that the rule in no way abrogates other statutory and regulatory requirements. The requirement of two copies for all protestants was negotiated in the Task Force as a reasonable requirement of the applicant.

In §265.24, where there were references to findings of fact, reference to conclusions of law has been added and various time-frames have been modified in order to streamline and expedite the process. Section 265.24(o) has been added, which provides for the sake of fairness that no party may raise new issues in its motion for rehearing, except those related to procedural irregularity or changed circumstance.

Many comments were received in reference to §265.25(b)(3) and §265.24. The rule originally provided for three discovery periods with the protestant identifying issues based on the proposed findings of fact submitted by the applicant on the last day of the first discovery period. Many commenters viewed §265.25, as originally drafted, as allowing protestants to intentionally delay raising new issues until the point at which the applicant's ability to respond is limited to "minor amendments." While §265. 25 is now withdrawn, §265.24 now makes it clear that parties who do not identify issues, make amendments, propose findings of fact and conclusions of law or submit responses in accord with the schedules established under this subchapter and with the examiner's orders implementing it will be regarded as waiving the right to pursue them in an evidentiary hearing conducted pursuant to this subchapter.

Section 265.24(d) and (i) have been ammended to specifically address these concerns.

Four new subsections have been added to §265.24. The first new provision is §265.24(f), which requires protestants to submit a second list of issues on the last day of the third discovery period limited in scope to any amendments made by the applicant prior to the third discovery period. In turn, §265.24(g) allows the applicant to respond with a minor amendment upon a showing of good cause and by leave of the examiner.

To further ensure that parties raise issues in a timely manner as contemplated by these rules, the commission has added §265.24(o), providing that a party may not raise for the first time in motion for rehearing an issue not included in that party's issue list except for procedural irregularity or changed circumstance. As previously mentioned, §265.23(8) has also been amended to allow the examiner to set a procedural schedule for the executive director to file responses or issues lists in accord with the time period set out in §265.24.

Some commenters also took the position that Senate Bill 2 prohibits amendments "after the 31st day before the date on which a public hearing on the application is scheduled to begin."

In contrast, another commenter noted that the preamble to the rules should address the issue of §12.016 of the Texas Health and Safety Code, which precludes amendments of municipal solid waste applications within 30 days of hearing. The commenter asserted that the statutory prohibition does not apply to hearings held at the commission.

The commission responds that the provisions of these rules are not precluded by either Senate Bill 2 or §12.016 of the Texas Health and Safety Code.

One commenter reported its concern that the allowance for three discovery periods will cause needless and lengthy delays even where the protestant may have no factually-based concerns to bring before the hearing examiner. Another commenter maintained that proposed §265.24(j), which has now been redesignated as §265.24(n), authorizing the examiner to extend the time periods, has the effect of inhibiting the establishment of time limits or constraints. It argued that any option to extend may be abused over time once the means for getting extensions becomes known. Other commenters recommended that this section also, be modified to allow discovery periods to be shortened as well as lengthened for good cause.

In response, the commission amends §265.24(n) to provide that the time limits for scheduled periods may be, for good cause, "modified" rather than merely "extended" when the examiner determines that the complexity or lack thereof merits modification. This would mean that time-frames may be shortened as well as lengthened. In addition, the presumptive time limits have been reduced from 60-90 days to 30-80 days.

One commenter suggested that the first discovery period contained in §265. 24, during which the applicant conducts limited discovery of the nature and funding of the protestant, should be carefully monitored so that applicants are prevented from using discovery to intimidate protestants.

The commission responds that it has more clearly defined the applicant's limited discovery of protestants in §265.36(a)(1) to avoid chilling effects on citizen involvement in the process.

Another commenter stated that §265.24(a)(2), which has been renumbered to §265.24(b), may result in requiring protestants to formulate, and later adhere to, a list of issues within 60-90 days after the jurisdictional hearing with no provision for amending the list of issues at any time.

In response, commission has amended §265.24 to provide for protestants' second list of issues on the last day of the third discovery period.

Another commenter stated that the rule as drafted does not make it clear that protestants may expand the issues beyond those raised by the applicant.

The commission notes that adopted §265.24(b) states, "In addition, on the last day of the first discovery period, protestants may also raise new issues and proposed findings of fact and conclusions of law."

One commenter believes that §265.24 may burden protestants, invade the attorney work product, and unconstitutionally invade a protestant's right of privacy where each protestant is to include a statement as to the basis of the protestant's dispute on each issue. The commission disagrees.

A commenter noted that several of the time periods established in §265.24 may be unworkable. The requirement that the applicant may amend its application and respond to issues raised by the protestants no later than the last day of the second discovery period, may mean, according to the commenter, that the applicant has less than the full discovery period to explore and evaluate the merits of the protestants' issues. Further, it is argued that proposal, requiring the third discovery period to begin immediately following the second discovery period, is inconsistent, which authorizes further technical review of amendments by the executive director.

The commssion has amended §265.24(d) to conclude that the deadlines should remain as provided for in these rules, noting that the discovery periods are more than adequate and may be modified for good cause. If amendments require further technical review by the executive director, the schedule may be suspended by ruling of the examiner.

Many comments were received on §265.25(a)(1), now reorganized into §265. 24(d), which provides that the applicant may amend its application and proposed findings of fact on the last day of second discovery period and the application may be subject to remand or additional notice. The commenters

assert that this provision should more specifically define the circumstances under which an application would be subject to additional notice. If the applicant's proposed change is a minor amendment, they argue that additional notice should not be required.

The commission concludes that language remain as drafted in current §265.24(d) to provide for all circumstances that may appropriately require further notice, regardless of whether there is a major amendment.

Three commenters suggested that the prehearing meeting required to be held within three working days of the conclusion of the third discovery period pursuant to proposed §265.24(d), now §265.24(h), occur seven calendar days after the conclusion of the third discovery period. In addition, the commenters believe that the rule should require parties to exchange exhibits at the prehearing meeting so that parties can prepare objections before the prehearing conference. Other commenters oppose the prehearing meeting as unnecessary.

The commission has amended proposed §265.24(e), which has now been redesignated as §265.24(h), to delete "prepared for submission of" and to add "bring for submission to the examiner and exchange among parties" to clarify that parties must exchange findings of fact, stipulations, and exhibits. The commission has also amended §265.24(h) to make the prehearing meeting discretionary among parties. Language has also been added to provide that if parties do not convene a prehearing meeting, they shall still exchange findings of fact, stipulations, and exhibits.

One commenter noted that protestants should not be required to submit exhibits at the prehearing meeting, since they do not have the same resources as sophisticated applicants.

While sympathetic to the limitations of protesting parties, the commission states that the hearings are legal proceedings in which all participants should be afforded due process and rules should be applied on a nondiscriminatory basis.

A commenter requested clarification of the terms contained in §265.24(f), which has now been redesignated as §265.24(i), related to when objections to exhibits must be raised or timing of rulings on objection.

The commission has amended §265.24, which provides only that exhibits would be submitted and marked. Section 265.24(i)(2) now provides clearly that exhibits will be "offered and marked, and the examiner will rule on their admissibility insofar as possible." The last sentence of the rules has been changed and now provides that the examiner will incorporate all "rulings and determinations in a written prehearing order."

As previously discussed, proposed §265.25 has been withdrawn, but some of its provisions have been reorganized into §265.24.

Some commenters disagreed with the requirement in proposed §265.26(1) that the applicant submit its witness list at the jurisdictional hearing. These commenters suggested that all parties be required to submit their witness lists simultaneously or, in the alternative, that protestants be required to submit witness lists much sooner than the end of the first discovery period as specified in §265.26(2), such as at least 15 days before the first discovery period is scheduled to end.

The commission responds that the plan for exchange of witness lists, findings of fact and issues among parties was carefully considered by the Task Force to provide for fairness and equity for all parties. The provision of witness lists by the applicant at the first prehearing conference is discussed earlier in these comments as it related to §265.23. It is not recommended that §265.26(2) be amended to provide for submission of witness lists sooner than the end of the first discovery period because the second discovery period is considered more than adequate time, up to 80 days, to depose witnesses and respond. The commission further notes that §265.26(4) allows any party to amend its witness list upon a showing of good cause. A provision has been added to allow parties to conduct discovery on newly added witnesses as authorized in subsections (1)-(3).

In response to concerns about whether the executive director, when it is the only protestant, is subject to the deadlines applicable to the executive director or the protestant, the commission notes that, under §265.21, applications may be excluded from applicability of this subchapter or any portion thereof by agreement of the parties with examiner approval or for good cause. This language would allow the examiner and parties to make necessary adjustments to the schedule or to exclude the application altogether from applicability when there are no protesting parties and when there is disagreement only between the executive director and applicant.

Comments were received on §265.26(3) and (4) expressing the view that the subsections need to be expanded beyond allowing other parties to conduct additional discovery if the applicant identifies rebuttal witnesses. Commenters suggest that the applicant should be allowed reasonable additional discovery if a witness is added by the protestants or executive director.

To provide for internal consistency, the commission deletes the last sentence of current §§265.26(1) and (2). It also revises the second sentence of current §265.26(4) to allow parties sufficient time, as determined by the examiner, to take discovery on newly added witnesses.

One commenter asked whether the executive director will continue to identify witnesses along with the applicant on the day that jurisdiction is established pursuant to §265.26(1) if there are no protestants or if the executive director is the plaintiff.

Section 265.21(a) states that this subchapter shall apply to permit hearings; consequently, the executive director would not be considered a "plaintiff" in any proceeding under Subchapter C. In accord with §265.23(b) the executive director will identify its witnesses at the first preliminary hearing.

Many commenters endorsed §265.27 allowing the examiner to reduce excessive numbers of witnesses, because of its effect of streamlining a costly process. Other commenters stated that caution should be exercised in the use of the rule to preclude violations of due process, and to assure that the record is fully developed. Accordingly, they recommend deleting the examiner's discretion to strike witnesses' testimony.

The commission notes that the rule allows the examiner to strike witnesses whose testimony would be unduly repetitious or irrelevant, or in order to render discovery and the hearing process manageable.

Comments were received regarding proposed §265.27. The rule as originally drafted allows rebuttal by the applicant as a matter of right and, if the executive director presents evidence that could not have been reasonably anticipated at the time the protestants presented their case, by protestants. One commenter recommended that the applicant be allowed rebuttal only when it can demonstrate satisfactorily to the examiner that it has exercised due diligence in discovery of all parties, but nonetheless suffered surprise by the evidence presented in the direct case of another party. In turn, rebuttal by other parties should be allowed if necessary to assure a fair hearing process. Another commenter stated that the protestant's rebuttal rights should not be contingent upon the executive director's presentation of evidence which could not have been anticipated at the time that protestants presented their case.

Section 265.28 has been modified to provide for a rebuttal case by parties other than the applicant in certain limited circumstances.

The commission amends §265.28(a) to provide that the applicant, as the party with the burden of proof, is the only party allowed to present a rebuttal case and that in all cases the applicant shall be allowed to close with its rebuttal. Subsection (b) adds that if a party can demonstrate that evidence was presented by another party which could not have been reasonably anticipated at the time that party presented its direct case, the party may present a rebuttal case upon leave of the examiner.

Some commenters disagreed with the requirement of proposed §265.29(a) providing that notice of intent to use prefiled testimony be given 60 days in advance of the hearing. They reason that it is unknown when the 60 days starts to toll, except after the second discovery period when the applicant must decide whether it will amend its application. The same commenters wished to have §265.29(b) amended to require prefiling of objections if prefiled testimony is required.

The commission responds with §265.29(a), now providing that if a party decides to prefile testimony it shall notify other parties on or before the last day of the second discovery period. The examiner may or may not require prefiling of objections to required prefiled testimony as appropriate.

Three commenters objected to the provision contained in §265.29(c) which limits

live presentation of prefiled testimony to introductory material, corrections to the prefiled testimony, and a brief summary of not more than ten minutes. These commenters believe that if overall time limits are set, each party should be allowed to use time as they see fit, and, in addition, the examiner may benefit by supplementation of live presentation from expert witnesses.

Another commenter generally opposed the use of prefiled testimony as too complex a tool for protestants and asks whether the limitation of 10 minutes for introductory material relative to prefiled testimony is for all prefiled or each prefiled testimony. Other commenters stated that they prefer live testimony within specified timeframes because prefiled testimony is a burden to protestants.

The commission responds by amending the rule to limit live presentation of prefiled testimony "as provided by the examiner within the scope of the original prefiled testimony. . . ." Further, the timeframe for presentation has been extended to "generally . . . no more than 30 minutes for each witness. "

One commenter expressed support for proposed §265.33 and §265.34, which potentially provide a penalty for uncooperative witnesses. Another commenter suggested that the "reasonably prudent person" standard rather than the "reasonably prudent man" standard be used in §265.34(b).

The commission amends the rule to substitute "reasonably prudent persons" for the "reasonably prudent men" standard in current §265.34(b).

A commenter objected to proposed §265.35 providing that the examiner may allow additional evidence to be offered at any time when it appears to be necessary to the administration of justice. The commenter stated that the rule as formulated will allow the tactic of withholding objections to the permit until after it is frozen and then bringing up the objection as a fatal flaw, putting the applicant in the position of having to anticipate any conceivable concern of the protestant.

The commission responds that the rule is intended to allow for circumstances in which the examiner may wish to call on the expertise of an additional objective expert witness or to allow for inquiry by the examiner regarding the matters about which the expert has testified.

With regard to §265.36, various timeframes have been modified in order to streamline and expedite the process.

Also, with regard to §265.36 one commenter noted generally that the structure of discovery periods may adversely affect applicants in the permitting process. Many commenters discussed the limitation for the first discovery period described in §265.36(a)(1), which provides that such period is reserved for the protestant's discovery from the applicant and the applicant's limited discovery of the nature and funding of the protestant. These commenters request that all parties should be allowed to request documents from all other parties in the first discovery period.

The commission responds that the first discovery period is designed to enable protestants to become familiar with the application drafted by the applicant and already reviewed by the staff.

Two commenters recommended that "limited" be deleted from proposed §265.36(a)(1) as it refers to applicant's right to conduct "limited discovery of the nature and funding of the protestant." These commenters noted that the rule limits the discovery of nature and funding issues instead of limiting discovery to nature and funding issues.

One commenter recommended, as well, that "nature" be defined in the rule to include the type of legal entity, its address, names and addresses of officers, directors, owners, and all members, ownership interests, articles of incorporation, bylaws, rules, regulations, minutes, resolutions, etc. Several commenters stated that they will not disclose the identities of individual members of their groups to protect privacy but will provide information that assures that such groups are not funded by competitors or polluters.

To make the intent of the rule clear, the commission amends §265.36(a)(1) to provide examples of the limited discovery intended and to state explicitly that discovery may be taken regarding whether source of funding is by a competitor.

Two commenters oppose the limitation of §265.36(a)(2)(B) providing interrogatories available to the applicant during the second discovery period shall be reduced by the number of interrogatories submitted during the first discovery period.

The commission declines to change the rule, as the purpose of limiting the number of interrogatories is to encourage the parties to focus on the contested issues.

Several commenters urged that §265.36(b)(3)(A) limiting depositions of the executive director to last a total of four hours, should be amended to limit depositions of the applicant and the protestant to four hours. One commenter suggested that the rule may interfere with certain rights of parties under the Texas Administrative Procedure Act. These commenters recommended that, instead of a time limit, the rule should authorize the examiner to limit the depositions of the executive director when necessary to avoid excessive expense to the commission and loss of staff time.

The commission notes that such limitations are included due to limited state resources and to ensure that staff of the executive director are available to pursue other permitting tasks and duties. Further, §265.36(b)(3) (F) provides that all of these requirements may be waived by agreement of the staff or by the examiner on a showing of good cause.

However, the commission removes the restriction that the executive director will be subject to depositions only under certain conditions by deleting the word "only" from §265.36(b)(3).

A comment was received that proposed §265.37(d) appears to conflict with subsection 265.37(g) to require a party resisting discovery to file a motion for protective order in every instance, which seems inefficient and wasteful.

The commission responds by modifying §265.37(d) to add "a motion to compel" to "objection" and "motion for protective order" as not requiring a hearing to preserve error. Section 265.37(g) regarding discovery disputes merely indicates a process for responses and rulings to motions to compel and protective orders. It should be noted that to avoid unnecessary disputes in discovery and assist all parties to comply with the schedules, the Office of Hearings Examiners has proposed several forms. Disputes over access to confidential information and over entry to property have led to problems in past hearings. The examiners will encourage the use of the forms to avoid disputes, while allowing the parties to agree to alternative language or allowing any one party to seek alternative terms, for good cause.

A guidance form Protective Order will be available to any party seeking to maintain information confidential or seeking to review information claimed as confidential. A guidance form Agreement for Entry, together with a form Release and Indemnification documents, will likewise be available to facilitate such discovery. The forms are available now from the Office of Hearings Examiners. At hearings to take jurisdiction, notice of the availability of such forms will again be provided.

One commenter observed that there is an improper reference to "complex" hearings in §265.37(a).

The commission responds by deleting the reference in §265.37(a) and substituting "for hearings under this subchapter."

Three commenters stated that §265.37(b)(2) exempting the executive director and Public Interest Counsel of the commission from the requirement of producing certain materials for discovery if such materials are readily available in the commission's records, should be applicable to all parties.

The commission disagrees.

One commenter noted that the operation of §265.37(b)(3), regarding entry upon land, could have adverse effects to protestants. Another commenter advocated a limit to be imposed on the number of persons who may be given access to land, except for extraordinary circumstances.

The commission responds with the language added to §265.36(b)(3)(A) providing that the examiner may impose other reasonable restrictions on right to entry upon land as necessary.

Two commenters suggested that §265.36(b)(3)(A)(i) be clarified to state which party is releasing and which party is indemnifying.

The commission notes that the Agreement for Entry Upon Land executed by the parties will make this clear. Of further note is the fact that there is a guidance form for such agreement available in the Office of Hearings Examiners.

Two commenters asked that §265.36(b)(3)(B) be modified to require a parties to identify the types of samples, method and parameters of tests, in order allow the other parties an opportunity to timely replicate the tests.

The commission concludes that since circumstances may vary from site visit to site visit this issue should be left to the discretion of the examiner during the hearing.

A commenter stated that §265.37(f) regarding duty to supplement discovery requests, should be modified to state that supplementation shall be undertaken promptly but in any event by the close of the third discovery period.

The commission declines to change the language of the rule in accord with this comment as the duty to supplement is ongoing.

Two commenters objected to §265.37(f) regarding the duty to supplement no less than 30 days before the hearing, stating that it cannot be known when 30 days prior to the hearing will occur and that the deadline will fall within the third discovery period.

The commission responds that because the examiner will at the jurisdictional hearing set a schedule for the entire hearing process, 30 days prior to the hearing can be determined in practice. It is preferable that supplementation fall within the third discovery period, a period within which the examiner can expand discovery in the interest of fairness.

Comments were received on §265.37(g)(3), that parties should be allowed to seek certification of discovery orders requiring the disclosure of material for which a privilege has been asserted, as an erroneous ruling of that type cannot be rectified on appeal. Another commenter suggested that certification to the commission should be appropriate when irreparable harm could be shown.

The commission responds that the rule as written benefits those parties seeking resolution of claims of privilege. Once the examiner has ruled, pursuant to the rule, the party has exhausted its remedies at the agency level on the issue and may seek relief in court.

Two commenters suggested that §265.39 be amended to permit parties to produce voluminous documents exceeding 30 pages in length by making them available for inspection and copying at the mutual convenience of the parties and at the requesting party's expense.

Three commenters requested that §265.39(a)(4) be amended to provided that documents shall be made available in the general vicinity of the proposed facility, unless otherwise agreed by the parties participating in production.

The commission responds without change to the rule by noting that the commission intends for all parties to pay their own costs.

Many commenters expressed concern about §265.39(a)(9) providing that the examiner may reasonably allocate costs associated with production, because they interpret the rule to require one party to pay the costs of reproducing documents requested by another party. Such a rule, they asserted, could penalize the applicant whose application is unjustifiably protested and could discourage protestantsfrom focusing their discovery requests. The commenters recommended that the rule be amended to require the party requesting documents to pay costs and/or to require the examiner to reasonably allocate the costs among the parties seeking production. Some commenters stated that certain organizations' bylaws prohibit receiving payment for production costs by applicants.

The commission responds by noting that it intends for parties seeking production to pay costs and, where necessary, for the examiner to reasonably allocate the costs among the parties seeking production.

Comments were received on §265.39(b), recommending that 21 days is too long to allow for the service of a written response in light of the limited, fixed discovery periods established in §§265.24 and 265.36. The commenters suggested instead a 14-day limit. They also favored the same 14-day limitation to be applied to objections and responses pursuant to §265.40.

By contrast, two commenters requested that the time limits of these rules be extended to 30 days consistent with timeframes used in Rule of Civil Procedure, 168(4).

The commission responds that §265.24(n) has been revised to allow scheduled periods to be modified.

One commenter discussed §265.49(a)(3) authorizing the use of a prior deposition against a late-joined party where the party joined late has the opportunity to redepose the deponent. The commenter pointed out that the rules are silent on the use of depositions to support the late-joined party's position.

The commission responds by amending §265.49(a)(3) to provide that any deposition may be used by parties joined after deposition for any purpose against any party in accordance with paragraphs (1) and (2) of the rule.

The commission has deleted all references to award of expenses as a sanction in §§265.50(a)(3) and (4), (b)(2)(B) and (F), and (d)(2) and (3).

Comments were received on §265.50(a)(4), which imposes sanctions for the omission of material information from an application. The commenters stated that, under this rule, an applicant could be sanctioned even if the applicant was unaware that the information was material. Further, "material information" should be limited to information that is expressly required in Chapter 330 of Title 30.

Three other commenters requested that the penalty for failing to disclose complete and accurate information be a mandatory, rather than permissive, grounds for denial of the application.

The commission responds with the language of the rule to remain as written, noting that the examiner and commission should be allowed to weigh evidence and facts surrounding an allegation related to misrepresentations as the permissive language of the rule anticipates.

A commenter stated that although §265.50 addresses abuse of discovery and sanctions committed primarily by parties and to some extent their counsel, it also addresses abuse of discovery by "other deponents." Because all those proposed to be deposed are not under the control of a party or the party's counsel, it would be unfair to sanction a party or the party's counsel if certain "other deponents" abuse discovery.

The commission notes that fairness and due process are considerations in any ruling by an examiner and assures the commenter that any special facts or circumstances will be taken into account when sanctions are ordered.

The commission has deleted all references to award of expenses as a sanction in §265.51(3) and §265.52.

Comments were received regarding proposed §265.53, which provides that, absent good cause, a party may be barred from calling a witness who was not listed on that party's prehearing witness list or who failed to give prefiled testimony. Four commenters recommended that the rule be expanded to provide that a witness who was unprepared to testify in a properly noticed deposition regarding the subject matter of his or her anticipated testimony as described in the party's witness list, or who failed to give prefiled testimony if prefiled testimony has been required by the examiner, be barred from testifying.

The commission notes that sanctions regarding failure of witnesses to comply with discovery requests are contained in §265.50(b) and that §265. 54 addresses failure to identify testimony. The commission has also changed §265.53 to provide for a bar to calling a witness who has not been identified pursuant to §265.26.

Comments were received regarding §265.55. The rule bars exhibits not timely identified and prefiled but exempts cross- examination exhibits from the provision. Four commenters stated that the rule allows the protestants a basis on which to "lay behind the log." The commenters recommended that "good cause" be defined to avoid opportunity for abuse and that cross-examination exhibits should be barred unless they could not have been anticipated.

The commission deletes the current text of the rule and adds language providing that absent good cause under §265.24(i)(2), an exhibit shall not be accepted into the record which was not offered at the prehearing conference.

One commenter proposed to add a Subchapter F to Chapter 265, which would provide that if there are no parties other than statutory parties by the close of the first preliminary public hearing and no statutory party requests that a second public hearing be held, that the Executive Director may forward the application directly to the full commission

for action without the necessity of a second public hearing.

The commission disagrees, noting that all time periods and procedures may be modified by agreement of the parties with approval by the examiner.

Subchapter C. Special Procedures for Freezing the Process

- **30 TAC §§265.21-265.24, 265.26-265.35**

The sections are adopted under the Texas Water Code, §5.103 and §5. 105, which provides the Texas Natural Resource Conservation Commission with the authority to adopt any rules necessary to carry out its powers and duties under the Water Code and other laws of Texas and to establish and approve all general policy of the Commission.

§265.21. Applicability.

(a) The provisions of this subchapter shall apply to permit hearings in the areas of hazardous waste, industrial solid waste, municipal solid waste, and air quality, as well as to other hearings designated by the examiner on or before the date jurisdiction is established. Except by agreement of the parties, the provisions of this subchapter do not apply to permit hearings at which jurisdiction is established prior to the effective date of this subchapter. For permit hearings for which jurisdiction is established on or after the effective date of this subchapter, an application may either be included in, or excluded from, the applicability of this subchapter or any portion of this subchapter by agreement of the parties only with the approval of the examiner, or, for good cause, by the examiner. Good cause may include without limitation a finding that the lack of complexity of a proceeding in a hearing does not warrant the implementation of all or a portion of this subchapter.

(b) The provisions of other chapters of this title and other subchapters of this chapter are inapplicable to proceedings to which this subchapter applies only to the extent that such provisions conflict with this subchapter.

§265.22. Procedures Applicable to the Executive Director and Public Interest Counsel.

(a) Executive Director.

(1) Evaluation and assessment to issue or to deny. After the executive director has conducted his technical review of an application, the executive director shall prepare a proposed permit based on the application submitted. The executive director shall develop an initial position recommending issuance, issuance with additional or different permit provisions, or denial of the permit. If the executive director recommends issuance with additional or different permit provisions, he shall specify those provisions in a document separate from the proposed permit. If the executive director's recommendation is to deny, he shall issue a document summarizing the basis for his position. The proposed permit and additional documents prepared by the executive director shall be forwarded to the Chief Clerk's Office for filing and setting. This provision does not impair the executive director's ability to return applications pursuant to §281.18 and §281.19 of this title (relating to Applications Returned and Technical Review).

(2) The executive director may change his position based on evidence or other new information. The executive director shall timely notify all parties on the record or in writing if he changes his opinion, and the other parties shall be afforded the opportunity to respond.

(b) Public Interest Counsel. The Public Interest Counsel shall comply with all time-frames and procedures relevant to protestants pursuant to this chapter, unless otherwise determined by the examiner.

§265.23. First Preliminary Hearing. After the required notice has been given and a request for hearing has been received, an examiner will convene a public hearing to take jurisdiction over the application, accept public commentary, designate parties, and set a discovery and procedural schedule. At this hearing the examiner shall address the jurisdiction of the commission over the proceeding. If jurisdiction is established, the following shall occur:

(1) The examiner shall accept public commentary and name the parties;

(2) The examiner shall set acceptable methods of service of pleadings, motions, and discovery;

(3) The executive director shall provide his evaluation and assessment pursuant to §265.22(a)(1) of this title (relating to Procedures Applicable to the Executive Director and Public Interest Counsel), along with the proposed permit and any additional documents prepared by the executive director related to his assessment;

(4) The applicant shall submit proposed findings of fact and conclusions of law;

(5) The applicant shall identify what constitutes the application and shall provide a total of two copies of the permit application, for use by all of the protestants in the case. These copies shall include all notices of deficiency and the applicant's response to those notices;

(6) The executive director and the applicant shall provide their witness lists;

(7) The parties shall raise their claims of confidentiality of portions of the application or agency files in a request for a protective order; and

(8) The examiner shall establish a procedural schedule for the hearing consistent with the provisions of §265.24 of this title (relating to Discovery Schedule and Freezing the Process for Hearings Conducted Pursuant to this Subchapter). Without limiting §265.22(a)(2), based on the executive director's position, the examiner may also set a procedural schedule for the executive director to file responses or issues lists in accord with the time periods set out in §265.24.

§265.24. Discovery Schedule and Freezing the Process for Hearings Conducted Pursuant to this Subchapter.

(a) First Discovery Period. The first discovery period shall extend 30 to 80 days beginning immediately after the date on which jurisdiction is established, as set out in full in §265.36(a)(1) of this title (relating to Discovery in Hearings Held under Subchapter C).

(b) Protestants' First List of Issues. On the last day of the first discovery period the protestants shall identify issues based on the proposed findings of fact and conclusions of law submitted by the applicant pursuant to §265.23(4) of this title (relating to First Preliminary Hearing), and shall include a statement as to the basis of the protestant's dispute on each issue. In addition, on the last day of the first discovery period, protestants may also raise new issues and proposed findings of fact and conclusions of law.

(c) Second Discovery Period. The second discovery period shall extend 30 to 80 days beginning immediately after the protestants' list of issues is submitted, as set out in full in §265. 35(a)(2) of this title (relating to Discovery in Hearings Held under Subchapter C).

(d) Applicant's Response. The applicant may respond to issues raised by the protestants no later than the last day of the second discovery period by amending its application and/or proposed findings of fact and conclusions of law at this time, responses being limited to the issues raised by the other parties. Given the nature and degree of amendment, the application may be remanded by the examiner to the executive director for further technical review. The application may be subject to additional notice, discovery and hearing requirements. Subsequent to the time for filing a response pursuant to this subsection, the applicant may not file any amendment to its application except as provided in subsection (g) of this section.

(e) Third Discovery Period. This period shall extend 20 to 45 days immediately following the conclusion of the second discovery period, and shall be limited in accordance with §265.36(a)(3) of this title (relating to Discovery in Hearings Held under Subchapter C).

(f) Protestants' Second List of Issues. On or before the last day of the third discovery period protestants are entitled to submit a second list of issues. The protestants' second list of issues shall be limited in scope to the applicant's response as provided in subsection (d) of this section.

(g) Applicant's Second Response. The applicant may respond to issues raised in the protestants' second list of issues within seven days after the third discovery period. The applicant may be allowed by the examiner to respond with a minor amendment and proposed findings of fact and conclusions of law limited to protestants' second list of issues, within seven days of the third discovery period. Issues related to any minor amendment filed by the applicant will be considered by the examiner at the prehearing conference for inclusion in the final issue list. Subsequent to the time for filing a response pursuant to this subsection, the applicant may not file any amendment except by agreement of the parties.

(h) Prehearing Meeting. A prehearing meeting may be held within three or ten days after the conclusion of the third discovery period, depending upon whether protestants submit a second list of issues. The prehearing meeting is a meeting of the parties without the examiner. At this meeting, the parties shall bring for submission to the examiner and exchange among parties findings of fact, conclusions of law, stipulations, and exhibits. The parties may have the proceedings recorded. If parties do not convene a meeting pursuant to this subsection, they shall submit to the examiner and exchange among parties findings of fact, conclusions of law, stipulations, and exhibits within three or ten working days after the conclusion of the third discovery period.

(i) Prehearing Conference and Order. Within 7-14 days after the conclusion of the third discovery period, the Examiner shall hold a prehearing conference.

(1) All parties shall address the stipulations of the proposed findings of fact and conclusions of law beginning with the applicant. The examiner shall determine which issues remain and which findings of fact and conclusions of law have been stipulated. Proposed findings and conclusions shall be treated as follows:

(A) A proposed finding or conclusion stipulated by all parties shall be regarded as established.

(B) A proposed finding or conclusion that has not been stipulated, was on the other parties' issue list, and for which the other parties have a reasonable basis for continuing to contest the issue, may be raised as an issue at the hearing. The reasonableness of the other parties' basis for contesting the issue may receive further inquiry by the examiner during the prehearing conference. If the examiner determines that the other parties have not shown a reasonable basis for contesting the finding or conclusion and the executive director did not raise the issue as a basis for permit denial, the examiner shall deem the finding or conclusion stipulated.

(2) Exhibits shall be offered and marked and the Examiner will rule on their admissibility insofar as possible. At hearing all objections to exhibits, which could have been cured if timely raised, shall be deemed waived if they were not raised during the prehearing conference. Parties wishing to offer exhibits at any time subsequent to the prehearing conference shall notify all other parties as soon as practicable of intention to seek leave to submit additional exhibits. The examiner has the discretion to permit the offer of exhibits not submitted at the prehearing conference for good cause. Good cause includes the need for one party to prepare an exhibit in response to another party's exhibit first seen at the prehearing conference, the need to prepare an exhibit in response to the direct testimony of another party and other cases which are justified by the party seeking to submit the exhibit.

(3) The examiner shall set final case time limitations at or before the prehearing conference.

(4) The examiner shall promptly incorporate all rulings and determinations in a written prehearing order.

(j) Failure to Comply With Schedules. Parties who do not identify issues, make amendments, propose findings of fact and conclusions of law or submit responses in accord with the schedules established under this subchapter and with the examiner's orders implementing it will be regarded as waiving the right to pursue them in an evidentiary hearing conducted pursuant to this subchapter.

(k) Final Preparation. Final preparation for hearing shall extend no more than 14 calendar days from the date of the prehearing conference.

(l) Evidentiary Hearing. The evidentiary hearing shall extend from five to no more than 25 calendar days in duration immediately following final preparation for hearing, subject to extension by the examiner for good cause. The examiner shall set reasonable time limitations for the presentation of the cases of all parties in order to limit the hearing to this time period.

(m) Proposal for Decision. The examiner shall issue a Proposal for Decision within 20-55 days from the conclusion of the evidentiary hearing.

(n) Modification of Schedules. The scheduled periods set out in this section are presumptively the time limits but they may be modified in exceptional circumstances for good cause either by the examiner or by agreement of the parties with approval of the examiner for good cause. Good cause may include without limitation a finding that the complexity or lack thereof of a proceeding warrants modification of one or more of the scheduled periods.

(o) Motion for Rehearing. A party may not raise for the first time on motion for rehearing an issue of fact or law which it has not previously raised as a contested issue unless the issue is related to:

(1) a procedural irregularity; or

(2) changed circumstance, where the issue is material and a party demonstrates good cause for failure to raise it as an issue prior to the prehearing conference. Notwithstanding the foregoing the Commission may exercise its discretion to address an issue not raised by the other parties or remand an issue depending on the evidence in the record.

§265.26. Identification of Witnesses. The examiner shall require the parties to exchange lists of witnesses who will be called to testify at the evidentiary hearing. The witness lists shall include the names and addresses of the witnesses and a brief description of the subject matter of their anticipated testimony.

(1) The witness lists of the applicant and the executive director shall be submitted on the day that jurisdiction is established over the proceeding, and may be amended by these parties to address the protestants' and Public Interest Counsel's list of issues.

(2) The witness lists of the protestants and Public Interest Counsel shall be submitted when the protestants and Public Interest Counsel list their issues.

(3) Parties may call rebuttal witnesses not identified on their witness lists only on a showing of good cause and after the parties are afforded a reasonable opportunity to conduct discovery.

(4) The examiner may allow a party to amend its witness list upon a showing of good cause. The parties shall have sufficient time, as determined by the examiner, to take discovery on newly added witnesses, as authorized in this paragraph or by paragraphs (1)-(3) of this subsection. There is a continuing obligation to update witness lists as soon as the need for and identity of the new witness is reasonably known.

§265.27. Limiting the Number of Witnesses. At the request of a party or on the examiner's own motion, the examiner may reduce excessive numbers of witnesses identified pursuant to §265.26 of this title (relating to Identification of Witnesses) as follows:

(1) The examiner may direct the party to do one of the following:

(A) voluntarily reduce its listed witnesses to a specified number; or

(B) provide a summary of the expected testimony of each witness sufficiently specific to show the need for the testimony.

(2) The examiner may use the witness lists and any summaries of testimony provided to strike witnesses whose testimony would be unduly repetitious or irrelevant, or in order to render discovery and the hearing process manageable.

(3) If a party fails or refuses to comply with the directions of the examiner pursuant to this section, the examiner may limit or strike the testimony of witnesses called by the party in any reasonable manner.

§265.28. Rebuttal.

(a) Except as provided by subsection (b) of this section, the applicant, as the party with the burden of proof, is the only party allowed to present a rebuttal case. In all cases, the applicant shall be allowed to close with its rebuttal.

(b) If a party can demonstrate that evidence was presented by another party which could not have been reasonably anticipated at the time that party presented its direct case, the party may present a rebuttal case upon leave of the examiner.

(c) Rebuttal cases must be presented within the time limitations set by the examiner in the prehearing order.

§265.29. Prefiled Testimony.

(a) Unless otherwise directed by the examiner, any party shall have the option to prefile all or any part of the testimony of all or any one of its witnesses. One party's election to prefile shall not control another party's decision regarding whether to prefile testimony. If a party decides to use prefiled testimony, it shall notify the other parties and the examiner on or before the last day of the second discovery period, identifying the relevant witness(es).

(b) The examiner may direct all parties to prefile their entire direct cases. If all direct testimony is prefiled, whether by examiner's order or by agreement of the parties:

(1) No party shall be allowed to go beyond the scope of its prefiled testimony on direct examination; and

(2) The examiner may limit or prohibit non-adverse cross-examination if unnecessary to the development of a complete evidentiary record.

(c) The live presentation of prefiled testimony at the evidentiary hearing shall be limited as provided by the examiner within the scope of the original prefiled testimony to introductory material, corrections to the prefiled testimony, and a brief summary. The live presentation shall generally last no more than 30 minutes for each prefiled witness.

(d) The examiner shall set the deadline for the filing of prefiled testimony at a reasonable time before the evidentiary hearing. The factors the examiner shall consider include the complexity of the material, the expected length of the material, the number of witnesses or issues that are to be presented by prefiled testimony, and the acceptable method of presenting objections.

§265.31. Subpoena of Witnesses and for the Production of Documentary Evidence.

(a) On his own motion or on the written request of any party to a hearing under this subchapter pending before him, on a showing of good cause, and on deposit of sums as required by the Administrative Procedure Act, the examiner shall issue a subpoena addressed to the sheriff or constable of the State of Texas, or any other person authorized to serve subpoenas as provided in the Texas Rules of Civil Procedure, Rule 178, to require the attendance of witnesses and the production of books, records, papers, or other objects as may be necessary and proper for the purposes of the proceedings. The Office of Hearings Examiners may develop a standard subpoena request form which the examiner may require the requesting party to complete and return as a prerequisite to issuance of a subpoena.

(b) If a subpoena also commands the person to whom it is directed to produce books, papers, documents or tangible things designated therein, the examiner, on motion made seasonably and in any event at or before the time specified in the subpoena for compliance therewith, may:

(1) quash or modify the subpoena if it is unreasonable and oppressive; or

(2) condition denial of the motion to quash or modify upon the advancement by the person on whose behalf the subpoena is issued, of the reasonable costs of producing the books, papers, documents, or tangible things.

§265.33. Witness Shall Attend Hearing. Every witness summoned in any hearing shall attend the hearing from day to day, and from place to place, until discharged by the examiner or party summoning such witness. If any witness after being duly subpoenaed fails to attend, such witness may be subject to any remedies available through district court to the party summoning the witness.

§265.34. Evidence.

(a) In contested cases, irrelevant, immaterial, or unduly repetitious evidence will be excluded.

(b) Whenever necessary to ascertain facts not reasonably susceptible of proof under the Texas Rules of Civil Evidence, evidence not admissible thereunder may be admitted, except where precluded by statute, if it is of a type commonly relied upon by reasonably prudent persons in the conduct of their affairs.

This agency hereby certifies that the rule as adopted has been reviewed by legal counsel and found to be a valid exercise of the agency's legal authority.

Issued in Austin, Texas, on July 6, 1994.

TRD-9443588

Mary Ruth Holder
Director, Legal Division
Texas Natural Resource Conservation Commission

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For further information, please call: (512) 239-0600

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Subchapter D. Discovery in Hearings Held Under Subchapter C

• 30 TAC §§265.36-265.49

The new sections are adopted under the Texas Water Code, §5.103 and §5.105, which provides the Texas Natural Resource and Conservation Commission with the authority to adopt any rules necessary to carry out its powers and duties under the Water Code and other laws of Texas and to establish and approve all general policy of the commission.

§265.36. Discovery in Hearings Held under Subchapter C.

(a) Except when otherwise ordered by the examiner, discovery in hearings held under Subchapter C of this chapter will be separated by time and manner into three distinct periods. Within the timeframe set for each period in this subsection, the examiner shall have the discretion to set the duration of each discovery period.

(1) First Discovery Period. The first discovery period shall extend 30 to 80 days from the date that jurisdiction is taken by the agency. This period is reserved for the protestants' discovery from the applicant. The applicant may conduct limited discovery related to the nature of each prot-

estant (including for example the type and date of organization, purpose, and number of members) and whether the source of funding is by a competitor of the applicant.

(2) Second Discovery Period. The second discovery period shall extend 30 to 80 days from the end of the first discovery period. Discovery during this period shall consist of the following:

(A) the protestant may discover from the staff;

(B) the applicant may discover from the protestant and the staff; the number of interrogatories available to the applicant during the second discovery period shall be reduced by the number of interrogatories submitted during the first discovery period; and

(C) the staff may discover from the protestant and the applicant.

(3) Third Discovery Period. The third discovery period shall extend 20 to 45 days from the end of the second discovery period. During this period, any discovery by the protestant or the applicant from the staff shall be limited to the staff's position regarding the applicant's response, and the staff's position regarding the protestants' issues. Discovery from the applicant and the protestant shall be limited to the scope of the listed issues as provided in §265.24(b) of this title (relating to Discovery Schedule) and the applicant's response as provided in §265.24(d). The examiner shall have discretion to limit or expand discovery in this period further in the interest of fairness. The examiner shall identify which of the time periods listed above applies to discovery for those parties not fitting into the categories discussed above as appropriate.

(b) Discovery from the Executive Director. Whenever discovery is sought of the staff of the executive director in any of the discovery periods, it shall be in accord with the following provisions:

(1) Beginning at the time jurisdiction is taken, all parties shall have access to all unprivileged documents in the agency's files without the necessity of submitting an Open Records request or a Request for Production. It shall be the agency's responsibility to ensure that documents protected from discovery as provided for under law are removed from agency public files and that all assertions of privilege by the executive director relating to those agency files are made at the time jurisdiction is taken or other timely manner.

(2) The executive director shall answer Interrogatories and Requests for Production during the second and third discovery periods.

(3) The executive director shall be subject to depositions during the second and third discovery periods, under the following conditions:

(A) Each deposition shall be limited to a total of 4 hours.

(B) Any party seeking to depose a staff witness shall attempt to set the time and date of the deposition through agreement with the staff.

(C) The staff shall not be required to submit to a date for the deposition less than 10 days from the date of the request.

(D) The staff shall not be required to submit to a deposition any later than a date 20 days prior to the prehearing conference.

(E) All depositions of staff witnesses shall be taken in Austin in one of the TNRCC office buildings.

(F) All of these requirements may be waived by agreement of the staff or by the examiner on a showing of good cause.

(c) Voluntary discovery may be sought at any time by any party.

§265.37. Forms and Scope of Discovery; Protective Orders; Supplementation of Responses.

(a) Forms of discovery. For purposes of hearings held under Subchapter C of this chapter, all forms of discovery are deemed compellable. Permissible forms of discovery for hearings under this subchapter include:

(1) oral or written depositions of any party or nonparty;

(2) written interrogatories;

(3) requests of a party for admissions of facts and the genuineness or identity of documents or things;

(4) requests and motions for production, examination, and copying of documents or other tangible materials; and

(5) requests and motions for entry upon and examination of real property.

(b) Scope of discovery. Except as provided in subsection (c) of this section, unless otherwise limited by order of the examiner in accordance with these rules, the scope of discovery is as follows:

(1) In general. Parties may obtain discovery regarding any matter which is relevant to the subject matter in the pending proceeding. It is not grounds for objection that the information sought will be inadmissible at hearing if the information sought appears to be reasonably calculated to lead to the discovery of admissible evidence. It is also not grounds for objection that an interrogatory propounded pursuant to §265.40 of this title (relating to Interrogatories to Parties) involves an opinion or contention that relates to fact or the application of law to fact, but the examiner may order that such an interrogatory not be answered until after designated discovery has been completed or until a prehearing conference or other later time. It is also not grounds for objection that a request for admission propounded pursuant to §265.41 of this title (relating to Requests for Admissions) relates to statements or opinions of fact or of the application of law to fact or mixed questions of law and fact or that the documents referred to in a request may not be admissible at trial.

(2) Documents and tangible things. A party may obtain discovery of the existence, description, nature, custody, condition, location and contents of any and all documents (including papers, books, accounts, drawings, graphs, charts, photographs, electronic or videotape recordings, and any other data compilations from which information can be obtained and translated, if necessary, by the person from whom production is sought, into reasonably usable form) and any other tangible things which constitute or contain matters relevant to the subject matter in the proceeding. A person is not required to produce a document or tangible thing unless it is within the person's possession, custody or control. Possession, custody or control includes constructive possession such that the person need not have actual physical possession. As long as the person has a superior right to compel the production from a third party (including an agency, authority or representative), the person has possession, custody or control. The executive director and the public interest counsel of the commission are not required to amass, assemble, collect, compile, gather, and/or sort the materials described in this paragraph if those materials are readily available in the commission's records.

(3) Land.

(A) During the appropriate discovery period, a party may obtain a right of entry upon designated land or other property in the possession or control of a person upon whom a request or motion to produce is served when the designated land or other property is relevant to the application which is the subject of the hearing for the purpose of inspection and measuring, surveying, photographing, testing or sampling the property or any designated object or operation thereon. This provision is not intended to affect any statutory rights authorizing access. If a person has a superior right to compel a third person to permit entry, the person with the right has possession or control. Upon request of the controller or possessor of the land, the examiner may order

that entry upon the land be subject to any existing safety regulations or protections of trade secrets or processes, and may impose other reasonable restrictions on this right as necessary. Unless otherwise ordered by the examiner, the parties shall enter into a standard Agreement for Entry Upon Land which contains the following:

(i) a release and indemnification provision;

(ii) allowance for all parties to split samples;

(iii) a provision that the controller of the land shall allow entry within a reasonable period of time after the request; and

(iv) a provision that the controller of the land shall have the right to accompany the party entering the property.

(B) The parties may request and the examiner will rule on whether a party intending to take samples shall be required to reveal the types of samples and methodology and parameters of tests performed on those samples prior to or subsequent to entry upon land.

(4) Potential parties and witnesses. A party may obtain discovery of the identity and location (name, address and telephone number) of any potential party and of persons having knowledge of relevant facts. A person has knowledge of relevant facts when he or she has or may have knowledge of any discoverable matter. The information need not be admissible in order to satisfy the requirements of this subsection and personal knowledge is not required.

(5) Experts and reports of experts. Discovery of the facts known, mental impressions and opinions of experts, otherwise discoverable because the information is relevant to the subject matter in the pending proceeding, but which were acquired or developed in anticipation of trial and the discovery of the identity of experts from whom the information may be learned may be obtained only as follows:

(A) General. A party may obtain discovery of the identity and location (name, address and telephone number) of an expert who may be called as an expert witness, the subject matter of which the witness is expected to testify, the mental impressions and opinions held by the expert and the facts known to the expert (regardless of when the factual information was acquired) which relate to or form the basis of the mental impressions and opinions held by the expert. The disclosure of the same information concerning an expert used for consultation and who is not expected to be called as an expert witness at trial is required if the consulting expert's opinion or impressions have been reviewed by a testifying expert.

(B) Reports. A party may also obtain discovery of documents and tangible things including all tangible reports, physical models, compilations of data and other materials prepared by an expert or for an expert in anticipation of the expert's hearing and deposition testimony. The disclosure of material prepared by an expert used for consultation is required even if it was prepared in anticipation of trial if the consulting expert's opinions or impressions have been reviewed by a testifying expert.

(C) Determination of status. The examiner has discretion to compel a party to make the determination and disclosure of whether an expert may be called to testify within a reasonable and specific time.

(D) Reduction of report to tangible form. If the discoverable factual observations, tests, supporting data, calculations, photographs, or opinions of an expert who will be called as an expert witness have not been recorded and reduced to tangible form, the examiner may order these matters reduced to tangible form and produced within a reasonable time.

(6) Statements. Any person, whether or not a party, shall be entitled to obtain, upon written request, his own statement previously made concerning the matter which is the subject of the hearing, or its subject matter, which is in the possession, custody or control of any party. If the request is refused, the person may move for an examiner's order under §265.50 of this title (relating to Abuse of Discovery; Sanctions). For the purpose of this paragraph, a statement previously made is:

(A) a written statement signed or otherwise adopted or approved by the person making it; and

(B) a stenographic, mechanical, electrical or other type of recording, or any transcription thereof which is a substantially verbatim recital of a statement made by the person and contemporaneously recorded.

(c) Exemptions. The following matters are protected from disclosure by privilege:

(1) Work product. The work product of an attorney, subject to the exceptions of Texas Rules of Civil Evidence, §503(d), which shall govern as to work product as well as to attorney-client privilege.

(2) Experts. The identity, mental impressions and opinions of an expert who has been informally consulted or of an expert who has been retained or specially employed by another party in anticipation of, or preparation for hearing, or any documents or tangible things containing such information if the expert will not be called as an expert witness, except that the identity, mental impressions and opinions of an expert who will not be called to testify as an expert and any documents or tangible things containing such impressions and opinions are discoverable if the consulting expert's opinion or impressions have been reviewed by a testifying expert.

(3) Written statements. The written statements of potential witnesses and parties, when made in connection with, or in anticipation of, the prosecution, investigation, defense or protest of the particular application or petition that is the subject of the proceeding, except that persons, whether parties or not, shall be entitled to obtain, upon request, copies of statements they have previously made concerning the application or petition or its subject matter and which are in the possession, custody, or control of any party. The term "written statements" includes:

(A) a written statement signed or otherwise adopted or approved by the person making it; and

(B) a stenographic, mechanical, electrical or other type of recording, or any transcription thereof which is a substantially verbatim recital of a statement made by the person and contemporaneously recorded. For purposes of this paragraph, a photograph is not a statement.

(4) Party communications. Communications between agents or representatives or the employees of a party to the hearing or communications between a party and that party's agents, representatives or employees, when made in connection with the prosecution, investigation, defense or protest of the particular application or petition that is the subject of the particular proceeding, or in anticipation of the prosecution, protest, or defense of any claims made in a part of the pending hearing. This exemption does not include communications prepared by or for experts that are otherwise discoverable. For the purposes of this paragraph, a photograph is not a communication.

(5) Other privileged information; Any Matter Protected from Disclosure by Any Other Privilege. Upon a showing that the party seeking discovery has substantial need of the materials and that the party is unable without undue hardship to obtain the substantial equivalent of the materials by other means, a party may obtain discovery of the materials otherwise exempt

from discovery by paragraphs (3) and (4) of this subsection. Nothing in this subsection shall be construed to render non-discoverable the identity and location of any potential party, any person having knowledge or relevant facts, any expert who is expected to be called as a witness during trial, or of any consulting expert whose opinions or impressions have been reviewed by a testifying expert.

(d) Presentation of objections. Either an objection, a motion to compel or a motion for protective order made by a party to discovery shall preserve that objection without further support or action by the party unless the objection or motion is set for special hearing and determined by the examiner. At any reasonable time, any party may request a special hearing on any objection, motion to compel or motion for protective order. The failure of a party to obtain a ruling prior to trial on any objection to discovery, motion to compel or motion for protective order does not waive such objection or motion. In objecting to an appropriate request within the scope of subsection (b) of this section, a party seeking to exclude any matter from discovery on the basis of an exemption or immunity from discovery must specifically plead the particular exemption or immunity from discovery relied upon and at or prior to any special hearing, shall produce any evidence necessary to support such claim either in the form of affidavits served at least seven days before the special hearing or by testimony. If the examiner determines that an in camera inspection and review by the examiner of some or all of the requested discovery is necessary, the objecting party must segregate and produce the discovery to the examiner in a sealed wrapper or by answers made in camera to deposition questions, to be transcribed and sealed in event the objection is sustained. When a party seeks to exclude documents from discovery and the basis for objection is undue burden, unnecessary expense, harassment or annoyance, or invasion of personal, constitutional, or property rights rather than a specific immunity or exemption, it is not necessary for the examiner to conduct an inspection and review of the particular discovery before ruling on the objection. After the date on which answers are to be served, objections are waived unless an extension of time has been obtained by agreement or order of the examiner or good cause is shown for the failure to object within such period.

(e) Protective orders. On motion specifying the grounds and made by any person against or from whom discovery is sought under these rules, the examiner may make any order in the interests of justice necessary to protect the movant from undue burden, unnecessary expense, harassment or annoyance, or invasion of personal, constitutional, or property rights. Insofar as the applicant is claiming confidentiality of any part of the permit application, the applicant shall request a protective order at the time that jurisdiction is taken. All other claims of confidentiality shall be handled as they arise, according to the timelines established under subsection (d) of this section. Unless amended by the examiner, a standard order developed by the Office of Hearings Examiners shall be used. Motions or responses made under this section may have exhibits attached including affidavits, discovery pleadings, or any other documents. Specifically, the examiner's authority as to such orders extends to, but is not limited by, any of the following:

(1) ordering that requested discovery not be sought in whole or in part, or that the extent or subject matter of discovery be limited, or that it not be undertaken at the time or place specified;

(2) ordering that the discovery be undertaken only by such method or upon such terms and conditions or at the time and place directed by the examiner.

(f) Duty to supplement. A party who has responded to a request for discovery that was correct and complete when made is under no duty to supplement his response to include information thereafter acquired, except the following shall be supplemented not less than 30 days prior to trial unless the examiner finds that a good cause exists for permitting or requiring later supplementation.

(1) A party is under a duty reasonably to supplement his response if he obtains information upon the basis of which:

(A) he knows that the response was incomplete and incorrect when made;

(B) he knows that the response, though correct and complete when made, is no longer true and complete and the circumstances are such that failure to amend the answer is in substance misleading; or

(2) If the party expects to call an expert witness when the identity or the subject matter of such expert witness' testimony has not been previously disclosed in response to an appropriate inquiry directly addressed to these matters, such response must be supplemented to include the name, address and telephone number of the expert witness and the substance of the testimony concerning which the expert witness is expected to testify, as soon as is practical, but in no event less than 30 days prior to trial, except on leave of the examiner.

(3) In addition, a duty to supplement answers may be imposed by order of the examiner or agreement of the parties, or at any time prior to trial, through new requests for supplementation or prior answers.

(g) Discovery Disputes.

(1) Discovery motions. All discovery motions shall contain a certificate by the party filing same that efforts to resolve the discovery dispute without the necessity of examiner intervention have been attempted and failed.

(2) Motions to Compel and for Protective Orders. Whenever a discovery dispute arises, the disputing party shall file a motion to compel or for protective order. Any response shall be filed within five working days of receipt. The response may be a showing of good cause for extra time to respond. The examiner shall rule within five working days of the response.

(3) Finality of Examiner's Ruling. No discovery issues shall be certified to the commission.

§265.45. Non-Stenographic Recording; Deposition by Telephone.

(a) Non-Stenographic Recording. Any party may cause the testimony and other available evidence at a deposition upon oral examination to be recorded by other than stenographic means, including videotape recordings, upon leave of the examiner, and the non-stenographic recording may be presented at trial in lieu of reading from a stenographic transcription of the deposition, subject to the following:

(1) Any party intending to make a non-stenographic recording shall give five days' of notice to all other parties by mail, return receipt requested, and shall specify in said notice the type of non-stenographic recording which will be used.

(2) After notice is given, any party may make a motion for relief under §265.37 of this title (relating to Forms and Scope of Discovery; Protective Orders; Supplementation of Responses). If a special hearing session is not held prior to the taking of the deposition, the non-stenographic recording shall be made subject to the examiner's ruling at a later time.

(3) Any party shall have reasonable access to the original recording and may obtain a duplicate copy at his own expense.

(4) The expense of a non-stenographic recording shall not be taxed as costs, unless before the deposition is taken, the parties so agree, or the examiner so orders, for good cause shown, on motion and notice.

(5) The non-stenographic recording shall not dispense with the requirement of a stenographic transcription unless the examiner shall so order on motion and notice before the deposition is taken and such order shall make such provision concerning the manner of taking, preserving and filing the non-stenographic recording as may be necessary to assure that the recorded testimony will be intelligible, accu-

rate and trustworthy. Such order shall not prevent any party from having stenographic transcription made at his own expense. In the event of an appeal, the non-stenographic recording shall be reduced to writing at the expense of the party making the recording.

(b) Deposition by telephone. The parties may stipulate in writing, or the examiner may, upon motion, order that a deposition be taken by telephone. For the purposes of this section and §265. 43 of this title (relating to Issuance of Commission to Take Deposition) and §265.50 of this title (relating to Abuse of Discovery; Sanctions), a deposition taken by telephone is taken in the district and at the place where the deponent is to answer questions propounded to him.

§265.49. Use of Deposition Transcripts in Commission Proceedings.

(a) Use of deposition transcript in same proceeding.

(1) Use of depositions. At trial or upon a hearing on a motion, any part or all of a deposition taken in the same proceeding, insofar as admissible under the Texas Rules of Civil Evidence, may be used by any person for any purpose against any party who was present or represented at the taking of the deposition or who had reasonable notice thereof. Further, the Texas Rules of Civil Evidence shall be applied to each question and answer as though the witness were then present and testifying. Depositions shall include the original transcripts or any certified copies thereof. Unavailability of the deponent is not a requirement for admissibility.

(2) Included within meaning of "same proceeding." Substitution of parties pursuant to these rules does not affect the right to use depositions previously taken.

(3) Parties joined after deposition taken. If one becomes a party after a deposition is taken and has an interest similar to that of any party described in paragraphs (1) or (2) of this subsection, the deposition is admissible against him if he has had a reasonable opportunity, after becoming a party, to redepose the deponent, and has failed to exercise that opportunity. Any existing deposition may be used by parties joined after the deposition is taken for any purpose against any party in accordance with paragraphs (1) and (2) of this subsection.

(b) Use of deposition transcript taken in different proceeding. At trial or upon the hearing of a motion or an interlocutory proceeding before an examiner, any part or all of a deposition taken in a different proceeding may be used subject to the provisions and requirements of the Texas Rules of Civil Evidence. Further, the Texas Rules of Civil Evidence shall be applied to each question and answer as though the witness was then present and testifying.

(c) Motion to suppress. When a deposition transcript has been delivered by the deposition officer and notice of delivery given at least one entire day before the day on which the case is called for trial, errors and irregularities in the notice of delivery, and errors in the manner in which the testimony is transcribed or the deposition transcript is prepared, signed, certified, sealed, endorsed, delivered, or otherwise dealt with by the deposition officer under §265.48 of this title (relating to Submission to Witness; Changes; Signing) are waived, unless a motion to suppress the deposition transcript or some part thereof is made and notice of the written objections made in the motion is given to every other party before trial commences.

This agency hereby certifies that the rule as adopted has been reviewed by legal counsel and found to be a valid exercise of the agency's legal authority.

Issued in Austin, Texas, on July 6, 1994.

TRD-9443587 Mary Ruth Holder
Director, Legal Division
Texas Natural Resource Conservation Commission

Effective date: July 27, 1994

Proposal publication date: February 4, 1994

For further information, please call: (512) 239-0600

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Subchapter E. Special Sanctions Rules Relating to Freezing the Process

- **30 TAC §§265.50, 265.51, 265.53-265.55**

The new sections are adopted under the Texas Water Code, §5.103 and §5.105, which provides the Texas Water Commission with the authority to adopt any rules necessary to carry out its powers and duties under the Water Code and other laws of Texas and to establish and approve all general policy of the commission.

§265.50. Abuse of Discovery; Sanctions.

(a) Motion for sanctions or order compelling discovery. A party, upon reasonable notice to all other parties and to all other persons affected thereby, may apply for sanctions or an order compelling discovery as follows:

(1) Motion. According to subparagraphs (A), (B), (C), and (D) of this paragraph, the discovering party may move for an order compelling a designation, an appearance, an answer or answers, or inspection or production in accordance with the request, or apply to the examiner for imposition of any sanction authorized by subsection (b)(2) of this section without the necessity of first having obtained an examiner's order compelling such discovery:

(A) if a party or other deponent which is a corporation or other entity fails to designate the persons or persons to testify on the deponent's behalf, and, if the deponent so desires, the matters on which each person designated will testify; or

(B) if a party, or other deponent, or a person designated to testify on behalf of a party or other deponent fails:

(i) to appear before the officer who is to take his deposition, after being served with a proper notice; or

(ii) to answer a question propounded or submitted upon oral examination or upon written questions; or

(C) if a party fails:

(i) to serve answers or objections to interrogatories submitted under §265.40 of this title (relating to Interrogatories to Parties), after proper service of the interrogatories; or

(ii) to answer an interrogatory submitted under §265.40; or

(iii) to serve a written response to a request for inspection under §265.39 of this title (relating to Discovery and Production of Documents and Things for Inspection, Copying or Photographing), after proper service of the request; or

(iv) to respond that discovery will be permitted as requested or fails to permit discovery as requested in response to a request for inspection submitted under §265.39; or

(D) if a party fails to comply with any person's written request for the person's own statement as provided in §265. 37(b)(6) of this title (relating to Forms and Scope of Discovery; Protective Orders; Supplementation of Responses).

(2) Depositions Upon Oral Examination. When taking a deposition on oral examination, the proponent of the question may complete or adjourn the examination before he applies for an order.

(3) Protective Orders. If the examiner denies the motion in whole or in part, the examiner may make such protective order as he would have been empowered to make on a motion pursuant to §265.37.

(4) Material Misrepresentations. Material misrepresentations, including misleading statements or omissions of material information in any application material, or in response to a discovery request or in testimony, constitutes a violation and may be punished by the Examiner with the full range of sanctions, including a recommendation of denial, of the relief requested in the hearing by the responsible party.

(5) Evasive or Incomplete Answer. For purposes of this section, an eva-

sive or incomplete answer is to be treated as a failure to answer.

(b) Failure to comply with order or with discovery requests.

(1) Sanctions by court. If a deponent fails to appear or to be sworn or to answer a question after being directed to do so by an examiner, the failure may be appealed to district court by the movant as provided by law.

(2) Sanctions by examiner and commission. If a party or an officer, director, or managing agent of a party or a person designated under subsection (a)(1) of this section to testify on behalf of a party fails to comply with proper discovery requests or to obey an order to provide or permit discovery, including an order made under subsection (a) of this section, the examiner may impose any of the sanctions authorized by §265.50 of this title (relating to Abuse of Discovery; Sanctions) or he may, after notice and hearing, make such orders, or recommendations to the commission, in regard to the failure as are just, and among others, the following:

(A) an examiner's order disallowing any further discovery of any kind or of a particular kind by the disobedient party;

(B) an examiner's order that the matters regarding which the order was made or any other designated facts shall be taken to be established for the purposes of the action in accordance with the claim of the party obtaining the order;

(C) an examiner's order refusing to allow the disobedient party to support or oppose designated claims, or prohibiting him from introducing designated matters in evidence;

(D) an examiner's order striking out pleadings, or parts thereof, or staying further proceedings until the order is obeyed. The commission may issue an order dismissing, with or without prejudice, the application, petition, or proceedings or any part thereof.

(c) Abuse of discovery process in seeking, making, or resisting discovery. If the examiner finds a party is abusing the discovery process in seeking, making, or resisting discovery or if the examiner finds that any interrogatory or request for inspection or production is unreasonably frivolous, oppressive, or harassing, or that a response or answer is unreasonably frivolous or made for the purposes of delay, then the examiner, or the commission may, after notice and hearing, impose any appropriate sanction authorized by §265.50 or authorized by subsection (b)(2)(A)-(C) of this section, or recommend that the commission dismiss the proceedings as authorized by subsection (b)(2)(D) of this section. Such order of sanction shall be subject to review on appeal when the commission's order becomes final.

(d) Failure to comply with §265.41 of this title (relating to Requests for Admissions).

(1) Deemed admission. Each matter of which an admission is requested shall be deemed admitted unless, within the time provided for in §265.41, the party to whom the request is directed serves upon the party requesting the admissions a sufficient written answer or objection in compliance with the requirements of §265.41, addressed to each matter of which an admission is requested. For purposes of this section, an evasive or incomplete answer may be treated as a failure to answer.

(2) Motion. The party who has requested the admission may move to determine the sufficiency of the answers or objections. Unless the examiner determines that an objection is justified, the examiner may order that an answer be served. If the examiner determines that an answer does not comply with the requirements of §265.41, the examiner may order either that the matter be admitted or that an amended answer be served.

(e) Failure to respond to or supplement discovery. A party who fails to respond to or supplement his response to a request for discovery shall not be entitled to present evidence which the party was under a duty to provide in a response or supplemental response or to offer the testimony of an expert witness or of any other person having knowledge of discoverable matter, unless the examiner finds that good cause, sufficient to require admission, exists. The burden of establishing good cause is upon the party offering the evidence and good cause must be shown in the record.

§265.51. Sanctions for Failure to Serve or Deliver Copy of Pleadings and Motions. If any party fails to serve on or deliver to the other parties a copy of any pleading, plea, motion, prefiled testimony or prefiled objections, or other application for an examiner's order, the examiner may, in his discretion, on notice and hearing:

(1) order all or any part of such document stricken; or

(2) direct that such party shall not be permitted to present grounds for relief, protest or defense contained therein.

§265.53. Failure to Identify Witnesses. A party shall be barred from calling a witness who has not been identified pursuant to §265. 26 of this Chapter (relating to Identification of Witnesses).

§265.54. Failure to Identify Testimony. Absent good cause, a witness shall be barred from testifying about matters which were not identified by the sponsoring party in its witness list and amendments thereto, and/or in that witness' prefiled testimony, when election to prefile testimony has been noticed by the sponsoring party or when prefiled testimony has been directed by the examiner.

§265.55. Barring Exhibits. Absent good cause under §265. 24(i)(2) of this title (relating to Discovery Schedule and Freezing the Process for Hearings Conducted Pursuant to this Subchapter), an exhibit shall not be accepted into the record which was not offered at the prehearing conference.

This agency hereby certifies that the rule as adopted has been reviewed by legal counsel and found to be a valid exercise of the agency's legal authority.

Issued in Austin, Texas, on July 6, 1994.

TRD-9443586 Mary Ruth Holder
Director, Legal Division
Texas Natural Resource Conservation Commission

Effective date: July 27, 1994

Proposal publication date: February 4, 1994

For further information, please call: (512) 239-0600

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Chapter 267. Procedures During Public Hearing

• 30 TAC §267.11, §267.13

The Texas Natural Resource Conservation Commission (Commission) adopts amendments to §267.11 and §267.13, concerning the presentation of evidence in hearings; specifically, providing for a certain order of presentation and that witnesses be called either by a party or the hearings officer. The rules are adopted with changes to the proposed text as published in the February 8, 1994, issue of the *Texas Register* (19 TexReg 885).

The proposed changes are necessitated by the merger of the Texas Air Control Board and the Texas Water Commission in order to combine and refine the rules to meet the needs of a broad range of hearing types at the new agency. The proposed changes are consistent with current practices at the agency.

A public hearing was held on February 28, 1994 in Austin. The comment period closed March 14, 1994. Comments to the proposed sections were received by the following entities: Henry, Lowerre, Hass and Frederick; USA Waste Services; the Lone Star Chapter of the Solid Waste Association of North America; the Cities of Arlington and Irving; and Kelly, Hart and Hallman.

With regard to §267.11, one commenter urged that if the Executive Director (ED) has taken a position in favor of permit issuance, the ED should be aligned with the applicant and the presentation order should be: applicant; executive director, public interest counsel (PIC); and protestants. The commenter

argued that ED alignment with the applicant is proper where the ED is going to make the case for the applicant.

The Commission disagrees that such alignment is proper. The ED is a statutory party and, while the ED may have preliminary position regarding the application, that position may change based upon new information or new evidence. In any event, while the ED may take position regarding the application, the burden of proof remains with the applicant. Further, it should be noted that §267.11 has been changed to clarify which provisions apply only to permit hearings and which apply to all proceedings. For clarity, the Commission has also amended the rule to reflect that the ED opens with a statement regarding its "preliminary" position rather than "current" position.

Section 267.13(c) would allow any person whose position is not adequately represented to be called as a witness for the ex- aminer, subject to cross-examination by all parties. All commenters stated that the problem with the rule is that it would allow the person called as the examiner's witness to enter late in the process during hearing, circumventing discovery and thus denying due process, with the surprise witness supplying testimony that may become the basis for decision on an issue or on the final decision.

The Commission disagrees with the commenters' suggestion. The intent of the rule is to allow the hearings examiner to develop a full record. Occasionally during the hearing process, an issue may come to light about which the parties have little information, but which is very relevant to the case at hand. Without the authority to subpoena witnesses who have relevant knowledge, the examiner may be precluded from making an adequate recommendation. However, the Commission agrees that the change in the proposed wording is in order to prevent circumvention of discovery. A clarifying sentence is added to provide the parties an opportunity to take discovery of such person.

The amendments are adopted under the Texas Water Code, Title 2, Subtitle A, Chapter 5, §5.103 and §5.105, which authorizes the Commission to adopt any rules necessary to carry out its power and duties under the code and other laws of this state and to establish and approve all general policy of the Commission.

§267.11. Order of Presentation.

(a) In all proceedings the moving party shall have the right to open and close. Where several matters have been consolidated, the presiding officer will designate who will open and close. The presiding officer will determine at what stage intervenors will be permitted to offer evidence and argument. After all parties have completed the presentation of their evi- dence, the presiding officer may call upon any party for further material or relevant evidence upon any issue.

(b) Before the moving party opens in a permit hearing, the Executive Director's Staff shall open with a simple statement of its preliminary position on the application and, in a permit hearing, will present the Staff's draft permit including special provisions, if any. In a permit hearing, the applicant presents evidence to meet its burden of proof on the application, any opponents present evidence, the Public Interest Counsel presents evidence, and the Staff presents its evidence. In all cases, the applicant shall be allowed to close with its rebuttal. Any party may present a rebuttal case when another party presents evidence which could not have been reasonably anticipated.

§267.13. General Admissibility of Evidence.

(a)-(b) (No change.)

(c) Testimony will be received only from witnesses called by a party or his or her representative or the presiding officer. The presiding officer may allow or request testimony from any person whose position is not adequately represented by any party, subject to cross-examination by all parties or their representatives. Such testimony may be allowed at the presiding officer's discretion. All parties shall have an opportunity to take discovery of such person.

This agency hereby certifies that the rule as adopted has been reviewed by legal counsel and found to be a valid exercise of the agency's legal authority.

Issued in Austin, Texas, on May 25, 1994.

TRD-9443569 Mary Ruth Holder
Director, Legal Division
Texas Natural Resource Conservation Commission

Effective date: July 27, 1994

Proposal publication date: February 8, 1994

For further information, please call: (512) 239-0615

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Chapter 269. Procedures After Public Hearings Before a Hearings Examiners

• 30 TAC §269.6

The Texas Natural Resource Conservation Commission (Commission) adopts an amendment to §269.6, concerning pleadings following the Proposal for Decision; specifically, establishing the deadlines for filing of exceptions and replies to exceptions with the time periods allowed to be changed by agreement of all parties. The rule is adopted without changes to the proposed text as published in the February 8, 1994, issue of the *Texas Register* (19 TexReg 885).

The proposed changes are necessitated by the merger of the Texas Air Control Board and the Texas Water Commission in order to combine and refine the rules to meet the needs of a broad range of hearing types at the new agency. The proposed changes are consistent with current practices at the agency.

A public hearing was held on February 28, 1994, in Austin. The comment period closed March 14, 1994. No comments were received regarding adoption of the rule.

The amendment is adopted under the Texas Water Code, Title 2, Subtitle A, Chapter 5, §5.103 and §5.105, which authorizes the Commission to adopt any rules necessary to carry out its power and duties under the code and other laws of this state and to establish and approve all general policy of the Commission.

This agency hereby certifies that the rule as adopted has been reviewed by legal counsel and found to be a valid exercise of the agency's legal authority.

Issued in Austin, Texas, on May 25, 1994.

TRD-9443568 Mary Ruth Holder
Director, Legal Division
Texas Natural Resource Conservation Commission

Effective date: July 27, 1994

Proposal publication date: February 8, 1994

For further information, please call: (512) 239-0615

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Chapter 274. Expediting the Complex Hearings

The Texas Natural Resource Conservation Commission (Commission) adopts the repeal of §§274.1-274.9, 274.21-274.24, 274.41-274.63, and 274.71-274.76, concerning expediting the complex hearings are adopted without changes to the proposed text as published in the February 4, 1994, issue of the *Texas Register* (19 TexReg 776).

Repeal of these rules is based in part on Commission work with the Permit Hearing Task Force, a group of attorneys, individuals associated with industry-related interests, individuals associated with environmental interests and other special interest groups.

A public hearing was held on April 7, 1994, in Austin, Texas. The comment period closed on April 7, 1994.

There was no oral testimony given during the public hearing. However, the Commission has received written testimony on the repeal proposal from one commenter, the law firm of Henry, Lowerre, Hess and Frederick. This commenter observed that the three to four attempts to use these rules was not a sufficient test of their usefulness and practicality. The commenter noted that the rules had many benefits and believes their repeal is mistaken.

The Commission disagrees. The Commission believes that the complex hearings process does not produce the time and cost savings anticipated, especially during discovery prior to the application being declared technically complete. Concurrently with repealing these sections the Commission is adopting amendments and new rules in Chapter 265, Procedures Before Public Hearing, which include special procedures for freezing the application prior to hearing and discovery and sanction procedures. The Commission believes the repeal of complex hearings process rules and adoption of amendments of Chapter 265 will streamline and make the hearings pro-

cess more fair. Chapter 265 as adopted is published concurrently in this edition of the *Texas Register.*

Subchapter A. General Rules

• **30 TAC §§274.1-274.9**

The repeals are adopted under the Texas Water Code, Title 2, Subtitle A, Chapter 5, §5.103 and §5.105, which authorizes the Commission to adopt any rules necessary to carry out its powers and duties under the Code and other laws of this state and establish and approve all general policy of the Commission.

This agency hereby certifies that the rule as adopted has been reviewed by legal counsel and found to be a valid exercise of the agency's legal authority.

Issued in Austin, Texas, on July 6, 1994.

TRD-9443581 Mary Ruth Holder
Director, Legal Services
Texas Natural Resource Conservation Commission

Effective date: July 27, 1994

Proposal publication date: February 4, 1994

For further information, please call: (512) 463-8069

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Subchapter B. Prehearing Procedures for Complex Hearings

• **30 TAC §§274.21-274.24**

The repeals are adopted under Water Code, §5.103 and §5.105, which authorize the Commission to adopt any rules necessary to carry out its powers and duties under the Code and other laws of this state and to establish and approve all general policy of the Commission.

This agency hereby certifies that the rule as adopted has been reviewed by legal counsel and found to be a valid exercise of the agency's legal authority.

Issued in Austin, Texas, on July 6, 1994.

TRD-9443583 Mary Ruth Holder
Director, Legal Services
Texas Natural Resource Conservation Commission

Effective date: July 27, 1994

Proposal publication date: February 4, 1994

For further information, please call: (512) 463-8069

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Subchapter C. Discovery and Evidence

• **30 TAC §§274.41-274.63**

The repeal are adopted under Water Code, §5.103 and §5.105, which authorize the Commission to adopt any rules necessary to carry out its powers and duties under the Code and other laws of this state and to establish and approve all general policy of the Commission.

This agency hereby certifies that the rule as adopted has been reviewed by legal counsel and found to be a valid exercise of the agency's legal authority.

Issued in Austin, Texas, on July 6, 1994.

TRD-9443582 Mary Ruth Holder
Director, Legal Services
Texas Natural Resource Conservation Commission

Effective date: July 27, 1994

Proposal publication date: February 4, 1994

For further information, please call: (512) 463-8069

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Subchapter D. Sanctions

• **30 TAC §§274.71-274.76**

The repeals are adopted under Water Code, §5.103 and §5.105, which authorize the Commission to adopt any rules necessary to carry out its powers and duties under the Code and other laws of this state and to establish and approve all general policy of the Commission.

This agency hereby certifies that the rule as adopted has been reviewed by legal counsel and found to be a valid exercise of the agency's legal authority.

Issued in Austin, Texas, on July 6, 1994.

TRD-9443584 Mary Ruth Holder
Director, Legal Services
Texas Natural Resource Conservation Commission

Effective date: July 27, 1994

Proposal publication date: February 4, 1994

For further information, please call: (512) 463-8069

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Chapter 275. Special Provisions

Variance Hearings

• **30 TAC §§275.130-275.132**

The Texas Natural Resource Conservation Commission (Commission) adopts amendments to §§275.130-275.132, concerning variance hearings pursuant to the Texas Clean Air Act. Section 275.130 is adopted with changes to the proposed text as published in the February 8, 1994, issue of the *Texas Register* (19 TexReg 885). Sections 275.131 and 275.132 are adopted without changes and will not be republished.

The proposed changes are necessitated by the merger of the Texas Air Control Board and the Texas Water Commission in order to combine and refine the rules to meet the needs of a broad range of hearing types at the new agency. The proposed changes are consistent with current practices at the agency.

A public hearing was held on February 28, 1994, in Austin. The comment period closed March 14, 1994. No comments were received regarding adoption of the rules. Section 275.130 was modified by the agency for clarification purposes.

The amendments are adopted under the Texas Water Code, Title 2, Subtitle A, Chapter 5, §5.103 and §5.105, which authorizes the Commission to adopt any rules necessary to carry out its power and duties under the code and other laws of this state and to establish and approve all general policy of the Commission.

§275.130. Variance Hearings Pursuant to the Texas Clean Air Act. Upon the filing of a proper petition, a date for a hearing on the petition shall be set not be more than 90 days after the date the petition is filed. Notice of the hearing shall be given as required by the Texas Health and Safety Code, Texas Clean Air Act (TCAA), §382.031 and the Administrative Procedure Act, the Government Code, Chapters 2001 and 2002. A petition for the variance shall be considered to be in proper form if it identifies the person seeking the variance; identifies the particular rule or provisions of the TCAA from which a variance is sought; identifies the source of air contaminants which are the subject of the petition, including information on the nature and the amount of emissions from the source, if available, and the location of the source; and includes a short and plain statement of the grounds upon which the relief is sought. Forms to assist in the filing of a petition are available upon request, but are not mandatory.

This agency hereby certifies that the rule as adopted has been reviewed by legal counsel and found to be a valid exercise of the agency's legal authority.

Issued in Austin, Texas, on May 25, 1994.

TRD-9443567 Mary Ruth Holder
Director, Legal Division
Texas Natural Resource Conservation Commission

Effective date: July 27, 1994

Proposal publication date: February 8, 1994

For further information, please call: (512) 239-0615

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TITLE 37. PUBLIC SAFETY AND CORRECTIONS

Part VII. Texas Commission on Law Enforcement Officer Standards and Education

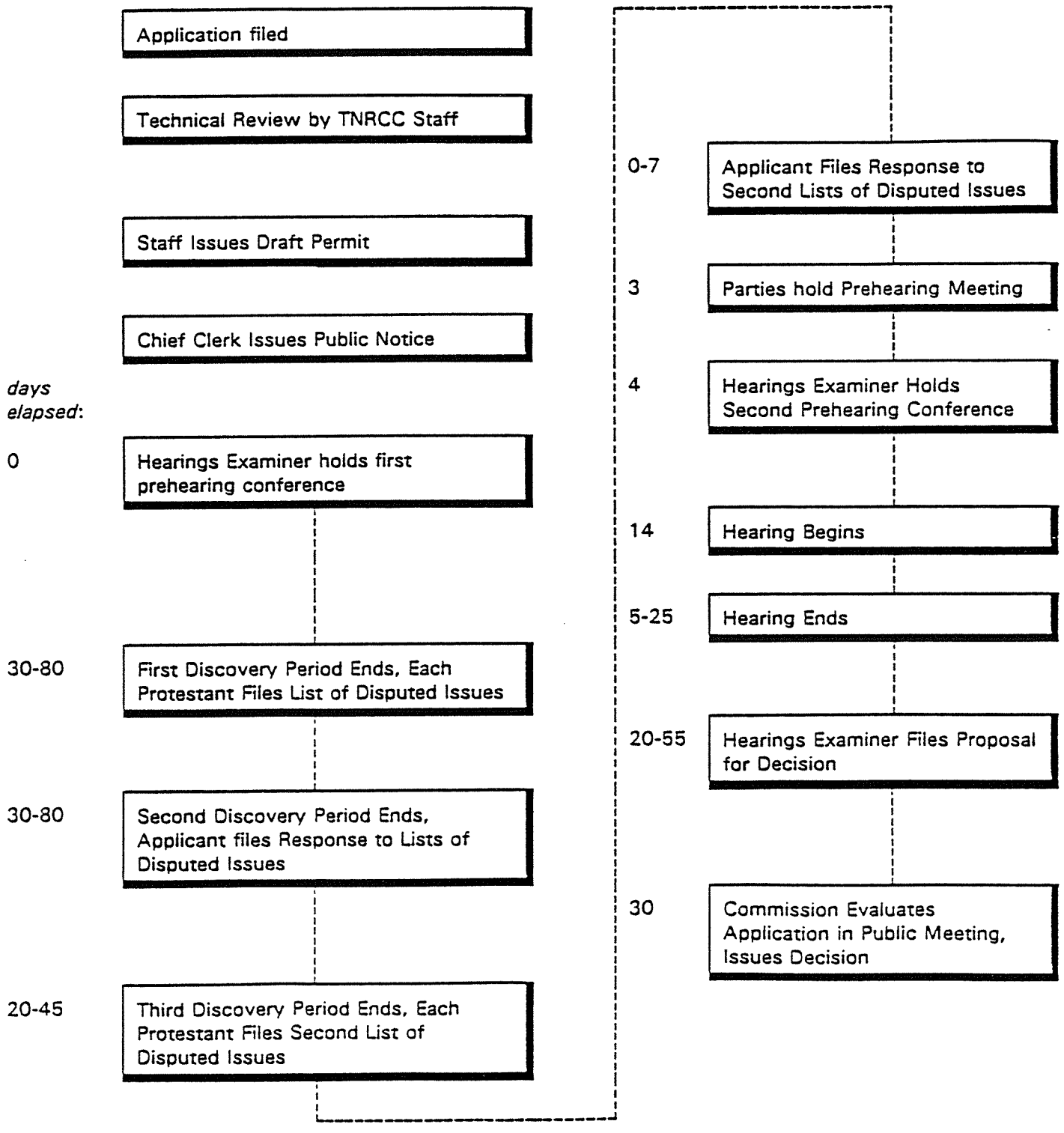
Chapter 211. Administration Division

• **37 TAC §211.66, §211.67**

The Texas Commission on Law Enforcement Officer Standards and Education (commission) adopts the repeals of §211.66, concerning Agreement Training and §211.67 concerning Academy Advisory Boards, without changes to the proposed text as published in the May 13, 1994, issue of the *Texas Register* (19 TexReg 3634). Section 211.66 is being amended and replaced with a

TEXAS NATURAL RESOURCE CONSERVATION COMMISSION

Procedure Under Proposed Contested Case "Freeze" Rules



May 1994

total days elapsed after contested hearing process begins: 156-343

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- Member: Administrative Law Advisory Commission; State Bar Administrative and Public Law Section, Environmental Law Section, Appellate Practice and Advocacy Section.

PUBLICATIONS:

- Author, *Texas Interstate Water Compacts*, 17 St. Mary's L.J. 1241 (1986)
- Co-author, *Water Rights Adjudication -Texas Style*, 10 Tex. Bar J. 1183 (Nov. 1981)
- Reporter for Rocky Mountain Water Law Newsletter
- Reporter for ABA Water Resources Committee Annual Report

ADMINISTRATIVE LAW UPDATE - CASES

Paul Elliott
Environmental Protection Division
Office of the Attorney General of Texas

SIXTH ANNUAL TEXAS
ENVIRONMENTAL SUPERCONFERENCE
August 4 - 5, 1994

This paper is a reproduction of Steven Baron's Case Law Update which was presented at the Advanced Administrative Law Seminar of the Travis County Bar Association on June 3, 1994. I wish to thank Steve for his kind permission to reproduce his excellent paper in these materials. I have added a Supplement of recent cases and an Updated Index following his paper.

CASE LAW UPDATE

Steven Baron
Administrative Law Section
Energy Division
Office of the Attorney General of Texas

EIGHTH ANNUAL
ADVANCED ADMINISTRATIVE LAW SEMINAR
Travis County Bar Association
Four Seasons Hotel
Austin, Texas
June 3, 1994

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Introduction

This paper identifies recent appellate decisions that address issues of Texas administrative law. Included are most if not all reported and slip opinions issued by the Texas courts since August 1993. For opinions issued between September 1992 and August 1993, please refer to Section A of the 1993 State Bar Administrative Law Course materials.

The purpose of this paper is to catalogue rather than to provide commentary. Accordingly, the paper neither highlights certain cases as particularly noteworthy nor omits other cases because they may add little to the development of the law. Each case is presented in two parts. First, the "Nature and Disposition of the Case" are stated in short form. When the information was readily available, I identified the presiding trial court judge and the appellate panel that issued the opinion. The name of the appellate judge who authored the opinion is underlined. Note that, because the Administrative Procedure and Texas Register Act (APTRA) was codified this past year, some cases refer to APTRA while others cite the Administrative Procedure Act (APA) as it now appears in the Texas Government Code.

Following the "Nature and Disposition of the Case" is a list of "Key Points." A Key Point is a paraphrase or quote from the opinion on a point of administrative law. Such points are *not necessarily* central to the court's holding in the case. The intent is to provide the practitioner with a quick yet accurate way of determining whether the opinion is worth reading, given the issue of administrative law presented in pending or anticipated litigation.

The cases are grouped roughly by administrative law subject. The six groups are:

A. Jurisdictional Prerequisites to Judicial Review . . . . . page 2

B. Agency's Express and Implied Powers 6

C. Standard of Review 12

D. Due Process Considerations 18

E. Open Meetings 21

F. Other Recent Decisions 23

Texas Supreme Court decisions are listed first within each group. Some cases belong in more than one category. For example, *Lone Star Greyhound Park, Inc. v. Texas Racing Comm'n*, 863 S.W.2d 742 (Tex. App.--Austin 1993, writ denied), appears in the Due Process section but could just as easily have been placed in the Open Meetings section. The careful researcher should review the entire case listing and not assume that one section of the paper is exhaustive on a subject.

A number of these cases are still wending their way through the appellate process. Slip opinions may be subject to withdrawal on rehearing, and applications for writ of error may be granted. Without making any warranties, I hope that this compendium provides a useful resource for the administrative law practitioner.

A. Jurisdictional Prerequisites to Judicial Review

***Methodist Hospitals of Dallas v. Texas Workers Compensation Comm'n*, Nos. 3-91-565-CV and 3-91-566-CV (Tex. App.--Austin, Mar. 9, 1994, n.w.h.) (opinion on rehearing).**

NATURE AND DISPOSITION OF THE CASE:

Suit for declaratory judgment and injunctive relief challenging validity of rules adopted by Texas Workers Compensation Commission. Travis County district court (Lowry, J.) dismissed the suit as moot after rules expired. Court of appeals (Powers, Aboussie and Kidd, JJ.) affirmed, partly on other grounds.

KEY POINTS:

Jurisdiction to Review Agency Action -- Rules -- Mootness: Once rule expires, suit for declaratory judgment and injunctive relief challenging validity of rule is moot and properly dismissed for want of jurisdiction. Upon expiration, no rule exists for trial court to enjoin agency from enforcing, and any declaratory judgment as to the rule's validity would be ineffectual. It is immaterial that rule could be reenacted at any time. Validity of future rule can be challenged at later date. Courts are not empowered to decide cases predicated upon future contingencies. Further, in this case, "capable of repetition, yet evading review" exception to mootness doctrine is inapplicable.

Jurisdiction to Review Agency Action -- Rules -- Initial Agency Jurisdiction: For district court to exercise jurisdiction over workers' compensation dispute, statute requires that the claim must first have been presented to the Commission. Plaintiff has burden to show that this prerequisite of taking preliminary administrative action before filing suit has been met. Further, since the issue is one of trial-court jurisdiction, it may be raised at any time, even on appeal, by the parties or by the court itself.

Agency's Express and Implied Powers -- Rules -- Substantial Compliance with APTRA Procedures: APTRA § 5(e) declares that no rule is valid unless adopted in substantial compliance with APTRA's procedural requirements. "Substantial compliance" is a question of law for the court, not one of fact, to be determined solely from the face of the order adopting the rule. Court's conclusion regarding substantial compliance in prior appeal from denial of temporary injunction constitutes the law of the case binding the trial court and the agency.

Southwest Airlines Co. v. Texas High-Speed Rail Authority, 867 S.W.2d 154 (Tex. App.--Austin 1993, writ requested).

NATURE AND DISPOSITION OF THE CASE:

APA § 2001.171 suit for judicial review of Texas High-Speed Rail Authority order granting high speed rail franchise. Travis County district court (Lowry, J.) granted pleas to jurisdiction and dismissed the suit. Court of appeals (Powers, Aboussie, and B.A. Smith, JJ.) affirmed.

KEY POINTS:

Jurisdiction to Review Agency Action -- Statutory Provision: Under the doctrine of governmental immunity, no right of judicial review of agency action exists unless a statute provides for such review, the action violates constitutional procedural due process, or the constitution waives the state's immunity from suit. APA § 2001.171 does not create a right of judicial review by generally waiving the state's immunity from suit, but instead sets out the procedure for judicial review authorized pursuant to another statutory provision. Statute, which provides that "board" of directors of High Speed Rail Authority "may sue and be sued on behalf of the [A]uthority," constitutes a limited waiver of governmental immunity. A suit against the Authority and not the board does not strictly comply with this limited waiver and may not be maintained.

Jurisdiction to Review Agency Action -- Vested Property Right: Airline does not have vested property right which it may protect from allegedly unlawful competition by a high speed railroad. Right to be free from unlawful competition must be right arising from permit or license granted by the agency issuing the challenged order. Neither does airline's certificate from United States Civil Aeronautics Board create a vested property right on which to base a suit for judicial review.

District Court's Failure to File Findings of Fact and Conclusions of Law: District court's failure to file timely requested findings of fact and conclusions of law is presumed harmful unless record affirmatively shows complaining party suffered no injury. In this case, record affirmatively shows no injury. District court stated its conclusions in its order of dismissal.

Southwest Airlines Co. v. Texas High-Speed Rail Authority, 863 S.W.2d 123 (Tex. App.-- Austin 1993, writ requested).

NATURE AND DISPOSITION OF THE CASE:

Declaratory judgment action under APTRA § 12 and Uniform Declaratory Judgments Act seeking injunctive and declaratory relief against the Texas High-Speed Rail Authority. Suit was filed during pendency of agency proceeding. Suit continued to pend until agency issued final order, at which time companion suit was filed seeking judicial review of the order. After dismissing suit for judicial review for want of jurisdiction (*see* 867 S.W.2d 154), Travis County district court (Lowry, J.) also dismissed declaratory judgment suit for want of jurisdiction. Court of appeals (Powers, Kidd, and B.A. Smith, JJ.) affirmed.

KEY POINTS:

Jurisdiction to Render Declaratory Judgment -- No Piecemeal Ligitation: Actions for declaratory relief require the existence of a real controversy between parties that will actually be determined by the judicial declaration. Judgment that does not determine a controversy is an impermissible advisory opinion. Stated another way, declaratory judgment statutes were not intended to allow controversies to be tried piecemeal. In this case, once agency issued its final order and district court dismissed companion suit for judicial review of the order, court correctly refused to issue declaratory and injunctive relief. Although original object of the declaratory suit was to control a pending agency proceeding, once the agency issued its final order, continuing the suit was merely an attempt to obtain a different judgment in the same controversy at issue in the companion suit for judicial review of the order -- impermissible piecemeal litigation.

District Court's Failure to File Findings of Fact and Conclusions of Law: Trial court is not required to make findings of fact and conclusions of law in cases disposed of on the pleadings.

***Texas Dep't of Health v. Texas Health Enterprises, Inc.*, 871 S.W.2d 498 (Tex. App.-- Dallas 1993, writ denied).**

NATURE AND DISPOSITION OF THE CASE:

Suit for declaratory judgment and injunctive relief filed by nursing home to prevent Texas Department of Human Services from suspending Medicaid vendor payments pending completion of contested case license revocation proceedings. Dallas County district court (Shipworth, J.) granted summary judgment to nursing home. Court of appeals (Thomas, Chapman and Rosenberg, JJ.) affirmed.

KEY POINTS:

Sovereign Immunity: Although Uniform Declaratory Judgments Act does not confer jurisdiction on a trial court, declaratory judgment may be maintained to challenge agency action outside scope of delegated authority. Such suits are not suits against the State barred by sovereign immunity. Sovereign immunity doctrine also does not apply to contracts made by the State or its agencies. By entering into a contract, State lays aside its attributes as sovereign and binds itself to the law governing contracts.

Jurisdiction to Review Agency Action -- Mootness: Trial court not required to exercise plenary power and vacate final judgment when party informs court in motion for new trial that the underlying controversy no longer exists. Final judgment is proper so long as justiciable controversy existed at the time of its rendition. In this case, mere fact that agency chose to reinstate the nursing home's certification and contract after summary judgment was granted does not render trial court's decision advisory or make the issue moot for purposes of appeal.

Exhaustion of Administrative Remedies: Exhaustion of administrative remedies not required when

agency acts in excess of its statutory authority. Exhaustion doctrine also generally does not apply when only pure questions of law are involved. When agency committed wrongful act, nursing home properly resorted to trial court on question of law to protect nursing home's vested property right.

***English v. Central Education Agency*, 866 S.W.2d 73 (Tex. App.--Austin 1993, writ requested).**

NATURE AND DISPOSITION OF THE CASE:

Suit for judicial review contesting school district's decision not to renew school teacher's contract. Commissioner of Education affirmed. Travis County district court (Davis, J.) affirmed the Commissioner. Court of appeals (Aboussie and Kidd, JJ.) reversed and remanded.

KEY POINTS:

Motion for Rehearing -- Timeliness: Failure to file a timely motion for rehearing under APTRA § 16 deprives the district court of jurisdiction to review the agency's decision. A party has 20 days after being notified to file its motion. There is a rebuttable presumption that the party is notified the date notice is mailed. In this case, the presumption was rebutted by proof that the plaintiff did not receive actual notice until six days after the notice was mailed.

Standard of Review -- Deference to Agency's Interpretation of Statute: Unlike a determination of a disputed fact, agency's determination of a question of law is not entitled to a presumption of validity. Although agency should be afforded discretion in interpreting ambiguous statutory requirements, in this case no one contends that the statute is ambiguous.

***Morgan v. Employees' Retirement System of Texas*, 872 S.W.2d 819 (Tex. App.--Austin 1994, n.w.h.).**

NATURE AND DISPOSITION OF THE CASE:

APA § 2001.171 suit for judicial review of decision by Employee's Retirement System denying disability benefits. Travis County district court (Dellana, J.) granted agency's plea to jurisdiction and dismissed the suit. Court of appeals (Powers, Jones, and Kidd JJ.) reversed and remanded.

KEY POINT:

Motion for Rehearing -- Specificity: Purpose of motion for rehearing before agency is to put agency on notice as to the alleged errors. Motion must be sufficiently definite to apprise agency of errors claimed so as to allow agency to opportunity to correct the errors or prepare to defend it. Under APA § 2001.145, motion must succinctly state: (1) the finding, conclusion, or other action alleged to be erroneous, and (2) the legal basis for the claim of error. A motion is sufficient if it fulfills the purpose of apprising the agency, even though the motion may be "unorthodox" and "not

a form-book example." In general, the need for specificity will be less when, as in this case, the agency's decision does not present complicated issues but instead involves "but one point of contention."

***El-Kareh v. Texas Alcoholic Beverage Comm'n*, No. C14-93-00555-CV, (Tex. App.—Houston [14th Dist.] Mar. 17, 1994, n.w.h.).**

NATURE AND DISPOSITION OF THE CASE:

APA § 2001.171 suit for judicial review of county judge's order denying a license to sell beer. Harris County district court affirmed the county judge. Court of appeals (Robertson, Cannon and Draughn) affirmed.

KEY POINT:

Motion for Rehearing -- Sufficiency: Failure to include a point in motion for rehearing before agency waives the complaint on appeal.

B. Agency's Express and Implied Powers

***Meador-Brady Mgmt. Corp. v. Texas Motor Vehicle Comm'n*, 866 S.W.2d 593 (Tex. 1993).**

NATURE AND DISPOSITION OF THE CASE:

APTRA § 19 suit for judicial review of decision by Motor Vehicle Commission granting a license to sell motorcycles. Travis County district court (Davis, J.) affirmed. Austin Court of Appeals (833 S.W.2d 683, Carroll, C. J., Jones and Kidd, JJ., *per curiam*) affirmed the district court. Supreme Court (Hecht, J.) reversed and remanded.

KEY POINTS:

Agency's Express and Implied Powers -- Agency Vote -- "Majority of a Quorum" Requirement: When a statute requires that agency action be taken by a "majority vote of a quorum" of the agency members, "majority" means a majority of the quorum itself, not a majority of those voting when a quorum is present. "Vote" means an affirmative formal vote. An agency member's abstention does not count as a vote, even if deemed to be acquiescence in the action favored by the majority of the other members. This is the rule at least when, as in this case, the member who abstained did so on rehearing after initially voting the other way.

Motion for Rehearing -- Timeliness: Under APTRA § 16 prior to its amendment in 1991, a party's 15 day period for filing a motion for rehearing does not begin to run until the party receives actual

notice of the order. In this case, the motion was timely because, although not filed within 15 days after the order was rendered, *i.e.*, signed, the motion was filed within five days of the date the Commission first notified the party.

***Railroad Comm'n of Texas v. ARCO Oil and Gas Co.*, No. 3-91-504-CV (Tex. App.--Austin, Apr. 13, 1994, n.w.h.) (opinion on rehearing).**

NATURE AND DISPOSITION OF THE CASE:

APA § 2001.038 declaratory judgment action challenging validity of Railroad Commission rule. Travis County district court (Meyers, J.) declared the rule invalid and enjoined its enforcement. Court of appeals (Carroll, C.J., Jones and Kidd, JJ.) withdrew its original opinion reversing the district court and, in an opinion on rehearing, affirmed.

KEY POINTS:

Agency's Express and Implied Powers -- Rulemaking v. Contested Case: Railroad Commission must hold an evidentiary, trial-type hearing prior to enacting a rule protecting oil companies' correlative rights. It is doubtful that Commission has authority to enact rules for this purpose at all. Commission only has express authority to promulgate rules for a different purpose (to prevent oil & gas waste) and to use rules to protect correlative rights of natural gas well owners. By implication, Commission lacks authority to use rules to protect correlative rights of oil well owners. Assuming nevertheless that the Commission has such authority, Commission must hold an evidentiary, trial-type hearing prior to enacting such a rule. Statutory provisions require a hearing, and an evidentiary hearing is consistent with the agency's historical practice. APA rulemaking provisions do not impliedly repeal this hearing requirement. APA only establishes *minimum* procedural requirements. APA should be harmonized with other statute so that Commission must comply with both, including the APA's rulemaking notice requirements.

Standard of Review -- Rules -- Reasoned Justification: Court must apply arbitrary and capricious standard, not substantial evidence test, in determining whether agency has "substantially complied" with APA § 2001.033 requirement of stating a "reasoned justification" for a rule, including a statement of the rule's "factual basis." APA § 2001.033 places a three-fold duty on the agency. As part of its order enacting the rule, agency must: (1) create a "legislative record" that summarizes the evidence presented during the comment period; (2) set forth a contemporaneous justification for the rule based on the evidence before the agency, including why the agency gave less weight or disregarded evidence to the contrary; and (3) demonstrate that the justification is a reasoned one. The underlying purposes are to ensure that the agency fully considered the comments submitted and to provide the factual basis and rationality of the rule as determined by the agency. The reasoned justification must be "clear, concise, logical." Court finds that Commission's stated justification in this case is illogical and leaves the reader "befuddled."

Court ordinarily must look solely to the face of the agency record (*i.e.*, the order adopting the rule) to determine whether the agency has adequately stated the "factual basis" as part of its "reasoned

justification" for the rule. In other circumstances not presented in this case, "extra-record" evidence may be permissible. For example, extra-record evidence may be appropriate when the issue is whether the agency order failed to list parties or summarize their comments. Extra-record evidence also might be permissible to show that order is an "intentional sham" (by which the Court says it means "purposefully deceptive"). Finally, extra-record evidence may be required to resolve constitutional challenges to a rule.

Primary Jurisdiction -- Rules: Primary jurisdiction doctrine is inapplicable and does not deny the district court jurisdiction to issue a declaratory judgment on the validity of the Commission's rule. Primary jurisdiction doctrine prevents a court from ruling on certain questions before they have been decided by the agency. In this case, the agency did make the initial decision by promulgating the rule. Promulgation of a rule will almost always constitute the agency's "decision," making the primary jurisdiction doctrine inapplicable in a proper challenge to the validity of a rule.

Exhaustion of Administrative Remedies -- Rules: Exhaustion of administrative remedies is simply not a prerequisite to obtaining declaratory judgment under APA § 2001.038. Moreover, exceptions to the exhaustion requirement exist where such a requirement would cause irreparable injury or where administrative remedies are inadequate. In this case, Commission rule was immediately effective and would cause irreparable injury. In addition, administrative remedies are inadequate. APA § 2001.038 clearly indicates that declaratory judgment action may be brought when rule allegedly threatens to interfere with or impair the plaintiff's legal rights and privileges. Purpose of an APA § 2001.038 challenge is to obtain final declaration of validity before the rule is applied.

***City of Alvin v. Public Utility Comm'n of Texas*, No. 3-92-459-CV (Tex. App.--Austin, August 25, 1993, n.w.h.).**

NATURE AND DISPOSITION OF THE CASE:

APTRA § 19 suit for judicial review of Public Utility Commission rate order. Travis County district court (Meurer, J.) affirmed in part and reversed in part. Court of appeals (Carroll, C.J., Aboussie and Jones, JJ.) reversed and remanded.

KEY POINTS:

Agency's Express and Implied Powers: When statute imposes duty upon agency to carry out express and specifically defined purposes and objectives, statute by necessary implication authorizes agency to do whatever is reasonably necessary to effectuate the legislative mandate and purpose. In this case, Commission has implied authority to evaluate all rate base expenses under "prudence" standard even though statute only expressly authorizes prudence standard for certain rate base expenses. Applying prudence standard to all such expenses furthers the legislative intent behind the statute's overall "reasonableness" requirement for utility expenses. Applying the standard to all such expenses also allows for easier judicial review than if the Commission were to employ a less direct method of evaluation.

Standard of Review -- Substantial Evidence: Substantial evidence test consists of five main points as summarized in *City of League City v. Texas Water Commission*, 777 S.W.2d 802 (Tex. App.--Austin 1989, no writ). As part of the test, when weighing expert testimony, agency may accept or reject part or all of each witness's conclusions. Agency is the final judge regarding credibility and validity of such testimony.

Standard of Review - Arbitrary and Capricious: Agency action not supported by substantial evidence is also arbitrary and capricious. Even if supported by substantial evidence, agency action may be arbitrary and capricious if, for example, agency totally failed to make findings of fact and instead based decision on findings in another case, or agency based decision on legally irrelevant factors or failed to consider legally relevant factors.

Motion for Rehearing -- Sufficiency: Point not raised in motion for rehearing before agency is waived on appeal.

Bavarian Properties, Inc. v. Texas Alcoholic Beverage Comm'n, 870 S.W.2d 686 (Tex. App.--Ft. Worth 1994, writ requested).

NATURE AND DISPOSITION OF THE CASE:

Suit for judicial review of decision by Texas Alcoholic Beverage Commission denying permits to sell alcoholic beverages. Tarrant County district court (Gant, J.) affirmed the Commission. Court of appeals (Farris, Lattimore and Day JJ.) affirmed.

KEY POINT:

Agency's Express and Implied Powers -- Changing Findings and Conclusions of a SOAH ALJ: APA § 2001.058(e) authorizes agency to change findings of fact or conclusions of law made by an administrative law judge employed by the State Office of Administrative Hearings "only for reasons of policy." Commission satisfied this requirement by stating in its order that its decision was based on public safety considerations. Protection of public safety is an express statutory consideration in granting or denying alcoholic beverage permits.

City of Somerville v. Public Utility Comm'n, 865 S.W.2d 557 (Tex. App.--Austin 1993, judgment withdrawn).

NATURE AND DISPOSITION OF THE CASE:

APTRA § 19 suit for judicial review of decision by Public Utility Commission in an electric utility rate case. Travis County district court (McCown, J.) affirmed in part and reversed in part. Court of appeals (Kidd, and B.A. Smith, JJ.) affirmed the district court in part and reversed in part. (Powers, J. dissented.)

KEY POINTS:

Agency's Express and Implied Powers -- Adoption of Non-unanimous Settlements: Commission is authorized to consider a non-unanimous settlement of the parties as part of its final order, provided: (1) non-stipulating parties are afforded the opportunity to be heard on the merits of the settlements, and (2) Commission makes independent findings on the merits which are supported by substantial evidence in the record.

Findings of Fact -- Non-unanimous Settlements: APA does not delineate standards for judging the sufficiency of agency fact findings, and there is no precise form for agency findings. However, effective judicial review requires at least a minimal level of findings so that a court may determine whether the decision has support in the evidence. Similarly, the findings should be sufficient to inform not only the court but also the parties of the basis for the decision, so that the parties may intelligently prepare an appeal. The requirement for sufficient findings is especially important in cases where the Commission's decision is based on a non-unanimous settlement of the parties. Sufficient findings safeguard against the temptation for the Commission to merely adopt the settlement without making an independent decision on the merits. In this case, Commission's order does not contain the minimum level of findings necessary to determine whether the decision is supported by substantial evidence.

Havner v. Meno, 867 S.W.2d 130 (Tex. App.--Austin 1993, n.w.h.).

NATURE AND DISPOSITION OF THE CASE:

Suit for judicial review contesting school district's career-ladder policy. Commissioner of Education dismissed teacher's appeal from school district's decision. Travis County district court (Meurer, J.) affirmed the Commissioner. Court of appeals (Powers, Jones and Kidd, JJ.) reversed and remanded to Commissioner.

KEY POINTS:

Agency's Express and Implied Powers -- Rules: Agency cannot adopt rules that are inconsistent with a statute. When statute provides that "person aggrieved" by school district decision may appeal to Commissioner of Education, Texas Education Agency rule cannot narrow the availability of that statutory right by requiring, as a prerequisite to appeal, that aggrieved party must have requested and attended a hearing before the school district board of trustees.

Agency Waiver of Procedural Right: Even if school district had procedural right to require teacher to request a hearing as a prerequisite to appeal to Commissioner, school district waived that right. Waiver occurs when party is aware of right and expressly relinquishes it or acts inconsistent with, or fails to act consistent with, an intent to claim it. School district waived right by failing to notify teacher of hearing requirement, failing to schedule a hearing, and making a decision anyway.

Texas Water Comm'n v. City of Fort Worth, **No. 3-92-502-CV (Tex. App.--Austin, March 2, 1994, writ requested) (opinion on rehearing).**

NATURE AND DISPOSITION OF THE CASE:

APTRA § 19 suit for judicial review of Texas Water Commission order establishing rates that the City of Fort Worth may charge the City of Arlington for sewer service. Travis County district court (Hart, J.) reversed. Court of appeals (Carroll, C.J., Jones, and Aboussie, JJ.) affirmed the district court.

KEY POINTS:

Agency's Express and Implied Powers -- Review of Contractual Rates -- Constitutional Limitation: Commission has the statutory authority to review a retail public utility's contractual sewer rates and set new rates, but only if the Commission first finds that the contractual rates adversely affect the public interest. This limitation on the scope of the Commission's jurisdiction to review rates ensures that the statute does not violate the constitutional prohibition against impairing the obligation of contracts.

Motion for Rehearing -- Sufficiency: A motion must be sufficiently definite to make the agency aware of the error claimed and to allow the agency opportunity to correct the error or to prepare to defend it. In this case, the motion for rehearing was sufficiently definite.

Callejo-Tolosa, M.D. v. Texas State Bd. of Medical Examiners, **No. 3-93-559-CV (Tex. App.--Austin, May 4, 1994, n.w.h.).**

NATURE AND DISPOSITION OF THE CASE:

Suit for judicial review of decision by Board of Medical Examiners denying an application for licensure by reciprocity. Travis County district court (Hart, J.) affirmed the Board. Court of appeals (Carroll, C.J, B.A. Smith and Kidd, JJ.) affirmed.

KEY POINTS:

Agency's Express and Implied Powers -- Rules -- Grant of Waiver: Agency has no duty to waive express rule that squarely governed facts of the case. Party objecting to rule's application has burden to prove application would be unfair because rule had been waived in the past in similar cases. No such proof was made in this case.

Standard of Review -- Substantial Evidence: Substantial evidence test requires reviewing court to determine whether evidence as a whole is such that reasonable minds could have reached the agency must have reached in order to take the disputed action.

Brushy Creek Municipal Utility District v. Texas Water Comm'n, No. 3-93-136-CV (Tex. App.--Austin, March 2, 1994, n.w.h.).

NATURE AND DISPOSITION OF THE CASE:

APA § 2001.171 suit for judicial review of a Texas Water Commission order setting the rates that the City of Round Rock may charge Brushy Creek Municipal Utility District for water. Travis County district court (Davis, J.) affirmed the Commission. Court of appeals (Powers, Jones, and Kidd, JJ.) reversed and remanded with instructions that the cause be dismissed for want of jurisdiction.

KEY POINTS:

Agency's Express and Implied Powers: An administrative agency has no inherent power; rather an agency possesses only the powers delegated to it by the legislature in clear and unmistakable terms, unaided by implications.

Agency's Express and Implied Powers -- Not Affected by Statutory Codification: Statute incorporated into a code is presumed to be incorporated without change even though it is reworded and rephrased and in the organization of the code its original sections are separated. In this case, the separation of statutes into chapters 11 and 12 of the Texas Water Code cannot be construed as giving the Commission a new implied power to set rates beyond the ratesetting limits that existed before the codification process.

C. Standard of Review

Board of Law Examiners v. Stevens, 868 S.W.2d 773 (Tex. 1994).

NATURE AND DISPOSITION OF THE CASE:

Suit for judicial review of decision by Board of Law Examiners denying an application for admission to the Texas Bar. Board concluded that the applicant lacked the "good moral character" required for admission under Bar rules. Travis County district court (Dellana, J.) reversed on substantial evidence grounds. Third Court of Appeals (850 S.W.2d 558, Powers, Aboussie and B.A. Smith, JJ.) affirmed the district court. Supreme Court (Cornyn, J.) reversed.

KEY POINT:

Standard of Review -- Substantial Evidence: Courts are bound to apply the substantial evidence standard when reviewing decisions of the Board of Law Examiners. Although the APA technically does not govern Board decisions, the APA's judicial review provisions are instructive. Under the substantial evidence standard, the determination of a Bar applicant's character and fitness is committed to Board discretion; courts may not substitute their judgment for that of the Board. If

reasonable minds could have reached the conclusion the Board reached on the record presented, the Board's decision must be upheld. In this case, the Board's decision is supported by substantial evidence in the record. Although the applicant presented countervailing evidence of his good character, this evidence does not conclusively negate other record evidence that that applicant failed to meet the Bar's minimum standards.

Dodd v. Meno, 870 S.W.2d 4 (Tex. 1994).

NATURE AND DISPOSITION OF THE CASE:

Suit for judicial review contesting school district's decision not to renew the contract of a school nurse. The nurse appealed to the Commissioner of Education, claiming that a nurse is a "teacher" within the meaning of the Term Contract Nonrenewal Act and is therefore entitled under the Act to a hearing and other procedural safeguards before her contract is not renewed. The Commissioner found that a nurse is not a "teacher" under the Act and denied the appeal. Travis County district court (Cofer, J.) affirmed the Commissioner. Third Court of Appeals (857 S.W.2d 575, Carroll, C.J., Jones and Kidd, JJ., *per curiam*) affirmed the district court. Supreme Court (Phillips, C.J.) affirmed the court of appeals. (Spector, Hightower, Doggett, and Gammage, JJ., dissented.)

KEY POINT:

Standard of Review – Deference to Agency's Interpretation of Statute: In case involving review of an agency's decision, the agency's construction of a statute administered by the agency is entitled to serious consideration, so long as the construction is reasonable and does not contradict the plain language of the statute. Courts should be reluctant to reverse agency's reasonable determination in an area where the agency possesses considerable authority and expertise.

In the Matter of Lloyd E. Humphreys, No. D-3811 (Tex., March 30, 1994).

NATURE AND DISPOSITION OF THE CASE:

Appeal of decision by State Bar Board of Disciplinary Appeals ("BODA") dismissing a disciplinary action. Supreme Court (Cornyn, J.) reversed and rendered judgment.

KEY POINTS:

Standard of Review – Agency's Legal Conclusions: Although APA technically does not govern BODA procedures, APA sections governing administrative proceedings are analogous and therefore instructive. APA § 2001.174(2) authorizes court to reverse if agency's decision is, among other things, "affected by error of law." Thus, even under the substantial evidence test, court may review legal conclusions of BODA *de novo*.

***Smith v. Houston Chemical Services, Inc.*, 872 S.W.2d 252 (Tex. App.--Austin 1994, writ requested).**

NATURE AND DISPOSITION OF THE CASE:

APA § 2001.171 suit for judicial review of a Texas Water Commission order granting a permit to build and operate a solid waste disposal facility. Travis County district court affirmed the Commission. Court of appeals (Powers, Kidd, and B.A. Smith, JJ.) affirmed.

KEY POINTS:

Standard of Review -- Agency Order Presumed Valid: An agency's order is presumed to be valid in its adjudication of the public interest and any private interest that arose as a consequence (*e.g.*, the permittee's interest). Once its order has been appealed, the agency is not entitled as a matter of right to obtain reversal and remand merely by conceding the plaintiff's allegations. Agency is obligated to assert some basis for its unusual request.

Standard of Review -- Substantial Evidence: APA § 2001.174 expressly prohibits court from substituting its own judgment for that of the agency as to the weight of the evidence on questions committed to agency discretion.

Standard of Review -- Substantial Evidence -- Commissioners' Comments Irrelevant: Court must judge the validity of an agency decision according to the basis upon which it purports to rest. When agency's decision purports to rest solely on findings of fact and conclusions of law that accompany the decision, statements of Commissioners in open meeting deliberations are irrelevant.

Standard of Review -- Agency's Conclusions of Law: APA § 2001.141(d) does not impose a duty on the agency to identify in its conclusions of law the particular statute or regulation the agency deemed satisfied. Such a requirement would contradict the established rule that a reviewing court is bound to affirm the agency order if correct under any applicable theory of law, regardless of whether the agency stated the correct legal reason or any reason at all.

Standard of Review -- Deference to Agency's Interpretation of Rule: An agency is expected to assign meaning to its rules. Courts will uphold the meaning implicitly assigned by an agency when it applies the rule in a contested case provided the assigned meaning is not unreasonable.

Standard of Review -- Unlawful Procedure -- Former Employee's Conflict of Interest: Statute bars former agency employee from assisting an applicant in an agency proceeding only if the individual participated "personally and substantially" in the case as an employee. Statute is not violated merely because the former employee's position was executive director. Nor is the statute violated when the former executive director's participation was not substantial, in this case, limited to granting agency staff an extension of time to complete its technical review of the application when first filed.

Standard of Review -- Unlawful Procedure -- Denial of Legislative Continuance: Section 30.003(b) of the Civil Practice and Remedies Code, which provides for continuances in judicial proceedings when a legislator is a party or attorney, does not apply to contested case proceedings before an agency. An agency is not a court, notwithstanding that the agency may employ adjudicative procedures in exercising its legislatively delegated executive powers.

Standard of Review -- Unlawful Procedure -- *Ex Parte* Communications: Statement by Commissioner at open meeting that he had asked staff "some generic questions" and had visited "some incinerators" to get a better idea of an issue in the case does not establish a violation of APA § 2001.061 or constitutional due process. To establish such a violation, it must be shown that the Commissioner acquired facts through his consultations that were both (1) outside the evidentiary record and (2) grounds for the decision made by the three Commissioners. A violation is not shown by the mere fact that such consultations occurred. The provision in APA § 2001.061, which allows consultations with staff who did not participate in the hearing, does not violate constitutional due process guarantees.

Prejudice to Substantial Rights -- Non-statutory Finding: It is difficult to understand an opposing party's prejudice when a agency imposes an additional, non-statutory requirement upon the applicant and finds the requirement satisfied. Under APA § 2001.174(2), Court may not reverse absent a showing of prejudice.

Prejudice to Substantial Rights -- Failure to Give Notice: Court does not comprehend how a party that participated in a contested case could be prejudiced by a failure to notify another person. Under APA § 2001.174(2), Court may not reverse absent a showing of prejudice to the complaining party's substantial rights.

Prejudice to Substantial Rights -- Receipt of Evidence: Absent a showing of prejudice to substantial rights, Court may not reverse agency decision based on alleged error in receiving evidence concerning issues not properly before the agency.

Rules -- Agency's Departure: Agency is free to depart from strict adherence to a rule's procedural requirement when the requirement was intended, not to confer procedural rights on a party, but rather to act as a procedural aid in facilitating substantive decision-making.

Finality of Agency Order: Agency order granting a permit is final when the order determines the type of financial assurance statutorily required by the permittee even though the order delegates to the agency's executive director discretion as to the particular form in which that financial assurance should be provided.

Agency's Express and Implied Powers -- Delegated Authority of Agency Employees: When agency has implicit power under its statute to hire employees and attorneys, letter written on agency letterhead by attorney regarding agency "staff's" recommendation is presumed to be authorized by the agency. This "presumption of regularity in official acts" may be rebutted by evidence that the attorney and staff acted without actual authority.

Remand: APA § 2001.174 empowers reviewing court merely to remand a case to the agency if the court reverses an agency order granting a permit application. Court lacks authority to render judgment denying the application. Granting or denying the application is an executive function committed exclusively to the agency.

Governmental Immunity -- Cost of Agency Transcript: APA § 2001.059(b) vests agencies with the power to assess the cost of an agency proceeding transcript among the parties to the contested case. Once admitted as a party at its own request, a city or county waives any claim of governmental immunity from having to pay some or all of the transcription cost.

***Meno v. Kitchens*, No. 3-93-420-CV (Tex. App.--Austin, Apr. 6, 1994, n.w.h.).**

NATURE AND DISPOSITION OF THE CASE:

APTRA § 19 suit for judicial review contesting school district's decision not to renew teacher's contract. Commissioner of Education denied the teacher's appeal of the school district's decision. Travis County district court (Dietz, J.) remanded to the Commissioner. Court of appeals (Powers, Aboussie, and Jones, JJ.) affirmed.

KEY POINTS:

Standard of Review -- Deference to Agency's Interpretation of Statute: Courts normally give weight to an agency's interpretation of a statute so long as the interpretation is reasonable. Such deference is permissible, however, only if the meaning of the statute is not clear, *i.e.*, ambiguous. In this case, deference is not permissible because the Commissioner's interpretation departs from the plain meaning of the statute. The Commissioner based his interpretation on legislative history and policies underlying the statute. It is not the court's role to examine microscopically the legislature's intent when interpreting a clear statutory command. In addition, unless it rises to the level of an unjust or absurd consequence, a statute's plain meaning must be adhered to, even if the result may be a seemingly unwise policy or a policy inconsistent with other statutory policies.

***Teleprofits of Texas, Inc. v. Sharp*, No. 3-93-312-CV (Tex. App.--Austin, April 27, 1994).**

NATURE AND DISPOSITION OF THE CASE:

Suit to recover sales tax paid under protest to Comptroller of Public Accounts. Travis County district court (Cooper, J.) rendered take-nothing judgment. Court of appeals (Aboussie, Kidd and B.A. Smith, JJ.) affirmed.

KEY POINTS:

Standard of Review -- Deference to Agency's Interpretation of Statute: Code Construction Act directs court to consider agency's interpretation of statute. Even without this statutory directive,

courts generally give weight to an agency's interpretation of a statute so long as the interpretation is reasonable. In this case, Comptroller's interpretation is reasonable and consistent with the statute as written.

***Gulf States Utilities Co. v. Coalition of Cities for Affordable Utility Rates*, No. 3-92-046-CV (Tex. App.--Austin, September 15, 1993, n.w.h.).**

NATURE AND DISPOSITION OF THE CASE:

APA § 2001.171 suit for judicial review of a Public Utility Commission rate order. Travis County district court (Davis, J.) reversed the Commission's order in part and remanded with instructions. Court of appeals (B.A. Smith, and Aboussie, JJ.) modified the district court's judgment by deleting the instructions and, as modified, affirmed. (Powers, J. concurred and dissented).

KEY POINTS:

Standard of Review -- Substantial Evidence -- Weight of Testimony: An agency may or may not accept witnesses' testimony; the agency, not the reviewing court, is the judge of the weight to be accorded that testimony. A reviewing court is prohibited from substituting its judgment as to the weight of the evidence on questions committed to agency discretion.

Remand -- Additional Evidence: APA § 2001.175(c) allows a district court to remand to the agency for consideration of additional evidence if the court finds that the additional evidence is material and that there were good reasons for the failure to present it in the agency proceeding. In this case, district court did not abuse its discretion in denying the request because no intervening court decision affected the basis of the agency's decision and the agency did not impose a new standard of proof after the close of evidence.

Remand -- Scope: Reviewing court should not ordinarily attempt to control the course the agency follows on remand from a reviewing court. Court accordingly reversed the district court's specific instructions precluding the agency's reconsideration of various issues on remand.

Motion for Rehearing -- Required: Waiver occurs when a complaining party fails to preserve its complaint by a proper assignment of error contained in its motion for rehearing filed in the agency. However, this general rule is not without exception. For example, as in this case, questions of law may be raised for the first time on appeal when necessary to prevent an injustice.

***Southwestern Bell Telephone Co. v. Public Utility Comm'n*, 863 S.W. 2d 754 (Tex. App.--Austin 1993, writ denied).**

NATURE AND DISPOSITION OF THE CASE:

Suit for judicial review of a Public Utility Commission order denying a utility's application for approval to pass-through franchise tax increase to its customers, as allowed by statute. The

Commission concluded that the utility's requested pass-through would violate a rate freeze agreement contained in a non-unanimous stipulation signed by the utility in its previous rate case. Travis County district court (Dellana, J.) affirmed the Commmission's order. Court of appeals (Kidd, and B.A. Smith, JJ.) affirmed the district court. (Powers, J. dissented).

KEY POINTS:

Standard of Review -- Deference to Agency's Interpretation of Statute: The contemporaneous construction of a statute by the agency charged with its enforcement is entitled to great weight as long as the construction is reasonable and does not conflict with the plain language of the statute, especially where the statute is ambiguous.

D. Due Process Considerations

R Communications, Inc. v. Sharp, No. D-3058 (Tex., Apr. 28, 1994).

NATURE AND DISPOSITION OF THE CASE:

Declaratory judgment action and suit for judicial review of sales tax assessment by Comptroller of Public Accounts. Travis County district court (Dietz, J.) dismissed the suit for want of jurisdiction. Austin Court of Appeals (839 S.W.2d 947, Carroll, C J., Aboussie and B. A. Smith, JJ.) affirmed. Supreme Court (Doggett, J.) reversed and remanded to district court.

KEY POINTS:

Constitutionality of Statutes -- Open Courts: Open Courts provision of Texas Constitution, art. I, § 13, guarantees citizens access to the courts unimpeded by unreasonable financial barriers. Tax Code provision, which precludes taxpayer from obtaining judicial review of tax liability by means of declaratory judgment, violates open courts guarantee and is void. This provision, in conjunction with other Tax Code provisions, effectively conditions a taxpayer's right to initiate judicial review on payment of the tax assessment or the posting of a bond equal to twice the assessment. Such a restriction is not necessary to effectuate the State's interest in ensuring speedy tax collection.

Guerrero-Ramirez v. Texas Bd. of Medical Examiners, 867 S.W.2d 911 (Tex. App.-- Austin 1993, n.w.h.).

NATURE AND DISPOSITION OF THE CASE:

APA § 2001.171 suit for judicial review of a Board of Medical Examiners order revoking a physician's license to practice medicine. Travis County district court (Dellana, J.) affirmed the Board. Court of Appeals (Carroll, C.J., Aboussie and B.A. Smith, JJ.) affirmed.

KEY POINTS:

Due Process -- Hearing Examiner's Denial of Motion for Continuance: The right to counsel and fair representation at an administrative hearing is one of constitutional dimension. The ultimate test of due process of law in an agency hearing is the presence or absence of the rudiments of fair play. Whether a hearing examiner's denial of a motion for continuance of a hearing is so arbitrary as to violate due process depends on the particular facts of the case. Like the inherent power of a court to grant continuances in judicial proceedings, a hearing examiner's decision to deny a motion for continuance will not be disturbed absent a clear abuse of discretion. In this case, the hearing examiner did not abuse his discretion.

Due Process -- No Absolute Right to be Represented by Attorney at Agency Hearing: APA § 2001.051 requires that all parties to a contested case be afforded an opportunity to respond and present evidence and argument on all issues. The Medical Practice Act gives a party the right to appear at such a hearing either personally or by counsel. Neither statute absolutely prohibits a hearing examiner from proceeding with the hearing in the absence of a party's counsel. Subject to constitutional constraints, a party's right to be present at a hearing and represented by counsel may be waived if the party or his attorney chooses not to appear.

Lone Star Greyhound Park, Inc. v. Texas Racing Comm'n, 863 S.W.2d 742 (Tex. App.--Austin 1993, writ denied).

NATURE AND DISPOSITION OF THE CASE:

APTRA § 19 suit for judicial review of decision by Texas Racing Commission award granting an license to operate a greyhound racing park and denying competing applications. Travis County district court (McCown, J.) affirmed. Court of appeals (Powers, Kidd, and B.A. Smith, JJ.) affirmed.

KEY POINTS:

Due Process -- Unlawful Procedure -- Reading the Agency Record: APTRA § 15 requires a majority of the agency members to read the record in a contested case in which they did not hear the evidence themselves and the hearing examiner did not issue a proposal for decision. The purpose of this requirement is to ensure that agency members do not simply "sign on the dotted line." In this case, trial court did not err in declining to find that a majority of the Commissioners had not read the record. Evidence before the trial court showed that the Commissioner's spent considerable time reviewing the agency record. No evidence showed as a matter of law that the Commissioners abandoned their decision-making responsibilities and signed a final order without regard to the evidence.

Due Process -- Unlawful Procedure -- *Ex Parte* Communications: APTRA's prohibition against *ex parte* communications in contested cases does not ordinarily apply to communications between agency decision makers and the agency's general counsel unless the general counsel participated in

the proceedings. Evidence in this case does not, as a matter of law, establish *ex parte* violations involving the general counsel. Conversation between general counsel and agency member regarding general counsel's meeting with a party occurred after motions for rehearing had been overruled and the trial court had obtained jurisdiction on judicial review. Conversations between general counsel and agency members while the case was pending merely concerned scheduling and procedures, not evidence or the merits of the case.

Evidence in this case also did not establish, as a matter of law, that content of conversation between agency member and a staff expert witness came within APTRA's *ex parte* prohibition. Purpose of the prohibition is to prevent "litigious facts" from coming before agency decision makers outside the evidentiary record in the contested case. Violation is not shown unless party establishes that the content of the *ex parte* conversation came within the prohibition.

Due Process -- Impartial Decision Maker: Agency member is presumed to be unbiased, and burden to show a disqualifying interest lies on complainant.

Open Meetings -- Executive Session -- Specificity of Notice: Open Meetings Act notice, stating that agency would "meet in executive session to receive information from and ask questions of general counsel on procedural matters relating to particular license" is sufficiently specific. Requiring the notice to list the particulars of litigation discussions would defeat the very purpose of section 2(e) of the Act, which permits private consultations between the agency and its attorney.

Open Meetings -- Executive Session -- Public Announcement: Open Meetings Act requirement that presiding officer must publicly announce the convening of an executive session serves several purposes: (1) causes agency to assess the applicability of the Act's exceptions to the open meetings requirement; (2) fixes the agency's legal position as to the exception relied upon; and (3) informs those present at the meeting of the agency's justification and thereby affords them an opportunity to object. The sufficiency of the presiding officer's announcement should be judged in light of these purposes. In this case, the Act's purposes were served by the announcement that "the purpose of the executive session is so that our legal staff can brief us," even though the announcement did not identify the section number of the Act authorizing private attorney consultations.

Open Meetings -- Executive Session -- Certified Agenda: Open Meetings Act generally requires agency to keep a certified agenda or tape recording of an executive session. Attorney consultations are excepted from this requirement.

Finality of Agency Order -- Changed Circumstances: Until agency issues an order that is final and effective, agency retains jurisdiction and need not show changed circumstances before withdrawing its order and issuing a new one. If reviewing court determines that agency order is not final, then agency is again charged with completing its statutory charge and may reopen the evidence should it so choose. Reopening the evidence does not violate any party's due process rights because no party has no vested right by reason of an order that is not final.

E. Open Meetings

***Dallas Morning News Co. v. Bd. of Trustees of Dallas Ind. School Dist.*, 861 S.W.2d 532 (Tex. App.–Dallas 1993, writ denied).**

NATURE AND DISPOSITION OF THE CASE:

Declaratory judgment action alleging that school district board of trustees violated the Open Meetings Act by holding a closed meeting with a representative of the Texas Education Agency. Dallas County district court (Cancace Tyson, J.) held that no violation occurred. Court of appeals (Baker, and Barber, JJ.) affirmed. (Chapman, J. dissented.)

KEY POINTS:

Open Meetings – Definition of "Meeting" – "Verbal Exchange" Required: A "meeting" under the Open Meetings Act involves any "deliberation" between a quorum of the members of a governmental body or between a quorum and any other person at which the body's public business or public policy is discussed or considered. "Deliberation" under the Act means "verbal exchange." The plain meaning of "verbal exchange" is a reciprocal giving and receiving of spoken words. Therefore, a governmental body does not hold a "meeting" and may exclude the public when a quorum of its members attend a briefing session at which a third party makes a presentation and the members simply listen and do not speak to the third party or among themselves.

Open Meetings – Deference to Attorney General Opinion: Attorney General opinions should be considered, but are not binding on the courts. In this case Attorney General Opinion DM-191 erroneously construed the 1987 amendments to the Open Meetings Act as expanding the definition of "meeting" to include all meetings between a quorum of the members of a governmental body and a third party regardless of whether deliberations occur.

***Rettberg v. Texas Dep't of Health*, No. 3-93-327-CV (Tex. App.–Austin, Mar. 30, 1994, n.w.h.).**

NATURE AND DISPOSITION OF THE CASE:

Declaratory judgment action alleging that State Board of Professional Counselors violated Open Meetings Act when it decided to recommend firing the Board's executive secretary. The suit was filed by the executive secretary. Travis County district court (Meurer, J.) held that no violation occurred. Court of appeals (Powers, Aboussie, and Jones, JJ.) affirmed.

KEY POINTS:

Open Meetings – Specificity of Notice: Purpose of Open Meetings Act's notice requirement is to assure that the interested public has the opportunity to be informed about government decisions. The

intended beneficiary is not the individual who may be affected by the discussion or decision but members of the public. Therefore, what the affected individual may have thought the notice meant is immaterial. Notice stating that Board planned to "discuss and possibly act on the evaluation, designation and duties of the Board's executive secretary" was sufficient to alert the public that the meeting was called to assess the performance of the executive secretary and possibly act on that assessment. Notice was not required to state all the possible consequences resulting from consideration of the topic. Court recognizes that as public interest in a matter increases, so must the degree of detail in the notice increase. Unlike in *Cox Enterprises* (706 S.W.2d 956) where the issues were hiring a school district superintendent and becoming involved in a major desegregation suit, firing the Board's executive secretary is not a decision in which the public could reasonably be expected to have a special interest.

Stockdale v. Meno, 867 S.W.2d 123 (Tex. App.--Austin 1993, writ denied).

NATURE AND DISPOSITION OF THE CASE:

Suit alleging that school district board of trustees violated Open Meetings Act in deciding not to renew teacher/band director's contract. Travis County district court (Davis, J.) affirmed Commissioner of Education's determination that no violation occurred. Court of appeals (Aboussie and B.A. Smith, JJ.) affirmed.

KEY POINTS:

Open Meetings -- Specificity of Notice: Intent of Open Meetings Act is to safeguard the public's interest in knowing the workings of governmental bodies. The intended beneficiaries are not individual citizens but members of the interested public. Therefore, employee whose contract is discussed in executive session is entitled to no more specific notice than that afforded by the public at large. Notice stating that agency would meet in "executive session for discussion of personnel" and would "consider proposed non-renewal of teaching contract" is sufficient under the Act. It is irrelevant that notice did not inform the individual employee that his contract was to be discussed. Although employee has right to request that any meeting on his or her employment contract be open, employee can exercise that right simply by asking whether the contract identified in the notice is that of the employee. Further, although a more detailed notice may be required in cases of special public interest, but no such showing was made in this case.

Nash v. Civil Service Comm'n, Palestine, 864 S.W.2d 163 (Tex. App.--Tyler 1993, n.w.h.).

NATURE AND DISPOSITION OF THE CASE:

Suit for judicial review contesting police chief's suspension of police department employee. Civil Service Commission affirmed the police chief's decision. Anderson County district court affirmed the Commission. Court of appeals (Ramey, C.J.) affirmed.

KEY POINTS:

Open Meetings -- Decision in Executive Session Prohibited: When statute permits agency to deliberate in executive session but requires that agency vote in open session, agency may reach tentative decision in executive session, announce that tentative decision in open session, and give each agency member an opportunity in the open session to comment and vote contrary to the tentative decision.

Agency's Express and Implied Powers -- Deadline for Agency Action: Statute directing agency to "hold hearing and render decision within 30 days" is not jurisdictional because statute further provides that agency and party may agree to postpone the hearing. Jurisdiction of a tribunal cannot be extended by agreement or consent. Further, provision allowing postponement of hearing implicitly allows comparable postponement of deadline for rendering decision.

F. Other Recent Decisions

***Texas Water Comm'n v. Lakeshore Utility Co.*, 865 S.W.2d 615 (Tex. App.--Austin 1993, no writ).**

NATURE AND DISPOSITION OF THE CASE:

APTRA § 19 suit for judicial review of Texas Water Commission rate order. Travis County district court (Davis, J.) reversed the Commission. Pending appeal, in response to a letter from the Court of Appeals, Commission filed a motion to supplement an agreed or narrative statement of facts with the agency record. Court of appeals (Jones, and Kidd, JJ.) granted the motion. (Powers, J. concurred.)

KEY POINTS:

Administrative Record -- Exhibit: Under APA § 2001.175(d), the party seeking review shall offer, and the reviewing court shall admit, agency record into evidence as exhibit.

Statement of Facts -- Narrative: Under Rule 53(i) of the Texas Rules of App. Proc., a party may prepare and file with the trial clerk a condensed statement in narrative form of all or part of the testimony and deliver a copy to opposing party or counsel. In this case, plaintiff's motion offering the administrative record into evidence and the district court's order admitting the record into evidence satisfied the procedural requirement of Rule 53(i) to constitute a narrative statement of facts.

Statement of Facts -- Narrative: To be sufficient, a narrative statement of facts need only be adequate to permit meaningful review. In this case, the motion and order were adequate to show compliance with APA § 2001.175(d) and to permit full review by the Court.

Statement of Facts -- Agreed: Under Rule 50(c) of the Texas Rules of App. Proc., parties may agree upon a brief statement of the case and of the facts proven as will enable the appellate court to determine whether there is error in the judgment. In this case, the motion offering the record into evidence, the district court's order admitting the record into evidence, and the additional district court order transmitting the administrative record original were an acceptable form of an agreed statement of facts.

***Arkla Exploration Co. v. Haywood, Rice & Wm. Venture*, 863 S.W.2d 112 (Tex. App.--Texarkana 1993, writ dism'd by agreement).**

NATURE AND DISPOSITION OF THE CASE:

Suit for damages alleging negligent depletion of a gas reservoir under land on which plaintiffs held oil and gas leases. Marion County district court (Garrison, J.) awarded damages. Court of appeals (Grant, J.) reversed and rendered. (Cornelius, C.J., concurred; Bleil, J., dissented.)

KEY POINT:

Collateral Attack on Agency Order: General rule is that Railroad Commission orders are immune from collateral attack unless void on their face. This rule bars a negligence suit for damages when the entire basis for the suit is an alleged violation of Commission rules and Commission found in a final order, which was not appealed, that no violation had occurred. For the suit to succeed, fact finder would have to find facts contrary to facts found by Commission. These Commission findings are not subject to collateral attack.

SUPPLEMENT TO ADMINISTRATIVE CASE LAW UPDATE

Paul Elliott

STATE BAR OF TEXAS v. TINNING, 875 S.W.2d 403 (Tex. App. - Corpus Christi 1994)(opinion on rehearing).

NATURE AND DISPOSITION OF CASE:

State Bar appealed trial court's summary judgment that the disciplinary action against Tinning was barred by the four-year statute of limitations. Court of Appeals reversed and remanded, holding that Tinning presented no evidence supporting his claim of limitations and the disciplinary rule was not unconstitutionally vague.

KEY POINTS:

Constitutionality of Rules -- Vagueness: A statute, rule, regulation or order is vague only if the party lacks fair warning of the nature of the proscribed conduct and the party is at risk as a result of the rule. Where no evidence exists that a regulation is enforced in a discriminatory manner, mere speculation of arbitrary enforcement does not render the regulation unconstitutionally vague.

CLOSS v. GOOSE CREEK CONSOLIDATED I.S.D., 874 S.W.2d 859 (Tex. App.-Texarkana 1994, n.w.h.)

NATURE AND DISPOSITION OF THE CASE:

Employee sued school district and various district officials for torts in connection with his firing. Trial court granted summary judgment for defendants because of governmental immunity and limitation. Court of Appeals affirmed

KEY POINTS:

Due Process -- Administrative Proceedings: Although an administrative hearing must comply with the minimum requirements of due process, the strict rules applicable to courts of law do not apply to such proceedings.

Due Process -- Administrative Proceedings -- Fifth Amendment Privilege: Refusing to testify at an administrative hearing for fear of waiver of Fifth Amendment privilege because the plaintiff is under criminal indictment at the time does not amount to a denial of due process by the administrative agency.

GREEN INTERNATIONAL, INC. v. STATE OF TEXAS, No. 3-92-637-CV (Tex. App. - Austin, May 18, 1994, n.w.h.)

NATURE AND DISPOSITION OF CASE:

Green sued for breach of contract based failure of the state to pay for jails Green constructed for the state. Trial court dismissed the suits based on sovereign immunity. The Court of Appeals affirmed.

KEY POINTS:

Sovereign Immunity: Unless waived, the state has immunity from liability. Even though the state waives its immunity from liability when it enters into a contract, it retains its immunity from suit. The state as a sovereign is immune from suit without its consent even it there is no dispute regarding the state's liability.

TEXAS WATER COMMISSION v. LAKESHORE UTILITY CO.,INC., No. 3-93-432-CV, (Tex. App. - Austin, May 18, 1994, n.w.h.)

NATURE AND DISPOSITION OF CASE:

Lakeshore filed application for a rate increase for its water and sewer services which the Commission rejected in part. The district court revered and remanded. The Court of Appeals reversed the district court's judgment and reinstated the Commission's order.

KEY POINTS:

Standard of Review -- Substantial Evidence: The Commission's order will be reversed if it is not supported by substantial evidence or it the order was arbitrary, capricious, or an abuse of discretion. Under APA section 20001.174, the substantial evidence test is whether the evidence as a whole is such that reasonable minds could have reached the conclusion the agency must have reached in order to justify its action. The order must be upheld if, (1) the findings of underlying fact fairly support the findings of ultimate fact and conclusions of law, and (2) the evidence presented at the hearing reasonably supports the findings of underlying fact.

Standard of Review -- Agency's Interpretation of Its Rules: An agency's interpretation of its own rules is entitled to deference from the courts. The court's review is limited to determining whether the administrative interpretation is plainly erroneous or inconsistent with the regulation.

GULF STATES UTILITIES CO. v. COALITION OF CITIES FOR AFFORDABLE UTILITY RATES, NO. 3-92-046-CV (Tex. App. - Austin, May 25, 1994, n.w.h.)

NATURE AND DISPOSITION OF THE CASE:

APA section 2001.171 suit for judicial review of a Public Utility Commission rate order. The district court reversed the order in part and remanded with instructions. Court of Appeals modified the district court's instructions and, as modified, affirmed.

KEY POINTS:

See Case Law Update. The only change is as follows:

Remand -- Scope: Because the recovery of deferred expenses is the only issue that requires the Commission's reconsideration, the district court properly remanded the cause to the Commission with limiting instructions.

CITIES OF PORT ARTHUR, PORT NECHES, NEDERLAND AND GROVES v. R.R. COMM'N OF TEXAS, No. 3-93-349-CV (Tex. App. - Austin, June 1, 1994, n.w.h.).

NATURE AND DISPOSITION OF THE CASE:

Suit for judicial review of the Commission's order fixing the gas-utility rates of Southern Union Gas Company. The district court affirmed the Commission's order. The Court of Appeals reversed and remanded.

KEY POINTS:

Standard of Review --Substantial Evidence -- Evidentiary Inferences: The Commission has the power to draw conclusionary inferences different from the opinions expressed in uncontradicted affidavits. A reviewing court may not set aside the Commission's chosen inference on the ground that the court believes another inference more reasonable under the facts proved. The weight to be attributed to the undisputed facts and the inferences to be drawn from those facts are for the Commission, not the courts, to determine. The test in reviewing an agency's inferences is reasonableness, not rightness, for the reviewing court determines whether the conclusions reasonably may be based upon the facts proven. Where the agency's order did not explain its reasons for its conclusionary inference, the conclusion was not reasonably supported by substantial evidence considering the reliable and probative evidence in the record as a whole.

Due Process: Due processs does not require a hearing at the initial stage, or any particular

period in an administrative hearing, as long as one is held before the final order becomes effective.

TEXAS EDUCATION AGENCY v. LEEPER, D-2022 (Tex., June 15, 1994).

NATURE AND DISPOSITION OF CASE:

Class action against TEA and certain state officials and all school districts in the state for declaratory judgment that the mandatory attendance provision of the education code did not apply to home schooled children. District court held that legitimately home schooled children are exempt from the law, enjoined school districts from enforcing the law in a contrary manner, and awarded attorney's fees against the school districts. The Court of Appeals affirmed. Supreme Court affirmed, except as to the injunctive portion of the lower courts' judgments.

KEY POINTS:

Sovereign Immunity -- Attorney's fees: By authorizing declaratory judgment actions to construe the legislative enactments of governmental entities and authorizing awards of attorney fees, the Declaratory Judgments Act necessarily waives governmental immunity for such awards.

STATE v. PUBLIC UTILITY COMMISSION OF TEXAS, D-3134, D-3155 (Tex., June 22, 1994).

NATURE AND DISPOSITION OF THE CASE:

Suit challenging Commission orders allowing a public utility to defer certain costs during a "regulatory lag" period. The district court affirmed the orders. The Austin Court of Appeals affirmed the judgment affirming the order allowing post-in-service operating costs and reversed the judgment affirming a order allowing deferral of post-in-service carrying costs. Supreme Court reversed and remanded the Court of Appeals' judgment to the extent that it disallowed deferral of post-in-service carrying costs and affirmed the rest of the Court of Appeal's judgment.

KEY POINTS:

Agency's Expressed and Implied Powers: When an administrative agency is created to centralize expertise in a certain regulatory area, it is to be given a large degree of latitude in the methods it uses to accomplish its regulatory function. Even though the costs deferral is not specifically mentioned in PURA as a remedy for regulatory lag, the Commission did not exceed its authority by allowing the deferral.

Standard of Review: When reviewing an administrative order, the reviewing court must concern itself with the reasonableness of the order, not the correctness. The true test is not whether the agency reached the correct conclusion, but whether some reasonable basis exists in the record for the action taken by the agency. The presumption is that the decision was supported by the evidence and the burden is on the challenging party to prove otherwise.

Proposal for Decision -- Evidence: When the Commission is reviewing an examiner's report, it can reject the recommendation yet still consider the evidence summarized in the report.

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RCRA--State and Federal

"On the cutting edge"

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FEDERAL AND STATE RCRA --
ON THE CUTTING EDGE

by

Eva M. Fromm

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FEDERAL AND STATE RCRA -- ON THE CUTTING EDGE

by
Eva M. Fromm[1/]

"Three blind mice! See how they run!
They all ran after the farmer's wife,
Who cut off their tails with a carving knife.
Did you ever see such a thing in your life
As three blind mice!
-- Three Blind Mice

I. INTRODUCTION

In the increasing complex arena of environmental law, the area of solid and hazardous waste regulation continue to vie with air regulation as one of the most complex, confusing and seemingly illogical bodies of environmental law. The nursery rhyme "Three Blind Mice" is certainly symbolic of how Congress, the Environmental Protection Agency ("EPA"), and the regulated community treat this area. Congress blindly passed the Resource Conservation and Recovery Act ("RCRA"),[2/] not fully understanding (if Congress understood at all) how industry operates and what the effect the seemingly illogical statute would have on industry. The EPA has promulgated a seemingly-unending myriad of confusing, illogical and complex regulations, blindly establishing broad concepts that should not be applicable for all scenarios. (For example -- why should wastewater treatment sludge that is derived-from the treatment of a listed hazardous waste continue to be treated as a hazardous waste if an analysis of the sludge shows no trace of the listed waste?) Finally, we have the regulated community, who blindly follows the regulations because they have no choice.

This paper summarizes the more significant recent legislative and judicial developments under RCRA.[3/] Information is also provided on future regulations that are being considered by the EPA.

The Texas Natural Resource Conservation Commission ("TNRCC") is the governmental agency with responsibility for solid and hazardous waste compliance in Texas. Recent rule changes under the TNRCC regulations are addressed herein. Finally, the draft revisions to the Spill Prevention and Control Regulations are discussed.

1/ The author is a partner in the Environmental Section of Fulbright & Jaworski L.L.P.'s Houston office.

2/ 42 U.S.C. § 6901 *et seq.*

3/ Subtitle I, the Underground Storage Tank Program and the regulations promulgated thereunder are not discussed in this paper.

II. RESOURCE CONSERVATION AND RECOVERY ACT ("RCRA") CHANGES

A. Regulatory Changes

It was a fairly busy year for changes to the RCRA regulations; the more substantive changes are discussed below.

1. Used Oil Regulations

On May 3, 1993, the EPA corrected several technical errors and provided clarification to the final recycled Used Oil Management Standards Rule that was originally published on September 10, 1992.[4/]

On March 4, 1994, the EPA issued a rule that clarified certain standards and exemptions of the Used Oil Management Standards.[5/] In the rulemaking, the EPA clarified the existing pipeline exemption and expanded the exemption to other petroleum refinery applications. The EPA clarified that the exemption from the used oil management standards did not intend to exclude used oil mixed with crude oil or natural gas liquids in pre-pipeline units (*e.g.*, stock tanks, production separators) prior to being introduced into the crude oil pipeline. The rule also extends the used oil exemption to include transportation and/or storage of mixtures of small amounts of used oil (*i.e.*, less 1%) in crude oil that are destined for insertion into the petroleum refining facility process at a point prior to crude distillation or catalytic cracking.

The rule also exempts from the Part 279 standard any used oil that is inserted into the petroleum refining facility process after distillation or catalytic cracking operations provided that the used oil meets the used oil specifications prior to insertion into the petroleum refining process. In addition, the rule exempts from the standards any used oil that incidentally enters into a refinery hydrocarbon recovery system or wastewater treatment system and is recovered, if the recovered used oil is subsequently inserted into the petroleum refinery process.

The rule also expands the definition of transfer facilities to allow used oil to be held more than 24 hours or less than 35 days prior to certain specified activities. Finally, the EPA amended the used oil standards to clarify that a specific set of on-site maintenance, filtering, and separation activities were not intended to be covered under the used oil processor standards.

4/ 58 Fed. Reg. 26,420 (May 3, 1993) (to be codified at 40 CFR Parts 261, 264, 265, 271, and 279).

5/ 59 Fed. Reg. 10,550 (March 4, 1994) (to be codified at 40 CFR Parts 271 and 279).

2. Extension of Debris Rule Variances

On May 14, 1993, the EPA renewed an extension of a case-by-case capacity variance to May 8, 1994, for all persons managing certain hazardous debris in lieu of responding to the individual applications.[6/] This variance was originally granted on May 8, 1992, whereby the EPA granted a one year case-by-case capacity variance of the land disposal restrictions to persons managing certain hazardous debris.

3. Land Disposal Treatment Standards for Characteristic Waste

In an interim rule taken in response to the D.C. Circuit's decision in *Chemical Waste Management v. EPA*,[7/] the EPA incorporated revised treatment standards for certain characteristic waste.[8/] The rule affected those characteristically hazardous wastes having a characteristic of ignitibility (other than those containing greater than 10% organic carbon) and corrosivity. The rule only applies to waste that are not managed in centralized wastewater treatment systems regulated under the Clean Water Act; Class I underground injection wells subject to the Safe Drinking Water Act; underground injection control program; or by a zero discharges with wastewater treatment systems equivalent to that utilized by Clean Water Act dischargers prior to land disposal.

The rule retains deactivation as the land disposal treatment standard for these wastes, but also sets numerical standards for the hazardous constituents that may be present in the wastes. The EPA also provided a 90-day national capacity variance, which ended August 9, 1993, to allow the regulated community time to comply with the rule. It also established a nine month national capacity variance, which ended February 10, 1994, for ignitable and corrosive wastes (which have been decharacterized and injected into Class V underground injection control wells).

4. Fossil Fuel Combustion Waste Streams - Regulatory Determination

On August 9, 1993, the EPA issued its determination not to list four large volume fossil fuel combustion waste streams, as follows: fly ash, bottom ash, boiler slag, and flue-gas ignition control wastes.[9/] The agency concluded that regulation under Subtitle C was not appropriate for these materials and found that the current state and regulatory regulations governing these materials were adequate.

6/ 58 Fed. Reg. 28,506 (May 14, 1993) (to be codified at 40 CFR Part 268).

7/ 976 F.2d 2 (D.C. Cir. 1992), *cert. denied*, 113 S.Ct. 1961 (1993).

8/ 58 Fed. Reg. 29,860 (May 24, 1993) (to be codified at 40 CFR Parts 264, 265, 268, 270, and 271).

9/ 58 Fed. Reg. 42,466 (Aug. 9, 1993) (to be codified at 40 CFR Part 261).

5. Hazardous Waste Testing and Monitoring Activities

On August 31, 1993, the EPA proposed to revise certain testing methods used in complying with the requirements of Subtitle C of RCRA.[10/] The new and revised methods will be designated as Update II and are proposed to be added to the third edition of "Test Methods for Evaluating Solid Wastes, Physical/Chemical Methods," EPA Publication SW-846. The EPA indicated that the action was necessary to provide better and more complete analytical test methods for RCRA-related testing.

On the same day, the EPA also amended SW-846 by incorporating by reference the third edition (and its first update) into the RCRA regulations.[11/] These amendments will also revise several appendices to the regulations, including the toxicity characteristic leaching procedure ("TCLP").

6. Newly Identified TCLP Wastes - LDR Standards

On September 14, 1993, the EPA issued a proposed rule to add new treatment standards for newly identified TCLP wastes and to revise several existing standards of the land disposal restrictions ("LDR")[12/] for other hazardous wastes. Also proposed were treatment standards for all newly listed coke by-product and chlorotoluene production waste. The EPA additionally proposed to require ignitable characteristic wastes with a high total organic carbon ("TOC") content and toxic characteristic pesticide wastes that are being disposed in Class I non-hazardous waste injection wells to either be injected into a well that is subject to a no-migration determination or be treated to meet the LDR treatment standards prior to injection. The EPA's proposal was partially mandated by the court's opinion in Chemical Waste Management v. EPA.[13/]

For newly identified wastes that fail the TCLP or the organic constituents (*i.e.*, D018-D043), specific treatment standards are proposed for each constituent. The rulemaking notice also proposed alternate treatment standards for hazardous constituents that are contained in soil (*i.e.*, "hazardous soil"). Hazardous soil would have to be treated to either the standards for the hazardous waste that is in the soil or the proposed alternate treatment standards. These standards would apply to any soil that was contaminated with hazardous waste, regardless of whether it was a listed or characteristically hazardous waste.

10/ 58 Fed. Reg. 46,052 (Aug. 31, 1993) (to be codified at 40 CFR Part 260).

11/ 58 Fed. Reg. 46,040 (Aug. 31, 1993) (to be codified at 40 CFR Parts 260, 261, 264, 265, 268, and 270).

12/ 58 Fed. Reg. 48,092 (Sept. 14, 1993) (to be codified at 40 CFR Parts 148, 260, 261, 268, and 271).

13/ 976 F.2d 2 (D.C. Cir. 1992), *cert. denied*, 113 S.Ct. 1961 (1993).

Finally, modifications were proposed to the definition of solid waste to streamline the recycling provisions. The EPA intends to broaden the "closed loop" recycling exclusion.

7. BIF - Bevill Device Residues

In an interim final rule, the EPA relaxed certain limits for non-metals used to determine whether Bevill residues are exempt from the definition of hazardous waste.[14/] Bevill residues include residues resulting from the co-processing of hazardous waste and raw materials in Bevill devices such as cement kilns and coal-fired boilers.

8. Wood Surface Protection Wastes - Regulatory Determination

On January 4, 1994, the EPA issued a rule relating to its decision not to list as hazardous wastes certain wastes generated from the use of chlorophenolic formulations in wood surface protection processes.[15/] As a result of this determination, the EPA is not mandating in the rule any specific operating or information collection requirements for owners and operators of wood surface protection plants.

9. Cement Kiln Dust - Report to Congress

The EPA announced on January 6, 1994, that it has available a report to Congress concerning cement kiln dust.[16/] This report details a study of cement kiln dust ("CKD"), one of the wastes identified in the Bevill exemption from hazardous waste regulations. The report details regulatory options for CKD currently being considered by the EPA.

10. Treatability Studies Sample Exemption

On February 18, 1994, the EPA issued a final rule regarding the "Treatability Studies Sample Exemption Rule" that had originally been promulgated on July 7, 1993.[17/] The principle change to the existing rule was to increase the quantity of contaminated media that are conditionally exempt from Subtitle C regulation when used in conducting treatability studies. The final rule increased the amount of excluded hazardous waste from 1,000 kilograms to 10,000 kilograms of media contaminated with nonacute hazardous waste, and for acute hazardous waste, from 250 kilograms to 2,500 kilograms.

[14/] 58 Fed. Reg. 59,598 (Nov. 9, 1993) (to be codified at 40 CFR Parts 266 and 271).

[15/] 59 Fed. Reg. 458 (Jan. 4, 1994) (to be codified at 40 CFR Parts 260 and 261).

[16/] 49 Fed. Reg. 709 (Jan. 6, 1994).

[17/] 59 Fed. Reg. 8362 (Feb. 18, 1994) (to be codified at 40 CFR Part 261).

The EPA also increased the time limits available for treatability studies involving bioremediation. These studies now have an initial period of up to two years to complete testing, and may under certain circumstances request an additional two years.

11. Formerly Exempt Recyclable Materials

In a February 23, 1994 proposal, the EPA proposed to amend RCRA such that the following wastes would no longer be exempt from the RCRA Subtitle C regulations: non-encapsulated slag residues produced from high temperature metal recovery treatment of electric arc furnace dust (EPA hazardous waste number K051); steel finishing pickle liquor (waste number K062); and electroplating sludges (waste number F006).[18/] This action was being taken to implement a settlement agreement entered into by the agency with the National Resource Defense Council and the Hazardous Waste Treatment Council. If the rule is finalized, non-encapsulated uses of slag residues derived from K051, K062, and F006, as well as waste-derived products placed on the land, will be prohibited from land disposal, unless compliance with the Subtitle C land disposal standards is accomplished.

12. Listing of New Waste Streams

In a combined rulemaking under RCRA and the Comprehensive, Environmental Response, Compensation, and Liability Act ("CERCLA"),[19/] the EPA proposed to amend regulations under RCRA by listing as hazardous waste six wastes generated during the production of carbamates.[20/] The EPA also proposed to add four new generic groups of wastes, and seventy specific chemicals to the list of commercial chemical products that will be hazardous when discarded. Additionally, the proposed rulemaking also designates the wastes proposed for listing as hazardous waste as CERCLA hazardous substances, each with an initial reportable quantity of one pound.

13. Clarification - Land Disposal Restrictions for Newly Identified and Listed Hazardous Wastes and Hazardous Soils

On March 8, 1994, the EPA published clarification of its September 14, 1993, proposed rulemaking entitled "Land Disposal Restrictions (LDR) for Newly Listed and Listed Hazardous Wastes and Hazardous Soils."[21/] A portion of the proposed rule addressed RCRA alternative land disposal restrictions that would apply to soils that are subject to regulation under Subtitle C because they exhibited a hazardous characteristic or contain listed hazardous wastes. The rule as originally proposed would have also codified the "contained in" policy for contaminated media. In the clarification, the EPA

18/ 59 Fed. Reg. 8583 (Feb. 23, 1994) (to be codified at 40 CFR Part 266).

19/ 42 U.S.C. § 9601 *et seq.*

20/ 59 Fed. Reg. 9808 (March 1, 1994) (to be codified at 40 CFR Parts 261, 271, and 302).

21/ 59 Fed. Reg. 10,778 (March 8, 1994) (to be codified at 40 CFR Part 268).

indicated that these regulatory proposals should be addressed as part of the hazardous waste identification rule for contaminated media, rather than its part of the original LDR rule.

14. Degradable Plastic Ring Rule

Under the Degradable Plastic Ring Carrier Statute found at 42 U.S.C. § 6914(b), the EPA published a rule that required plastic ring carriers for beverage can be made of degradable material.[22/] The EPA has established a degradability standard for ring carriers (a maximum of 35 days may be taken to reach 5% elongation at breakpoint). The rule will be codified at 40 CFR Part 238 and is effective as of September 1, 1994.

15. Proposal to List Organobromine Production Waste

On May 11, 1994, the EPA proposed to amend the regulations under RCRA by listing as solids and filter cartridges from the production of 2,4,6-tribromophenol as hazardous waste.[23/] The agency also proposed to add 2,4,6-tribromophenol to the list of commercial chemical products that are hazardous wastes when discarded. Under the same rulemaking, the EPA proposed to add this material to CERCLA as a hazardous substance with a reportable quantity of 100 pounds.

The EPA also announced its decision not to list nine hazardous waste streams from the production of bromochloromethane, ethyl bromide, tribromophenol, octabromodiphenyl oxide, decabromodiphenyl oxide, and to defer action on one waste stream from the production of tetrabromobisphenol-A.

16. Proposal to Add Mercury-Bearing Waste to List of Waste that can be Burned in Metal Recovery Furnaces

On June 21, 1994, the EPA proposed a minor amendment to the rules for boilers and industrial furnaces ("BIF") to add certain mercury-bearing wastes to the list of wastes that can be burned in metal recovery furnaces pursuant to 40 CFR § 266.100(c) without triggering the substantive BIF requirements.[24/]

[22/] 59 Fed. Reg. 9866 (March 1, 1994) (to be codified at 40 CFR Part 238).

[23/] 59 Fed. Reg. 24,530 (May 11, 1994) (to be codified at 40 CFR Parts 261, 271, and 302).

[24/] 59 Fed. Reg. 31,964 (June 21, 1994) (to be codified at 40 CFR Part 266).

B. Judicial Developments

Several RCRA cases over the course of the past year have interpreted various provisions under RCRA. In *Lincoln Properties v. Higgins*,[25] the defendant asserted that his wastewater that contained perchloroethylene fell within the "domestic sewage exemption" under RCRA. The court rejected this argument and held that the word "domestic" refers to discharges from some form of residential dwelling.

The court in *United States v. ILCO*[26] reversed the district court's determination that lead materials from used batteries that were sold for recycling purposes were raw materials and exempt from RCRA regulation. The court denied the argument based upon the EPA's definition of discarded materials that includes both recycled material and spent batteries.

In *Chicago v. Environmental Defense Fund*,[27] the Supreme Court held that ash produced from the incineration of municipal solid waste is not exempt from RCRA regulation as a hazardous waste. In its ruling, the court refused to defer to EPA's interpretation of RCRA § 3000(i) that the ash comes within the same exemption as the waste burned to produce it.

The court in *U.S. v. Self*,[28] ruled that natural gas condensate is not a hazardous waste when burned for energy recovery and therefore is not subject to RCRA regulation.

In *Edison Electric Institute v. EPA*,[29] the court held that RCRA § 3004(j) prohibits the indefinite storage of "mixed wastes" (hazardous wastes with a radioactive component).

The Court of Appeals for the District of Columbia ruled on February 4, 1994, on challenges to the boilers and industrial furnaces ("BIF") rule.[30] The court, in considering various challenges to the rule, upheld the EPA's interpretation that under certain circumstances it can regulate Bevill wastes (*i.e.*, cement kiln dust and combustion residues from the burning of coal, oil, and other fossil fuels) as hazardous wastes when they are produced by BIFs burning fuel containing hazardous wastes.

25/ 36 Env't Rep. Cas. (BNA) 1288 (E.D. Cal. 1993).

26/ 996 F.2d 1126 (11th Cir. 1993).

27/ 985 F.2d 303 (7th Cir. 1993), *aff'd* 114 S.Ct. 1588 (1994).

28/ 2 F.3d 1071 (10th Cir. 1993).

29/ 996 F.2d 326 (D.C. Cir. 1993).

30/ *Horsehead Resource Development v. U.S.E.P.A.*, 16 F.3d 1246 (D.C. Cir. 1994).

In a criminal case, *U.S. v. Laughlin,*[31] the Second Court of Appeals affirmed the conviction of the owner of a wood treatment facility under RCRA and CERCLA who was found to have illegally disposed of waste creosote sludge. In upholding the conviction, the court indicated that the United States Supreme Court has held that the knowledge element in statutes intended to regulate a hazardous or dangerous substance is met upon a showing that the criminal defendant was aware it was engaging in prohibited conduct. It was not required that the defendant have knowledge of the specific regulatory requirement.

A federal appeals court ruled on May 27, 1994 that used oil destined for disposal does not have to be listed as hazardous wastes under RCRA.[32] The court rejected arguments by the Natural Resources Defense Council, the Hazardous Waste Treatment Council, and the Association of Petroleum Re-refiners that used oil should be regulated as a hazardous waste.

C. Future Developments

1. RCRA Hazardous Waste Identification Rule

The EPA withdrew its May 1992 proposal to modify the hazardous waste identification rule (HWIR) after outcry from various environmental groups and some states. The EPA formed state and federal advisory committee (STACA and FACA, respectively) in May 1993 to look at this area. After a series of meetings, the committee expects to finish its work in July 1994 and will purportedly publish a new HWIR proposal. For contaminated media, the EPA anticipates a proposed HWIR by January 1995, followed by a final rule about one year later. For as-generated waste, the rule will probably not be proposed until March or April 1995. The agency's deadline for promulgating a final mixture and derived-from rule is October 1994; however, the EPA believes that only effect of missing the deadline is a potential citizen suit to put the EPA on a court-supervised schedule. In the May Hazardous Waste and Superfund 1994 Video Conference, an EPA representative stated that the EPA believes there is no effect on its interim reinstatement of the mixture and derived-from rules after *Shell Oil.*

With respect to contaminated media, the new HWIR will supposedly establish clearer thresholds that will drop contaminated media out of subtitle C regulation altogether. Contaminated media under these thresholds will therefore not be subject to the land disposal restrictions and other aspects of RCRA. For as-generated waste, the EPA is setting concentration-based thresholds. These thresholds will be established based on indirect exposures and ecological considerations as well as direct human exposure. This approach has been criticized by industry as too conservative. Implementation issues still to be worked out include frequency of waste testing, whether the procedures will be self-implementing or whether the agency will review

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[31] 10 F.3d 961 (2d Cir. 1993), *cert. denied by Goldman v. U.S.*, 114 S.Ct. 1649 (1994).

[32] *Natural Resources Defense Counsel v. EPA* (CA D.C., 5-27-94).

generator's quality assurance plans and data, and what dilution or attenuation factor to apply to the thresholds.

2. Subchapter S Corrective Action Rule

During the 1994 Video Superconference, Mr. Lawrence Starfield, Assistant General Counsel for RCRA, indicated that there are no plans this year to finalize the subchapter S corrective action rule. The EPA is currently using the proposed rule as guidance. He also noted that the agency had recently listed organobromide (a flame retardant) as a hazardous waste. This listing is the first time the EPA has relied on a "structural similarity" test; that is, the agency did not have toxicity data on organobromide, but relied on toxicity data for a structurally similar chemical.

3. Hazardous Waste Combustion

The EPA expects to publish a proposed rule for community involvement in permitting of hazardous waste combustors in the near future. The rule will require a preapplication public meeting and translators where there are significant numbers of persons whose first language is not English.

The EPA also expects to publish a proposed rule placing a deadline on the appeals process of denials of Part B applications by hazardous waste combustors. Once an interim-status combustor is denied a final permit, it will have a limited time to appeal during which it can continue operating.

III. STATE REGULATIONS

A. TNRCC Rule Changes

The TNRCC regulations governing solid and hazardous wastes are contained in Title 30 of the Texas Administrative Code (hereinafter "Tex. Admin. Code"), Chapter 335.[33/] Few substantive rule changes have been promulgated over the course of the past year.[34/]

[33/] To comply with the requirements of Senate Bill 2, a new title in the Tex. Admin. Code -- Title 30 -- was created. All rules previously under the Texas Water Commission and the Texas Air Control Board (both of which were merged into the TNRCC) were transferred to Title 30. Chapter 335 was previously contained in Title 31 of the Tex. Admin. Code.

[34/] This paper covers the rule changes covering the time period July of 1993 through July of 1994.

1. Various Amendments to Adopt Certain Federal Regulations and to Clarify Existing State Regulations

On November 19, 1993, the TNRCC adopted amendments to §§ 335.1, 335.2, 335.10, 335.13, 335.29, 335.41, 335.47, 335.61, 335.69, 335.74, 335.111, 335.112, 335.152, 335.155, 335.166-335.168, 335.173, 335.211, 335.224, and 335.431.[35] The TNRCC also repealed old § 335.431 and adopted new § 335.431 in its place.[36] The purpose of these amendments was to adopt certain federal hazardous waste regulations and to clarify existing state regulations. A summary of the changes are as follows:

a. *Definition of Designated Facility*

The amendment supplements the definition of designated facility. It adds that when a waste is delivered to an authorized state but that state has not yet obtained authorization to regulate that particular waste as hazardous, the designated facility must be a facility authorized by the receiving state to accept such waste.[37]

b. *Definition of Drip Pad*

The definition of drip pad is provided.[38]

c. *Definition of Elementary Neutralization System*

The definition now includes tank systems.[39]

d. *Definition of Wastewater Treatment Unit*

The definition now includes tank systems.[40]

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[35] 18 Tex. Reg. 8218 (Nov. 9, 1993).

[36] *Id.*

[37] 18 Tex. Reg. 5304, 5307 (Aug. 10, 1993), *adopted* 18 Tex. Reg. 8218 (Nov. 9, 1993) (to be codified at 30 Tex. Admin. Code § 335.1).

[38] 18 Tex. Reg. 5304, 5307 (Aug. 10, 1993), *adopted* 18 Tex. Reg. 8218 (Nov. 9, 1993) (to be codified at 30 Tex. Admin. Code § 335.1).

[39] 18 Tex. Reg. 5304, 5307 (Aug. 10, 1993), *adopted* 18 Tex. Reg. 8218 (Nov. 9, 1993) (to be codified as an amendment to 30 Tex. Admin. Code § 335.1).

[40] 18 Tex. Reg. 5304, 5307 (Aug. 10, 1993), *adopted* 18 Tex. Reg. 8218 (Nov. 9, 1993) (to be codified as an amendment to 30 Tex. Admin. Code § 335.1).

e. *Part A Permit Requirement*

Certain generators (those who generate greater than 100 kilograms but less than 1,000 kilograms in a calendar month and who process, store, or dispose of these on-site) are required to submit a Part A permit application to the United States Environmental Protection Agency by March 24, 1987, pursuant to 40 CFR § 270.10(e)(1)(i-ii).[41/]

f. *Post Closure Permit*

Certain owners and operators of landfills, surface impoundments, land treatment units, and waste pile units must have a post closure permit. The permit must be in compliance with 40 CFR Part 264 and 30 Tex. Admin. Code, Subchapter F.[42/]

g. *Adoption of 40 C.F.R. § 260.11*

40 CFR § 260.11 was adopted by reference.[43/]

h. *Shipments of Hazardous Wastes to Non-Authorized Designated Facilities*

A generator must assure that the designated facility will sign and return the manifest to the generator if the designated facility has not obtained authorization to regulate the hazardous waste. If an out-of- state shipper is used, the shipper must sign and forward the manifest to the facility.[44/]

i. *Requirement of Signed Manifests*

Generators who receive signed manifests from designated facilities must retain the manifests in their records for at least 3 years. Also, if a generator of more than 1,000 kilograms of hazardous waste or a generator of class 1 waste does not receive a signed manifest within 30 days, he must contact the facility. Finally, if the manifest is not received

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[41/] 18 Tex. Reg. 5304, 5307 (Aug. 10, 1993), *adopted* 18 Tex. Reg. 8218, 8219 (Nov. 9, 1993) (to be codified at 30 Tex. Admin. Code § 335.2).

[42/] 18 Tex. Reg. 5304, 5307-5308 (Aug. 10, 1993), *adopted* 18 Tex. Reg. 8218 (Nov. 9, 1993), (codified at 30 Tex. Admin. Code § 335.2).

[43/] 18 Tex. Reg. 5304, 5308 (Aug. 10, 1993), *adopted* 18 Tex. Reg. 8218, 8219 (Nov. 9, 1993) (to be codified at 30 Tex. Admin. Code § 335.2).

[44/] 18 Tex. Reg. 5304 (Aug. 10, 1993), *adopted* 18 Tex. Reg. 8218 (Nov. 9, 1993) (to be codified at 30 Tex. Admin. Code § 335.10).

within 45 days, these generators must file an exception report with the executive director.[45]

j. *Unavailability of Signed Manifests*

If the generator does not receive a signed manifest within 60 days, the generator must submit a copy of the manifest and notification that the generator has not received the manifest to the executive director.[46]

k. *Subchapters E and F Exemptions*

Owners and operators of publicly-owned treatment works are exempt from the provision of Title 30, Subchapter E except as provided in § 335.47 of Title 30. Also, farmers disposing of their own waste pesticides in compliance with § 335.77 are exempt from Subchapter E and persons disposing of hazardous wastes through underground injection are exempt from Subchapter F. Also, Subchapter E does apply to persons disposing of hazardous waste through injection into underground wells.[47]

l. *Underground Injection Well Permit*

Where an underground injection well is the only unit at a facility that requires a permit, the operator must comply with 40 CFR § 260.14(d).[48]

m. *Statutes Applicable to Generators of Hazardous Waste*

Clarifies that generators of hazardous waste must comply with §§ 335.73, 335.77, and 335.69 of Title 30. They must also comply with Subchapters E, F, H, and O of Title 30 of the Tex. Admin. Code Chapter 305.[49]

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[45] 18 Tex. Reg. 5304, 5308 (Aug. 10, 1993), *adopted* 18 Tex. Reg. 8218 (Nov. 9, 1993) (to be codified at 30 Tex. Admin. Code § 335.13).

[46] 18 Tex. Reg. 5304, 5308 (Aug. 10, 1993), *adopted* 18 Tex. Reg. 8218 (Nov. 9, 1993) (to be codified at 30 Tex. Admin. Code § 335.13).

[47] 18 Tex. Reg. 5304, 5308-5309 (Aug. 10, 1993), *adopted* 18 Tex. Reg. 8218 (Nov. 9, 1993) (to be codified at 30 Tex. Admin. Code § 335.41).

[48] 18 Tex. Reg. 5304, 5309 (Aug. 10, 1993), *adopted* 18 Tex. Reg. 8218 (Nov. 9, 1993) (to be codified as an amendment to 30 Tex. Admin. Code § 335.47).

[49] 18 Tex. Reg. 5304, 5309 (Aug. 10, 1993), *adopted* 18 Tex. Reg. 8218 (Nov. 9, 1993) (to be codified as an amendment to 30 Tex. Admin. Code § 335.61).

n. *Accumulation of Hazardous Waste Without a Permit*

Clarifies that a generator may accumulate hazardous waste for 90 days or less without a permit or interim status if the generator complies with certain provisions. The generator may also be exempt from various 40 CFR standards if he or she complies with the provisions.[50/]

o. *Recordkeeping Requirement for Generators*

Generators who produce more than 100 kilograms but less than 1,000 kilograms are subject to the recordkeeping and reporting provisions of §§ 335.13(a) and (g).[51/]

p. *Applicability of Subchapter E*

Amends § 335.111 to provide that Subchapter E is applicable to owners and operators who process, store, or dispose of hazardous waste referred to in 40 CFR Part 268 or Part 265, and the standards are considered material conditions or requirements of Part 255.[52/]

q. *Reporting Requirement for Owners of Interim Status Hazardous Waste Facilities*

Amends § 335.115(4) to require that owners or operators of interim status hazardous waste facilities must report to the executive director anything required in § 335.112(a)(2) of Title 30.[53/]

r. *Location of Corrective Action Program*

An owner or operator who is required to implement a corrective action program must conduct the program beyond the boundaries to the facility.[54/]

[50/] 18 Tex. Reg. 5304, 5309-5310 (Aug. 10, 1993), *adopted* 18 Tex. Reg. 8218 (Nov. 9, 1993) (to be codified at 30 Tex. Admin. Code § 335.69).

[51/] 18 Tex. Reg. 5304, 5310 (Aug. 10, 1993), *adopted* 18 Tex. Reg. 8218 (Nov. 9, 1993) (to be codified at 30 Tex. Admin. Code § 335.74).

[52/] 18 Tex. Reg. 5304, 5310 (Aug. 10, 1993), *adopted* 18 Tex. Reg. 8218 (Nov. 9, 1993) (to be codified at 30 Tex. Admin. Code § 335.111).

[53/] 18 Tex. Reg. 5304, 5310 (Aug. 10, 1993), *adopted* 18 Tex. Reg. 8218 (Nov. 9, 1993) (to be codified at 30 Tex. Admin. Code § 335.115).

[54/] 18 Tex. Reg. 5304, 5311 (Aug. 10, 1993), *adopted* 18 Tex. Reg. 8218 (Nov. 9, 1993) (to be codified at 30 Tex. Admin. Code § 335.166).

s. *Location of Corrective Action Program for Solid Waste Management Units*

An owner or operator of a solid waste management unit who is required to implement a corrective action program must conduct the program beyond the boundaries to the facility.[55/]

t. *Design and Operating Requirements for Surface Impoundment Units*

Section 335.168(c) applies to all surface impoundment units where Part B of the permit application is received by the executive director after November 8, 1984.[56/]

u. *Design and Operating Requirements for Landfills*

Clarifies that § 335.173(c) applies to all waste received after the issuance of Part B of the permit where the application is received by the executive director after November 8, 1984.[57/]

v. *Applicability of Subchapter H*

Three amendments to § 335.211 were made providing for three exemptions to Subchapter H -- Recyclable Materials Used in a Manner Constituting Disposal.[58/]

w. *Testing Process for Burners*

Owners or operators may use compliance test data from one unit instead of testing a similar on-site unit if given approval.[59/]

55/ 18 Tex. Reg. 5304, 5311 (Aug. 10, 1993), *adopted* 18 Tex. Reg. 8218 (Nov. 9, 1993) (to be codified at 30 Tex. Admin. Code § 335.167).

56/ 18 Tex. Reg. 5304, 5311 (Aug. 10, 1993), *adopted* 18 Tex. Reg. 8218 (Nov. 9, 1993) (to be codified at 30 Tex. Admin. Code § 335.168).

57/ 18 Tex. Reg. 5304, 5312 (Aug. 10, 1993), *adopted* 18 Tex. Reg. 8218 (Nov. 9, 1993) (to be codified at 30 Tex. Admin. Code § 335.173).

58/ 18 Tex. Reg. 5304, 5312 (Aug. 10, 1993), *adopted* 18 Tex. Reg. 8218 (Nov. 9, 1993) (to be codified at 30 Tex. Admin. Code § 335.211).

59/ 18 Tex. Reg. 5304, 5312 (Aug. 10, 1993), *adopted* 18 Tex. Reg. 8218 (Nov. 9, 1993) (to be codified at 30 Tex. Admin. Code § 335.224).

x. *Repeal of § 335.431*

Section 335.431 of Title 30, relating to land disposal restrictions, was repealed and replaced due to the necessity of extensive changes.[60]

y. *Testing of Hazardous Waste*

Generators of hazardous waste must test the waste to determine if the waste complies with all the land disposal restrictions.[61]

z. *Adoption of Various CFR Sections*

Various amendments adopted various 40 Code of Federal Regulations, Parts 261, 264, 265, and 268 provisions and amendments to various 40 Code of Federal Regulations provisions found in the *Federal Register*.[62]

aa. *Section 335.112(a)(6) and (7) Exemption*

A generator is now exempt from § 335.112(a)(6) and (7) of Title 30 if the generator accumulates hazardous waste for 90 days, places the waste on drip pads, complies with § 335.112(a)(18), and maintains certain records at the facility. The exemption as proposed applied to all generators.[63]

2. Industrial Solid Waste and Hazardous Waste Fee System

On February 4, 1994, the TNRCC adopted changes to the industrial solid waste and hazardous waste fee system.[64] Senate Bill 1201[65] amended Chapter 361 of the Texas Health and Safety Code to require certain changes in the fee system. The rule raised the maximum annual generation fee for non-hazardous industrial solid waste from $1,000 to $10,000 and raised the fee for hazardous waste from $25,000 to $50,000. In addition, the maximum fee for management of waste is increased from $20 per ton to $40 per ton.

60/ 18 Tex. Reg. 5304, 5313 (Aug. 10, 1993), *adopted* 18 Tex. Reg. 8218, 8220-8221 (Nov. 9, 1993) (repeal and recodification at 30 Tex. Admin. Code § 335.431).

61/ 18 Tex. Reg. 5304, 5313 (Aug. 10, 1993), *adopted* 18 Tex. Reg. 8218 (Nov. 9, 1993) (to be codified at 30 Tex. Admin. Code § 335.504).

62/ 18 Tex. Reg. 5304, 5308-5313 (Aug. 10, 1993), *adopted* 18 Tex. Reg. 8218-8221 (Nov. 9, 1993) (to be codified at 30 Tex. Admin. Code §§ 335.29, 335.69, 335.112, 335.152, 335.155, and 335.431).

63/ 18 Tex. Reg. 8218, 8219-8220 (Nov. 9, 1993) (to be codified at 30 Tex. Admin. Code § 335.69).

64/ 19 Tex. Reg. 802 (Feb. 4, 1994) (to be codified at 30 Tex. Admin. Code Ch. 335).

65/ Acts of the 73rd Legislature, 1993.

The language of § 335.323 was clarified on the assessment of fees relating to industrial wastewaters. An exemption is now provided for wastewaters which exhibit a characteristic of hazardous waste and which are treated and rendered non-hazardous. If this wastewater is treated to Class I characteristics, then it will be assessed a Class I fee. Additionally, if a Class I wastewater is treated to Class II standards, no fee will be assessed. Finally, new language was added in § 335.323(c)(4) to indicate that a wastewater stream that is treated to meet different waste classification is subject to only one assessment under this section.[66/]

Section 335.325 was amended to require management fees to be assessed upon generators for Class I industrial wastes that are disposed at a commercial facility.[67/]

3. Incorporation of Federal CAMU Rule

On November 23, 1993, the TNRCC proposed changes to §§ 335.1, 335.111, 335.151, 335.152, 335.167, and 335.431 to incorporate the amendments adopted under RCRA relating to corrective actions.[68/] The proposed amendments were subsequently adopted on February 8, 1994.[69/] The adopted amendments relate to two types of waste management units that will be used for remedial purposes in conducting corrective actions -- corrective action management units ("CAMUs") and temporary units ("TUs"). The agency noted in its final rule that the federal CAMU rule is currently being challenged in the federal courts and, if the federal rule is vacated, the TNRCC CAMU rule adopting the federal regulations by reference would no longer be effective under Title 42 of the United States Code, § 3006(g)(1) and § 3009.[70/]

Notwithstanding the incorporation of these rules, the TNRCC points out in the proposal that the applicable requirements contained in the Risk Reduction Standards of Chapter 355, subchapter S and related rules, such as § 335.8 (relating to closure), would still be applicable to remedial actions.[71/]

66/ *Id.*

67/ *Id.* at 804.

68/ 18 Tex. Reg. 8658 (Nov. 23, 1993).

69/ 19 Tex. Reg. 969 (Feb. 8, 1994).

70/ *Id.*

71/ 18 Tex. Reg. 8655 (Nov. 23, 1993).

4. Amendments to Subchapter R - Waste Classification

On November 23, 1993, the TNRCC proposed amendments to §§ 335.501 - 335.503, and 335.507 - 335.114, concerning waste classification.[72] The changes were subsequently adopted in February of 1994.[73] The purpose of the revisions was to correct inadvertent alterations that were made to the final rules and to clarify certain provisions of the rules.

The substantive changes to the rules are as follows:

a. *New Waste Streams*

Additional language was added to § 335.502(a) (Conversion to New Waste Notification System) that clarifies that after January 1, 1994, all new waste streams and existing unclassified waste streams shall be coded in accordance with the provisions of Subchapter R.[74]

b. *Generators of Spill Waste*

Section 335.503(b)(4) was amended to allow generators of spill wastes the ability to obtain sequence numbers from the TNRCC staff other than those associated with the Commission's Emergency Response Team or, if applicable, assign their own sequence numbers.[75]

c. *Class 3 Waste Determination - Number of Samples*

Section 335.507 (Class 3 Waste Determination) has been amended to clarify that the representative sampling necessary to meet this level may require one or more samples. The TNRCC indicated that the number of samples necessary for representative sampling depends upon the waste and the particular circumstances of its generation.[76]

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[72] 18 Tex. Reg. 8660 (Nov 23, 1993); *see also*, 18 Tex. Reg. 9225 (Dec. 10, 1993) [Correction of Errors].

[73] 19 Tex. Reg. 1042 (Feb. 11, 1994).

[74] 18 Tex. Reg. 8660, 8661 (Nov. 23, 1993), *adopted* 19 Tex. Reg. 1042 (Feb. 11, 1994) (to be codified at 30 Tex. Admin. Code § 335.502(a)).

[75] 18 Tex. Reg. 8660, 8662 (Nov. 23, 1993), *adopted* 19 Tex. Reg. 1042 (Feb. 11, 1994) (to be codified at 30 Tex. Admin. Code § 335.503(b)).

[76] 18 Tex. Reg. 8660, 8662 (Nov. 23, 1993), *adopted* 19 Tex. Reg. 1042 (Feb. 11, 1994) (to be codified at 30 Tex. Admin. Code § 335.503(b)).

d. *Small Empty Containers*

Section 335.508(2) has been amended to allow small empty containers, regardless of what they have held (even hazardous wastes) to be considered Class 2 wastes.[77/]

e. *Medical Wastes*

Section 335.508(3)(E) was amended to clarify that medical wastes that are regulated under the Medical Waste Program are to be classified as Class 2 wastes.[78/]

f. *Process Knowledge*

Section 335.511(a) was amended to provide that process knowledge may be allowed for any classification determination. Documentation for all waste classifications must be maintained for the time periods established in § 335.513.[79/]

g. *Confidential Information*

Section 335.513 has been amended to include a provision that allows a generator to request that information submitted to the TNRCC remain confidential.[80/]

5. Summary Reporting

On January 25, 1994, the TNRCC amended sections 335.9, 335.13, 335.15, and 335.71, concerning summary reporting.[81/] The amendments clarify the reporting requirements, align state reporting requirements, and encourage correct, complete, and timely reporting of required information. Some of the more substantive changes are as follows:

[77/] 18 Tex. Reg. 8660, 8662 (Nov. 23, 1993), *adopted* 19 Tex. Reg. 1042 (Feb. 11, 1994) (to be codified at 30 Tex. Admin. Code § 335.508(2)).

[78/] 18 Tex. Reg. 8660, 8663 (Nov. 23, 1993), *adopted* 19 Tex. Reg. 1042 (Feb. 11, 1994) (to be codified at 30 Tex. Admin. Code § 335.508(3)(e)).

[79/] 18 Tex. Reg. 8660, 8663 (Nov. 23, 1993), *adopted* 19 Tex. Reg. 1042 (Feb. 11, 1994) (to be codified at 30 Tex. Admin. Code §§ 335.511(a), 335.513).

[80/] 18 Tex. Reg. 8660, 8664 (Nov. 23, 1993), *adopted* 19 Tex. Reg. 1042 (Feb. 11, 1994) (to be codified at 30 Tex. Admin. Code § 335.513).

[81/] *Proposed* 18 Tex. Reg. 8766 (Nov. 6, 1994), *adopted* 19 Tex. Reg. 509 (Jan. 5, 1994) (to be codified at 30 Tex. Admin. Code §§ 335.9, 335.13, 335.15, and 335.71).

a. *Biennial Reports*

Section 335.71 has been changed to contain only federal biennial report requirements.[82]

b. *Unmanifested Waste Shipments*

To simply the reporting of unmanifested waste, it will now be required to be reported on the Monthly waste Receipt Summary Form in addition to the manifested waste.[83]

c. *Errors in Summaries*

The preamble to the proposed rules indicate that a summary will be considered to be incorrect if it is incomplete and/or contains discrepancies and/or errors.[84] The TNRCC will send a letter to the reporting facility requesting corrections for the first two summaries found to be incorrect. The third incorrect summary will purportedly result in a letter requesting corrections accompanied by a warning letter. The fourth and subsequent incorrect summaries will result in a letter requesting corrections and a financial penalty.[85] This policy was apparently set forth in the preamble because of the great number of summaries (the TNRCC estimates 50 %) containing errors.

6. Minor Amendments to TNRCC CAMU Rule

On February 8, 1994, the TNRCC adopted a minor amendment to § 335.431, relating to the CAMU rule.[86] Section 431(c)(1) and (3) were amended to change the date through which the 40 CFR part 268 regulations are adopted by reference to February 16, 1993, in 58 Fed. Reg. 8685.[87]

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[82] 18 Tex. Reg. 8766, 8769 (Nov. 6, 1994), *adopted* 19 Tex. Reg. 509 (Jan. 5, 1994) (to be codified at 30 Tex. Admin. Code §§ 335.71).

[83] 18 Tex. Reg. 8766, 8768 (Nov. 6, 1994), *adopted* 19 Tex. Reg. 509 (Jan. 5, 1994) (to be codified at 30 Tex. Admin. Code §§ 335.15).

[84] 18 Tex. Reg 8766, 8767 (Nov. 26, 1993).

[85] *Id.*

[86] 19 Tex. Reg. 970 (Feb. 8, 1994) (to be codified at 30 Tex. Admin. Code § 335.431).

[87] 18 Tex. Reg. 8770, 8771 (Nov. 26, 1994), *adopted* 19 Tex. Reg. 970 (Feb. 8, 1994) (to be codified at 30 Tex. Admin. Code § 335.431).

B. Texas Draft Spill Prevention and Control Regulations[88]

In an attempt to bring some order to the universe of Texas spill reporting requirements, the TNRCC is planning to propose new spill prevention and control regulations for discharges of oil, hazardous substances, and other substances within the TNRCC's jurisdiction. The discussion of these rules that follows is based on the TNRCC's draft spill prevention and control regulations of April 19, 1994. The draft rules were approved for proposal by the TNRCC in February 1994, and notice of the proposed rules is expected to be published in the Texas Register in the summer of 1994. The reader should consult the version of the spill prevention and regulations published in the Texas Register as proposed and, eventually, as finally adopted to identify any changes versus the draft discussed below.

If adopted as currently drafted, the spill rules will require persons responsible for a spill to notify the TNRCC and certain affected third parties of a reportable discharge or spill, as well as impose response obligations on the responsible persons. The rules will also require persons who store, process, or transport substances that may cause pollution to prepare, submit, and maintain emergency planning forms and to engage in other emergency planning activities. Finally, the rules require a written report of historical contamination to be made by "the person or entity discovering historical contamination."[89]

1. Reporting Discharges or Spills

a. *Applicability*

If adopted as currently drafted, the spill rules will apply only to discharges or spills and contamination under the regulatory jurisdiction of the TNRCC. The rules will, therefore, not apply to discharges or spills that are solely under the jurisdiction of the GLO or the Railroad Commission. This limitation means that the rules will not apply to discharges or spills of oil that enter or threaten to enter coastal waters of the state, because these spills are under the jurisdiction of the GLO pursuant to the Texas OSPRA.[90] Likewise, the TNRCC's draft rules will not apply to discharges or spills of oil or hazardous substances that are under the jurisdiction of the Railroad Commission, including discharges or spills of oil or hazardous substances that occur as a result of the exploration, development, production, storage, or pipeline transportation of crude oil, natural gas, and geothermal resources.[91] The TNRCC's draft spill rules will apply to

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[88] The author expresses her appreciation to Janet McQuaid with Fulbright & Jaworski L.L.P. for her assistance with this section of the paper.

[89] Draft Spill Rule § 327.8(a).

[90] *See* Tex. Nat. Res. Code Ann. §§ 40.051-40.052.

[91] *See id.* §§ 85.042, 91.101, 91.601; Tex. Water Code Ann. § 26.131 (Vernon Supp. 1994).

all other discharges and spills of hazardous substances as well as to certain discharges or spills of oil that are not under the GLO's or RRC's jurisdiction.

The discharge and spill reporting requirements apply to persons responsible for the spill. The regulations adopt the language of the Texas Hazardous Substances Spill Prevention and Control Act ("the Act") verbatim, defining responsible persons to include:

> (A) the owner, operator, or demise charterer of a vessel from which a spill emanates;
>
> (B) the owner or operator of a facility from which a spill emanates; or
>
> (C) any other person who causes, suffers, allows, or permits a spill or discharge.[92]

b. *Circumstances That Must Be Reported*

In certain circumstances, section 327.3 of the draft rule would require notification of the TNRCC of any discharge or spill within the TNRCC's authority of any quantity of oil, hazardous substances, or other substances. The draft rule defines "discharge or spill" identically to the statute, as follows:

> An act or omission by which oil, hazardous substance, or other substances in harmful quantities are spilled, leaked, pumped, poured, emitted, entered, or dumped into waters in the State of Texas or by which those substances are deposited where, unless controlled or removed, they may drain, seep, run, or otherwise enter water in the State of Texas. . . .[93]

The draft rule also adopts the statutory definition of harmful quantity almost verbatim. A harmful quantity is:

> That quantity of hazardous substance the discharge or spill of which is determined to be harmful to the environment or the public health or welfare or may reasonably be anticipated to present an imminent and substantial danger to the public health or welfare by the administrator of the Environmental Protection Agency pursuant to federal law and by the Executive Director.[94]

The draft rule further defines what constitutes a reportable discharge or spill by listing seven circumstances requiring reporting. Just as set out below, there is no

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[92] Tex. Water Code Ann. § 26.263(6)(Vernon 1988); Draft Spill Rule § 327.2.

[93] Draft Spill Rule § 327.2; *see also* Tex. Water Code Ann. § 26.263(3) (Vernon 1988).

[94] Draft Spill Rule § 327.2; *see also* Tex. Water Code Ann. § 26.263(3) (Vernon 1988).

conditional language in the draft rule connecting or separating the individual circumstances. Under the draft rule, the following discharges or spills of oil, hazardous substance, or other substance are reportable (paraphrasing slightly):

(1) Any discharge or spill of any quantity that may enter water in the state[95/] if not immediately contained, controlled, or removed;

(2) Any discharge or spill that presents an imminent and substantial endangerment to public health or public safety;

(3) The discharge or spill of a CERCLA reportable quantity that is contained within an operating registered facility;

(4) Any discharge or spill that occurs during transportation;

(5) Any discharge or spill of petroleum product that is to soil only and that is in an amount equal to or greater than 25 gallons;

(6) Any discharge or spill is of crude oil that is to soil only and is in an amount equal to or greater than 5 barrels (210 gallons); or

(7) Any discharge or spill is of oil (including petroleum fuel oil, sludge, oil refuse, and oil mixed with wastes other than dredged spoil), other than petroleum products or crude oil, that is discharged or spilled to soil only and is an amount equal to or greater than 25 gallons.[96/]

Standing alone, this list raises a number of questions. For example, must a discharge of less than a reportable quantity of a hazardous substance at a registered solid waste facility be reported if the is being contained on site, even if the discharge might have entered ground or surface water if not immediately contained or removed? Also, what about a spill that occurs during transportation? Are all spills during transportation reportable? Or do conditions (5), (6), and (7) exempt low-volume discharges of certain petroleum substances during transportation from the reporting requirement in circumstance (4)?

95/ Water in the state includes groundwater, lakes, bays, ponds, impounding reservoirs, springs, rivers, streams, creeks, estuaries, wetlands, marshes, inlets, canals, the Gulf of Mexico, and all other bodies of surface water, natural or artificial, inland or coastal, fresh or salt, navigable or nonnavigable, and including the beds and banks of all watercourses and bodies of surface waters. Draft Spill Rule § 327.2.

96/ Draft Spill Rule § 327.3(a).

i. Discharges from Registered Solid Waste Facilities

To help clarify these and other questions raised by the list of reportable circumstances set out above, Appendix II of the draft spill rule provides a flowchart, a copy of which is attached to this paper as Appendix A. This flowchart suggests that circumstances (1) or (2) above, without any other conditions, are sufficient to establish a reporting requirement. Thus, according to the flowchart, if the discharge endangers public health or safety or if it may hypothetically enter water in the state if not contained, controlled, or removed, the discharge is reportable. This would seem to fully answer the first question raised above: even if the discharge or spill is in fact being contained or has been removed, it is reportable if it might have entered water in the state if not contained or removed.

However, the draft spill rules later suggest the opposite conclusion with respect discharges at registered facilities. In clarifying the circumstances under which a discharge or spill from an operating, registered facility must be reported, the draft spill rules suggest that the registered-facility exemption, while, very narrow may be available if the discharge or spill has been removed or is being contained such that it will enter waters of the state. The registered-facility exception provides as follows:

> Operating facilities registered with the Commission as a solid waste generator and maintaining a current Notice of Registration are not subject to the notification requirements of this section when all of the following conditions are met:
>
> (a) the discharge or spill is on-site and is contained or removed; and
> (b) the discharge or spill has not entered and will not enter water in the State; and
> (c) the discharge or spill does not present an imminent and substantial endangerment to public health or public safety; and,
> (d) the amount of the substance discharged or spilled is less than the CERCLA reportable quantity for that substance and the discharge is only to soil; and
> (e) if [sic?] the substance discharged or spilled is only to soil, and
> (i) the amount discharged or spilled is less than 25 gallons of petroleum product . . .; or,
> (ii) the amount discharged or spilled is less than 5 barrels or 210 gallons of crude oil; or
> (iii) the amount discharged or spilled is less than 25 gallons of oil . . . .[97]

This clarification suggests that if a release of less than the RQ at a registered facility is only to on-site soil and has been contained or removed such that the substance has not and will not enter water in the state, the discharge does not have to

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[97] Draft Spill Rule § 327.3(b)(2) (emphasis added).

be reported to the TNRCC. Even this clarification, however, is not clear. For example, what is the purpose of subpart (e) above? If, as the clarification states, all of the above-listed conditions must be met for the exception to apply, subparagraph (e) would mean that the only releases at registered facilities that can fall under the reporting exception are releases of petroleum substances (product, crude oil, or other oil as defined by the rule). It seems likely that the inclusion of subpart (e) is a drafting error.

If a discharge or spill is determined to be not reportable, records of the event must nevertheless be kept at the facility. The new spill rules will require operating registered facilities to maintain records for three years of any discharge or spill (or, as discussed below, historical contamination) that the facility determines is not subject to the notification requirements of section 327.3 (or 327.8).

ii. Discharges During Transportation

With respect to discharges during transportation, neither the flowchart in Appendix II of the draft spill rules nor the clarification in section 327.3(b)(2) help in answering the second question posed above: whether discharges or spills that occur during transportation of small volumes of petroleum substances to soil only are reportable. The preamble to the draft rules indirectly implies that such discharges are not reportable. In the preamble, the TNRCC notes that it "serves as the lead agency in directing and approving the response for the discharge or spill of a harmful quantity of crude oil (defined as five or more barrels discharged or spilled on the ground or any quantity discharged or spilled into water) during highway or rail transportation and these would apply to such occurrences."[98/] This reference would seem to suggest that the circumstances (5), (6), and (7) listed in section 327.3(b) limit the requirement to report transportation-related discharges set out in circumstances (4), above. The implication in the preamble is not conclusive, however, and the language of the rule itself does not resolve the question of whether such petroleum-related transportation discharges must be reported.

iii. Releases to the Atmosphere

Finally, the definition of discharge or spill, as well as the small print on the flowchart in Appendix II of the draft spill rules, suggests that discharges or spills include releases to the atmosphere. If so, it may be impossible to have a spill of volatile or semivolatile substances that can be considered "only to soil" within the meaning of the above-listed circumstances, thus making the exceptions to the reporting requirement very narrow.

98/ Preamble to Draft Spill Rules at 3 (Apr. 19, 1994).

2. Notification Process

As mentioned above, under the draft spill rules, the responsible person for a discharge or spill will have to make an initial telephone report to the TNRCC within one hour of determining that a discharge or spill of oil, hazardous substance, or other substance is reportable to the TNRCC.[99] The information that must be provided in the initial telephone notification is defined by the draft spill rules.[100] The responsible person must make the reportability determination within twenty-four hours of discovering the occurrence of the discharge or spill.[101] An update of the initial report must be made within 24 hours of the initial report, unless the TNRCC staff determines that the initial report was adequate.[102] If a responsible person determines after notification that the discharge was not reportable, it may send a letter to the TNRCC notifying the TNRCC of that conclusion.[103]

The comfort offered by being able to "retract" a notification to the TNRCC may, however, be limited by the public notice requirements of the new rule. In a departure from current practice, the draft spill rules will require the responsible person, in addition to notifying the TNRCC, to notify the owner or occupant of the property on which the discharge or spill occurs as well as the occupants of "any property that may be affected." Notification must be given first by telephone within one working day and, second, in writing within three working days of the incident.[104] Thus, the determination that a spill is reportable takes on added importance if the requirement to notify the occupants of "any property that may be affected" is interpreted broadly. The responsible person must submit to the TNRCC proof of notification to owners and occupants of the property on which the discharge or spill occurred; possibly by oversight, the rules do not expressly require proof of notification of occupants of "affected" property.[105] Alternate notification plans may be submitted for the TNRCC's approval.[106]

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[99] Draft Spill Rules § 327.3(b).

[100] *Id.* § 327.3(c).

[101] *Id.*

[102] *Id.* § 327.3(b)(5).

[103] *Id.* § 327.3(b)(6).

[104] *Id.* § 327.3(e).

[105] *See id.* § 327.3(f).

[106] *Id.* § 327.3(h).

3. Responding to Discharges or Spills

The person responsible for a discharge or spill must immediately commence reasonable response actions and cooperate fully with the TNRCC.[107] The TNRCC may request a written or oral description of the response action from the responsible person, but the person is to proceed with the response action without waiting for the TNRCC to approve a work plan.[108] Within ten working days of the incident (plus a 30-day extension with the TNRCC Regional Manager's approval), the responsible person must provide a written report supporting the adequacy of the response action. The Commission may grant an extension up to 180 days to complete the cleanup under the Spill Prevention and Response Rules. Any amount of time in excess of 180 days, however, will subject the responsible person to the applicable remediation requirements of the TNRCC's risk reduction rules.[109]

In the preamble to the draft spill rules, the TNRCC expresses an intent to have the chemical-specific cleanup standards set out in the TNRCC's Risk Reduction Rules apply to remediation activities on discharges or spills.[110] The procedural requirements (such as sampling, analysis, notification of remediation activity, deed recordation, and reporting) will not apply, at least in the first 10 days (or 30 or 180 days, depending on the number of extensions approved), when the cleanup is being conducted in accordance with section 327.4(d)(1) and (2) of the draft spill rules.[111] A statement by the responsible person that remediation of the discharge or spill has not been or cannot be completed within the maximum allowable 180-day extension will serve as notification of remediation under the Risk Reduction Rules at 30 TAC § 335.8, and will trigger compliance with all applicable Risk Reduction Rules.[112]

Neither the preamble to the draft spill rules nor the rules themselves say which of the TNRCC's Risk Reduction Standards will apply to remediation of discharges or spills under Draft Spill Rule sections 327.4(d)(1) and (2). By process of elimination, however, the draft spill rules appear to compel the use of Risk Reduction Standard 1—removal or decontamination to background levels. Risk Reduction Standard 2, requiring cleanup to health-based medium specific concentrations, does not appear to be applicable under the draft spill rules. Standard 2 requires deed recordation, and the preamble to the draft spill rules says that the procedural requirements of the Risk Reduction Rules, including deed recordation, do not apply under the draft spill rules.

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[107] *Id.* § 327.4(a).

[108] *Id.* § 327.4(b).

[109] *See id.* § 327.4(d)(3).

[110] *See* Preamble to Draft Spill Rule at 6 (Apr. 19, 1994).

[111] *Id.*

[112] *See* Draft Spill Rule § 327.4(d)(3).

Similarly, Risk Reduction Standard 3, providing for risk-based cleanup levels, does not appear to be available under the draft spill rules. The use of Standard 3 requires a procedure by which the TNRCC approves risk-based cleanup standards. Since the preamble to the draft spill rules expressly rejects the Risk Reduction Rule's procedural requirements, the draft spill rules do not appear to contemplate the use of Standard 3. The draft spill rules, however, neither adopt Standard 1 outright nor expressly reject Standards 2 or 3.

4. Emergency Planning

The draft spill rule would require owners and operators of facilities or vessels that store, process, or transport more than 500 gallons at any one time of oil, hazardous substance, or other substance capable of causing pollution to participate in certain emergency planning requirements.[113] These facilities must complete and maintain in the workplace emergency planning forms containing information on the facility's contact persons; local, state, and national emergency response authorities; location and geographical information; sensitive receptors; and a copy of the facility's workplace chemical list.[114] The facility must also designate an onsite emergency coordinate with authority to take all actions necessary to comply with the draft spill rules and to take all necessary actions to respond to a discharge or spill, both onsite and offsite.[115]

5. Reporting Historical Contamination

Historical contamination is the presence on land or in groundwater of contamination resulting from discharges or spills of which the time or origin, or both, may not be known.[116] Historical contamination does not include [contamination resulting from] any discharge or spill that was authorized by a federal or state law, [contamination resulting from] a discharge or spill to which the Texas OSPRA applies; [contamination resulting from] any discharge or spill that is regulated solely by the Texas RRC; or residual contamination from a discharge or spill that was previously reported to the TNRCC or a predecessor agency.[117]

A person or entity discovering historical contamination must submit a written report of the contamination to the TNRCC within ten working days of discovery. Historical contamination may be discovered through observation or through receipt of

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[113] *See id.* § 327.5(a).

[114] *Id.* § 327.6 & app. I.

[115] *Id.* § 327.7.

[116] *Id.* § 327.2.

[117] *Id.* (language in brackets added).

analytical data.[118] The report must include the date and method of discovery; the nature of the contamination; an estimate of the extent of the contamination; possible sources, if any can be determined; and the current property owner or operator, or both.[119] Operating facilities registered with the TNRCC as solid waste generators are exempt from the historical contamination notification requirements if any one of the following conditions is met:

(1) The historical contamination is reported in accordance with existing permits issued by the TNRCC; or

(2) The historical contamination is reported and incorporated into a current Site Assessment or RCRA Facility Investigation being conducted at the registered facility with the TNRCC's knowledge; or

(3) The concentration of constituents are less than the medium-specific concentrations of Standard 2 of the Texas Risk Reduction Rules.[120]

If the available information indicates that there is an imminent and substantial endangerment to public health, safety, or the environment, the person or entity must notify not only the TNRCC, but the local fire department, law enforcement authority, health authority, or local emergency planning committee, as appropriate. The responsible person must then cooperate with the TNRCC on-scene coordinator or other authority to initiate response actions under section 327.4 of the draft rules.[121] Otherwise, for historical contamination that does not present an imminent and substantial risk to the public, the responsible person should proceed with remediation under section 335.8 of the TNRCC's regulations and the Texas Risk Reduction Rules.[122]

a. *The Person or Entity Discovering the Contamination*

The historical contamination provisions raise three important issues. First, who will be required to report historical contamination? The preamble to the draft rules explains that the entity discovering historical contamination will usually be considered to be the entity that has received analytical results or has first hand knowledge of site circumstances.[123] Clearly, this would encompass consultants, who are in a position

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[118] *See id.* § 327.8(a).

[119] *Id.* § 327.8(a).

[120] *Id.* § 327.8(d)(3).

[121] *Id.* § 327.4(b).

[122] *Id.* § 327.8(d).

[123] Preamble to Draft Spill Rules at 13.

to observe conditions at the site first hand and who receive lab results, and possibly the laboratories who prepare the analytical reports, as well.

The language of the draft rule itself, however, is not so limited, and extends to any "person or entity discovering historical contamination" through "observation or through receipt of analytical sampling data." This could be interpreted to extend to persons for whom the lab results are completed and who eventually receive them, including for example real property purchasers, lenders, and trustees, if not already reported by the consultant. The language of the draft rule would appear to impose a reporting obligation even on third parties who observe a problem on property to which they are a stranger.

b. *Imminent and Substantial Endangerment*

The second problem posed by the historical contamination reporting requirement is how it interfaces with the imminent and substantial endangerment provisions of the Texas SWDA. Section 327.8(b) of the draft rules, which directs responsible persons to proceed with remediation of historical contamination under Draft Spill Rule section 327.4 if the contamination presents an imminent and substantial endangerment, appears to preempt the process set out in the Texas SWDA for addressing such facilities.

Under the SWDA, the TNRCC may issue an administrative order to persons responsible for solid waste to clean up contaminated property if the TNRCC finds that an actual or threatened release of solid waste presents an imminent and substantial endangerment to public health and safety or the environment.[124] Alternatively, if a site or area is found to be contaminated with hazardous substances, the TNRCC may consider it for listing on the state registry of contaminated facilities.[125] After an involved process including information requests, determination of eligibility for listing, notice and hearing, remedial investigation, feasibility study, and opportunity for negotiation of an agreed order, the TNRCC may list a contaminated facility on the state registry, thus determining that it presents an imminent and substantial endangerment to public health, safety, or the environment, and issue an order compelling cleanup.[126]

Section 327.8(b) appears to circumvent these statutorily processes by directing responsible persons to proceed directly to remediation of historical contamination under 327.4(d). As discussed in more detail above, it appears that cleanup under 327.4(d) of the draft spill rules will, by process of elimination, require remediation to Standard 1 (background). Standard 2 (health-based medium-specific concentrations) and Standard 3 (risk-based standards) would be available to remediation of historical contamination

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[124] *See* Tex. Health & Safety Code § 361.272 (Vernon 1992).

[125] *See id.* §§ 361.181-361.182.

[126] *See id.* §§ 361.188, 361.183(a).

only if cleanup to Standard 1 is not feasible within the maximum 180-day cleanup period, in which case Standards 2 or 3 would be available under the Texas Risk Reduction Rules.[127]

c. *Statutory Authority*

The historical contamination provisions of the TNRCC's draft spill rules appear to be on doubtful statutory footing. The primary statutory bases for the spill rules are the Texas Clean Water Act, codified in section 26.039 of the Texas Water Code, and the Texas Oil and Hazardous Substances Spill Prevention and Control Act, codified in sections 26.261 through 26.268 of the Texas Water Code. These statutes in general require that a discharge or spill be such that it, at a minimum, may enter waters of the state unless contained or removed. The draft spill rules, however, provide virtually no "threshold" criteria for reporting of historical contamination. There is no requirement that there be a discharge to waters of the state or any potential discharge. The presence of any amount of oil, hazardous substance, or other substance on land or in groundwater is sufficient to require reporting and response.[128] The historical contamination requirements appear to require response regardless of whether the condition presents and imminent and substantial endangerment to public health or the environment.[129]

The TNRCC also relies on the Texas SWDA, particularly the general authority to promulgate regulations consistent with the purposes of the SWDA.[130] The Texas SWDA sets out procedures for the Commission to compel the remediation of contamination at solid waste management facilities if that contamination presents an imminent and substantial risk to the public. As discussed in more detail above, the TNRCC's draft spill rules appear to circumvent the procedures required by the SWDA, and would apply not only to solid waste management facilities, but to any property on which contamination is discovered. Thus, the statutory authority provided by the TNRCC's general rulemaking authority under the SWDA may not extend to the response required by the draft spill rules.

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[127] *See* Draft Spill Rule § 327.4(d)(3).

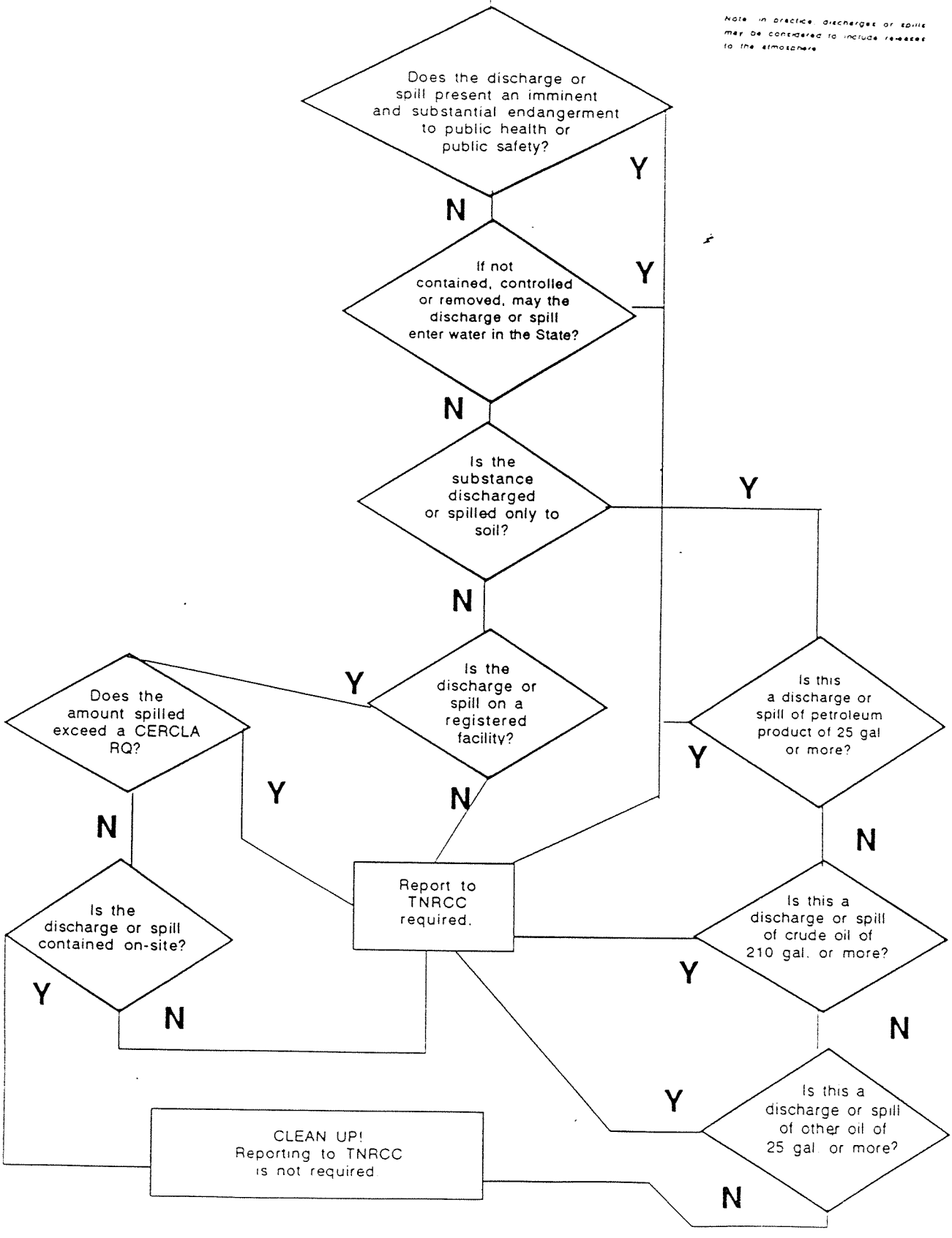
[128] *See* Draft Spill Rules § 327.2 (defining historical contamination); *id.* § 327.8 (requiring reporting and remediation).

[129] *See id.* §§ 327.8(b), (c).

[130] *See* Tex. Health & Safety Code Ann. § 361.024 (Vernon 1992).

APPENDIX A

Discovery of Discharges or Spills of Oil, Hazardous Substances, or Other Substances



Municipal Solid Waste

"Having your fill"

Roliff Purrington

ROLIFF PURRINGTON

Roliff Purrington is a partner in the Environmental and Natural Resources Section of Mayor, Day, Caldwell & Keeton with offices in Austin and Houston. He graduated cum laude from Yale University in 1973 where he was a Yale National Scholar and received his law degree from the University of Virginia in 1977. He is a member of the Virginia and Texas bars and practiced for five years at Hunton & Williams in Richmond, Virginia, before joining Mayor, Day, Caldwell & Keeton in 1982. Mr. Purrington began his career in general litigation and has been representing clients in proceedings involving the permitting of waste disposal and processing facilities and related matters in Texas and other states for almost ten years. He has represented applicants and opposition groups, municipalities and counties and has appeared before the Texas Natural Resource Conservation Commission, the Texas Department of Health, the Texas Railroad Commission, state and federal courts, land use regulatory boards and other tribunals. He has handled enforcement actions and environmental and land use litigation, performed environmental due diligence for real property and corporate acquisitions and provided counseling with respect to permitting matters in Texas and throughout the United States. He has also handled on behalf of public and private sector clients various types of land use cases, including condemnation, trespass to try title, zoning and nuisance actions and has counseled citizens, corporations, municipalities and other clients with respect to numerous other environmental and land use matters.

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MUNICIPAL SOLID WASTE REGULATION: CHANGE AND CHALLENGE

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MUNICIPAL SOLID WASTE REGULATION: CHANGE AND CHALLENGE

I. Introduction.

A. The Sprat's Loss of Appetite.

The nursery rhyme chosen for the municipal solid waste area relates the tale of Jack Sprat and his wife who together "licked the platter clean." But in revisitation of the Sprats, an apt question is what happened when Mr. and Mrs. Sprat lost their appetite, left some "scraps" or "food waste" on their platter and thereby became generators of putrescible waste. One of the Sprats no doubt scraped the waste into the garbage bag, together with the newspaper, some styrofoam cups, soda cans, and other household waste. Later, one of them probably took the garbage bag outside and placed it in the garbage can, where it became part of the municipal solid waste stream. What then happened to it? Where did it go? Who regulates its collection, transportation, management and disposal? What regulations govern these activities? How are those regulations changing? Who owns the Sprat's garbage? Could it be minimized or recycled? These and other questions, in somewhat more complex contexts, characterize the dynamic area of municipal solid waste regulation.

B. Change and Challenge.

The municipal solid waste area has been and will continue to be the focus of significant changes at the federal, state and local levels. These changes include stricter design, operation and permitting regulations, greater enforcement activity, reduction of administrative backlog, and promotion of environmental equity. Legislative and administrative attempts to address problem areas and private sector and public efforts to influence the direction of and adapt to these changes add to the dynamics. The goals — waste minimization, recycling and adequate long-term municipal solid waste capacity provided at a reasonable cost and in an environmentally and socially sensitive manner — are simple to articulate. The challenge is not to lose sight of the goals amidst the drama that characteristically and often justifiably surrounds the development of environmental regulation and policy.

C. The Regulated Waste.

Municipal solid waste is a sub-category of "solid waste." The Texas Municipal Solid Waste Management Regulations (the "Texas Regulations") define "solid waste" as follows:

> garbage, rubbish, refuse, sludge from a wastewater treatment plant, water supply treatment plant, or air pollution control plant facility, and other discarded material including solid, liquid, semi-solid, or contained gaseous material resulting from industrial, municipal, commercial, mining, and agricultural operations, and from community and institutional activities.

TEX. ADMIN. CODE tit. 30, § 330.2 (West 1994) ("T.A.C."). "Municipal solid waste" is defined in Texas as follows:

> Solid waste resulting from or incidental to municipal, community, commercial, institutional, and recreational activities, including garbage, rubbish, ashes, street cleanings, dead animals, abandoned automobiles, and all other solid waste other than industrial solid waste.

Id. The Texas Regulations define "industrial solid waste" as "solid waste resulting from or incidental to any process of industry or manufacturing, or mining or agricultural operations" Id. More simply, municipal solid waste is everything other than "industrial solid waste".

A component of "municipal waste" is "household waste", defined as follows in the Texas Regulations:

> Any solid waste (including garbage, trash, and sanitary waste in septic tanks) derived from households (including single and multiple residences, hotels and motels, bunkhouses, ranger stations, crew quarters, camp-grounds, picnic grounds, and day-use recreation areas); does not include yard waste or brush that is completely free of any household wastes.

Id. There is no precise or easily applied definition of municipal solid waste, but the foregoing definitions permit analysis on a "waste by waste" basis to determine whether a waste is a municipal solid waste whose management and disposal are governed by the Texas Regulations.

D. The Facilities.

1. General Classification.

The Texas Regulations define a municipal solid waste facility ("MSW facility") as follows:

> All contiguous land, structures, other appurtenances, and improvements on the land used for processing, storing or disposing of solid waste. A facility may be publicly or privately owned and may consist of several processing, storage, or disposal operational units, e.g., one or more landfills, surface impoundments, or combinations of them.[1]

[1]The Regulations do not limit the definition of a MSW facility to one that receives "municipal solid waste", but merely specify "solid waste".

Id. Municipal solid waste facilities include, without limitation, landfills, incinerators, transfer stations, waste separation facilities, materials recovery facilities ("MRF's"), other recycling facilities, and composting facilities.

The municipal solid waste facility subject to the greatest recent regulatory focus at the federal and state level is the municipal solid waste landfill or the "MSWLF unit", defined by the Texas Regulations as follows:

> A discrete area of land or an excavation that receives household waste and that is not a land application unit, surface impoundment, injection well, or waste pile, as those terms are defined under § 257.2 of 40 CFR, Part 257. An MSWLF unit also may receive other types of ... wastes, such as commercial solid waste, nonhazardous sludge, conditionally exempt small-quantity generator [hazardous] waste, and industrial solid waste. . .[2]

30 T.A.C. § 330.2. The public often perceives a municipal solid waste landfill as one that receives "household waste" and "food waste", but, as the definitions above demonstrate, the permissible waste stream is broader, and "household waste" and "food waste" may even be small components of the waste stream at some facilities.

The definition of the waste stream may be even broader when one considers that municipal solid waste landfills may receive certain "special wastes", as defined in the Texas Regulations. "Special wastes" include, without limitation, Class I industrial non-hazardous waste not routinely collected with municipal solid waste, special waste from health-care related facilities, grease and grit trap wastes, municipal wastewater treatment plant sludges and certain other sludges, pesticide containers, incinerator ash, used oil filters and dead animals. Special wastes are listed in greater detail in the Texas Regulations at 30 T.A.C. § 330.02. Some applicants and permitees may elect at the outset in their permit applications to exclude these wastes from their facilities. Others may not and, where approval is required, may seek approval from The Texas Natural Resource Conservation Commission ("TNRCC") to receive certain of these wastes. The approval requirements are set forth in the Texas Regulations at 30 T.A.C. § 330.136.

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[2] "*Land application unit*" in 40 C.F.R. § 257.2 (1993) "means an area where wastes are applied onto or incorporated into the soil surface (excluding manure spreading operations) for agricultural purposes or for treatment and disposal." "*Surface impoundment* or *impoundment* means a facility or part of a facility that is a natural topographic depression, human-made excavation, or diked area formed primarily of earthen materials (although it may be lined with human-made materials), that is designed to hold an accumulation of liquid wastes or wastes containing free liquids and that is not an injection well." "*Waste pile* or *pile* means any noncontainerized accumulation of solid, nonflowing waste that is used for treatment or storage." Id.

2. **Specific Classifications.**

The Texas Regulations divide municipal solid waste facilities into nine classifications. The classifications are denominated Types I-IX as follows:

A. Type I: the standard landfill for disposal of all municipal solid waste.

B. Type II: a landfill receiving municipal solid waste that with a few exceptions must comply with Type I standards. A Type II facility serves less than 5,000 persons or the population equivalent; receives less than 12½ tons of solid waste per day; requires waste compaction and covering on a frequency that will not result in any significant health problems; and is not operated within 300 yards of a public road.

C. Type III: a landfill that with a few exceptions must comply with Type I landfill standards. A Type III facility serves less than 1,500 persons or the population equivalent; receives less than 3¾ tons of waste per day; and is not operated within 300 yards of a public road.

D. Type IV: a landfill that must meet many of the design and operating standards pertinent to Type I landfills but may not take household waste. The Regulations define a Type IV landfill as a facility for the "disposal of brush, construction-demolition waste, and/or rubbish that are free of putrescible and free of household wastes" 30 T.A.C. § 330.41(e).

E. Type V: a separate waste processing facility, encompassing processing plants that transfer, incinerate, shred, grind, bale, compost, salvage, separate, deepwater, reclaim and/or provide other processing of solid waste.

F. Type VI: a facility that involves a new or unproven method of managing or utilizing municipal solid waste, including resource and energy recovery projects.

G. Type VII: a facility involving the land management of sludges and/or similar wastes.

H. Type VIII: a facility involving the management of used or scrap tires.

I. Type IX: a closed or inactive portion of a disposal facility used for extracting materials for energy and material or gas recovery.

The intertwined definitions of solid waste, municipal solid waste, special waste, industrial waste, and household waste may create more confusion than clarity. Studies of the actual municipal waste stream components provide less abstract context. For instance, various studies have analyzed the waste streams received at a Type I landfill. One study published in Texas found the waste stream to consist of approximately 34% paper and paperboard; 3% food wastes; 10% yard wastes; 12% metals; 2% glass; 20% plastics; and 18% "other" waste. Another study characterized the components of the United States municipal solid waste stream as follows: 41% waste paper, 6.5% plastics, 8.0% glass, 7.0% ferrous metal, 1.5% aluminum, 2.5% rubber and

leather, 1.8% textiles, 3.7% wood, 17.9% yard wastes, and 10.1% other wastes (including food wastes and miscellaneous organics).

3. Regulated Activity.

With some exceptions, a municipal solid waste facility project must proceed through an often intensive agency review process and a public hearing and receive a permit before commencement and completion of construction and ultimate receipt of waste. Regulation of the facility does not cease with permit issuance. A facility's receipt of waste and ongoing operations are also regulated. The Texas Regulations mandate that a permittee must not only comply with the terms of its permit, but also with the operational standards at 30 T.A.C. §§ 330.111-139.

The facility is also governed by the Texas Solid Waste Disposal Act (the "Act"), TEX. HEALTH & SAFETY CODE ANN. §§ 361.001-510 (Vernon 1992) and related regulations and is subject to ongoing inspection and oversight. A violation of the Act or any rule, permit, license, or order of the regulatory agency subjects a permittee to potentially severe monetary penalties and other civil as well as criminal penalties provided by statute. TEX. HEALTH & SAFETY CODE ANN. §§ 361.221, et seq. (Vernon 1992). Often counties or municipalities provide independent tiers of regulation through enforcement activities or participation as neutral, supportive or opposition parties in permit proceedings. For instance, in Harris County, Texas, the Harris County Pollution Control Department and the City of Houston are often involved in regulation of municipal solid waste facilities through enforcement activities and/or participation in public hearings.

E. The Agency.

1. History.

The change characterizing regulation of municipal solid waste in Texas owes in part to the transition in agency responsibility for the Texas municipal solid waste program over the last several years, and the efforts of the agencies and their personnel to acquaint themselves with the subject matter of the program, to develop a consistent regulatory approach, and to grapple for the first time with the challenges the subject matter presents.

Traditionally, the Texas Department of Health (the "TDH") had responsibility for the municipal solid waste program. Pursuant to Senate Bill 2 (Act of August 12, 1991, 72nd Leg., 1st C.S., ch. 3, § 1.088, 1991 Tex. Gen. Laws 4, 44)("S.B. 2"), the Texas Water Commission (the "TWC") assumed responsibility for regulating municipal waste on March 1, 1992. On September 1, 1993, the Texas Air Control Board (the "TACB") and the TWC consolidation produced the TNRCC. The TNRCC currently has responsibility for municipal solid waste regulation in Texas.

In the last year, the TNRCC has moved the majority of its personnel responsible for municipal solid waste from the Stephen F. Austin Building at 1700 Congress in Austin to the new TNRCC complex located off I-35 North at Yager Lane in Austin. The three TNRCC Commissioners and certain other personnel are, as of this writing, located at the Stephen F. Austin Building and weekly TNRCC Agenda meetings are held there. Other TNRCC personnel

with oversight responsibility for municipal solid waste are stationed in the TNRCC District offices at various locations throughout Texas, in major metropolitan areas and elsewhere.

2. The Municipal Solid Waste Division.

Within the TNRCC, the Municipal Solid Waste Division (the "Division") regulates municipal solid waste. A flow chart showing the Division's organization is attached as Appendix No. 1. Ron Bond is the Director of the Division and reports to Barry Williams, the Deputy of the Office of Waste Management, who in turn reports directly to TNRCC Executive Director Anthony Grigsby. Mr. Grigsby reports to the TNRCC Commissioners: Chairman John Hall, Commissioner Peggy Garner and Commissioner Pam Reed.

The Division is divided into five sections: "Permitting", headed by Mary Adrian; "Enforcement", headed by Mark Vickery; "Administrative", headed by Eddie Molina; "Automotive" (focusing to great extent on used tires), headed by Jennifer Sidnell; and "Technical Assistance/Special Projects," headed by Hector Mendieta. Margaret Ligarde is the Senior Attorney for the Division. The Division's primary responsibilities are permitting, operation oversight, enforcement, policy development and rule-making. Either the TNRCC or its predecessor, the TWC, has now been regulating municipal solid waste for well over two years, since March 1, 1992.

II. Federal Subtitle D Regulations.

A. Background.

Until recently, there was no comprehensive federal regulation of municipal solid waste activities in the United States. Regulation occurred, if at all, at the state level or piecemeal at the federal level. However, Section 4004 of Subtitle D of the Resource Conservation and Recovery Act ("RCRA") (42 U.S.C. § 6944) requires the Environmental Protection Agency (the "EPA") to adopt minimum criteria for the management of solid waste disposal facilities. And the EPA has in the last several years proposed and promulgated federal municipal solid waste regulations under Subtitle D of RCRA. With a few exceptions, these regulations became effective on October 9, 1993 and have been the primary source of major recent change in municipal solid waste regulation.

RCRA is the statute Congress enacted in 1976 to regulate solid waste from generation to disposal or "cradle to grave." Congress amended RCRA in 1984 by enacting the Hazardous and Solid Waste Amendments. Until recently, the EPA and RCRA focused on hazardous waste regulation under Subtitle C of the statute. But municipal waste also is a "solid waste" within the federal statutory definition, and in 1988, the EPA proposed regulations to address the municipal solid waste area, pursuant to authority in Section 1008 of RCRA (42 U.S.C. § 6907). After extensive public comment, the EPA promulgated its municipal waste regulations in Subtitle D on October 9, 1991, which are codified at 40 CFR Parts 257 and 258 (the "Federal Regulations", "Subtitle D" or "Subtitle D Regulations").

B. General Application.

Subtitle D addresses MSWLF units, defined in Subtitle D and in the Texas Regulations as follows:

> a discrete area of land or an excavation that receives household waste and that is not a land application unit, surface impoundment, injection well, or waste pile. . . .[3]

The purpose of the Subtitle D Regulations is "to establish minimum national criteria under RCRA for all MSWLF units to ensure the protection of human health and the environment." The criteria apply, with limited exceptions, to owners and operators of new MSWLF units, existing MSWLF units, and lateral expansions. The Regulations do not apply to the following:

(1) MSWLF units that do not receive waste after October 9, 1991; and

(2) Except with respect to certain final cover requirements, MSWLF units that receive waste after October 9, 1991, but stop receiving waste before October 9, 1993.

With limited exceptions, all MSWLF units accepting more than 100 tons of waste per day after October 9, 1993, must comply with Subtitle D from that date forward. All MSWLF units accepting 100 tons or less of solid waste per day after October 9, 1993, must comply with Subtitle D by April 9, 1994. All municipal landfills receiving waste after October 9, 1993, had until April 9, 1994, to comply with the Subtitle D financial assurance requirements.

Accordingly, the past year and the current one are important ones for the municipal solid waste area, as MSWLF owners, operators, the public and state, federal and local regulators adjust to Subtitle D compliance requirements.

C. The Regulations.

1. Outline.

The Subtitle D Regulations are short, concise and comprehensible compared to the hazardous waste regulations. The Subtitle D Regulations are contained in roughly 46 pages in the Code of Federal Regulations. Those pages are attached as Appendix No. 2. The Regulations are divided into Subparts A through G which address the following areas, respectively:

1. Subpart A: General (Purpose, Scope and Applicability)

2. Subpart B: Location Restrictions

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[3]See definitions of land application unit, surface impoundment, and waste pile at Footnote No. 2.

3. Subpart C: Operating Criteria

4. Subpart D: Design Criteria

5. Subpart E: Ground-Water Monitoring and Corrective Action

6. Subpart F: Closure and Post-closure Care

7. Subpart G: Financial Assurance Criteria

Subparts D-G are subject to greatest discussion because they impact the most sensitive environmental concerns; they probably have the greatest economic impact; and they represent the greatest points of departure from pre-existing state regulations. These Subparts address groundwater protection design, groundwater monitoring and corrective action, closure and post-closure care, and financial assurance criteria.

2. Failure to Comply.

Any MSWLF units failing to satisfy the Subtitle D criteria are considered open dumps that are prohibited under §4004 of RCRA (42 U.S.C. § 6944). Rather than bear the economic burdens associated with compliance or the penalty and other enforcement ramifications of open dump classifications resulting from failure to comply, many landfills, particularly smaller ones, throughout Texas and the nation officially closed or at least stopped receiving waste as October 9, 1993 approached. These closures have continued after that date and in total have contributed to shortages in municipal solid waste capacity in rural as well as urban areas and have speeded the industry trend toward regionalization and consolidation.

3. Magnitude of Impact.

The magnitude of Subtitle D requirements and related economic burdens are perhaps best illustrated by statistics reflecting the decrease in municipal solid waste facilities through closure as October 9, 1993, approached and passed. Although the correlation may not be precise, the decrease is significant.

In the second fiscal quarter of 1993, there were four hundred eleven (411) municipal solid waste landfills in Texas. Three hundred twenty (320) were publicly-owned and ninety-one (91) were privately-owned. By the second fiscal quarter of 1994, there were two hundred forty-seven (247) municipal solid waste landfills receiving waste in Texas. Of those, one hundred eighty-three (183) were publicly-owned and sixty-four (64) were privately-owned.

Accordingly, Subtitle D has apparently caused or at least influenced the closing of approximately 40% of the publicly-owned municipal solid waste landfills, 30% of the privately-owned municipal solid waste landfills, and 40% of the total municipal solid waste landfills (as opposed to waste disposal capacity or facility life) in Texas in approximately a one-year period. Others are not receiving waste, although they have not officially closed.

D. Specific Regulations and Issues.

Detailed discussion of each Subtitle D regulation is beyond the scope of this paper. Several aspects of the Federal Regulations merit specific treatment.

1. Small Landfill Exemption.

The Regulations contain a "small landfill" exemption from groundwater monitoring and certain other criteria. This exemption provides that owners or operators of new, existing or lateral expansions of MSWLF units are exempt from the Design Criteria (Subpart D) and the Groundwater Monitoring and Corrective Action requirements (Subpart E) of Subtitle D. The exemption applies if the MSWLF unit meets the following tests: (a) it disposes of less than twenty (20) tons of municipal solid waste daily on an annual average; (b) it shows no evidence of existing groundwater contamination; and (c) it serves a community (i) that experiences an annual interruption of at least three consecutive months of surface transportation that prevents access to a regional waste management facility or (ii) has no practicable waste management alternative and the landfill is located in an area that annually receives less than or equal to 25 inches of precipitation. 40 C.F.R. § 258.1(f)(1).

The Sierra Club and Natural Resources Defense Council sued the EPA to revoke this exemption. In May 1993, the United States Court of Appeals for the District of Columbia ruled that the Subtitle D rules could not exempt any MSLWF unit from groundwater monitoring requirements and concluded that RCRA requires groundwater monitoring at all MSWLF units, notwithstanding size or location, in order to detect any contamination. Sierra Club and Natural Resources Defense Council v. U.S. EPA, 992 F.2d 337 (D. C. Cir 1993). In response to the Court's decision, EPA is undertaking efforts to develop a rule for alternative groundwater monitoring at these formerly exempt facilities. EPA is doing so with significant input from the states (including TNRCC representatives) and is expected to issue a proposed rule in November 1994, with a final rule to follow possibly in April 1995.

2. Subpart B — Location Restrictions.

Subpart B contains MSWLF unit location or siting restrictions that address the following land use categories: airport safety (§258.10); floodplains (§258.11); wetlands (§258.12); fault areas (§258.13); seismic impact zones (§258.14); and geologically unstable areas (§258.15). These subsections generally discourage location of MSWLF units in or in close proximity to any of the foregoing land uses or areas, but do not absolutely preclude siting in such areas. Consult the attached regulations at Appendix No. 2 for more detail. Note that some states, including Texas, had pre-existing regulations that contained the same or similar parameters. To that extent, Subtitle D is not revolutionary.

3. Subpart C — Operating Criteria.

Subpart C addresses procedures for excluding receipt of hazardous waste, requiring, among other things, random inspections of incoming loads, records of inspections, personnel training to recognize regulated hazardous wastes and PCB wastes, and notification of the EPA or TNRCC if any such wastes are received. Subpart C also requires cover of waste at the end

of each operating day with a minimum of six inches (6") of earthen material, or more frequently if necessary to protect public health, safety and welfare.

Subpart C specifies application of techniques to prevent and control on-site populations of vectors (i.e. rodents, flies, mosquitoes, or other animals, including insects capable of transmitting disease to humans), and implementation of a methane monitoring program on at least a quarterly basis to ensure that the concentration of methane gas does not exceed 25% of the lower explosive limit in on-site structures or at the site boundary.

Subpart C prohibits violation of a State Implementation Plan approved or promulgated by the EPA Administrator under Section 110 of the Clean Air Act and prohibits open burning except in very limited circumstances. Subpart C also contains recordkeeping, access, run on/run off control system, and surface water requirements. It prohibits any free liquids in MSWLF units, other than containerized, non-septic household waste and leachate or gas condensate generated onsite.

4. Subpart D — Design Criteria.

Subpart D represents one of the major changes in MSWLF unit regulation required by Subtitle D. Subpart D requires the use of a composite liner consisting of a minimum 30-mil flexible membrane liner on top of at least a two foot layer of recompacted soil with a permeability of no more than 1 x 10^{-7} cm/sec., or use of an alternative design if an owner/operator can demonstrate that certain groundwater protection criteria are met. Prior to Subtitle D, Texas had required a minimum of three feet of recompacted liner, but it had also allowed *in situ* liners (naturally in place, non-recompacted soils) and had not required a synthetic liner in addition to a soils liner. Note that Texas still requires a minimum of two feet of recompacted liner. Under Subtitle D, an approved state may require a "leachate collection system" — a grid of perforated piping placed at the bottom of the landfill to collect leachate and avoid its buildup in the facility. Such a system may not be necessary if the landfill is otherwise designed and constructed to maintain less than a 30-centimeter depth of leachate over the liner. 40 C.F.R. § 258.40(a)(2).

5. Subpart E — Groundwater Monitoring and Corrective Action.

The Subtitle D groundwater monitoring requirements are phased-in, corresponding to the distance from drinking water intake point. They provide for an alternative schedule contingent on consideration of the potential risk the unit poses to the public health and the environment, and specify the minimum requirements for groundwater monitoring systems, groundwater sampling and analysis requirements and a contamination detection monitoring program. Subpart E also addresses the assessment monitoring program, a program for assessment of corrective measures, the selection of a remedy if corrective action is needed, and procedures for implementation of the corrective action program.

6. Subpart F — Closure and Post-Closure Care.

The Subtitle D final cover requirements contained in Subpart F do not substantively increase those of pre-existing Texas regulations, except to the extent Subtitle D requires a composite top landfill cover (with both a soil and a synthetic component). New requirements include post closure deed recordation to notify property owners that the site was used for a landfill and is subject to ongoing regulation, and a 30-year post closure care period consisting of at least the following: maintenance of the final cover, maintenance and operation of the leachate collection system, continued groundwater monitoring, and maintenance and operation of the gas monitoring system. Certain other Subpart F provisions permit the increase or decrease of the post closure care period upon certain showings by the owner and/or operator. Other elements of the closure and post closure requirements are contained in the Subtitle D Regulations appearing in Appendix No. 2.

7. Subpart G — Financial Criteria.

Subpart G is another major change required by Subtitle D. Some states had already implemented financial assurance criteria that in practice are similar to Subtitle D's standards Subtitle D requires financial assurance equal to the cost of hiring a third party to close the greatest area of the unit that would ever require final cover any time during the active unit life (when the cost of closure would be most expensive). Subtitle D also requires annual closure cost adjustments for inflation and for changing conditions and requires similar assurance and corresponding annual adjustments for post closure care and for any required corrective action. Subtitle D specifies several mechanisms for financial assurance, including trust funds, surety bonds, letters of credit, insurance, or other mechanisms approved by the governmental agency implementing the program, including without limitation a combination of the foregoing mechanisms.

Subtitle D reserves sections for subsequent rulemaking to address the corporate financial assurance test, corporate guarantee, local government financial assurance test and local government guarantee.

III. Texas Subtitle D Regulations.

A. Background.

State regulatory developments in the municipal solid waste area have been and promise to be more comprehensive than recent federal regulatory developments, but the Texas developments are to a great extent driven by the Federal Regulations addressed above.

B. State Subtitle D Implementation.

Under RCRA, the Subtitle D Regulations are self-implementing. Section 4005 of Subtitle D (42 U.S.C. § 6945(c)) requires states to adopt permit programs or similar systems for the approval of solid waste facilities that implement the Subtitle D minimum criteria and to submit these programs or systems to EPA for its review and approval. A state program can be more stringent than Subtitle D, but it cannot be less stringent if it is to receive EPA approval.

In the course of developing and promulgating the Texas Subtitle D Regulations, the TNRCC committed not to enact MSWLF Regulations more stringent than Subtitle D.

In the past year (a) the TNRCC promulgated new regulations to implement Subtitle D in Texas, and (b) the EPA partially approved Texas' implementing rules on December 17, 1993. The approval was partial because the EPA, in the wake of the Sierra Club litigation, did not approve the parallel Texas rules that exempted small arid landfills from groundwater monitoring and other criteria.

The Texas Regulations became effective on October 9, 1993, simultaneously with the Federal Regulations. The Texas Regulations implementing Subtitle D are included at 30 T.A.C. §§ 330.1, et seq. which cover approximately 225 single-spaced pages. The Texas Regulations are too voluminous to attach or warrant a discussion of each regulation, but they can be obtained from the TNRCC, consultants or other practioners in the area or companies which retail copies.

Not all of the Regulations at 30 T.A.C. §§ 330.1 through 305 implement Subtitle D. To a significant degree, the Texas Regulations recodify, reformat and/or modify Texas municipal waste regulations that pre-existed Subtitle D and, accordingly, are broader in scope than Subtitle D. And while the Texas implementing regulations address the Subtitle D requirements, to some extent the pre-existing Texas Regulations contained provisions that, either on their face or as applied, addressed many of the location and some of the design parameters subsequently addressed by Subtitle D.

C. Texas Regulations Outline.

The specific regulatory sections are addressed below. Subchapters E-F and H-L contain the majority of the Subtitle D requirements. Those Subtitle D — related sections that require the greatest increase in facility capital cost as well as those which address the most environmentally sensitive aspects of such facilities have attracted the greatest attention. To the extent the Texas Regulations implement Subtitle D, the parallel provisions will not be repeated in detail here. A summary of the Texas Regulations follows:

1. Subchapter A: Definitions, Applicability, General Prohibitions, Notification Requirements, Deed Recordation, General Regulations Addressing Financial Assurance, Closure and Permitting, Small Landfill Exemption and Relationships with Other Governmental Entities (30 T.A.C. §§ 330.1-14).

New Subchapter A of the Texas Regulations sets forth provisions that permit an owner/operator to demonstrate compliance with the groundwater monitoring criteria at minimum expense, but consistent with environmental safeguards imposed by Subtitle D. Subchapter A also sets forth specified procedural requirements for obtaining the arid exemption. The Executive Director has authority to approve the exemption administratively. The Executive Director can deny the exemption request, if he believes the approval would result in groundwater contamination. The applicant can then appeal the request to the Commission.

The TNRCC Staff is monitoring and to a significant extent participating in EPA's development of a new rule to address small landfills in the wake of the Court's decision in Sierra Club invalidating the small arid landfill exemption. In the interim, small arid landfills in Texas are being exempted from most groundwater monitoring requirements until October 1995. If EPA adopts its new rules by mid-1995, the TNRCC may have its own rules in place before the current exemption expires in October 1995. According to TNRCC representatives, many of the exempt landfills are attempting to achieve compliance with the Subtitle D requirements by that time, realizing that the long-term viability of the groundwater monitoring exemption is remote. Of the 80 small arid landfills in Texas that have applied for exemptions, 79 have been granted.

2. Subchapters B and C: Municipal Solid Waste Storage and Municipal Solid Waste Transportation and Collection (30 T.A.C. §§ 330.21-25 and 31-34).

Texas regulations addressing storage, collection and transportation remain substantially the same, but were reorganized in the newly-created subchapter.

3. Subchapter D: Municipal Solid Waste Facility Classifications (30 T.A.C. § 330.41).

The municipal solid waste facility classifications are outlined above. The classification of facilities was altered somewhat in that the TNRCC effectively eliminated Type II and Type III landfills in the old classification system.

4. Subchapter E: Permit and Design Procedures (30 T.A.C. §§ 330.50-65).

Subchapter E attempts to consolidate the permitting requirements in one location, and changes the application submission requirements format from Parts A and B to Parts I-V in order to communicate informational requirements more specifically to applicants.

5. Subchapter F: Design and Operational Standards (30 T.A.C. §§ 330.111-139).

Subchapter G is changed greatly to incorporate Subtitle D requirements relative to operations, cover, recordkeeping and gas control and management. Provisions for better definition of site operating plan, greater flexibility of hours of operation, and better marking for landfill disposal areas were also included.

6. Subchapter G: Operational Standards for Processing (30 T.A.C. §§ 330.150-159).

This subchapter includes operational standards for solid waste processing and experimental sites and was not substantially changed.

7. Subchapter H: Groundwater Protection Design and Operations (30 T.A.C. §§ 330.200-206).

The Texas Regulations substantially change Subchapter H, groundwater protection design and operation, to comply with the corresponding Subtitle D rules addressed above. TNRCC crafted Subchapter H to take advantage to the greatest extent possible of alternative groundwater protection designs that can be tailored to meet site specific requirements without departing from Subtitle D performance standards.

8. Subchapter I: Groundwater Monitoring and Corrective Action (30 T.A.C. §§ 330.230-242).

The TNRCC significantly changed these rules to include the Subtitle D groundwater monitoring and corrective action requirements.

9. Subchapter J: Closure and Post-Closure (30 T.A.C. §§ 330.250-256).

TNRCC substantially revised the closure and post-closure provisions in the subchapter to comply with Subtitle D's requirements discussed in more detail above.

10. Subchapter K: Financial Assurance (30 T.A.C. §§ 330.280-286).

The TNRCC significantly altered this subchapter to implement Subtitle D's more stringent financial assurance criteria for closure, post-closure and corrective action.

11. Subchapter L: Location Restrictions (30 T.A.C. §§ 330.300-305).

Subchapter L consolidates Subtitle D location parameters with pre-existing location parameters contained in the Texas Regulations.

D. Permit Applications in Process on October 9, 1993.

Subsequent to October 9, 1993, several issues have arisen relative to the implementation of the Subtitle D program in Texas. One relates to the impact of Subtitle D requirements on proposed municipal solid waste landfills that were in the permitting process and of which the Office of Hearings Examiners had taken jurisdiction at the time Subtitle D became effective. Applicants for twelve proposed municipal waste landfills with applications pending before the Office of Hearings Examiners as of October 9, 1993, had prepared and filed their applications under pre-Subtitle D regulations. Some attempted to include application provisions that anticipated Subtitle D's effective date and attempted to comply with Subtitle D. Others did not.

The issue arose as to whether these twelve applications could proceed through the permitting process and address any Subtitle D deficiencies after receiving a permit, or whether once Subtitle D became effective, the TNRCC would require Subtitle D compliance as a condition of permit issuance.

The TNRCC originally decided to address this issue by allowing applicants not fully compliant with Subtitle D as of its effective date to address any deficiencies through the permit modification process subsequent to receiving a permit, but prior to commencing site operation and receiving waste. The EPA approved this approach in the course of approving Texas' Subtitle D program. But, in response to concerns raised by certain groups, the TNRCC reversed itself at its February 16, 1994, Agenda meeting and decided to require all of the municipal landfill applications, except two, to address Subtitle D at the evidentiary hearing and prior to permit issuance.

Of the ten applications required to meet Subtitle D requirements before permit issuance, the TNRCC abated the evidentiary hearing in two, pending redesign to comply with Subtitle D, after the TNRCC Staff had concluded these two did not substantially meet the Subtitle D minimum criteria.

In six of the remaining eight cases, the TNRCC instructed the Office of Hearings Examiners to allow applicants to supplement their applications to meet the substantive requirements of Subtitle D no later than sixty (60) days prior to the evidentiary hearing, or at a later date for good cause or by agreement of the parties.

In one of the remaining cases, the applicant withdrew its application prior to February 16. In the other remaining case, the Commission simply stated that the applicant was not required to comply with the Subtitle D minimum criteria until April 9, 1994. In all ten cases, the TNRCC exempted the applicants from the application format requirements in 30 T.A.C. Chapter 330, Subchapter E.

The TNRCC did not explain or address how it would address any Subtitle D deficiencies for the two projects not required to meet Subtitle D prior to permit issuance, stating it would address the issue as to those two when it considered those applications at its Agenda meeting, given that the public hearings were deemed complete in those cases. One of the two was denied by the TNRCC, and Subtitle D was never discussed.

E. Type IV Landfills.

Another discussion item has been whether the Texas Subtitle D regulations apply to Type IV landfills which receive construction and demolition debris as referenced in 30 T.A.C. § 330.41(e). While this question is often asked, the regulatory scheme makes plain that neither the Federal Subtitle D requirements nor the Texas Regulations implementing Subtitle D apply to Type IV sites.

Subtitle D precisely defines municipal solid waste landfills as those which receive among other things household waste. Because Type IV facilities may not receive household or other putrescible waste, Subtitle D does not apply to them. On their face and in accordance with the TNRCC policy not to enact Subtitle D implementation regulations more stringent than Subtitle D regulations, the Texas Regulations would likewise not apply to Type IV landfills.

The EPA is developing regulations to address Type IV landfills. The TNRCC has also expressed its intention to develop a separate subchapter including all design and operation

requirements for Type IV facilities, but may not promulgate such regulations until after EPA acts.

IV. Other Federal Developments.

Aside from Subtitle D, the municipal solid waste area continues to be dynamic at the federal level, both in the legislative and regulatory arenas and in the courts.

A. Legislative Developments.

As of April, 1994, Congress has continued to debate a number of bills that would affect municipal solid waste. The bills pending in both the Senate and the House include portions on interstate transportation of solid waste that would expand state and local governments' rights to control and to restrict the movement of waste in and out of their jurisdictions.

The debate in the House has produced a split that illustrates different approaches to the question. The debate centers on whether the local governments or the state governors should have the authority to determine how much waste to allow into the jurisdiction. Rep. Phillip Sharp (D-Ind.) has introduced HR 2848 which supports vesting the authority in the governors. (see BNA ER 4/15/94 p.2102). In the alternative, Rep. Rick Boucher (D-Va) introduced a bill that would leave that power in the hands of local governments. Rep. Al Swift (D-Wash), Chairman of the House Energy and Commerce Subcommittee on Transportation and Hazardous Materials believes the eventual mark-up language delineating the authority of states and local governments will be a moderate or middle ground proposal.

In the Senate, Max Baucus (D-Mont), Chairman of the Senate Environment and Public Works Committee, is seeking to pass legislation giving state governors more authority to determine whether to prevent "out-of-jurisdiction" municipal solid waste from going to "in-jurisdiction" landfills or incinerators. On April 6, 1994, Senator Baucus told twenty-seven fellow lawmakers that he would seek committee approval for legislation on interstate solid waste transportation. Under the Baucus plan, local governments would have some input on the amount of waste imported into their jurisdictions while the ultimate authority would reside with the governor.

B. Regulatory Developments.

1. Air Emissions.

In 1991, EPA proposed new source performance standards ("NSPS" or "standards") for new municipal solid waste landfills and emission guidelines for existing municipal solid waste landfills.[4] Both the NSPS and the guidelines would require municipal solid waste landfills emitting greater than 150 megagrams per year (Mg/yr) (about 167 tons per year) of certain organic compounds to design and install gas collection systems and then combust the captured landfill gases, either with or without associated energy recovery.

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[4]56 Fed. Reg. 24468, 24469 (May 30, 1991).

The pollutant to be regulated under the proposed standards and guidelines is "MSW landfill emissions," also commonly referred to as "landfill gas." According to EPA, landfill gas is a collection of air pollutants, including methane and nonmethane organic compounds ("NMOCs"), some of which are toxic. In order to reduce the burden and complexity of measuring and monitoring the various constituents of landfill gas, EPA's proposal states that NMOCs are to be specified as a surrogate for measurement purposes.

The NSPS for new landfills generally call for an open flare capable of reducing NMOC emissions by 98 weight-percent. EPA has stated that the major provisions of the proposed standards and the proposed guidelines are identical; the guidelines, however, are to apply to existing (rather than new) landfills. According to EPA, the intent of the emission guidelines is to initiate state action to develop state regulations for those existing landfills covered by the guidelines. The proposed emission guidelines would stipulate that existing municipal solid waste landfills emitting above the regulatory cutoff of 150 Mg/yr of NMOCs should achieve compliance with the guidelines for collection and control systems within three years from the time of promulgation of applicable state regulations. EPA personnel report that the agency intends to issue final regulations for landfill gas in November 1994.

2. Construction-Demolition Debris Landfills.

As discussed above, EPA is considering regulations to address construction-demolition debris landfills that do not receive household waste, but none have been proposed or promulgated.

C. Policy Developments.

The environmental equity issue has gained importance recently on the federal level. The Clinton Administration, most notably the head of the EPA and the Vice-President, as well as national environmental groups and civil rights organizations, have turned their attention to the concerns of minority groups that have been and may potentially be negatively impacted.(see BNA ER 1/21/94 p.1663). Through the Senate's approval of the Department of Environmental Protection Act on May 4, 1993, the EPA has created an Office of Environmental Equity.(see S.C. Jones, EPA Targets Environmental Racism, The National Law Journal. (Aug. 9, 1993).

President Clinton signed an Executive Order on February 13, 1994, that addresses environmental justice concerns. The Executive Order seeks to encourage environmental fairness by mandating that the EPA and the administration correct any environmental policies that result in a disproportionate impact on groups defined by sex, race, age, or low-income socioeconomic status. Therefore, the Order will inherently make agencies consider environmental justice issues as they make policy decisions.

Congress also has addressed the issue. Environmental justice sections appear in both the Senate and House version of the EPA Cabinet Bill. Some in Congress, however, believe there is currently insufficient data and would want to collect more race and emissions statistics before any legislation is passed. Others such as Senator Paul Wellstone (D-Minn), desire to implement immediate measures to protect against environmental discrimination. Sen. Wellstone introduced Senate Bill 1841 on Feb. 9, 1994. The bill utilizes virtually the same language as the Civil

Rights Act Title VI to require that government financed programs which protect the public from toxic chemicals be conducted in a non-discriminatory fashion.

In addition, both the House and Senate versions of the EPA Cabinet Bill have environmental justice sections, and the reorganization of the EPA Enforcement Office is expected to increase EPA's focus on environmental justice — in particular, targeted enforcement for industries near poor, minority areas. The ways in which the foregoing initiatives might affect regulation, enforcement and permitting relative to municipal waste facilities is self-explanatory.

D. Litigation.

The municipal waste arena has produced several significant legal precedents over the past year.

1. Incinerator Ash.

In City of Chicago v. Environmental Defense Fund, 114 S.Ct. 1588, 128 L.Ed.2d 302 (US 1994), the United States Supreme Court recently decided, that cities must act in accordance with federal hazardous waste rules when disposing of ash produced by municipal waste incinerators. Prior to this decision, the EPA had interpreted RCRA §3001(i) as exempting incinerator ash from waste-to-energy facilities from hazardous waste controls. As Justice Stevens argued in dissent in Chicago v. EDF, the EPA had believed that the legislative history supported the notion that Congress had intended such an exemption. But the seven-judge majority in Chicago v. EDF adopted a literalist approach and found it significant that the word "generating" was absent from §3001(i). Justice Scalia, writing for the Court, ruled that because incinerators "generate" ash and because Congress had not included "generating" within its list of exempt activities, such an exemption could not extend to a waste-to-energy facility which incinerated household and nonhazardous industrial waste.

To bring its policy in line with the United States Supreme Court's ruling, the EPA redefined its regulations on May 24, 1994. The regulations make energy-producing municipal solid waste incinerators liable and accountable for the determination of whether their ash is a hazardous waste. This could increase costs for waste disposal companies, but there is disagreement as to the degree. The EPA has estimated that when municipal incinerator ash is treated as hazardous waste, costs might significantly increase. Others believe that relatively inexpensive "sorting" measures can be implemented. They contend that such pre-incineration sorting would separate waste stream components that might produce hazardous ash and would only moderately increase costs.

2. Flow Control.

The May 16, 1994 United States Supreme Court decision in C&A Carbone Inc. v. Clarkstown, 114 S.Ct. 1677, 128 L.Ed.2d 399 (1994) will probably impact House draft legislation in the development stage earlier this year. As discussed above, both Houses of Congress had been debating bills that would have allowed either state governors or alternatively local governments to control the movement of municipal solid waste generated within their

boundaries to a designated waste management facility. The Supreme Court, however, decided that the flow control ordinance of Clarkstown, N.Y., requiring all non-recyclable solid waste in the town to be processed at a certain facility before being shipped for disposal, violated the Commerce Clause of the United States Constitution.

For local governments, such flow control ordinances can function as a financing measure. The ordinances help secure a long life for the favored solid waste management and recycling facility by providing a guaranteed stream of waste. Not only do flow control ordinances increase the likelihood that the town-sponsored facility will be profitable, they also better enable the town to obtain financing for new facilities. The Carbone court, however, found that such revenue generation was not a local interest that can justify discrimination against interstate commerce. The Court held that while on its face the flow control ordinance was to direct local transport of solid waste to a pre-determined facility, the ordinance's practical economic effects and design regulated and discriminated against interstate commerce.

3. Interstate Transportation.

Recent decisions have addressed the validity of state laws which impose higher fees on the disposal of waste imported from another state as opposed to waste generated within the state. In Oregon Waste Systems, Inc. v. Department of Environmental Quality of the State of Oregon, 114 S.Ct. 1345, 128 L.Ed.2d 13 (1994), the United States Supreme Court invalidated an Oregon statute which imposed an additional surcharge for in-state disposal of solid waste generated in other states. The Court held that the statute was facially invalid under the Commerce Clause of the U.S. Constitution because it discriminated against out-of-state economic interests (i.e., favored in-state economic interests over out-of-state interests). The Court noted that the fee imposed by the Oregon statute was almost three times greater than the charge imposed on waste generated in-state, and that the statutory criteria for the fee did not advance any legitimate local purpose which could not be adequately served by nondiscriminatory alternatives. The Supreme Court had reached a similar conclusion in 1992 regarding an Alabama statute that imposed a higher fee on the disposal in Alabama of hazardous waste from other states. Chemical Waste Management, Inc., v. Hunt, 112 S.Ct. 2009, 119 L.Ed.2d. 121(1992).

V. Other Texas Developments.

Texas municipal waste developments have been and will continue to be more dynamic than federal ones. The Division has achieved successes in its management of the program to date, particularly in the areas of eliminating permit application backlog, expediting the permit process, increasing enforcement activity, improving communications between the Division and small, rural communities, increasing grant contracts, and increasing groundwater monitoring activities. The Division is one of the national leaders, through Hector Mendieta's chairmanship of the Solid Waste Subcommittee of the Association of State and Territorial Solid Waste Management Officials, in the development of EPA's upcoming rules to address groundwater monitoring issues for small landfills in the wake of Sierra Club. The TNRCC also continues to address and wrestle with issues endemic to the municipal waste area.

A. Reducing Permit Application Backlog.

A major TNRCC focus over the past year and certainly since its March 1992 assumption of responsibility for the program is the reduction of the permitting process backlog (i.e., the number of permits pending and awaiting action at the agency). The TNRCC's goal was to eliminate the backlog by April, 1994.

As of March 1, 1992, there were 42 municipal waste permit applications at one stage or another at the TWC. The TNRCC has achieved success in reducing the backlog. It has done so in two primary ways: (i) by pursuing actions which have resulted in the withdrawal of approximately 19 of the permit applications for municipal waste sites that were pending as of March 1, 1992; and (ii) by processing 23 applications and dispensing with the application either through permit issuance or permit denial. The TNRCC has received 38 applications since March 1, 1992. The Commission Staff has fully processed 11 of those applications, and 9 of those applications have been withdrawn. As of May 1994, there were approximately 18 active municipal waste permit applications at the TNRCC.

A more detailed analysis of the processing activity follows. Of the 34 municipal solid waste applications processed since March 1, 1992, 17 were Type I landfills; 1 was a Type IV facility; 3 were incinerators; and 4 were transfer stations. The remaining 9 were other Type V facilities (8) and a Type III facility (1).

Of the 34, the TNRCC granted 31 permits and denied 3 permit applications. Of the 31 permits granted, 14 were expansions of existing facilities, and 17 were new facilities. Ten (10) of the 14 expansions were Type I facilities. Of these 10, eight (8) were municipal facilities and 2 were private. Four (4) of the 17 new facilities were Type I facilities. Of those 4, one (1) was a private facility and 3 were municipal facilities. Only the private facility was contested, and the opponents withdrew their protest after a few days of the contested hearing. The chart at Appendix No. 3 depicts the TNRCC municipal solid waste permitting activity referenced above.

B. Providing Municipal Waste Disposal Capacity.

The TNRCC records show that at the end of 1991, Texas had an estimated 21.9 years of remaining municipal solid waste disposal capacity. The TNRCC estimates that by 1995 Texas' remaining capacity will be 15.8 years, assuming that no new landfills are opened. The TNRCC estimates that by 1995, the geographic regions (as addressed in the Council of Government ("COG") planning process) corresponding to the major metropolitan areas of Houston, Dallas, and San Antonio will have remaining municipal solid waste disposal capacity of 8.1, 15.1 and 7.9 years, respectively.

C. Expediting the Permitting Process.

Another major TNRCC focus has been the effort to streamline the permitting process to process permit applications more quickly and efficiently. The Division continues to pursue its goal of processing all applications in 18 months. To date, the average Staff processing time is approximately 24 months. Section 5.314 of the Texas Water Code adopted in 1991 requires a decision on a permit application within 180 days of the receipt of the application, application

amendment or determination of administrative completeness, whichever is later, but it is questionable whether this is realistic, particularly where applications require a contested case hearing.

The TNRCC promulgated regulations that will be published in July, 1994, and effective shortly thereafter to attempt to render the permitting process more efficient and expeditious. The regulations will repeal 30 T.A.C. Chapter 274, the Complex Hearing Rules, and will adopt new 30 T.A.C. §§ 265.21-34, "Special Procedures for Freezing the Process"; §§ 265.35-48, "Discovery in Hearings Held Under Subchapter C"; and §§ 265.49-53, "Special Sanctions Rules Relating to Freezing the Process". Generally, these "Freeze Rules", as they are sometimes called, attempt to reduce or eliminate changes in Staff positions on an application after the completion of technical review; address the issue of application changes driven by the contested case discovery process; and "freeze" the application by disallowing application amendments toward the end of the discovery process and before the evidentiary hearing.

Issues related to the subject matter of these rules arose in recent contested case proceedings. In one, the Examiner ruled that a state statute applied and gave him latitude to prohibit any amendments to an application within a period 30 days prior the evidentiary hearing. He also ruled that the applicant could make no changes of any kind to the application no matter how far in advance of the evidentiary hearing. In another, an applicant that attempted to amend an application within thirty days of the evidentiary hearing was given the option of proceeding through the hearing without the amendment or withdrawing the application without prejudice and paying the opponents' costs associated with addressing the technical area that the amendment would address.

Some highlights from the "Freeze Rules" are as follows:

(1) The Freeze Rules require the Staff to make a firm decision after technical completeness either to recommend permit issuance or denial.

(2) The new rules set up a three-tiered discovery period. In the first two stages, the opposition presents lists of issues that an applicant can address through an application amendment within a certain time period. After the second stage, the applicant can no longer make a major amendment. In the third stage, an applicant can respond only with a minor amendment, and thereafter, an applicant may not amend the application at all absent agreement of the parties.

(3) Certain other provisions limit discovery, require the narrowing of issues addressed at the hearing, and limit the length of the hearing to no more than 25 days. The "Freeze Rules" do not address what changes rise to the level of a "major" or "minor" amendment and, correspondingly, do not address whether changes to an application that do not constitute major or minor amendments would be allowed or prohibited after certain time periods.

D. Increased Enforcement Activity.

The TNRCC's enforcement activity generally increased in terms of numbers of enforcement actions from September 1993 through January 1994 and then dropped off from the January 1994 level, but has remained stable through May 1994. The TNRCC has levied over $300,000 in penalties in the municipal waste area since September 1993. As TNRCC enforcement capability increases and the number of municipal sites continues to decrease, enforcement activity at the remaining sites is anticipated to become more intense.

E. Enhanced Communications.

During the period September 1993 to May 1994, the number of public meetings, technical assistance projects, and conferences and committee meetings involving rural communities about municipal solid waste issues increased substantially. The increase results in large part from the work of the recently-created Small Communities Liaison office within the Division, staffed by Charles Stavley and Ann Scudday.

F. Increased Grants.

Since September 1993, the grant amounts awarded by the Division for municipal waste projects has increased over ten-fold, from approximately $5,000,000 to $60,000,000 as of May 1994. The grants have been awarded for, among other things, COG regional plan development, local enforcement activity to address littering and illegal dumping, composting/yard waste programs, used oil collection programs, technical services and training and expansion of recycling programs.

G. The Permitting Process.

One of the more controversial aspects of the municipal waste program is the contested case permitting process. A permit application enters the contested case process when the proposed facility is opposed and an adverse or neutral party calls for a contested evidentiary hearing. In such a hearing, an applicant must prove it is entitled to a permit in a trial type proceeding governed by the Texas Administrative Procedure Act and the Texas Rules of Evidence. This proceeding generally involves a multitude of expert witnesses from many disciplines and can extend for periods of several weeks, preceded by months of discovery and followed by numerous rounds of briefing, a recommendation or "proposal for decision" by the Hearings Examiner, and an ultimate decision by the Commissioners.

Contested proceedings are often highly-publicized and can require extensive expenditure of TNRCC, applicant and opposing party resources. The attempts to obtain the permit or defeat the contested permit application often range beyond the contested case itself and spill over into the media, the legislative arena and other agencies. Given the emotional nature of these contested proceedings and their high profile, they have been and probably will continue to be the focus of agency attention as the TNRCC seeks ways to eliminate contested issues before they reach the Commission. Elimination of contested case proceedings for waste disposal facilities may be a practically unreachable though not unworthy goal.

Some of the issues facing the TNRCC and contested case participants are outlined below. To some extent, the issues reflect tensions inherent in the contested case permitting process that will always be present; to some extent, the TNRCC is taking steps to try to address them, particularly with the "Freeze Rules" referenced above; and to some extent, the issues outlined below may need attention. Some of the issues are major. Others are minor, but nevertheless can be bothersome to participants.

1. The Public Meeting Requirement.

Section 361.0791 of the Texas Health and Safety Code specifies that the agency shall hold a public meeting prior to the public hearing. Disagreement has existed as to whether this applies to municipal waste cases or only hazardous waste cases. Section 361.0791 explicitly states the public meeting requirement applies to hazardous waste applications. Section 361.088 entitled "Permit Issuance, Incident, Extension and Renewal; Notice and Hearing" provides that "the department or the commission shall hold a public meeting and give notice as provided by Section 361.0791." Initially, direction from the TNRCC on this issue was somewhat unclear, but the TNRCC now requires public meetings in municipal waste as well as hazardous waste cases.

While Section 361.0791 provides that "the commission shall hold a public meeting", in practice, there appears to be a lack of clarity as to who conducts the meeting (the applicant or the agency); what precisely is to occur at the meeting; when it is to take place; what format is appropriate; and whether another public meeting is appropriate if application amendments occur after the first public meeting.

2. Bifurcated Hearings.

Section 361.069 of the Texas Health & Safety Code permits the agency to conduct a separate land use compatibility hearing prior to a hearing on other aspects of an application, presumably to avoid the expenditure of resources to address these other issues if land use incompatibility exists. Some disagreement exists as to when the agency will hold land use compatibility hearings; when in the process it will decide to hold the land use hearing (at the beginning of application review or later after the applicant has completed work and the Staff has completed review on the full application); what standards determine whether such a hearing will be held; what standards and hearing burdens govern the land use compatibility hearing; whether a separate land use compatibility hearing is truly efficient and conceptually viable; and from what radii from the proposed site should surrounding land uses be considered. As an ancillary matter, the Commission ruled in one case that negative fair market value impacts of a proposed municipal solid waste landfill could not serve as the sole basis for denial of an application on land use incompatibility grounds. How to handle reportedly proposed, as opposed to existing surrounding land uses, is another issue that can arise in land use compatibility hearings.

3. Role of the Regulations.

The TNRCC uses the Texas Regulations at 30 T.A.C. § 330.50, et seq., interchangeably to govern not only the application review process and related informational requirements, but also the contested evidentiary proceeding. Disagreement exists as to whether these regulations

are appropriate for or were designed to address a contested evidentiary hearing, which calls for clear delineations of burdens and standards of proof to govern the trial type proceeding and which logically may be different from the more informational, permit review and processing regulations. This issue continues to cause subtle and not-so-subtle confusion to parties, Hearings Examiners, the Staff, the TNRCC and reviewing courts, as hearing participants often wrestle during the discovery and hearing process to determine precisely what burdens an application must meet in the hearing to obtain a permit.

4. Financial Responsibility Requirements.

The Texas Regulations provide that "the Commission may require evidence . . . as it deems appropriate . . . that the responsible owner or operator has sufficient assets to properly operate the site and provide proper closure." 30 T.A.C. § 330.9. The Staff generally focuses on financial assurance for closure and post closure, but not site operation. 30 T.A.C. Subchapter K (§§ 330.280-286) contains detailed financial assurance requirements for closure and post-closure care of landfills. But there is no firm guidance to applicants regarding financial assurance to operate, including whether such is a permitting requirement or whether it is subsumed somewhat within the closure requirements.

5. Location of the Hearings.

Disagreement has existed as to the extent to which the TNRCC should hold contested case hearings in Austin or in the city or county where the landfill site is located. Some argue that holding hearings in Austin unfairly reduces public participation. Others argue that holding hearings elsewhere imposes too great a burden on agency resources and renders it difficult if not impossible for those TNRCC personnel involved in the contested case hearing to keep abreast of other projects to serve the public. Currently, the TNRCC's policy is to hold the preliminary hearing to designate parties, take jurisdiction and take public comment and some portion of the evidentiary hearing on the opposition's case in the county or city where the facility will be located, and to hold the rest of the hearing in Austin.

6. Overruling the Hearings Examiner.

An issue presented in recent contested municipal cases and now in two appeals is the extent to which the Commission can overrule the Hearings Examiner who heard the evidence throughout the proceeding. From one perspective, the Commission may believe it needs the flexibility to overrule an Examiner where the Examiner's decision conflicts with the Commission's view of the case on policy or other grounds. From the perspective of a party to the contested case proceeding, the Commission's overruling the Examiner may seem unfair, inappropriate and in violation of legal requirements because the party has often spent months and significant resources developing and putting on often complicated technical evidence before an Examiner, only to see the Examiner's decision overruled at an Agenda meeting by a Commission that may have reviewed the briefs but heard none of the evidence.

In 1991, the Legislature enacted §361.0832 of the Texas Health & Safety Code which directly addresses and limits the extent to which the Commission can overrule its Hearings Examiner. Disagreement exists as to whether this statute applies to all solid waste cases,

including without limitation, municipal solid waste cases, or only to hazardous and industrial waste cases. The TNRCC's position is that it applies only to hazardous and industrial waste cases. This position is the subject of litigation in at least two administrative appeals of Commission decisions pending in Travis County District Court.

7. Permitting Standards.

Another issue is the extent to which the TNRCC can impose new standards, without rulemaking proceedings, in the context of contested case proceedings. A party may believe that the TNRCC applied a rule or standard to it when rendering a decision on an application that did not exist in the regulations and of which the party had no notice, and that only rules that actually existed at the time of the permit's filing and review and the agency interpretations of which the party had prior notice, are basis for Commission action. The TNRCC may believe that it needs flexibility to impose standards and issue rulings at any point in the process as might be necessary to effectuate what it believes is the correct result to safeguard public health, safety and welfare.

Recent legislation to some extent addresses this issue. Statutory authority requires the TNRCC to follow its own rules as adopted until it changes them under appropriate rule-making procedures. Additionally, when adopting, repealing or amending any agency statement of general applicability that interprets law or policy, the TNRCC must adopt rules. See TEX. WATER CODE ANN. § 5.103(c) (Vernon Supp. 1994); TEX. HEALTH & SAFETY CODE ANN. § 361.024(e) (Vernon Supp. 1994); TEX. GOV'T CODE ANN. § 481.143(a) (Vernon Supp. 1994)

8. Role of the Staff.

a. Significance of Staff Guidance.

The significance of the Staff's review and participation in the contested case process remains an issue that the Freeze Rules may address somewhat. Some parties to the process may believe that the Staff's review process requires the Staff to advise the applicant of any regulatory deficiencies or other Staff positions prior to Staff declarations that the application is complete or at any other time during the review or hearing process. And, if such deficiencies or positions are not noted, they may believe it is improper to raise them in the public hearing or subsequently in the decision-making process, without giving the applicant a fair opportunity to address them through design changes or additional evidence. This problem may be complicated by the TNRCC's prohibition of application changes in some cases before such deficiencies or positions are identified. These parties may believe that it should be clear whether they are entitled to rely on Staff guidance throughout the process or not; and that the status of Staff guidance should not in any event be "muddied" or unclear, particularly where the Staff's position as to the applicant's burden may be pivotal.

Other parties may believe that a process whereby an applicant relies on the Staff to any extent at any time is tantamount to the Staff's "engineering" or unfairly helping the applicant with the application and constitutes unfairness to parties with already limited resources who are trying to defeat the application. They may believe that an applicant should have one chance to comply with the applicable regulations and no more, and that the Commission and the Texas Regulations, not the Staff, determine an applicant's burden. The Staff remains caught in the

middle of this issue. This and the following issues may well result somewhat from the program transition and be addressed in time.

b. Ongoing Discussions with the Staff.

Another issue is the extent to which the Staff discusses an application with parties to the proceeding before, during and after the contested case proceeding and under what conditions. For example, disagreement exists as to whether such discussions are appropriate; when they are appropriate; and what parties need to be present at or notified of the discussions. The tension generated by this issue is heightened by the pivotal role the Staff may play in the ultimate decision and the related necessity for Staff's input in the course of the process.

c. Consistent Standards.

Another issue is the difficulty in applying consistent standards to all applications. With different Staff personnel working on different applications with varying degrees of opposition or over different time periods, there is the risk that inconsistent standards may be applied to or different positions taken with respect to different applications.

9. Applicant Response.

Another issue pertaining to the permitting process is whether an applicant initially provides timely and complete information to the Staff and whether an applicant's response to requests for information by the Staff is timely and that response is complete. The TNRCC is developing rules that to some extent address this concern by requiring an applicant to respond to Staff requests for information within precise time periods or suffer withdrawal of the application. For example, under these rules, the applicant will have sixty (60) days to submit its response to the Staff's first notice of deficiencies, and thirty (30) days to respond to any subsequent Staff requests for information. Those rules are also expected to place time frames on the Staff's review of an application at various stages.

10. Hearings Resources.

Contested hearings can result in significant amounts of discovery and pretrial preparation that threaten to burden the process unreasonably. Admitting large numbers of parties to the proceedings sometimes produces disagreement. Some may argue that any person or entity with any possible justiciable interest, no matter how far away they reside or own property from a site, is entitled to become a party to the proceeding with rights to put on witnesses and other evidence, cross-examine witnesses, and receive all pleadings and correspondence in the case. They may believe that any burdens this imposes can be overcome by alignment of parties and other streamlining processes. Applicants may argue that admitting so many parties actually violates the applicant's due process because the notice and copying costs of keeping fifty parties apprised, the requirement to respond to discovery from so many parties, and other concerns is unduly burdensome, particularly when the regulations focus to some extent on a one mile radius. 30 T.A.C. § 330.53(b)(8). They may believe that admitting numerous parties from three, four, five or even ten miles away far exceeds any rational range of potential impact; that such parties can be heard effectively through public comment; and that adding so many parties amounts to

"trial by xerox". Other parties may argue that they are overmatched by the financial or other resources of an applicant or another party, an "overmatching" that enables the better endowed party to overwhelm the less endowed parties with intense discovery. The "Freeze Rules" are designed in part to address the "hearings resources" issue.

11. Application Amendments.

a. Pros and Cons.

Traditionally, some parties have complained that allowing the applicant to make any changes in an application during the hearing, or at any time, is unfair, because it allegedly allows applicants to use information developed by other parties' resources during discovery or otherwise to "fix" the application and further the application. Applicants have argued that a standard which prohibits any changes to an application after technical completeness or during the public hearing is unfairly rigid and unrealistic and violates due process and fundamental fairness, particularly if the agency imposes new standards or changes or clarifies permitting criteria in the midst of the process in a manner which requires design changes. Others have argued that if the applicant makes changes to address issues raised by the opposition, the facility is enhanced, or concerns are put to rest and all benefit.

b. Section 12.016.

Disagreement exists as to whether the Legislature addressed this long standing debate in municipal solid waste cases by enacting § 12.016 of the Texas Health & Safety Code which generally prohibits amendments to an application within 30 days before the public hearing. In recent cases, issues arose as to whether "amendments" meant "major" or "minor" amendments; what constituted an amendment; what constituted a "modification"; what was a "necessary amendment"; whether the statute applies to municipal waste cases, and, if so, which ones; whether the statute applies to the TNRCC; whether the "public hearing" referenced in the statute was the preliminary hearing or the evidentiary hearing on the merits; and whether the statue prohibited amendments in the hearing. In one case, the TNRCC Hearing Examiner determined that Section 12.016 applies to municipal waste cases at the TNRCC. Additionally, the conflicts between different interpretations of the statute and pre-existing or then-existing TNRCC rules and policies that arguably allowed amendments up to and in the evidentiary hearing introduced confusion to the process that will to some extent be addressed in the "Freeze Rules".

c. Modifications.

Disagreement exists as to the extent to which the TNRCC should allow changes to existing permits and facilities through modifications, as opposed to amendments, the latter of which can require public hearings. Some believe that changes requiring modifications as opposed to amendments are easy to discern, and that allowing modifications expedites the regulatory process, conserves resources, and meets all legal requirements. Others believe that some changes classified as "modifications" might truly rise to the level of amendments and, in any event, should require more opportunity for citizen input; and that current procedures addressing notice and opportunity for input on modifications are inadequate as written and applied.

12. Role of Other Agencies.

The TNRCC customarily forwards applications to numerous state, federal and local agencies both for notice purposes and to seek comments prior to commencement of the evidentiary hearing process. Issues have arisen as to whether comments from these agencies should be considered by the TNRCC where the commenting agency merely forwarded written comments to the TNRCC, but did not support these comments with a credible testimony at the hearing that a party to the proceeding or the Hearings Examiner could test by cross-examination.

In response, the Legislature enacted an addition to § 361.069 of the Texas Health & Safety Code, which provides as follows: "[i]n making a determination on the question of land use compatibility, the . . . Commission shall not consider the position of a state or federal agency unless the position is fully supported by credible evidence from that agency during the public hearing." This legislation prevents consideration of a commenting agency's opinions unless that agency supports its opinion with credible evidence in the record.

13. Local Land Use Determinations.

The TNRCC Executive Director observed at a recent legislative committee meeting that some of the most contested issues in involving municipal waste application were in the nature of zoning and land use regulation issues. Discussion is ongoing as to whether the process could be altered to require land use determinations to be made at the local level through zoning or other land use regulation, not at the TNRCC. The issue is whether the TNRCC should provide a land use function when siting municipal waste sites is involved, or, whether these issues should be left to localities, an alternative complicated by the fact the counties do not have zoning powers in Texas and the possibility that resolving land use siting issues at the local level could be even more difficult than at the state level, in a way which negatively impacts solid waste capacity. The role of local and regional planning for municipal solid waste siting remains an issue.

14. Role of Regional Plans.

Disagreement exists as to whether regional planning issues and need for a municipal waste facilities should be an issue in contested case proceedings. Some have argued that the Texas regulations are sufficiently broad to permit consideration of this issue. Others have argued they are not. Much regional municipal waste planning, particularly at the COG level, is funded from fees collected by the TNRCC and passed on to the COG for planning purposes. The TNRCC is somewhat unclear as to whether the products of these studies are relevant to the contested case process.

15. Role of The Mediator.

An important development initiated by the TNRCC is the use of mediation in contested municipal solid waste permit proceedings. In the past year, Carl Forrester, the Director of the Alternate Dispute Resolution Program at the TNRCC, successfully mediated two contested municipal solid waste cases. Contested case issues, including even discovery disputes, can be referred to mediation by the Commissioners, the Hearings Examiner, or the parties themselves.

The mediation is non-binding. Its increased use could be significant factor in rendering the contested case permitting process more efficient and expeditious, not only toward the end of the process when settlement may be in sight, but at the outset and during the discovery period.

H. Legislative and Regulatory Developments.

1. Buffer Zone.

In a recent appearance before the House Environmental Regulation Subcommittee, the Executive Director advised that he believed the TNRCC would seek legislation in the upcoming session that for permitting purpose requires a one-half (½) mile buffer between any municipal solid waste landfill and certain land uses, similar to the buffer required for hazardous waste facilities.

2. Used Oil.

40 CFR Part 279, sets forth federal rules for the handling and disposal of used oil. A Division internal working group is developing Texas rules to implement this program in Texas. The Division anticipates the rules could be promulgated in late 1995.

3. Composting Rules.

"Compost" is a mixture of partially decomposed organic materials of plant or animal origin. The Division is currently developing composting rules. The draft rules are nearing completion. The rules will establish tiers of regulation. Facilities composting materials posing no public health or environmental risk (e.g., yard trimmings) will not be regulated; facilities composting materials posing a minimal risk (e.g., certain papers) will be registered; and facilities composting materials posting more than a minimal risk (e.g., sludges) will be require a permit. Federal regulations require permitting of facilities that compost wastewater treatment plant sludge.

4. Transfer Station Permit Exemption.

Section 361.111 of the Texas Health & Safety Code (as amended in the 1993 Legislative Session) provides permit exemptions for management facilities used to transfer municipal solid waste to a solid waste processing or disposal facility from: (1) a municipality with a population of less than 50,000; or (2) a county with less than 85,000 people. The facility must meet certain other conditions such as receiving a maximum capacity of 125 tons a day, and complying with design and operational requirements established by the TNRCC rules. The Commission adopted rules on April 29, 1994 (19 Tex. Reg. 3253) that set forth such requirements. Under these rules, a municipal solid waste transfer station only needs to be registered (but not covered by a permit) provided that: (1) the applicant submits a complete application to the TNRCC (that generally contains substantial information on the types and amounts of waste received, a site plan with related design criteria, and site operating plan); (2) the applicant holds a public meeting in the local area to describe the proposed facility to the public; and (3) the TNRCC and local government approve or authorize the operation.

Texas Health & Safety Code § 361.111 also provides a permitting exemption for certain materials recovery facilities ("MRF's"). An MRF is, in most cases, a municipal solid waste transfer station that accepts nonsegregated waste (e.g., putrescible waste mixed with other waste streams) and recovers usable material from such waste. To be exempt from permitting requirements, an MRF must meet the conditions of § 361.111 for transfer stations discussed above, and recycle for reuse more than 10% of the incoming nonsegregated waste stream and transfer the remaining nonrecyclable waste to a permitted landfill located not more than 50 miles from the MRF.

The TNRCC proposed rules to implement the statutory exemption for MRF's on May 10, 1994 (19 Tex. Reg. 3561). In addition to the above criteria, the Commission proposed to require that MRF's meet various siting criteria (i.e., shall not be located less than 1/8 mile from any residence, school, church, or recreation area, shall not be located in a 100-year flood plain or in a wetland, etc.) and must have a maximum design capacity of 325 tons per day. The Commission received significant comment on these aspects of the proposed rules, which are not set forth in § 361.111. The TNRCC staff is currently evaluating the rules and may develop modified rules based on these comments.

5. Fee Rules.

New fee rules were recently adopted. Landfill disposal fees payable to the TNRCC have been changed to $1.25 per ton (from $1.50), $0.40 per compacted cubic yard (from $0.50), and $0.25 per uncompacted cubic yard (from $0.10). In addition, options for calculating fees have been limited and standardized for more accurate reporting of waste amounts.

6. Permit for Construction Over Closed Landfills.

The TNRCC is developing rules in response to House Bill 2537 which will require a permit and construction and monitoring standards for any development over a closed landfill site. The TNRCC Staff has been working on those rules with the Municipal Solid Waste Advisory Council discussed below and representatives of the real estate, banking, and land development communities. Rules are expected to be proposed by November, 1994.

7. Tire Rules.

The TNRCC is revising its tire disposal rules to implement Senate Bill 1051. Highlights of the current proposal are as follows:

(1) The TNRCC will promulgate new rules effectively doubling the size of the existing ones. New rules will be applicable to essentially anyone who handles used tires; not just generators, storers, and shredders, but all recyclers, balers, and transfer stations.

(2) The used tire fund will only be available to new entities if the ability to provide reimbursement exceeds the capacity to process used tires. Currently, there is a capacity to process 107 million tires, but only the ability to provide reimbursement on 31 million of them. There are currently 23 processors receiving reimbursement.

(3) A detailed semi-annual report is required from the tire processor, but is designed to provide for confidentiality of proprietary information.

(4) The tire rules are scheduled for adoption by the TNRCC in July, 1994.

8. Sludge Rules.

The EPA published new sludge rules (40 CFR, Part 503) in February, 1993. The TNRCC's rules for management of sludge (30 T.A.C. Chapter 312) were developed to follow the EPA rules, but are more restrictive in some cases. All but two subchapters of the Chapter 312 rules became effective in August, 1993, and the final two subchapters (pertaining to water treatment plant sludge and sludge transport) are expected to be adopted in July, 1994. The EPA has not delegated primacy to Texas in this area.

9. Liquid Waste Rules.

Subtitle D bans liquid wastes, unless properly processed, from landfills. Under Subtitle D, liquid wastes include grease trap wastes, grit trap wastes, septage, and sludges. Sludges may be dried or land-applied, but management of other liquid wastes often poses greater problems. Only about a dozen landfills in Texas currently are able to solidify liquid wastes on-site, and there are only five or six permitted Type V sludge processing facilities in the state, presenting a shortage of service providers.

The TNRCC recently proposed emergency rules that would have encouraged more processing facilities to open, by allowing them to be registered instead of permitted. However, existing permittees as well as other groups opposed the rules. The TNRCC directed the Staff to develop a comprehensive strategy to manage liquid waste. TNRCC Staff has been working with representatives of local governments, industry, and environmental groups toward that end. The Staff is schedule to present the draft strategy to the Commission at the July 29 Agenda.

10. Groundwater Protection Design.

a. Use of Alternative Liner Designs.

As referenced above, the TNRCC's new rules will impose additional requirements on MSWLF operators in the areas of groundwater protection design and operation. However, the TNRCC has utilized the flexibility provided by EPA to states for considering site-specific factors in meeting Subtitle D requirements, particularly with regard to the provision of "alternative liner designs" at MSW sites. In §330.202 of its new rules, the TNRCC may authorize alternative liner designs if a party can show that the liner will prevent groundwater contamination.[5] An applicant or permittee must substantiate the use of an alterative liner by documentation, such as computerized design modeling (e.g., the "Help" and "Multi-media" models),[6] which shows that

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[5]See 30 T.A.C. §330.202.

[6]Id.

the liner system will actually prevent groundwater contamination. Because the TNRCC only received EPA approval of its MSWLF program on December 17, 1993, there are very few instances where the TNRCC has approved alternative liner designs.

b. Landfill Excavations Below the Water Table.

Another groundwater design issue pertains to the extension of landfill excavations below the groundwater table at a particular facility. "Groundwater" is defined in the Texas Regulations as "[w]ater below the land surface in a zone of saturation." 30 T.A.C. § 330.2. For example, some MSWLF facilities have excavations which extend below the level of groundwater in the area. The approach for this issue adopted by the TNRCC in the new rules is the same as that of the old rules — to allow landfill excavations below the water table, but require that a certain amount of clean soil material be added on top of the liner (i.e., to act as ballast) to prevent hydrostatic uplift of the liner. For example, §330.203 of the rules provides that if groundwater is encountered in the disposal excavations, material (i.e., soils) with the weight equivalent to one foot of compacted clay liner for every two feet of static water head shall be deposited on the liner. Much discussion occurred on this issue during the rule-making process, particularly in light of the fact that Subtitle D introduces several new groundwater design considerations, such as for flexible membrane liners and leachate collection systems.

c. Waste as Ballast.

As a result of the foregoing discussions, the TNRCC established a special advisory group consisting of representatives from the regulated community, academic circles, the environmental community, consultants, and the TNRCC staff, to address this issue in more detail. This panel has developed a list of recommendations being considered internally by the TNRCC staff, and more specifically, the TNRCC Policy Coordinating Committee, to consider further action on this issue for possible rulemaking. One of the recommendations of this panel which the Staff is considering is to allow the use of "waste" (or materials that will normally be placed in the landfill) to be used in place of soil for providing the ballast on top of the liner. The draft recommendations list several conditions that must be met before waste can be used as ballast. The recommendations of the advisory group are expected to be included for discussion in upcoming meetings of the Municipal Solid Waste Advisory Council to seek additional input from the environmental community. The TNRCC Staff may proceed with the draft recommendations (or a modified version) to a TNRCC Policy Agenda meeting before the Commissioners in late August.

11. Environmental Equity.

Environmental equity is an issue of concern among the TNRCC Staff in its review of all agency functions. The TNRCC's official position is that it has no statutory or regulatory authority that allows it to consider environmental equity as a criteria for municipal solid waste or other facilities. However, Chairman John Hall has stated at certain public meetings that applicants should begin considering environmental equity issues when making siting decisions about their facilities. Further, in an ongoing contested hearing involving a municipal solid waste application, a Hearings Examiner has allowed the opponents to introduce evidence concerning the demographic makeup of the county of the facility and testimony on potential environmental

equity concerns. In another municipal application proceeding, in which the Commission denied the application, the Hearings Examiner allowed the applicant to introduce demographic evidence that the site's vicinity had a minority population of between 2.5% - 3.5%. Environmental equity is an issue that may ultimately have significant impacts in the municipal solid waste area.

12. Technical Guidance.

The Division's Technical Assistance and Special Projects Section led by Hector Mendieta has recently completed a guidance manual on composite liners and clay liners, updating old Technical Guide No. 3. The Section is also updating the guidance manual for groundwater monitoring, including use of the H.E.L.P. model. It is also updating the alternative liner design handbook, developing guidance for final closure and post closure care plans, developing guidance for the exact type of landfill "cap" required, and developing handbooks to address the site operating plan and management of contaminated water.

VI. Forums for Regulatory and Policy Development.

Simply reviewing the statutes and the regulations is not enough to prepare oneself fully and keep abreast of developments that could have significant impacts on projects or concerns. As with any environmental issue, agency policy, procedures, and regulations are continually evolving. There are many forums where municipal solid waste developments occur.

A. Task Force 21.

Task Force 21 is in effect a "Blue Ribbon" committee composed of representatives from private industry, the legal and environmental consulting community, public interest groups and the public sector. Task Force 21 was originally developed by TNRCC Chairman John Hall as an advisory group to assist the TNRCC Staff in developing hazardous waste permitting rules pursuant to Senate Bill 1099 passed in the 1991 legislative session. The group has met on a monthly basis since mid-1991 and under the direction of the TNRCC, recently expanded its scope of activities to address other substantive areas, including air and water quality issues, solid waste matters, and a broad range of agency-wide procedural issues. The group reviews drafts of most major rule-makings developed by the TNRCC, and provides comments and attempts to submit a consensus position, if possible, to the Commission on those draft rules. Task Force 21 may become more active with municipal solid waste matters.

B. Brown Bag Lunches.

The Division frequently hosts brown bag luncheon meetings at the agency offices in Austin to address policy issues, receive input, and report to the public about rulemaking, policy, and other pertinent developments.

C. Legislative Committees.

The TNRCC receives input on policy and rulemaking matters from the Senate Natural Resources Committee and the House Committee on Natural Resources and House Committee on Environmental Regulation. The TNRCC also makes recommendations to those Committees

as to the need for legislation. These Committees meet not only during the legislative session, but periodically through the year to discuss matters such as siting requirements and the permitting process.

D. Permitting Proceedings.

The TNRCC may address legal and policy issues in the context of contested case permitting proceedings, where such issues often make their first and most dramatic appearance. It is necessary to keep abreast of developments and rulings in those proceedings to keep fully informed in the area.

E. Public Liaison Office.

The TNRCC receives input regarding policy and regulatory issues through its Small/Rural Communities Liaison.

F. Advisory Council Meetings.

The TNRCC has set up the Municipal Solid Waste Management and Resource Recovery Advisory Council (the "Council") pursuant to §§ 363.041-046 of the Texas Health & Safety Code. By statute, the Council is to have seventeen members, appointed by the Commission as follows: six elected officials, an official from a municipality or county solid waste agency, a Commission member, a fixed waste tire processor, a registered waste tire processor, representatives from a planning region, the financial community, a solid waste management organization composed primarily of commercial operators, a solid waste district or authority, a private environmental conservation organization and the public.

The Council is to hold at least one meeting every three months. Its duties include reviewing and evaluating the effect of state policies and programs on municipal solid waste; making related recommendations to the Commissioners for matters such as legislation, distribution of funds, and special studies and projects.

G. Policy Meetings.

On the third Friday of each month, except during the Summer, the Commission conducts a Policy Agenda meeting in Austin. The purpose of this Agenda meeting is to allow the Commission, the Staff and the public to raise issues that might involve policy concerns: whether a policy exists to address a particular subject; whether a consistent policy is needed; or whether a rule is needed to implement policy.

H. Regional Planning Agencies.

The TNRCC funds regional planning efforts by user fees which support municipal solid waste planning efforts of the various COG's.

I. TNRCC Policy Coordinating Committee.

The TNRCC also engages in rulemaking proceedings which are overseen by the TNRCC Policy Coordinating Committee. The Committee consists of the Executive Director, the Assistant Executive Director, the four Deputies (e.g. air, waste management, water, and administration), the head of the Legal Division, and the three Policy Directors (e.g. Waste policy, Water policy and Air policy). Rules are written internally, proposed in the Texas Register, subjected to public comment and ultimately promulgated. The Waste Policy Director, whose responsibility includes municipal solid waste, is Dan Eden.

J. Technical Assistance and Special Projects.

Within the Division, Hector Mendieta, through the Technical Assistance and Special Project's Section, is responsible for policy and rulemaking initiatives.

VII. Conclusion.

Considerable progress has been made at the federal and the state level in the regulation of municipal solid waste. Keeping track of this progress and other changes can require active monitoring of several forums. The transition of the municipal waste program to the TNRCC and the implementation of Subtitle D have been accomplished in most cases with no more than the expected degree of discomfort. Reducing illegal dumping, successful implementation of the "Freeze Rules", permitting of new facilities, the role of regional planning, modification and amendment issues, and the long term prospect of new federal air emissions standards present challenges. Municipal solid waste issues on the border with Mexico will probably arise. Policy development and regulation should remain manageable but dynamic. As long as the Sprats fail to lick the platter clean, Texas will "have its fills", and change and challenge will continue to characterize municipal solid waste management and regulation in Texas.

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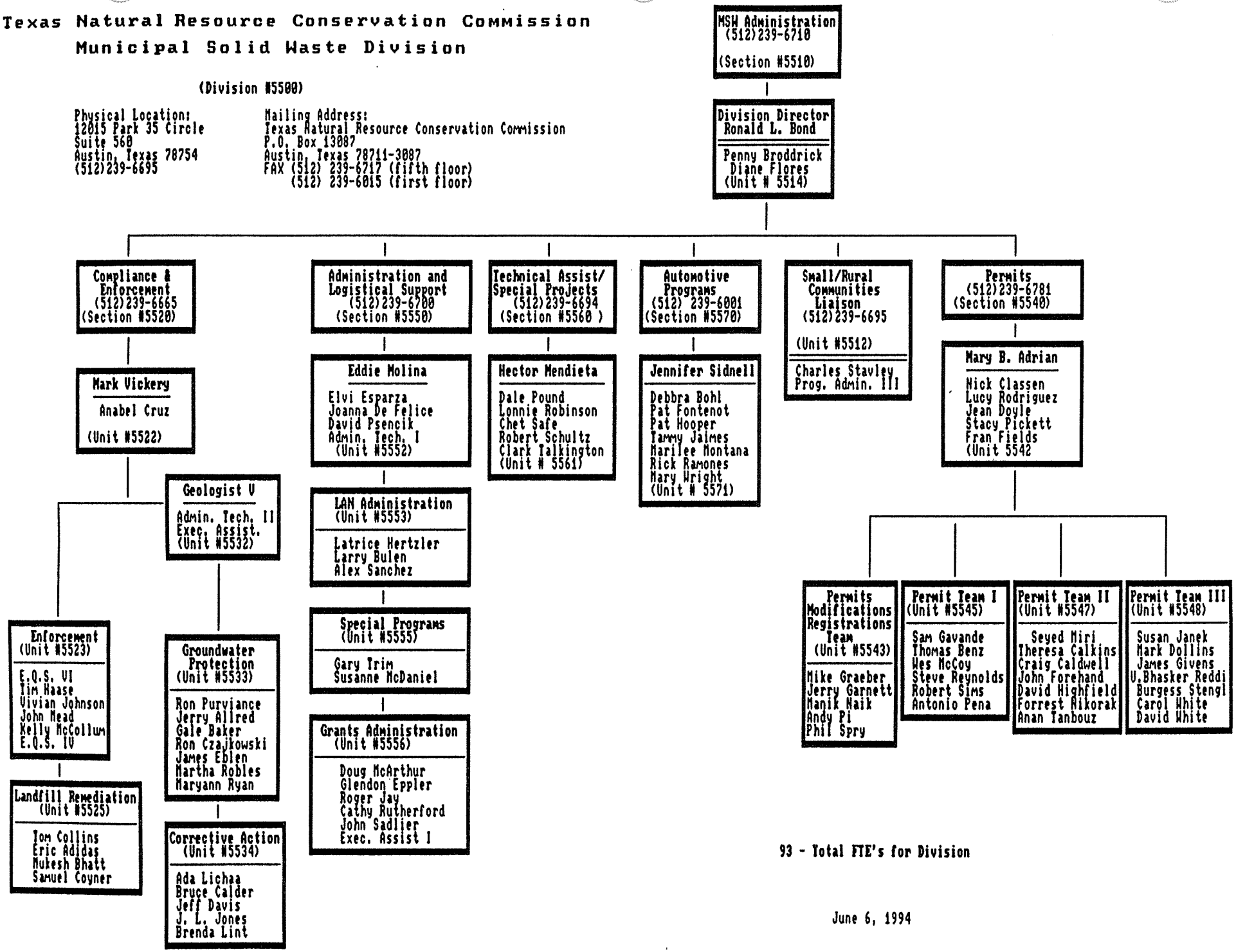

93 - Total FTE's for Division

June 6, 1994

APPENDIX NO. 1

PART 257—CRITERIA FOR CLASSIFICATION OF SOLID WASTE DISPOSAL FACILITIES AND PRACTICES

Sec.

257.1 Scope and purpose.
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APPENDIX I TO PART 257—MAXIMUM CONTAMINANT LEVELS (MCLS)
APPENDIX II TO PART 257

AUTHORITY: 42 U.S.C. 6907(a)(3), 6944(a) and 6949a(c), 33 U.S.C. 1345 (d) and (e).

SOURCE: 44 FR 53460, Sept. 13, 1979, unless otherwise noted.

§ 257.1 Scope and purpose.

(a) These criteria are for use under the Resource Conservation and Recovery Act (the Act) in determining which solid waste disposal facilities and practices pose a reasonable probability of adverse effects on health or the environment. Unless otherwise provided, these criteria are adopted for purposes of both sections 1008(a)(3) and 4004(a) of the Act.

(1) Facilities failing to satisfy criteria adopted for purposes of section 4004(a) will be considered open dumps for purposes of State solid waste management planning under the Act.

(2) Practices failing to satisfy criteria adopted for purposes of section 1008(a)(3) constitute open dumping, which is prohibited under section 4005 of the Act.

(b) These criteria also provide guidelines for the disposal of sewage sludge on the land when the sewage sludge is not used or disposed through a practice regulated in 40 CFR part 503.

(c) These criteria apply to all solid waste disposal facilities and practices with the following exceptions:

(1) The criteria do not apply to agricultural wastes, including manures and crop residues, returned to the soil as fertilizers or soil conditioners.

(2) The criteria do not apply to overburden resulting from mining operations intended for return to the mine site.

(3) The criteria do not apply to the land application of domestic sewage or treated domestic sewage.

(4) The criteria do not apply to the location and operation of septic tanks. The criteria do, however, apply to the disposal of septic tank pumpings.

(5) The criteria do not apply to solid or dissolved materials in irrigation return flows.

(6) The criteria do not apply to industrial discharges which are point sources subject to permits under section 402 of the Clean Water Act, as amended.

(7) The criteria do not apply to source, special nuclear or byproduct material as defined by the Atomic Energy Act, as amended (68 Stat. 923).

(8) The criteria do not apply to hazardous waste disposal facilities which are subject to regulation under subtitle C of the Act.

(9) The criteria do not apply to disposal of solid waste by underground well injection subject to the regulations (40 CFR part 146) for the Underground Injection Control Program (UICP) under the Safe Drinking Water Act, as amended, 42 U.S.C. 3007 *et seq.*

(10) The criteria of this part do not apply to municipal solid waste landfill units, which are subject to the revised criteria contained in part 258 of this chapter.

(11) The criteria do not apply to the use or disposal sewage sludge on the land when the sewage sludge is used or disposed in accordance with 40 CFR part 503.

[44 FR 53460, Sept. 13, 1979, as amended at 46 FR 47052, Sept. 23, 1981; 56 FR 51016, Oct. 9, 1991; 58 FR 9385, Feb. 19, 1993]

EFFECTIVE DATE NOTE: At 56 FR 51016, Oct. 9, 1991, § 257.1 (c)(10) was added, effective October 9, 1993.

§ 257.2 Definitions.

The definitions set forth in section 1004 of the Act apply to this part. Special definitions of general concern to this part are provided below, and definitions especially pertinent to particular sections of this part are provided in those sections.

Disposal means the discharge, deposit, injection, dumping, spilling, leaking, or placing of any solid waste or hazardous waste into or on any land or water so that such solid waste or hazardous waste or any constituent thereof may enter the environment or be emitted into the air or discharged into any waters, including ground waters.

Domestic septage is either liquid or solid material removed from a septic tank, cesspool, portable toilet, Type III marine sanitation device, or similar treatment works that receives only domestic sewage. Domestic septage does not include liquid or solid material removed from a septic tank, cesspool, or similar treatment works that receives either commercial wastewater or industrial wastewater and does not include grease removed from a grease trap at a restaurant.

Facility means all contiguous land and structures, other appurtenances, and improvements on the land used for the disposal of solid waste.

Land application unit means an area where wastes are applied onto or incorporated into the soil surface (excluding manure spreading operations) for agricultural purposes or for treatment and disposal.

Landfill means an area of land or an excavation in which wastes are placed for permanent disposal, and that is not a land application unit, surface impoundment, injection well, or waste pile.

Leachate means liquid that has passed through or emerged from solid waste and contains soluble, suspended

or miscible materials removed from such wastes.

Municipal solid waste landfill (MSWLF) unit means a discrete area of land or an excavation that receives household waste, and that is not a land application unit, surface impoundment, injection well, or waste pile, as those terms are defined in this section. A MSWLF unit also may receive other types of RCRA Subtitle D wastes, such as commercial solid waste, nonhazardous sludge, and industrial solid waste. Such a landfill may be publicly or privately owned. An MSWLF unit may be a new MSWLF unit, an existing MSWLF unit or a lateral expansion.

Open dump means a facility for the disposal of solid waste which does not comply with this part.

Practice means the act of disposal of solid waste.

Sanitary landfill means a facility for the disposal of solid waste which complies with this part.

Sewage sludge means solid, semi-solid, or liquid residue generated during the treatment of domestic sewage in a treatment works. Sewage sludge includes, but is not limited to, domestic septage; scum or solids removed in primary, secondary, or advanced wastewater treatment processes; and a material derived from sewage sludge. Sewage sludge does not include ash generated during the firing of sewage sludge in a sewage sludge incinerator or grit and screenings generated during preliminary treatment of domestic sewage in a treatment works.

Sludge means any solid, semisolid, or liquid waste generated from a municipal, commercial, or industrial wastewater treatment plant, water supply treatment plant, or air pollution control facility or any other such waste having similar characteristics and effect.

Solid waste means any garbage, refuse, sludge from a waste treatment plant, water supply treatment plant, or air pollution control facility and other discarded material, including solid, liquid, semisolid, or contained gaseous material resulting from industrial, commercial, mining, and agricultural operations, and from community activities, but does not include solid or dissolved materials in domestic sewage, or solid or dissolved material in irrigation return flows or industrial discharges which are point sources subject to permits under section 402 of the Federal Water Pollution Control Act, as amended (86 Stat. 880), or source, special nuclear, or byproduct material as defined by the Atomic Energy Act of 1954, as amended (68 Stat. 923).

State means any of the several States, the District of Columbia, the Commonwealth of Puerto Rico, the Virgin Islands, Guam, American Samoa, and the Commonwealth of the Northern Mariana Islands.

Surface impoundment or *impoundment* means a facility or part of a facility that is a natural topographic depression, human-made excavation, or diked area formed primarily of earthen materials (although it may be lined with human-made materials), that is designed to hold an accumulation of liquid wastes or wastes containing free liquids and that is not an injection well. Examples of surface impoundments are holding storage, settling, and aeration pits, ponds, and lagoons.

Waste pile or *pile* means any noncontainerized accumulation of solid, nonflowing waste that is used for treatment or storage.

[44 FR 53460, Sept. 13, 1979; 44 FR 58910, Oct. 12, 1979; 56 FR 51016, Oct. 9, 1991; 58 FR 9385, Feb. 19, 1993]

EFFECTIVE DATE NOTE: At 56 FR 51016, Oct. 9, 1991, § 257.2 revised the definition for "facility", and added definitions for "land application unit," "landfill," "municipal solid waste landfill unit," "surface impoundment," and "waste pile", effective October 9, 1993. For the convenience of the user, the superseded text is set forth below:

§ 257.2 Definitions.

* * * * *

Facility means any land and appurtenances thereto used for the disposal of solid wastes.

* * * * *

§ 257.3 Criteria for classification of solid waste disposal facilities and practices.

Solid waste disposal facilities or practices which violate any of the following criteria pose a reasonable prob-

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ability of adverse effects on health or the environment:

§ 257.3–1 Floodplains.

(a) Facilities or practices in floodplains shall not restrict the flow of the base flood, reduce the temporary water storage capacity of the floodplain, or result in washout of solid waste, so as to pose a hazard to human life, wildlife, or land or water resources.

(b) As used in this section:

(1) *Based flood* means a flood that has a 1 percent or greater chance of recurring in any year or a flood of a magnitude equalled or exceeded once in 100 years on the average over a significantly long period.

(2) *Floodplain* means the lowland and relatively flat areas adjoining inland and coastal waters, including flood-prone areas of offshore islands, which are inundated by the base flood.

(3) *Washout* means the carrying away of solid waste by waters of the base flood.

[44 FR 53460, Sept. 13, 1979; 44 FR 54708, Sept. 21, 1979]

§ 257.3–2 Endangered species.

(a) Facilities or practices shall not cause or contribute to the taking of any endangered or threatened species of plants, fish, or wildlife.

(b) The facility or practice shall not result in the destruction or adverse modification of the critical habitat of endangered or threatened species as identified in 50 CFR part 17.

(c) As used in this section:

(1) *Endangered or threatened species* means any species listed as such pursuant to section 4 of the Endangered Species Act.

(2) *Destruction or adverse modification* means a direct or indirect alteration of critical habitat which appreciably diminishes the likelihood of the survival and recovery of threatened or endangered species using that habitat.

(3) *Taking* means harassing, harming, pursuing, hunting, wounding, killing, trapping, capturing, or collecting or attempting to engage in such conduct.

§ 257.3–3 Surface water.

(a) For purposes of section 4004(a) of the Act, a facility shall not cause a discharge of pollutants into waters of the United States that is in violation of the requirements of the National Pollutant Discharge Elimination System (NPDES) under section 402 of the Clean Water Act, as amended.

(b) For purposes of section 4004(a) of the Act, a facility shall not cause a discharge of dredged material or fill material to waters of the United States that is in violation of the requirements under section 404 of the Clean Water Act, as amended.

(c) A facility or practice shall not cause non-point source pollution of waters of the United States that violates applicable legal requirements implementing an areawide or Statewide water quality management plan that has been approved by the Administrator under section 208 of the Clean Water Act, as amended.

(d) Definitions of the terms "Discharge of dredged material", "Point source", "Pollutant", "Waters of the United States", and "Wetlands" can be found in the Clean Water Act, as amended, 33 U.S.C. 1251 *et seq.*, and implementing regulations, specifically 33 CFR part 323 (42 FR 37122, July 19, 1977).

[44 FR 53460, Sept. 13, 1979, as amended at 46 FR 47052, Sept. 23, 1981]

§ 257.3–4 Ground water.

(a) A facility or practice shall not contaminate an underground drinking water source beyond the solid waste boundary or beyond an alternative boundary specified in accordance with paragraph (b) of this section.

(b)(1) For purposes of section 1008(a)(3) of the Act or section 405(d) of the CWA, a party charged with open dumping or a violation of section 405(e) with respect to sewage sludge that is not used or disposed through a practice regulated in 40 CFR part 503 may demonstrate that compliance should be determined at an alternative boundary in lieu of the solid waste boundary. The court shall establish an alternative boundary only if it finds that such a change would not result in contamination of ground water which may be needed or used for human consumption. This finding shall be based on analysis and consideration of all of the following factors that are relevant:

(i) The hydrogeological characteristics of the facility and surrounding land, including any natural attenuation and dilution characteristics of the aquifer;

(ii) The volume and physical and chemical characteristics of the leachate;

(iii) The quantity, quality, and direction of flow of ground water underlying the facility;

(iv) The proximity and withdrawal rates of ground-water users;

(v) The availability of alternative drinking water supplies;

(vi) The existing quality of the ground water, including other sources of contamination and their cumulative impacts on the ground water;

(vii) Public health, safety, and welfare effects.

(2) For purposes of sections 4004(a) and 1008(a)(3), the State may establish an alternative boundary for a facility to be used in lieu of the solid waste boundary only if it finds that such a change would not result in the contamination of ground water which may be needed or used for human consumption. Such a finding shall be based on an analysis and consideration of all of the factors identified in paragraph (b)(1) of this section that are relevant.

(c) As used in this section:

(1) *Aquifer* means a geologic formation, group of formations, or portion of a formation capable of yielding usable quantities of ground water to wells or springs.

(2) *Contaminate* means introduce a substance that would cause:

(i) The concentration of that substance in the ground water to exceed the maximum contaminant level specified in appendix I, or

(ii) An increase in the concentration of that substance in the ground water where the existing concentration of that substance exceeds the maximum contaminant level specified in appendix I.

(3) *Ground water* means water below the land surface in the zone of saturation.

(4) *Underground drinking water source* means:

(i) An aquifer supplying drinking water for human consumption, or

(ii) An aquifer in which the ground water contains less than 10,000 mg/l total dissolved solids.

(5) *Solid waste boundary* means the outermost perimeter of the solid waste (projected in the horizontal plane) as it would exist at completion of the disposal activity.

[44 FR 53460, Sept. 13, 1979, as amended at 46 FR 47052, Sept. 23, 1981; 58 FR 9386, Feb. 19, 1993]

§ 257.3–5 Application to land used for the production of food-chain crops (interim final).

(a) *Cadmium.* A facility or practice concerning application of solid waste to within one meter (three feet) of the surface of land used for the production of food-chain crops shall not exist or occur, unless in compliance with all requirements of paragraphs (a)(1) (i) through (iii) of this section or all requirements of paragraphs (a)(2) (i) through (iv) of this section.

(1)(i) The pH of the solid waste and soil mixture is 6.5 or greater at the time of each solid waste application, except for solid waste containing cadmium at concentrations of 2 mg/kg (dry weight) or less.

(ii) The annual application of cadmium from solid waste does not exceed 0.5 kilograms per hectare (kg/ha) on land used for production of tobacco, leafy vegetables or root crops grown for human consumption. For other food-chain crops, the annual cadmium application rate does not exceed:

Time period	Annual Cd application rate (kg/ha)
Present to June 30, 1984	2.0
July 1, 1984 to December 31, 1986	1.25
Beginning January 1, 1987	0.5

(iii) The cumulative application of cadmium from solid waste does not exceed the levels in either paragraph (a)(1)(ii)(A) or (B) of this section.

(A)

Soil cation exchange capacity (meq/100g)	Maximum cumulative application (kg/ha)	
	Background soil pH less than 6.5	Background soil pH more than 6.5
Less than 5	5	5
5 to 15	5	10
More than 15	5	20

(B) For soils with a background pH of less than 6.5, the cumulative cadmium application rate does not exceed the levels below: *Provided*, That the pH of the solid waste and soil mixture is adjusted to and maintained at 6.5 or greater whenever food-chain crops are grown.

Soil cation exchange capacity (meq/100g)	Maximum cumulative application (kg/ha)
Less than 5	5
5 to 15	10
More than 15	20

(2)(i) The only food-chain crop produced is animal feed.

(ii) The pH of the solid waste and soil mixture is 6.5 or greater at the time of solid waste application or at the time the crop is planted, whichever occurs later, and this pH level is maintained whenever food-chain crops are grown.

(iii) There is a facility operating plan which demonstrates how the animal feed will be distributed to preclude ingestion by humans. The facility operating plan describes the measures to be taken to safeguard against possible health hazards from cadmium entering the food chain, which may result from alternative land uses.

(iv) Future property owners are notified by a stipulation in the land record or property deed which states that the property has received solid waste at high cadmium application rates and that food-chain crops should not be grown, due to a possible health hazard.

(b) *Polychlorinated Biphenyls (PCBs).* Solid waste containing concentrations of PCBs equal to or greater than 10 mg/kg (dry weight) is incorporated into the soil when applied to land used for producing animal feed, including pasture crops for animals raised for milk. Incorporation of the solid waste into the soil is not required if it is assured that the PCB content is less than 0.2 mg/kg (actual weight) in animal feed or less than 1.5 mg/kg (fat basis) in milk.

(c) As used in this section:

(1) *Animal feed* means any crop grown for consumption by animals, such as pasture crops, forage, and grain.

(2) *Background soil pH* means the pH of the soil prior to the addition of substances that alter the hydrogen ion concentration.

(3) *Cation exchange capacity* means the sum of exchangeable cations a soil can absorb expressed in milli-equivalents per 100 grams of soil as determined by sampling the soil to the depth of cultivation or solid waste placement, whichever is greater, and analyzing by the summation method for distinctly acid soils or the sodium acetate method for neutral, calcareous or saline soils ("Methods of Soil Analysis, Agronomy Monograph No. 9." C. A. Black, ed., American Society of Agronomy, Madison, Wisconsin. pp 891–901, 1965).

(4) *Food-chain crops* means tobacco, crops grown for human consumption, and animal feed for animals whose products are consumed by humans.

(5) *Incorporated into the soil* means the injection of solid waste beneath the surface of the soil or the mixing of solid waste with the surface soil.

(6) *Pasture crops* means crops such as legumes, grasses, grain stubble and stover which are consumed by animals while grazing.

(7) *pH* means the logarithm of the reciprocal of hydrogen ion concentration.

(8) *Root crops* means plants whose edible parts are grown below the surface of the soil.

(9) *Soil pH* is the value obtained by sampling the soil to the depth of cultivation or solid waste placement, whichever is greater, and analyzing by the electrometric method. ("Methods of Soil Analysis, Agronomy Monograph No. 9," C.A. Black, ed., American Society of Agronomy, Madison, Wisconsin, pp. 914–926, 1965.)

[44 FR 53460, Sept. 13, 1979; 44 FR 54708, Sept. 21, 1979]

§257.3–6 Disease.

(a) *Disease Vectors.* The facility or practice shall not exist or occur unless the on-site population of disease vectors is minimized through the periodic application of cover material or other techniques as appropriate so as to protect public health.

(b) *Sewage sludge and septic tank pumpings (Interim Final).* A facility or practice involving disposal of sewage sludge or septic tank pumpings shall not exist or occur unless in compliance with paragraphs (b) (1), (2) or (3) of this section.

(1) Sewage sludge that is applied to the land surface or is incorporated into the soil is treated by a Process to Significantly Reduce Pathogens prior to application or incorporation. Public access to the facility is controlled for at least 12 months, and grazing by animals whose products are consumed by humans is prevented for at least one month. Processes to Significantly Reduce Pathogens are listed in appendix II, section A. (These provisions do not apply to sewage sludge disposed of by a trenching or burial operation.)

(2) Septic tank pumpings that are applied to the land surface or incorporated into the soil are treated by a Process to Significantly Reduce Pathogens (as listed in appendix II, section A), prior to application or incorporation, unless public access to the facility is controlled for at least 12 months and unless grazing by animals whose products are consumed by humans is prevented for at least one month. (These provisions do not apply to septic tank pumpings disposed of by a trenching or burial operation.)

(3) Sewage sludge or septic tank pumpings that are applied to the land surface or are incorporated into the soil are treated by a Process to Further Reduce Pathogens, prior to application or incorporation, if crops for direct human consumption are grown within 18 months subsequent to application or incorporation. Such treatment is not required if there is no contact between the solid waste and the edible portion of the crop; however, in this case the solid waste is treated by a Process to Significantly Reduce Pathogens, prior to application; public access to the facility is controlled for at least 12 months; and grazing by animals whose products are consumed by humans is prevented for at least one month. If crops for direct human consumption are not grown within 18 months of application or incorporation, the requirements of paragraphs (b) (1) and (2) of this section apply. Processes to Further Reduce Pathogens are listed in appendix II, section B.

(c) As used in this section:

(1) *Crops for direct human consumption* means crops that are consumed by humans without processing to minimize pathogens prior to distribution to the consumer.

(2) *Disease vector* means rodents, flies, and mosquitoes capable of transmitting disease to humans.

(3) *Incorporated into the soil* means the injection of solid waste beneath the surface of the soil or the mixing of solid waste with the surface soil.

(4) *Periodic application of cover material* means the application and compaction of soil or other suitable material over disposed solid waste at the end of each operating day or at such frequencies and in such a manner as to reduce the risk of fire and to impede vectors access to the waste.

(5) *Trenching or burial operation* means the placement of sewage sludge or septic tank pumpings in a trench or other natural or man-made depression and the covering with soil or other suitable material at the end of each operating day such that the wastes do not migrate to the surface.

[44 FR 53460, Sept. 13, 1979; 44 FR 54708, Sept. 21, 1979]

§257.3–7 Air.

(a) The facility or practice shall not engage in open burning of residential, commercial, institutional or industrial solid waste. This requirement does not apply to infrequent burning of agricultural wastes in the field, silvicultural wastes for forest management purposes, land-clearing debris, diseased trees, debris from emergency clean-up operations, and ordnance.

(b) For purposes of section 4004(a) of the Act, the facility shall not violate applicable requirements developed under a State Implementation Plan (SIP) approved or promulgated by the Administrator pursuant to section 110 of the Clean Air Act, as amended.

(c) As used in this section "open burning" means the combustion of

solid waste without (1) control of combustion air to maintain adequate temperature for efficient combustion, (2) containment of the combustion reaction in an enclosed device to provide sufficient residence time and mixing for complete combustion, and (3) control of the emission of the combustion products.

[44 FR 53460, Sept. 13, 1979; 44 FR 54706, Sept. 21, 1979, as amended at 46 FR 47052, Sept. 23, 1981]

§ 257.3–8 Safety.

(a) *Explosive gases.* The concentration of explosive gases generated by the facility or practice shall not exceed:

(1) Twenty-five percent (25%) of the lower explosive limit for the gases in facility structures (excluding gas control or recovery system components); and

(2) The lower explosive limit for the gases at the property boundary.

(b) *Fires.* A facility or practice shall not pose a hazard to the safety of persons or property from fires. This may be accomplished through compliance with §257.3–7 and through the periodic application of cover material or other techniques as appropriate.

(c) *Bird hazards to aircraft.* A facility or practice disposing of putrescible wastes that may attract birds and which occurs within 10,000 feet (3,048 meters) of any airport runway used by turbojet aircraft or within 5,000 feet (1,524 meters) of any airport runway used by only piston-type aircraft shall not pose a bird hazard to aircraft.

(d) *Access.* A facility or practice shall not allow uncontrolled public access so as to expose the public to potential health and safety hazards at the disposal site.

(e) As used in this section:

(1) *Airport* means public-use airport open to the public without prior permission and without restrictions within the physical capacities of available facilities.

(2) *Bird hazard* means an increase in the likelihood of bird/aircraft collisions that may cause damage to the aircraft or injury to its occupants.

(3) *Explosive gas* means methane (CH_4).

(4) *Facility structures* means any buildings and sheds or utility or drainage lines on the facility.

(5) *Lower explosive limit* means the lowest percent by volume of a mixture of explosive gases which will propagate a flame in air at 25 °C and atmospheric pressure.

(6) *Periodic application of cover material* means the application and compaction of soil or other suitable material over disposed solid waste at the end of each operating day or at such frequencies and in such a manner as to reduce the risk of fire and to impede disease vectors' access to the waste.

(7) *Putrescible wastes* means solid waste which contains organic matter capable of being decomposed by microorganisms and of such a character and proportion as to be capable of attracting or providing food for birds.

§ 257.4 Effective date.

These criteria become effective October 15, 1979.

APPENDIX I TO 40 CFR PART 257—MAXIMUM CONTAMINANT LEVELS (MCLS)

MAXIMUM CONTAMINANT LEVELS (MCLS) PROMULGATED UNDER THE SAFE DRINKING WATER ACT

Chemical	CAS No.	MCL (mg/l)
Arsenic	7440–38–2	0.05
Barium	7440–39–3	1.0
Benzene	71–343–2	0.005
Cadmium	7440–43–9	0.01
Carbon tetrachloride	56–23–5	0.005
Chromium (hexavalent)	7440–47–3	0.05
2,4-Dichlorophenoxy acetic acid	94–75–7	0.1
1,4-Dichlorobenzene	106–46–7	0.075
1,2-Dichloroethane	107–06–2	0.005
1,1-Dichloroethylene	75–35–4	0.007
Endrin	75–20–8	0.0002
Fluoride	7	4.0
Lindane	58–89–9	0.004
Lead	7439–92–1	0.05
Mercury	7439–97–6	0.002
Methoxychlor	72–43–5	0.1
Nitrate		10.0
Selenium	7782–49–2	0.01
Silver	7440–22–4	0.05
Toxaphene	8001–35–2	0.005
1,1,1-Trichloroethane	71–55–6	0.2
Trichloroethylene	79–01–6	0.005
2,4,5-Trichlorophenoxy acetic acid	93–76–5	0.01
Vinyl chloride	75–01–4	0.002

EFFECTIVE DATE NOTE: At 56 FR 51016, Oct. 9, 1991, appendix I to 40 CFR part 257 was revised effective October 9, 1993. For the convenience of the user, the superseded text is set forth below:

APPENDIX I TO 40 CFR PART 257—MAXIMUM CONTAMINANT LEVELS (MCLS)

The maximum contaminant levels promulgated herein are for use in determining whether solid waste disposal activities comply with the ground-water criteria (§257.3–4). Analytical methods for these contaminants may be found in 40 CFR Part 141 which should be consulted in its entirety.

1. *Maximum contaminant levels for inorganic chemicals.* The following are the maximum levels of inorganic chemicals other than fluoride:

Contaminant	Level (milligrams per liter)
Arsenic	0.05
Barium	1
Cadmium	0.010
Chromium	0.05
Lead	0.05
Mercury	0.002
Nitrate (as N)	10
Selenium	0.01
Silver	0.05

The maximum contaminant levels for fluoride are:

Temperature [1] degrees Fahrenheit	Degrees Celsius	Level (milligrams per liter)
53.7 and below	12 and below	2.4
53.8 to 58.3	12.1 to 14.6	2.2
58.4 to 63.8	14.7 to 17.6	2.0
63.9 to 70.6	17.7 to 21.4	1.8
70.7 to 79.2	21.5 to 26.2	1.6
79.3 to 90.5	26.3 to 32.5	1.4

[1] Annual average of the maximum daily air temperature.

2. *Maximum contaminant levels for organic chemicals.* The following are the maximum contaminant levels for organic chemicals:

	Level (milligrams per liter)
(a) Chlorinated hydrocarbons:	
Endrin (1,2,3,4,10,10-Hexachloro-6,7-epoxy-1,4,4a,5,6,7,8,8a-octahydro-1,4-endo, endo-5,8-dimethano naphthalene)	0.0002
Lindane (1,2,3,4,5,6-Hexachlorocyclohexane, gamma isomer	0.004
Methoxychlor (1,1,1-Trichloro-2,2-bis (p-methoxyphenyl) ethane)	0.1
Toxaphene ($C_{10}H_{10}Cl_8$-Technical chlorinated camphene, 67 to 69 percent chlorine)	0.005
(b) Chlorophenoxys:	
2,4-D (2,4-Dichlorophenoxy-acetic acid)	0.1
2,4,5-TP Silvex (2,4,5-Trichlorophenoxypropionic acid)	0.01

3. *Maximum microbiological contaminant levels.* The maximum contaminant level for coliform bacteria from any one well is as follows:

(a) using the membrane filter technique:

(1) Four coliform bacteria per 100 milliliters if one sample is taken, or

(2) Four coliform bacteria per 100 milliliters in more than one sample of all the samples analyzed in one month.

(b) Using the five tube most probable number procedure, (the fermentation tube method) in accordance with the analytical recommendations set forth in "Standard Methods for Examination of Water and Waste Water", American Public Health Association, 13th Ed. pp. 662–688, and using a Standard sample, each portion being one fifth of the sample:

(1) If the standard portion is 10 millilliters, coliform in any five consecutive samples from a well shall not be present in three or more of the 25 portions, or

(2) If the standard portion is 100 millilliters, coliform in any five consecutive samples from a well shall not be present in five portions in any of five samples or in more than fifteen of the 25 portions.

4. *Maximum contaminant levels for radium-226, radium-228, and gross alpha particle radioactivity.* The following are the maximum contaminant levels for radium-226, radium-228, and gross alpha particle radioactivity:

(a) Combined radium-226 and radium-228—5 pCi/l;

(b) Gross alpha particle activity (including radium-226 but excluding radon and uranium)—15 pCi/l.

APPENDIX II TO PART 257

A. Processes to Significantly Reduce Pathogens

Aerobic digestion: The process is conducted by agitating sludge with air or oxygen to maintain aerobic conditions at residence times ranging from 60 days at 15° C to 40 days at 20° C, with a volatile solids reduction of at least 38 percent.

Air Drying: Liquid sludge is allowed to drain and/or dry on under-drained sand beds, or paved or unpaved basins in which the sludge is at a depth of nine inches. A minimum of three months is needed, two months of which temperatures average on a daily basis above 0° C.

Anaerobic digestion: The process is conducted in the absence of air at residence times ranging from 60 days at 20° C to 15 days at 35° to 55° C, with a volatile solids reduction of at least 38 percent.

Composting: Using the within-vessel, static aerated pile or windrow composting methods, the solid waste is maintained at minimum operating conditions of 40° C for 5 days. For four hours during this period the temperature exceeds 55° C.

Lime Stabilization: Sufficient lime is added to produce a pH of 12 after 2 hours of contact.

Other methods: Other methods or operating conditions may be acceptable if pathogens and vector attraction of the waste (volatile

solids) are reduced to an extent equivalent to the reduction achieved by any of the above methods.

B. Processes to Further Reduce Pathogens

Composting: Using the within-vessel composting method, the solid waste is maintained at operating conditions of 55° C or greater for three days. Using the static aerated pile composting method, the solid waste is maintained at operating conditions of 55° C or greater for three days. Using the windrow composting method, the solid waste attains a temperature of 55° C or greater for at least 15 days during the composting period. Also, during the high temperature period, there will be a minimum of five turnings of the windrow.

Heat drying: Dewatered sludge cake is dried by direct or indirect contact with hot gases, and moisture content is reduced to 10 percent or lower. Sludge particles reach temperatures well in excess of 80° C, or the wet bulb temperature of the gas stream in contact with the sludge at the point where it leaves the dryer is in excess of 80° C.

Heat treatment: Liquid sludge is heated to temperatures of 180° C for 30 minutes.

Thermophilic Aerobic Digestion: Liquid sludge is agitated with air or oxygen to maintain aerobic conditions at residence times of 10 days at 55–60° C, with a volatile solids reduction of at least 38 percent.

Other methods: Other methods or operating conditions may be acceptable if pathogens and vector attraction of the waste (volatile solids) are reduced to an extent equivalent to the reduction achieved by any of the above methods.

Any of the processes listed below, if added to the processes described in Section A above, further reduce pathogens. Because the processes listed below, on their own, do not reduce the attraction of disease vectors, they are only add-on in nature.

Beta ray irradiation: Sludge is irradiated with beta rays from an accelerator at dosages of at least 1.0 megarad at room temperature (ca. 20° C).

Gamma ray irradiation: Sludge is irradiated with gamma rays from certain isotopes, such as ^{60}Cobalt and ^{137}Cesium, at dosages of at least 1.0 megarad at room temperature (ca. 20° C).

Pasteurization: Sludge is maintained for at least 30 minutes at a minimum temperature of 70° C.

Other methods: Other methods or operating conditions may be acceptable if pathogens are reduced to an extent equivalent to the reduction achieved by any of the above add-on methods.

PART 258—CRITERIA FOR MUNICIPAL SOLID WASTE LANDFILLS (Eff. 10–9–93)

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APPENDIX I TO PART 258—CONSTITUENTS FOR DETECTION MONITORING
APPENDIX II TO PART 258—LIST OF HAZARDOUS AND ORGANIC CONSTITUENTS

AUTHORITY: 42 U.S.C. 6907(a)(3), 6944(a) and 6949(c); 33 U.S.C. 1345 (d) and (e).

SOURCE: 56 FR 51016, Oct. 9, 1991, unless otherwise noted.

EFFECTIVE DATE NOTE: At 56 FR 51016, Oct. 9, 1991, part 258 was added, effective October 9, 1993, except subpart G, which is effective April 9, 1994.

Subpart A—General

§258.1 Purpose, scope, and applicability.

(a) The purpose of this part is to establish minimum national criteria under the Resource Conservation and Recovery Act (RCRA or the Act), as amended, for all municipal solid waste landfill (MSWLF) units and under the Clean Water Act, as amended, for municipal solid waste landfills that are used to dispose of sewage sludge. These minimum national criteria ensure the protection of human health and the environment.

(b) These Criteria apply to owners and operators of new MSWLF units, existing MSWLF units, and lateral expansions, except as otherwise specifically provided in this part; all other solid waste disposal facilities and practices that are not regulated under subtitle C of RCRA are subject to the criteria contained in part 257 of this chapter.

(c) These Criteria do not apply to municipal solid waste landfill units that do not receive waste after October 9, 1991.

(d) MSWLF units that receive waste after October 9, 1991 but stop receiving waste before October 9, 1993 are exempt from all the requirements of this part 258, except the final cover requirement specified in §258.60(a). The final cover must be installed within six months of last receipt of wastes. Owners or operators of MSWLF units described in this paragraph that fail to complete cover installation within this six month period will be subject to all the requirements of this part 258, unless otherwise specified.

(e) All MSWLF units that receive waste on or after October 9, 1993 must comply with all requirements of this part 258 unless otherwise specified.

(f)(1) Owners or operators of new MSWLF units, existing MSWLF units, and lateral expansions that dispose of less than twenty (20) tons of municipal solid waste daily, based on an annual average are exempt from subparts D and E of this part, so long as there is no evidence of existing ground-water contamination from the MSWLF unit, and the MSWLF unit serves:

(i) A community that experiences an annual interruption of at least three consecutive months of surface transportation that prevents access to a regional waste management facility, or

(ii) A community that has no practicable waste management alternative and the landfill unit is located in an area that annually receives less than or equal to 25 inches of precipitation.

(2) Owners or operators of new MSWLF units, existing MSWLF units, and lateral expansions that meet the criteria in paragraph (f)(1)(i) or (f)(1)(ii) of this section must place in the operating record information demonstrating this.

(3) If the owner or operator of a new MSWLF unit, existing MSWLF unit, or lateral expansion has knowledge of ground-water contamination resulting from the unit that has asserted the exemption in paragraph (f)(1)(i) or (f)(1)(ii) of this section, the owner or operator must notify the State Director of such contamination and, thereafter, comply with subparts D and E of this part.

(g) Municipal solid waste landfill units failing to satisfy these criteria are considered open dumps for purposes of State solid waste management planning under RCRA.

(h) Municipal solid waste landfill units failing to satisfy these criteria constitute open dumps, which are prohibited under section 4005 of RCRA.

(i) Municipal solid waste landfill units containing sewage sludge and failing to satisfy these Criteria violate sections 309 and 405(e) of the Clean Water Act.

(j) The effective date of this part is October 9, 1993, except subpart G of this part 258 is effective April 9, 1994.

§ 258.2 Definitions.

Unless otherwise noted, all terms contained in this part are defined by their plain meaning. This section contains definitions for terms that appear throughout this part; additional definitions appear in the specific sections to which they apply.

Active life means the period of operation beginning with the initial receipt of solid waste and ending at completion of closure activities in accordance with § 258.60 of this part.

Active portion means that part of a facility or unit that has received or is receiving wastes and that has not been closed in accordance with § 258.60 of this part.

Aquifer means a geological formation, group of formations, or porton of a formation capable of yielding significant quantities of ground water to wells or springs.

Commercial solid waste means all types of solid waste generated by stores, offices, restaurants, warehouses, and other nonmanufacturing activities, excluding residential and industrial wastes.

Director of an approved State means the chief administrative officer of a State agency responsible for implementing the State municipal solid waste permit program or other system of prior approval that is deemed to be adequate by EPA under regulations published pursuant to sections 2002 and 4005 of RCRA.

Existing MSWLF unit means any municipal solid waste landfill unit that is receiving solid waste as of the effective date of this part (October 9, 1993). Waste placement in existing units must be consistent with past operating practices or modified practices to ensure good management.

Facility means all contiguous land and structures, other appurtenances, and improvements on the land used for the disposal of solid waste.

Ground water means water below the land surface in a zone of saturation.

Household waste means any solid waste (including garbage, trash, and sanitary waste in septic tanks) derived from households (including single and multiple residences, hotels and motels, bunkhouses, ranger stations, crew quarters, campgrounds, picnic grounds, and day-use recreation areas).

Industrial solid waste means solid waste generated by manufacturing or industrial processes that is not a hazardous waste regulated under subtitle C of RCRA. Such waste may include, but is not limited to, waste resulting from the following manufacturing processes: Electric power generation; fertilizer/agricultural chemicals; food and related products/by-products; inorganic chemicals; iron and steel manufacturing; leather and leather products; nonferrous metals manufacturing/foundries; organic chemicals; plastics and resins manufacturing; pulp and paper industry; rubber and miscellaneous plastic products; stone, glass, clay, and concrete products; textile manufacturing; transportation equipment; and water treatment. This term does not include mining waste or oil and gas waste.

Lateral expansion means a horizontal expansion of the waste boundaries of an existing MSWLF unit.

Leachate means a liquid that has passed through or emerged from solid waste and contains soluble, suspended, or miscible materials removed from such waste.

Municipal solid waste landfill unit means a discrete area of land or an excavation that receives household waste, and that is not a land application unit, surface impoundment, injection well, or waste pile, as those terms are defined under § 257.2. A MSWLF unit also may receive other types of RCRA subtitle D wastes, such as commercial solid waste, nonhazardous sludge, conditionally exempt small quantity generator waste and industrial solid waste. Such a landfill may be publicly or privately owned. A MSWLF unit may be a new MSWLF unit, an existing MSWLF unit or a lateral expansion.

New MSWLF unit means any municipal solid waste landfill unit that has not received waste prior to the effective date of this part (October 9, 1993).

Open burning means the combustion of solid waste without:

(1) Control of combustion air to maintain adequate temperature for efficient combustion,

(2) Containment of the combustion reaction in an enclosed device to provide sufficient residence time and mixing for complete combustion, and

(3) Control of the emission of the combustion products.

Operator means the person(s) responsible for the overall operation of a facility or part of a facility.

Owner means the person(s) who owns a facility or part of a facility.

Run-off means any rainwater, leachate, or other liquid that drains over land from any part of a facility.

Run-on means any rainwater, leachate, or other liquid that drains over land onto any part of a facility.

Saturated zone means that part of the earth's crust in which all voids are filled with water.

Sludge means any solid, semi-solid, or liquid waste generated from a municipal, commercial, or industrial wastewater treatment plant, water supply treatment plant, or air pollution control facility exclusive of the treated effluent from a wastewater treatment plant.

Solid waste means any garbage, or refuse, sludge from a wastewater treatment plant, water supply treatment plant, or air pollution control facility and other discarded material, including solid, liquid, semi-solid, or contained gaseous material resulting from industrial, commercial, mining, and agricultural operations, and from community activities, but does not include solid or dissolved materials in domestic sewage, or solid or dissolved materials in irrigation return flows or industrial discharges that are point sources subject to permit under 33 U.S.C. 1342, or source, special nuclear, or by-product material as defined by the Atomic Energy Act of 1954, as amended (68 Stat. 923).

State means any of the several States, the District of Columbia, the Commonwealth of Puerto Rico, the Virgin Islands, Guam, American Samoa, and the Commonwealth of the Northern Mariana Islands.

State Director means the chief administrative officer of the State agency responsible for implementing the State municipal solid waste permit program or other system of prior approval.

Uppermost aquifer means the geologic formation nearest the natural ground surface that is an aquifer, as well as, lower aquifers that are hydraulically interconnected with this aquifer within the facility's property boundary.

Waste management unit boundary means a vertical surface located at the hydraulically downgradient limit of the unit. This vertical surface extends down into the uppermost aquifer.

[56 FR 51016, Oct. 9, 1991; 57 FR 28627, June 26, 1992]

§ 258.3 Consideration of other Federal laws.

The owner or operator of a municipal solid waste landfill unit must comply with any other applicable Federal rules, laws, regulations, or other requirements.

§§ 258.4—258.9 [Reserved]

Subpart B—Location Restrictions

§ 258.10 Airport safety.

(a) Owners or operators of new MSWLF units, existing MSWLF units, and lateral expansions that are located within 10,000 feet (3,048 meters) of any airport runway end used by turbojet aircraft or within 5,000 feet (1,524 meters) of any airport runway end used by only piston-type aircraft must demonstrate that the units are designed and operated so that the MSWLF unit does not pose a bird hazard to aircraft.

(b) Owners or operators proposing to site new MSWLF units and lateral expansions within a five-mile radius of any airport runway end used by turbojet or piston-type aircraft must notify the affected airport and the Federal Aviation Administration (FAA).

(c) The owner or operator must place the demonstration in paragraph (a) of this section in the operating record and notify the State Director that it has been placed in the operating record.

(d) For purposes of this section:

(1) *Airport* means public-use airport open to the public without prior permission and without restrictions within the physical capacities of available facilities.

(2) *Bird hazard* means an increase in the likelihood of bird/aircraft collisions that may cause damage to the aircraft or injury to its occupants.

§ 258.11 Floodplains.

(a) Owners or operators of new MSWLF units, existing MSWLF units, and lateral expansions located in 100-year floodplains must demonstrate that the unit will not restrict the flow of the 100-year flood, reduce the temporary water storage capacity of the floodplain, or result in washout of solid waste so as to pose a hazard to human health and the environment. The owner or operator must place the demonstration in the operating record and notify the State Director that it has been placed in the operating record.

(b) For purposes of this section:

(1) *Floodplain* means the lowland and relatively flat areas adjoining inland and coastal waters, including floodprone areas of offshore islands, that are inundated by the 100-year flood.

(2) *100-year flood* means a flood that has a 1-percent or greater chance of recurring in any given year or a flood of a magnitude equalled or exceeded once in 100 years on the average over a significantly long period.

(3) *Washout* means the carrying away of solid waste by waters of the base flood.

§ 258.12 Wetlands.

(a) New MSWLF units and lateral expansions shall not be located in wetlands, unless the owner or operator can make the following demonstrations to the Director of an approved State:

(1) Where applicable under section 404 of the Clean Water Act or applicable State wetlands laws, the presumption that practicable alternative to the proposed landfill is available which does not involve wetlands is clearly rebutted;

(2) The construction and operation of the MSWLF unit will not:

(i) Cause or contribute to violations of any applicable State water quality standard,

(ii) Violate any applicable toxic effluent standard or prohibition under Section 307 of the Clean Water Act,

(iii) Jeopardize the continued existence of endangered or threatened species or result in the destruction or adverse modification of a critical habitat, protected under the Endangered Species Act of 1973, and

(iv) Violate any requirement under the Marine Protection, Research, and Sanctuaries Act of 1972 for the protection of a marine sanctuary;

(3) The MSWLF unit will not cause or contribute to significant degradation of wetlands. The owner or operator must demonstrate the integrity of the MSWLF unit and its ability to protect ecological resources by addressing the following factors:

(i) Erosion, stability, and migration potential of native wetland soils, muds and deposits used to support the MSWLF unit;

(ii) Erosion, stability, and migration potential of dredged and fill materials used to support the MSWLF unit;

(iii) The volume and chemical nature of the waste managed in the MSWLF unit;

(iv) Impacts on fish, wildlife, and other aquatic resources and their habitat from release of the solid waste;

(v) The potential effects of catastrophic release of waste to the wetland and the resulting impacts on the environment; and

(vi) Any additional factors, as necessary, to demonstrate that ecological resources in the wetland are sufficiently protected.

(4) To the extent required under section 404 of the Clean Water Act or applicable State wetlands laws, steps have been taken to attempt to achieve no net loss of wetlands (as defined by acreage and function) by first avoiding impacts to wetlands to the maximum extent practicable as required by paragraph (a)(1) of this section, then minimizing unavoidable impacts to the maximum extent practicable, and finally offsetting remaining unavoidable wetland impacts through all appropriate and practicable compensatory mitigation actions (e.g., restoration of existing degraded wetlands or creation of man-made wetlands); and

(5) Sufficient information is available to make a reasonable determination with respect to these demonstrations.

(b) For purposes of this section, *wetlands* means those areas that are defined in 40 CFR 232.2(r).

§ 258.13 Fault areas.

(a) New MSWLF units and lateral expansions shall not be located within 200 feet (60 meters) of a fault that has had displacement in Holocene time unless the owner or operator demonstrates to the Director of an approved State that an alternative setback distance of less than 200 feet (60 meters) will prevent damage to the structural integrity of the MSWLF unit and will be protective of human health and the environment.

(b) For the purposes of this section:

(1) *Fault* means a fracture or a zone of fractures in any material along which strata on one side have been displaced with respect to that on the other side.

(2) *Displacement* means the relative movement of any two sides of a fault measured in any direction.

(3) *Holocene* means the most recent epoch of the Quaternary period, extending from the end of the Pleistocene Epoch to the present.

§ 258.14 Seismic impact zones.

(a) New MSWLF units and lateral expansions shall not be located in seismic impact zones, unless the owner or operator demonstrates to the Director of an approved State/Tribe that all containment structures, including liners, leachate collection systems, and surface water control systems, are designed to resist the maximum horizontal acceleration in lithified earth material for the site. The owner or operator must place the demonstration in the operating record and notify the State Director that it has been placed in the operating record.

(b) For the purposes of this section:

(1) *Seismic impact zone* means an area with a ten percent or greater probability that the maximum horizontal acceleration in lithified earth material, expressed as a percentage of the earth's gravitational pull (g), will exceed 0.10g in 250 years.

(2) *Maximum horizontal acceleration in lithified earth material* means the maximum expected horizontal acceleration depicted on a seismic hazard map, with a 90 percent or greater probability that the acceleration will not be exceeded in 250 years, or the maximum expected horizontal acceleration based on a site-specific seismic risk assessment.

(3) *Lithified earth material* means all rock, including all naturally occurring and naturally formed aggregates or masses of minerals or small particles of older rock that formed by crystallization of magma or by induration of loose sediments. This term does not include man-made materials, such as fill, concrete, and asphalt, or unconsolidated earth materials, soil, or regolith lying at or near the earth surface.

[56 FR 51016, Oct. 9, 1991; 57 FR 28627, June 26, 1992]

§ 258.15 Unstable areas.

(a) Owners or operators of new MSWLF units, existing MSWLF units, and lateral expansions located in an unstable area must demonstrate that engineering measures have been incorporated into the MSWLF unit's design to ensure that the integrity of the structural components of the MSWLF unit will not be disrupted. The owner or operator must place the demonstration in the operating record and notify the State Director that it has been placed in the operating record. The owner or operator must consider the following factors, at a minimum, when determining whether an area is unstable:

(1) On-site or local soil conditions that may result in significant differential settling;

(2) On-site or local geologic or geomorphologic features; and

(3) On-site or local human-made features or events (both surface and subsurface).

(b) For purposes of this section:

(1) *Unstable area* means a location that is susceptible to natural or human-induced events or forces capable of impairing the integrity of some or all of the landfill structural components responsible for preventing releases from a landfill. Unstable areas

can include poor foundation conditions, areas susceptible to mass movements, and Karst terranes.

(2) *Structural components* means liners, leachate collection systems, final covers, run-on/run-off systems, and any other component used in the construction and operation of the MSWLF that is necessary for protection of human health and the environment.

(3) *Poor foundation conditions* means those areas where features exist which indicate that a natural or man-induced event may result in inadequate foundation support for the structural components of an MSWLF unit.

(4) *Areas susceptible to mass movement* means those areas of influence (i.e., areas characterized as having an active or substantial possibility of mass movement) where the movement of earth material at, beneath, or adjacent to the MSWLF unit, because of natural or man-induced events, results in the downslope transport of soil and rock material by means of gravitational influence. Areas of mass movement include, but are not limited to, landslides, avalanches, debris slides and flows, soil fluction, block sliding, and rock fall.

(5) *Karst terranes* means areas where karst topography, with its characteristic surface and subterranean features, is developed as the result of dissolution of limestone, dolomite, or other soluble rock. Characteristic physiographic features present in karst terranes include, but are not limited to, sinkholes, sinking streams, caves, large springs, and blind valleys.

§ 258.16 Closure of existing municipal solid waste landfill units.

(a) Existing MSWLF units that cannot make the demonstration specified in § 258.10(a), pertaining to airports, § 258.11(a), pertaining to floodplains, or § 258.15(a), pertaining to unstable areas, must close by October 9, 1996, in accordance with § 258.60 of this part and conduct post-closure activities in accordance with § 258.61 of this part.

(b) The deadline for closure required by paragraph (a) of this section may be extended up to two years if the owner or operator demonstrates to the Director of an approved State that:

(1) There is no available alternative disposal capacity;

(2) There is no immediate threat to human health and the environment.

NOTE TO SUBPART B: Owners or operators of MSWLFs should be aware that a State in which their landfill is located or is to be located, may have adopted a state wellhead protection program in accordance with section 1428 of the Safe Drinking Water Act. Such state wellhead protection programs may impose additional requirements on owners or operators of MSWLFs than those set forth in this part.

§§ 258.17—258.19 [Reserved]

Subpart C—Operating Criteria

§ 258.20 Procedures for excluding the receipt of hazardous waste.

(a) Owners or operators of all MSWLF units must implement a program at the facility for detecting and preventing the disposal of regulated hazardous wastes as defined in part 261 of this chapter and polychlorinated biphenyls (PCB) wastes as defined in part 761 of this chapter. This program must include, at a minimum:

(1) Random inspections of incoming loads unless the owner or operator takes other steps to ensure that incoming loads do not contain regulated hazardous wastes or PCB wastes;

(2) Records of any inspections;

(3) Training of facility personnel to recognize regulated hazardous waste and PCB wastes; and

(4) Notification of State Director of authorized States under Subtitle C of RCRA or the EPA Regional Administrator if in an unauthorized State if a regulated hazardous waste or PCB waste is discovered at the facility.

(b) For purposes of this section, *regulated hazardous waste* means a solid waste that is a hazardous waste, as defined in 40 CFR 261.3, that is not excluded from regulation as a hazardous waste under 40 CFR 261.4(b) or was not generated by a conditionally exempt small quantity generator as defined in § 261.5 of this chapter.

§ 258.21 Cover material requirements.

(a) Except as provided in paragraph (b) of this section, the owners or operators of all MSWLF units must cover

disposed solid waste with six inches of earthen material at the end of each operating day, or at more frequent intervals if necessary, to control disease vectors, fires, odors, blowing litter, and scavenging.

(b) Alternative materials of an alternative thickness (other than at least six inches of earthen material) may be approved by the Director of an approved State if the owner or operator demonstrates that the alternative material and thickness control disease vectors, fires, odors, blowing litter, and scavenging without presenting a threat to human health and the environment.

(c) The Director of an approved State may grant a temporary waiver from the requirement of paragraph (a) and (b) of this section if the owner or operator demonstrates that there are extreme seasonal climatic conditions that make meeting such requirements impractical.

§ 258.22 Disease vector control.

(a) Owners or operators of all MSWLF units must prevent or control on-site populations of disease vectors using techniques appropriate for the protection of human health and the environment.

(b) For purposes of this section, *disease vectors* means any rodents, flies, mosquitoes, or other animals, including insects, capable of transmitting disease to humans.

§ 258.23 Explosive gases control.

(a) Owners or operators of all MSWLF units must ensure that:

(1) The concentration of methane gas generated by the facility does not exceed 25 percent of the lower explosive limit for methane in facility structures (excluding gas control or recovery system components); and

(2) The concentration of methane gas does not exceed the lower explosive limit for methane at the facility property boundary.

(b) Owners or operators of all MSWLF units must implement a routine methane monitoring program to ensure that the standards of paragraph (a) of this section are met.

(1) The type and frequency of monitoring must be determined based on the following factors:

(i) Soil conditions;

(ii) The hydrogeologic conditions surrounding the facility;

(iii) The hydraulic conditions surrounding the facility; and

(iv) The location of facility structures and property boundaries.

(2) The minimum frequency of monitoring shall be quarterly.

(c) If methane gas levels exceeding the limits specified in paragraph (a) of this section are detected, the owner or operator must:

(1) Immediately take all necessary steps to ensure protection of human health and notify the State Director;

(2) Within seven days of detection, place in the operating record the methane gas levels detected and a description of the steps taken to protect human health; and

(3) Within 60 days of detection, implement a remediation plan for the methane gas releases, place a copy of the plan in the operating record, and notify the State Director that the plan has been implemented. The plan shall describe the nature and extent of the problem and the proposed remedy.

(4) The Director of an approved State may establish alternative schedules for demonstrating compliance with paragraphs (c) (2) and (3) of this section.

(d) For purposes of this section, *lower explosive limit* means the lowest percent by volume of a mixture of explosive gases in air that will propagate a flame at 25° C and atmospheric pressure.

§ 258.24 Air criteria.

(a) Owners or operators of all MSWLFs must ensure that the units not violate any applicable requirements developed under a State Implementation Plan (SIP) approved or promulgated by the Administrator pursuant to section 110 of the Clean Air Act, as amended.

(b) Open burning of solid waste, except for the infrequent burning of agricultural wastes, silvicultural wastes, landclearing debris, diseased trees, or debris from emergency cleanup operations, is prohibited at all MSWLF units.

§ 258.25 Access requirements.

Owners or operators of all MSWLF units must control public access and

prevent unauthorized vehicular traffic and illegal dumping of wastes by using artificial barriers, natural barriers, or both, as appropriate to protect human health and the environment.

§ 258.26 Run-on/run-off control systems.

(a) Owners or operators of all MSWLF units must design, construct, and maintain:

(1) A run-on control system to prevent flow onto the active portion of the landfill during the peak discharge from a 25-year storm;

(2) A run-off control system from the active portion of the landfill to collect and control at least the water volume resulting from a 24-hour, 25-year storm.

(b) Run-off from the active portion of the landfill unit must be handled in accordance with § 258.27(a) of this part.

[56 FR 51016, Oct. 9, 1991; 57 FR 28627, June 26, 1992]

§ 258.27 Surface water requirements.

MSWLF units shall not:

(a) Cause a discharge of pollutants into waters of the United States, including wetlands, that violates any requirements of the Clean Water Act, including, but not limited to, the National Pollutant Discharge Elimination System (NPDES) requirements, pursuant to section 402.

(b) Cause the discharge of a nonpoint source of pollution to waters of the United States, including wetlands, that violates any requirement of an areawide or State-wide water quality management plan that has been approved under section 208 or 319 of the Clean Water Act, as amended.

§ 258.28 Liquids restrictions.

(a) Bulk or noncontainerized liquid waste may not be placed in MSWLF units unless:

(1) The waste is household waste other than septic waste; or

(2) The waste is leachate or gas condensate derived from the MSWLF unit and the MSWLF unit, whether it is a new or existing MSWLF, or lateral expansion, is designed with a composite liner and leachate collection system as described in § 258.40(a)(2) of this part. The owner or operator must place the demonstration in the operating record and notify the State Director that it has been placed in the operating record.

(b) Containers holding liquid waste may not be placed in a MSWLF unit unless:

(1) The container is a small container similar in size to that normally found in household waste;

(2) The container is designed to hold liquids for use other than storage; or

(3) The waste is household waste.

(c) For purposes of this section:

(1) *Liquid waste* means any waste material that is determined to contain "free liquids" as defined by Method 9095 (Paint Filter Liquids Test), as described in "Test Methods for Evaluating Solid Wastes, Physical/Chemical Methods" (EPA Pub. No. SW-846).

(2) *Gas condensate* means the liquid generated as a result of gas recovery process(es) at the MSWLF unit.

§ 258.29 Recordkeeping requirements.

(a) The owner or operator of a MSWLF unit must record and retain near the facility in an operating record or in an alternative location approved by the Director of an approved State the following information as it becomes available:

(1) Any location restriction demonstration required under subpart B of this part;

(2) Inspection records, training procedures, and notification procedures required in § 258.20 of this part;

(3) Gas monitoring results from monitoring and any remediation plans required by § 258.23 of this part;

(4) Any MSWLF unit design documentation for placement of leachate or gas condensate in a MSWLF unit as required under § 258.28(a)(2) of this part;

(5) Any demonstration, certification, finding, monitoring, testing, or analytical data required by subpart E of this part;

(6) Closure and post-closure care plans and any monitoring, testing, or analytical data as required by §§ 258.60 and 258.61 of this part; and

(7) Any cost estimates and financial assurance documentation required by subpart G of this part.

(8) Any information demonstrating compliance with small community exemption as required by § 258.1(f)(2).

(b) The owner/operator must notify the State Director when the documents from paragraph (a) of this section have been placed or added to the operating record, and all information contained in the operating record must be furnished upon request to the State Director or be made available at all reasonable times for inspection by the State Director.

(c) The Director of an approved State can set alternative schedules for recordkeeping and notification requirements as specified in paragraphs (a) and (b) of this section, except for the notification requirements in § 258.10(b) and § 258.55(g)(1)(iii).

§§ 258.30—258.39 [Reserved]

Subpart D—Design Criteria

§ 258.40 Design criteria.

(a) New MSWLF units and lateral expansions shall be constructed:

(1) In accordance with a design approved by the Director of an approved State or as specified in § 258.40(e) for unapproved States. The design must ensure that the concentration values listed in Table 1 of this section will not be exceeded in the uppermost aquifer at the relevant point of compliance, as specified by the Director of an approved State under paragraph (d) of this section, or

(2) With a composite liner, as defined in paragraph (b) of this section and a leachate collection system that is designed and constructed to maintain less than a 30-cm depth of leachate over the liner.

(b) For purposes of this section, *composite liner* means a system consisting of two components; the upper component must consist of a minimum 30-mil flexible membrane liner (FML), and the lower component must consist of at least a two-foot layer of compacted soil with a hydraulic conductivity of no more than 1×10^{-7} cm/sec. FML components consisting of high density polyethylene (HDPE) shall be at least 60-mil thick. The FML component must be installed in direct and uniform contact with the compacted soil component.

(c) When approving a design that complies with paragraph (a)(1) of this section, the Director of an approved State shall consider at least the following factors:

(1) The hydrogeologic characteristics of the facility and surrounding land;

(2) The climatic factors of the area; and

(3) The volume and physical and chemical characteristics of the leachate.

(d) The relevant point of compliance specified by the Director of an approved State shall be no more than 150 meters from the waste management unit boundary and shall be located on land owned by the owner of the MSWLF unit. In determining the relevant point of compliance State Director shall consider at least the following factors:

(1) The hydrogeologic characteristics of the facility and surrounding land;

(2) The volume and physical and chemical characteristics of the leachate;

(3) The quantity, quality, and direction, of flow of ground water;

(4) The proximity and withdrawal rate of the ground-water users;

(5) The availability of alternative drinking water supplies;

(6) The existing quality of the ground water, including other sources of contamination and their cumulative impacts on the ground water, and whether the ground water is currently used or reasonably expected to be used for drinking water;

(7) Public health, safety, and welfare effects; and

(8) Practicable capability of the owner or operator.

(e) If EPA does not promulgate a rule establishing the procedures and requirements for State compliance with RCRA section 4005(c)(1)(B) by October 9, 1993, owners and operators in unapproved States may utilize a design meeting the performance standard in § 258.40(a)(1) if the following conditions are met:

(1) The State determines the design meets the performance standard in § 258.40(a)(1);

(2) The State petitions EPA to review its determination; and

(3) EPA approves the State determination or does not disapprove the determination within 30 days.

NOTE TO SUBPART D: 40 CFR part 239 is reserved to establish the procedures and requirements for State compliance with RCRA section 4005(c)(1)(B).

TABLE 1

Chemical	MCL (mg/l)
Arsenic	0.05
Barium	1.0
Benzene	0.005
Cadmium	0.01
Carbon tetrachloride	0.005
Chromium (hexavalent)	0.05
2,4-Dichlorophenoxy acetic acid	0.1
1,4-Dichlorobenzene	0.075
1,2-Dichloroethane	0.005
1,1-Dichloroethylene	0.007
Endrin	0.0002
Fluoride	4
Lindane	0.004
Lead	0.05
Mercury	0.002
Methoxychlor	0.1
Nitrate	10
Selenium	0.01
Silver	0.05
Toxaphene	0.005
1,1,1-Trichloromethane	0.2
Trichloroethylene	0.005
2,4,5-Trichlorophenoxy acetic acid	0.01
Vinyl Chloride	0.002

Subpart E—Ground-Water Monitoring and Corrective Action

§ 258.50 Applicability.

(a) The requirements in this part apply to MSWLF units, except as provided in paragraph (b) of this section.

(b) Ground-water monitoring requirements under § 258.51 through § 258.55 of this part may be suspended by the Director of an approved State for a MSWLF unit if the owner or operator can demonstrate that there is no potential for migration of hazardous constituents from that MSWLF unit to the uppermost aquifer (as defined in § 258.2) during the active life of the unit and the post-closure care period. This demonstration must be certified by a qualified ground-water scientist and approved by the Director of an approved State, and must be based upon:

(1) Site-specific field collected measurements, sampling, and analysis of physical, chemical, and biological processes affecting contaminant fate and transport, and

(2) Contaminant fate and transport predictions that maximize contaminant migration and consider impacts on human health and environment.

(c) Owners and operators of MSWLF units must comply with the ground-water monitoring requirements of this part according to the following schedule unless an alternative schedule is specified under paragraph (d) of this section:

(1) Existing MSWLF units and lateral expansions less than one mile from a drinking water intake (surface or subsurface) must be in compliance with the ground-water monitoring requirements specified in §§ 258.51–258.55 by October 9, 1994;

(2) Existing MSWLF units and lateral expansions greater than one mile but less than two miles from a drinking water intake (surface or subsurface) must be in compliance with the ground-water monitoring requirements specified in §§ 258.51–258.55 by October 9, 1995;

(3) Existing MSWLF units and lateral expansions greater than two miles from a drinking water intake (surface or subsurface) must be in compliance with the ground-water monitoring requirements specified in §§ 258.51–258.55 by October 9, 1996.

(4) New MSWLF units must be in compliance with the ground-water monitoring requirements specified in §§ 258.51–258.55 before waste can be placed in the unit.

(d) The Director of an approved State may specify an alternative schedule for the owners or operators of existing MSWLF units and lateral expansions to comply with the ground-water monitoring requirements specified in §§ 258.51–258.55. This schedule must ensure that 50 percent of all existing MSWLF units are in compliance by October 9, 1994 and all existing MSWLF units are in compliance by October 9, 1996. In setting the compliance schedule, the Director of an approved State must consider potential risks posed by the unit to human health and the environment. The following factors should be considered in determining potential risk:

(1) Proximity of human and environmental receptors;

(2) Design of the MSWLF unit;

(3) Age of the MSWLF unit;

(4) The size of the MSWLF unit; and

(5) Types and quantities of wastes disposed including sewage sludge; and

(6) Resource value of the underlying aquifer, including:

(i) Current and future uses;

(ii) Proximity and withdrawal rate of users; and

(iii) Ground-water quality and quantity.

(e) Once established at a MSWLF unit, ground-water monitoring shall be conducted throughout the active life and post-closure care period of that MSWLF unit as specified in § 258.61.

(f) For the purposes of this subpart, a *qualified ground-water scientist* is a scientist or engineer who has received a baccalaureate or post-graduate degree in the natural sciences or engineering and has sufficient training and experience in groundwater hydrology and related fields as may be demonstrated by State registration, professional Certifications, or completion of accredited university programs that enable that individual to make sound professional judgements regarding ground-water monitoring, contaminant fate and transport, and corrective-action.

(g) The Director of an approved State may establish alternative schedules for demonstrating compliance with § 258.51(d)(2), pertaining to notification of placement of certification in operating record; § 258.54(c)(1), pertaining to notification that statistically significant increase (SSI) notice is in operating record; § 258.54(c) (2) and (3), pertaining to an assessment monitoring program; § 258.55(b), pertaining to sampling and analyzing appendix II constituents; § 258.55(d)(1), pertaining to placement of notice (appendix II constituents detected) in record and notification of notice in record; § 258.55(d)(2), pertaining to sampling for appendix I and II to this part; § 258.55(g), pertaining to notification (and placement of notice in record) of SSI above groundwater protection standard; §§ 258.55(g)(1)(iv) and 258.56(a), pertaining to assessment of corrective measures; § 258.57(a), pertaining to selection of remedy and notification of placement in record; § 258.58(c)(4), pertaining to notification of placement in record (alternative corrective action measures); and § 258.58(f), pertaining to notification of placement in record (certification of remedy completed).

[56 FR 51016, Oct. 9, 1991; 57 FR 28628, June 26, 1992]

§ 258.51 Ground-water monitoring systems.

(a) A ground-water monitoring system must be installed that consists of a sufficient number of wells, installed at appropriate locations and depths, to yield ground-water samples from the uppermost aquifer (as defined in § 258.2) that:

(1) Represent the quality of background ground water that has not been affected by leakage from a unit. A determination of background quality may include sampling of wells that are not hydraulically upgradient of the waste management area where:

(i) Hydrogeologic conditions do not allow the owner or operator to determine what wells are hydraulically upgradient; or

(ii) Sampling at other wells will provide an indication of background ground-water quality that is as representative or more representative than that provided by the upgradient wells; and

(2) Represent the quality of ground water passing the relevant point of compliance specified by Director of an approved State under § 258.40(d) or at the waste management unit boundary in unapproved States. The downgradient monitoring system must be installed at the relevant point of compliance specified by the Director of an approved State under § 258.40(d) or at the waste management unit boundary in unapproved States that ensures detection of ground-water contamination in the uppermost aquifer. When physical obstacles preclude installation of ground-water monitoring wells at the relevant point of compliance at existing units, the down-gradient monitoring system may be installed at the closest practicable distance hydraulically down-gradient from the relevant point of compliance specified by the Director of an approved State

under §258.40 that ensure detection of groundwater contamination in the uppermost aquifer.

(b) The Director of an approved State may approve a multiunit ground-water monitoring system instead of separate ground-water monitoring systems for each MSWLF unit when the facility has several units, provided the multiunit ground-water monitoring system meets the requirement of §258.51(a) and will be as protective of human health and the environment as individual monitoring systems for each MSWLF unit, based on the following factors:

(1) Number, spacing, and orientation of the MSWLF units;

(2) Hydrogeologic setting;

(3) Site history;

(4) Engineering design of the MSWLF units, and

(5) Type of waste accepted at the MSWLF units.

(c) Monitoring wells must be cased in a manner that maintains the integrity of the monitoring well bore hole. This casing must be screened or perforated and packed with gravel or sand, where necessary, to enable collection of ground-water samples. The annular space (i.e., the space between the bore hole and well casing) above the sampling depth must be sealed to prevent contamination of samples and the ground water.

(1) The owner or operator must notify the State Director that the design, installation, development, and decommission of any monitoring wells, piezometers and other measurement, sampling, and analytical devices documentation has been placed in the operating record; and

(2) The monitoring wells, piezometers, and other measurement, sampling, and analytical devices must be operated and maintained so that they perform to design specifications throughout the life of the monitoring program.

(d) The number, spacing, and depths of monitoring systems shall be:

(1) Determined based upon site-specific technical information that must include thorough characterization of:

(i) Aquifer thickness, ground-water flow rate, ground-water flow direction including seasonal and temporal fluctuations in ground-water flow; and

(ii) Saturated and unsaturated geologic units and fill materials overlying the uppermost aquifer, materials comprising the uppermost aquifer, and materials comprising the confining unit defining the lower boundary of the uppermost aquifer; including, but not limited to: Thicknesses, stratigraphy, lithology, hydraulic conductivities, porosities and effective porosities.

(2) Certified by a qualified ground-water scientist or approved by the Director of an approved State. Within 14 days of this certification, the owner or operator must notify the State Director that the certification has been placed in the operating record.

§ 258.52 [Reserved]

§ 258.53 Ground-water sampling and analysis requirements.

(a) The ground-water monitoring program must include consistent sampling and analysis procedures that are designed to ensure monitoring results that provide an accurate representation of ground-water quality at the background and downgradient wells installed in compliance with §258.51(a) of this part. The owner or operator must notify the State Director that the sampling and analysis program documentation has been placed in the operating record and the program must include procedures and techniques for:

(1) Sample collection;

(2) Sample preservation and shipment;

(3) Analytical procedures;

(4) Chain of custody control; and

(5) Quality assurance and quality control.

(b) The ground-water monitoring program must include sampling and analytical methods that are appropriate for ground-water sampling and that accurately measure hazardous constituents and other monitoring parameters in ground-water samples. Ground-water samples shall not be field-filtered prior to laboratory analysis.

(c) The sampling procedures and frequency must be protective of human health and the environment.

(d) Ground-water elevations must be measured in each well immediately prior to purging, each time ground water is sampled. The owner or operator must determine the rate and direction of ground-water flow each time ground water is sampled. Ground-water elevations in wells which monitor the same waste management area must be measured within a period of time short enough to avoid temporal variations in ground-water flow which could preclude accurate determination of ground-water flow rate and direction.

(e) The owner or operator must establish background ground-water quality in a hydraulically upgradient or background well(s) for each of the monitoring parameters or constituents required in the particular ground-water monitoring program that applies to the MSWLF unit, as determined under §258.54(a) or §258.55(a) of this part. Background ground-water quality may be established at wells that are not located hydraulically upgradient from the MSWLF unit if it meets the requirements of §258.51(a)(1).

(f) The number of samples collected to establish ground-water quality data must be consistent with the appropriate statistical procedures determined pursuant to paragraph (g) of this section. The sampling procedures shall be those specified under §258.54(b) for detection monitoring, §258.55 (b) and (d) for assessment monitoring, and §258.56(b) of corrective action.

(g) The owner or operator must specify in the operating record one of the following statistical methods to be used in evaluating ground-water monitoring data for each hazardous constituent. The statistical test chosen shall be conducted separately for each hazardous constituent in each well.

(1) A parametric analysis of variance (ANOVA) followed by multiple comparisons procedures to identify statistically significant evidence of contamination. The method must include estimation and testing of the contrasts between each compliance well's mean and the background mean levels for each constituent.

(2) An analysis of variance (ANOVA) based on ranks followed by multiple comparisons procedures to identify statistically significant evidence of contamination. The method must include estimation and testing of the contrasts between each compliance well's median and the background median levels for each constituent.

(3) A tolerance or prediction interval procedure in which an interval for each constituent is established from the distribution of the background data, and the level of each constituent in each compliance well is compared to the upper tolerance or prediction limit.

(4) A control chart approach that gives control limits for each constituent.

(5) Another statistical test method that meets the performance standards of §258.53(h). The owner or operator must place a justification for this alternative in the operating record and notify the State Director of the use of this alternative test. The justification must demonstrate that the alternative method meets the performance standards of §258.53(h).

(h) Any statistical method chosen under §258.53(g) shall comply with the following performance standards, as appropriate:

(1) The statistical method used to evaluate ground-water monitoring data shall be appropriate for the distribution of chemical parameters or hazardous constituents. If the distribution of the chemical parameters or hazardous constituents is shown by the owner or operator to be inappropriate for a normal theory test, then the data should be transformed or a distribution-free theory test should be used. If the distributions for the constituents differ, more than one statistical method may be needed.

(2) If an individual well comparison procedure is used to compare an individual compliance well constituent concentration with background constituent concentrations or a ground-water protection standard, the test shall be done at a Type I error level no less than 0.01 for each testing period. If a multiple comparisons procedure is used, the Type I experiment wise error rate for each testing period shall be no less than 0.05; however, the Type I error of no less than 0.01 for individual well comparisons must be maintained. This performance standard does not apply to tolerance intervals, prediction intervals, or control charts.

(3) If a control chart approach is used to evaluate ground-water monitoring

data, the specific type of control chart and its associated parameter values shall be protective of human health and the environment. The parameters shall be determined after considering the number of samples in the background data base, the data distribution, and the range of the concentration values for each constituent of concern.

(4) If a tolerance interval or a predictional interval is used to evaluate ground-water monitoring data, the levels of confidence and, for tolerance intervals, the percentage of the population that the interval must contain, shall be protective of human health and the environment. These parameters shall be determined after considering the number of samples in the background data base, the data distribution, and the range of the concentration values for each constituent of concern.

(5) The statistical method shall account for data below the limit of detection with one or more statistical procedures that are protective of human health and the environment. Any practical quantitation limit (pql) that is used in the statistical method shall be the lowest concentration level that can be reliably achieved within specified limits of precision and accuracy during routine laboratory operating conditions that are available to the facility.

(6) If necessary, the statistical method shall include procedures to control or correct for seasonal and spatial variability as well as temporal correlation in the data.

(i) The owner or operator must determine whether or not there is a statistically significant increase over background values for each parameter or constituent required in the particular ground-water monitoring program that applies to the MSWLF unit, as determined under §§ 258.54(a) or 258.55(a) of this part.

(1) In determining whether a statistically significant increase has occurred, the owner or operator must compare the ground-water quality of each parameter or constituent at each monitoring well designated pursuant to § 258.51(a)(2) to the background value of that constituent, according to the statistical procedures and performance standards specified under paragraphs (g) and (h) of this section.

(2) Within a reasonable period of time after completing sampling and analysis, the owner or operator must determine whether there has been a statistically significant increase over background at each monitoring well.

§ 258.54 Detection monitoring program.

(a) Detection monitoring is required at MSWLF units at all ground-water monitoring wells defined under §§ 258.51 (a)(1) and (a)(2) of this part. At a minimum, a detection monitoring program must include the monitoring for the constituents listed in appendix I to this part.

(1) The Director of an approved State may delete any of the appendix I monitoring parameters for a MSWLF unit if it can be shown that the removed constituents are not reasonably expected to be in or derived from the waste contained in the unit.

(2) The Director of an approved State may establish an alternative list of inorganic indicator parameters for a MSWLF unit, in lieu of some or all of the heavy metals (constituents 1–15 in appendix I to this part), if the alternative parameters provide a reliable indication of inorganic releases from the MSWLF unit to the ground water. In determining alternative parameters, the Director shall consider the following factors:

(i) The types, quantities, and concentrations of constituents in wastes managed at the MSWLF unit;

(ii) The mobility, stability, and persistence of waste constituents or their reaction products in the unsaturated zone beneath the MSWLF unit;

(iii) The detectability of indicator parameters, waste constituents, and reaction products in the ground water; and

(iv) The concentration or values and coefficients of variation of monitoring parameters or constituents in the groundwater background.

(b) The monitoring frequency for all constituents listed in appendix I to this part, or in the alternative list approved in accordance with paragraph (a)(2) of this section, shall be at least semiannual during the active life of the facility (including closure) and the post-closure period. A minimum of four independent samples from each well (background and downgradient) must be collected and analyzed for the appendix I constituents, or the alternative list approved in accordance with paragraph (a)(2) of this section, during the first semiannual sampling event. At least one sample from each well (background and downgradient) must be collected and analyzed during subsequent semiannual sampling events. The Director of an approved State may specify an appropriate alternative frequency for repeated sampling and analysis for appendix I constituents, or the alternative list approved in accordance with paragraph (a)(2) of this section, during the active life (including closure) and the post-closure care period. The alternative frequency during the active life (including closure) shall be no less than annual. The alternative frequency shall be based on consideration of the following factors:

(1) Lithology of the aquifer and unsaturated zone;

(2) Hydraulic conductivity of the aquifer and unsaturated zone;

(3) Ground-water flow rates;

(4) Minimum distance between upgradient edge of the MSWLF unit and downgradient monitoring well screen (minimum distance of travel); and

(5) Resource value of the aquifer.

(c) If the owner or operator determines, pursuant to § 258.53(g) of this part, that there is a statistically significant increase over background for one or more of the constituents listed in appendix I to this part or in the alternative list approved in accordance with paragraph (a)(2) of this section, at any monitoring well at the boundary specified under § 258.51(a)(2), the owner or operator:

(1) Must, within 14 days of this finding, place a notice in the operating record indicating which constituents have shown statistically significant changes from background levels, and notify the State director that this notice was placed in the operating record; and

(2) Must establish an assessment monitoring program meeting the requirements of § 258.55 of this part within 90 days except as provided for in paragraph (c)(3) of this section.

(3) The owner/operator may demonstrate that a source other than a MSWLF unit caused the contamination or that the statistically significant increase resulted from error in sampling, analysis, statistical evaluation, or natural variation in ground-water quality. A report documenting this demonstration must be certified by a qualified ground-water scientist or approved by the Director of an approved State and be placed in the operating record. If a successful demonstration is made and documented, the owner or operator may continue detection monitoring as specified in this section. If, after 90 days, a successful demonstration is not made, the owner or operator must initiate an assessment monitoring program as required in § 258.55.

§ 258.55 Assessment monitoring program.

(a) Assessment monitoring is required whenever a statistically significant increase over background has been detected for one or more of the constituents listed in the appendix I to this part or in the alternative list approved in accordance with § 258.54(a)(2).

(b) Within 90 days of triggering an assessment monitoring program, and annually thereafter, the owner or operator must sample and analyze the ground water for all constituents identified in appendix II to this part. A minimum of one sample from each downgradient well must be collected and analyzed during each sampling event. For any constituent detected in the downgradient wells as a result of the complete appendix II analysis, a minimum of four independent samples from each well (background and downgradient) must be collected and analyzed to establish background for the constituents. The Director of an approved State may specify an appropriate subset of wells to be sampled and analyzed for appendix II constituents during assessment monitoring. The Director of an approved State may delete any of the appendix II monitoring parameters for a MSWLF unit if it can be shown that the removed constituents are not reasonably expected

to be in or derived from the waste contained in the unit.

(c) The Director of an approved State may specify an appropriate alternate frequency for repeated sampling and analysis for the full set of appendix II constituents required by §258.55(b) of this part, during the active life (including closure) and post-closure care of the unit considering the following factors:

(1) Lithology of the aquifer and unsaturated zone;

(2) Hydraulic conductivity of the aquifer and unsaturated zone;

(3) Ground-water flow rates;

(4) Minimum distance between upgradient edge of the MSWLF unit and downgradient monitoring well screen (minimum distance of travel);

(5) Resource value of the aquifer; and

(6) Nature (fate and transport) of any constituents detected in response to this section.

(d) After obtaining the results from the initial or subsequent sampling events required in paragraph (b) of this section, the owner or operator must:

(1) Within 14 days, place a notice in the operating record identifying the appendix II constituents that have been detected and notify the State Director that this notice has been placed in the operating record;

(2) Within 90 days, and on at least a semiannual basis thereafter, resample all wells specified by §258.51(a), conduct analyses for all constituents in appendix I to this part or in the alternative list approved in accordance with §258.54(a)(2), and for those constituents in appendix II to this part that are detected in response to paragraph (b) of this section, and record their concentrations in the facility operating record. At least one sample from each well (background and downgradient) must be collected and analyzed during these sampling events. The Director of an approved State may specify an alternative monitoring frequency during the active life (including closure) and the post-closure period for the constituents referred to in this paragraph. The alternative frequency for appendix I constituents, or the alternative list approved in accordance with §258.54(a)(2), during the active life (including closure) shall be no less than annual. The alternative frequency shall be based on consideration of the factors specified in paragraph (c) of this section;

(3) Establish background concentrations for any constituents detected pursuant to paragraph (b) or (d)(2) of this section; and

(4) Establish ground-water protection standards for all constituents detected pursuant to paragraph (b) or (d) of this section. The ground-water protection standards shall be established in accordance with paragraphs (h) or (i) of this section.

(e) If the concentrations of all appendix II constituents are shown to be at or below background values, using the statistical procedures in §258.53(g), for two consecutive sampling events, the owner or operator must notify the State Director of this finding and may return to detection monitoring.

(f) If the concentrations of any appendix II constituents are above background values, but all concentrations are below the ground-water protection standard established under paragraphs (h) or (i) of this section, using the statistical procedures in §258.53(g), the owner or operator must continue assessment monitoring in accordance with this section.

(g) If one or more appendix II constituents are detected at statistically significant levels above the ground-water protection standard established under paragraphs (h) or (i) of this section in any sampling event, the owner or operator must, within 14 days of this finding, place a notice in the operating record identifying the appendix II constituents that have exceeded the ground-water protection standard and notify the State Director and all appropriate local government officials that the notice has been placed in the operating record. The owner or operator also:

(1)(i) Must characterize the nature and extent of the release by installing additional monitoring wells as necessary;

(ii) Must install at least one additional monitoring well at the facility boundary in the direction of contaminant migration and sample this well in accordance with §258.55(d)(2);

(iii) Must notify all persons who own the land or reside on the land that directly overlies any part of the plume of contamination if contaminants have migrated off-site if indicated by sampling of wells in accordance with §258.55 (g)(1); and

(iv) Must initiate an assessment of corrective measures as required by §255.56 of this part within 90 days; or

(2) May demonstrate that a source other than a MSWLF unit caused the contamination, or that the SSI increase resulted from error in sampling, analysis, statistical evaluation, or natural variation in ground-water quality. A report documenting this demonstration must be certified by a qualified ground-water scientist or approved by the Director of an approved State and placed in the operating record. If a successful demonstration is made the owner or operator must continue monitoring in accordance with the assessment monitoring program pursuant to §258.55, and may return to detection monitoring if the appendix II constituents are at or below background as specified in §258.55(e). Until a successful demonstration is made, the owner or operator must comply with §258.55(g) including initiating an assessment of corrective measures.

(h) The owner or operator must establish a ground-water protection standard for each appendix II constituent detected in the ground-water. The ground-water protection standard shall be:

(1) For constituents for which a maximum contaminant level (MCL) has been promulgated under section 1412 of the Safe Drinking Water Act (codified) under 40 CFR part 141, the MCL for that constituent;

(2) For constituents for which MCLs have not been promulgated, the background concentration for the constituent established from wells in accordance with §258.51(a)(1); or

(3) For constituents for which the background level is higher than the MCL identified under paragraph (h)(1) of this section or health based levels identified under §258.55(i)(1), the background concentration.

(i) The Director of an approved State may establish an alternative ground-water protection standard for constituents for which MCLs have not been established. These ground-water protection standards shall be appropriate health based levels that satisfy the following criteria:

(1) The level is derived in a manner consistent with Agency guidelines for assessing the health risks of environmental pollutants (51 FR 33992, 34006, 34014, 34028, Sept. 24, 1986);

(2) The level is based on scientifically valid studies conducted in accordance with the Toxic Substances Control Act Good Laboratory Practice Standards (40 CFR part 792) or equivalent;

(3) For carcinogens, the level represents a concentration associated with an excess lifetime cancer risk level (due to continuous lifetime exposure) with the 1×10^{-4} to 1×10^{-6} range; and

(4) For systemic toxicants, the level represents a concentration to which the human population (including sensitive subgroups) could be exposed to on a daily basis that is likely to be without appreciable risk of deleterious effects during a lifetime. For purposes of this subpart, systemic toxicants include toxic chemicals that cause effects other than cancer or mutation.

(j) In establishing ground-water protection standards under paragraph (i) of this section, the Director of an approved State may consider the following:

(1) Multiple contaminants in the ground water;

(2) Exposure threats to sensitive environmental receptors; and

(3) Other site-specific exposure or potential exposure to ground water.

§ 258.56 Assessment of corrective measures.

(a) Within 90 days of finding that any of the constituents listed in appendix II to this part have been detected at a statistically significant level exceeding the ground-water protection standards defined under §258.55 (h) or (i) of this part, the owner or operator must initiate an assessment of corrective measures. Such an assessment must be completed within a reasonable period of time.

(b) The owner or operator must continue to monitor in accordance with

the assessment monitoring program as specified in § 258.55.

(c) The assessment shall include an analysis of the effectiveness of potential corrective measures in meeting all of the requirements and objectives of the remedy as described under § 258.57, addressing at least the following:

(1) The performance, reliability, ease of implementation, and potential impacts of appropriate potential remedies, including safety impacts, cross-media impacts, and control of exposure to any residual contamination;

(2) The time required to begin and complete the remedy;

(3) The costs of remedy implementation; and

(4) The institutional requirements such as State or local permit requirements or other environmental or public health requirements that may substantially affect implementation of the remedy(s).

(d) The owner or operator must discuss the results of the corrective measures assessment, prior to the selection of remedy, in a public meeting with interested and affected parties.

§ 258.57 Selection of remedy.

(a) Based on the results of the corrective measures assessment conducted under § 258.56, the owner or operator must select a remedy that, at a minimum, meets the standards listed in paragraph (b) of this section. The owner or operator must notify the State Director, within 14 days of selecting a remedy, a report describing the selected remedy has been placed in the operating record and how it meets the standards in paragraph (b) of this section.

(b) Remedies must:

(1) Be protective of human health and the environment;

(2) Attain the ground-water protection standard as specified pursuant to §§ 258.55 (h) or (i);

(3) Control the source(s) of releases so as to reduce or eliminate, to the maximum extent practicable, further releases of appendix II constituents into the environment that may pose a threat to human health or the environment; and

(4) Comply with standards for management of wastes as specified in § 258.58(d).

(c) In selecting a remedy that meets the standards of § 258.57(b), the owner or operator shall consider the following evaluation factors:

(1) The long- and short-term effectiveness and protectiveness of the potential remedy(s), along with the degree of certainty that the remedy will prove successful based on consideration of the following:

(i) Magnitude of reduction of existing risks;

(ii) Magnitude of residual risks in terms of likelihood of further releases due to waste remaining following implementation of a remedy;

(iii) The type and degree of long-term management required, including monitoring, operation, and maintenance;

(iv) Short-term risks that might be posed to the community, workers, or the environment during implementation of such a remedy, including potential threats to human health and the environment associated with excavation, transportation, and redisposal of containment;

(v) Time until full protection is achieved;

(vi) Potential for exposure of humans and environmental receptors to remaining wastes, considering the potential threat to human health and the environment associated with excavation, transportation, redisposal, or containment;

(vii) Long-term reliability of the engineering and institutional controls; and

(viii) Potential need for replacement of the remedy.

(2) The effectiveness of the remedy in controlling the source to reduce further releases based on consideration of the following factors:

(i) The extent to which containment practices will reduce further releases;

(ii) The extent to which treatment technologies may be used.

(3) The ease or difficulty of implementing a potential remedy(s) based on consideration of the following types of factors:

(i) Degree of difficulty associated with constructing the technology;

(ii) Expected operational reliability of the technologies;

(iii) Need to coordinate with and obtain necessary approvals and permits from other agencies;

(iv) Availability of necessary equipment and specialists; and

(v) Available capacity and location of needed treatment, storage, and disposal services.

(4) Practicable capability of the owner or operator, including a consideration of the technical and economic capability.

(5) The degree to which community concerns are addressed by a potential remedy(s).

(d) The owner or operator shall specify as part of the selected remedy a schedule(s) for initiating and completing remedial activities. Such a schedule must require the initiation of remedial activities within a reasonable period of time taking into consideration the factors set forth in paragraphs (d) (1)–(8) of this section. The owner or operator must consider the following factors in determining the schedule of remedial activities:

(1) Extent and nature of contamination;

(2) Practical capabilities of remedial technologies in achieving compliance with ground-water protection standards established under § 258.55 (g) or (h) and other objectives of the remedy;

(3) Availability of treatment or disposal capacity for wastes managed during implementation of the remedy;

(4) Desirability of utilizing technologies that are not currently available, but which may offer significant advantages over already available technologies in terms of effectiveness, reliability, safety, or ability to achieve remedial objectives;

(5) Potential risks to human health and the environment from exposure to contamination prior to completion of the remedy;

(6) Resource value of the aquifer including:

(i) Current and future uses;

(ii) Proximity and withdrawal rate of users;

(iii) Ground-water quantity and quality;

(iv) The potential damage to wildlife, crops, vegetation, and physical structures caused by exposure to waste constituent;

(v) The hydrogeologic characteristic of the facility and surrounding land;

(vi) Ground-water removal and treatment costs; and

(vii) The cost and availability of alternative water supplies.

(7) Practicable capability of the owner or operator.

(8) Other relevant factors.

(e) The Director of an approved State may determine that remediation of a release of an appendix II constituent from a MSWLF unit is not necessary if the owner or operator demonstrates to the satisfaction of the Director of the approved State that:

(1) The ground-water is additionally contaminated by substances that have originated from a source other than a MSWLF unit and those substances are present in concentrations such that cleanup of the release from the MSWLF unit would provide no significant reduction in risk to actual or potential receptors; or

(2) The constituent(s) is present in ground water that:

(i) Is not currently or reasonably expected to be a source of drinking water; and

(ii) Is not hydraulically connected with waters to which the hazardous constituents are migrating or are likely to migrate in a concentration(s) that would exceed the ground-water protection standards established under § 258.55 (h) or (i); or

(3) Remediation of the release(s) is technically impracticable; or

(4) Remediation results in unacceptable cross-media impacts.

(f) A determination by the Director of an approved State pursuant to paragraph (e) of this section shall not affect the authority of the State to require the owner or operator to undertake source control measures or other measures that may be necessary to eliminate or minimize further releases to the ground-water, to prevent exposure to the ground-water, or to remediate the ground-water to concentrations that are technically practicable and significantly reduce threats to human health or the environment.

§ 258.58 Implementation of the corrective action program.

(a) Based on the schedule established under § 258.57(d) for initiation and completion of remedial activities the owner/operator must:

(1) Establish and implement a corrective action ground-water monitoring program that:

(i) At a minimum, meet the requirements of an assessment monitoring program under § 258.55;

(ii) Indicate the effectiveness of the corrective action remedy; and

(iii) Demonstrate compliance with ground-water protection standard pursuant to paragraph (e) of this section.

(2) Implement the corrective action remedy selected under § 258.57; and

(3) Take any interim measures necessary to ensure the protection of human health and the environment. Interim measures should, to the greatest extent practicable, be consistent with the objectives of and contribute to the performance of any remedy that may be required pursuant to § 258.57. The following factors must be considered by an owner or operator in determining whether interim measures are necessary:

(i) Time required to develop and implement a final remedy;

(ii) Actual or potential exposure of nearby populations or environmental receptors to hazardous constituents;

(iii) Actual or potential contamination of drinking water supplies or sensitive ecosystems;

(iv) Further degradation of the ground-water that may occur if remedial action is not initiated expeditiously;

(v) Weather conditions that may cause hazardous constituents to migrate or be released;

(vi) Risks of fire or explosion, or potential for exposure to hazardous constituents as a result of an accident or failure of a container or handling system; and

(vii) Other situations that may pose threats to human health and the environment.

(b) An owner or operator may determine, based on information developed after implementation of the remedy has begun or other information, that compliance with requirements of § 258.57(b) are not being achieved through the remedy selected. In such cases, the owner or operator must implement other methods or techniques that could practicably achieve compliance with the requirements, unless the owner or operator makes the determination under § 258.58(c).

(c) If the owner or operator determines that compliance with requirements under § 258.57(b) cannot be practically achieved with any currently available methods, the owner or operator must:

(1) Obtain certification of a qualified ground-water scientist or approval by the Director of an approved State that compliance with requirements under § 258.57(b) cannot be practically achieved with any currently available methods;

(2) Implement alternate measures to control exposure of humans or the environment to residual contamination, as necessary to protect human health and the environment; and

(3) Implement alternate measures for control of the sources of contamination, or for removal or decontamination of equipment, units, devices, or structures that are:

(i) Technically practicable; and

(ii) Consistent with the overall objective of the remedy.

(4) Notify the State Director within 14 days that a report justifying the alternative measures prior to implementing the alternative measures has been placed in the operating record.

(d) All solid wastes that are managed pursuant to a remedy required under § 258.57, or an interim measure required under § 258.58(a)(3), shall be managed in a manner:

(1) That is protective of human health and the environment; and

(2) That complies with applicable RCRA requirements.

(e) Remedies selected pursuant to § 258.57 shall be considered complete when:

(1) The owner or operator complies with the ground-water protection standards established under §§ 258.55(h) or (i) at all points within the plume of contamination that lie beyond the ground-water monitoring well system established under § 258.51(a).

(2) Compliance with the ground-water protection standards established under §§ 258.55(h) or (i) has been achieved by demonstrating that concentrations of appendix II constituents have not exceeded the ground-water protection standard(s) for a period of three consecutive years using the statistical procedures and performance standards in § 258.53(g) and (h). The Director of an approved State may specify an alternative length of time during which the owner or operator must demonstrate that concentrations of appendix II constituents have not exceeded the ground-water protection standard(s) taking into consideration:

(i) Extent and concentration of the release(s);

(ii) Behavior characteristics of the hazardous constituents in the ground-water;

(iii) Accuracy of monitoring or modeling techniques, including any seasonal, meteorological, or other environmental variabilities that may affect the accuracy; and

(iv) Characteristics of the ground-water.

(3) All actions required to complete the remedy have been satisfied.

(f) Upon completion of the remedy, the owner or operator must notify the State Director within 14 days that a certification that the remedy has been completed in compliance with the requirements of § 258.58(e) has been placed in the operating record. The certification must be signed by the owner or operator and by a qualified ground-water scientist or approved by the Director of an approved State.

(g) When, upon completion of the certification, the owner or operator determines that the corrective action remedy has been completed in accordance with the requirements under paragraph (e) of this section, the owner or operator shall be released from the requirements for financial assurance for corrective action under § 258.73.

§ 258.59 [Reserved]

Subpart F—Closure And Post-Closure Care

§ 258.60 Closure criteria.

(a) Owners or operators of all MSWLF units must install a final cover system that is designed to minimize infiltration and erosion. The final cover system must be designed and constructed to:

(1) Have a permeability less than or equal to the permeability of any bottom liner system or natural subsoils present, or a permeability no greater than 1×10^{-5} cm/sec, whichever is less, and

(2) Minimize infiltration through the closed MSWLF by the use of an infiltration layer that contains a minimum 18-inches of earthen material, and

(3) Minimize erosion of the final cover by the use of an erosion layer that contains a minimum 6-inches of earthen material that is capable of sustaining native plant growth.

(b) The Director of an approved State may approve an alternative final cover design that includes:

(1) An infiltration layer that achieves an equivalent reduction in infiltration as the infiltration layer specified in paragraphs (a)(1) and (a)(2) of this section, and

(2) An erosion layer that provides equivalent protection from wind and water erosion as the erosion layer specified in paragraph (a)(3) of this section.

(c) The owner or operator must prepare a written closure plan that describes the steps necessary to close all MSWLF units at any point during their active life in accordance with the cover design requirements in § 258.60(a) or (b), as applicable. The closure plan, at a minimum, must include the following information:

(1) A description of the final cover, designed in accordance with § 258.60(a) and the methods and procedures to be used to install the cover;

(2) An estimate of the largest area of the MSWLF unit ever requiring a final cover as required under §258.60(a) at any time during the active life;

(3) An estimate of the maximum inventory of wastes ever on-site over the active life of the landfill facility; and

(4) A schedule for completing all activities necessary to satisfy the closure criteria in §258.60.

(d) The owner or operator must notify the State Director that a closure plan has been prepared and placed in the operating record no later than the effective date of this part, or by the initial receipt of waste, whichever is later.

(e) Prior to beginning closure of each MSWLF unit as specified in §258.60(f), an owner or operator must notify the State Director that a notice of the intent to close the unit has been placed in the operating record.

(f) The owner or operator must begin closure activities of each MSWLF unit no later than 30 days after the date on which the MSWLF unit receives the known final receipt of wastes or, if the MSWLF unit has remaining capacity and there is a reasonable likelihood that the MSWLF unit will receive additional wastes, no later than one year after the most recent receipt of wastes. Extensions beyond the one-year deadline for beginning closure may be granted by the Director of an approved State if the owner or operator demonstrates that the MSWLF unit has the capacity to receive additional wastes and the owner or operator has taken and will continue to take all steps necessary to prevent threats to human health and the environmental from the unclosed MSWLF unit.

(g) The owner or operator of all MSWLF units must complete closure activities of each MSWLF unit in accordance with the closure plan within 180 days following the beginning of closure as specified in paragraph (f) of this section. Extensions of the closure period may be granted by the Director of an approved State if the owner or operator demonstrates that closure will, of necessity, take longer than 180 days and he has taken and will continue to take all steps to prevent threats to human health and the environment from the unclosed MSWLF unit.

(h) Following closure of each MSWLF unit, the owner or operator must notify the State Director that a certification, signed by an independent registered professional engineer or approved by Director of an approved State, verifying that closure has been completed in accordance with the closure plan, has been placed in the operating record.

(i) (1) Following closure of all MSWLF units, the owner or operator must record a notation on the deed to the landfill facility property, or some other instrument that is normally examined during title search, and notify the State Director that the notation has been recorded and a copy has been placed in the operating record.

(2) The notation on the deed must in perpetuity notify any potential purchaser of the property that:

(i) The land has been used as a landfill facility; and

(ii) Its use is restricted under §258.61(c)(3).

(j) The owner or operator may request permission from the Director of an approved State to remove the notation from the deed if all wastes are removed from the facility.

[56 FR 51016, Oct. 9, 1991; 57 FR 28628, June 26, 1992]

§258.61 Post-closure care requirements.

(a) Following closure of each MSWLF unit, the owner or operator must conduct post-closure care. Post-closure care must be conducted for 30 years, except as provided under paragraph (b) of this section, and consist of at least the following:

(1) Maintaining the integrity and effectiveness of any final cover, including making repairs to the cover as necessary to correct the effects of settlement, subsidence, erosion, or other events, and preventing run-on and run-off from eroding or otherwise damaging the final cover;

(2) Maintaining and operating the leachate collection system in accordance with the requirements in §258.40, if applicable. The Director of an approved State may allow the owner or operator to stop managing leachate if the owner or operator demonstrates

that leachate no longer poses a threat to human health and the environment;

(3) Monitoring the ground water in accordance with the requirements of subpart E of this part and maintaining the ground-water monitoring system, if applicable; and

(4) Maintaining and operating the gas monitoring system in accordance with the requirements of §258.23.

(b) The length of the post-closure care period may be:

(1) Decreased by the Director of an approved State if the owner or operator demonstrates that the reduced period is sufficient to protect human health and the environment and this demonstration is approved by the Director of an approved State; or

(2) Increased by the Director of an approved State if the Director of an approved State determines that the lengthened period is necessary to protect human health and the environment.

(c) The owner or operator of all MSWLF units must prepare a written post-closure plan that includes, at a minimum, the following information:

(1) A description of the monitoring and maintenance activities required in §258.61(a) for each MSWLF unit, and the frequency at which these activities will be performed;

(2) Name, address, and telephone number of the person or office to contact about the facility during the post-closure period; and

(3) A description of the planned uses of the property during the post-closure period. Post-closure use of the property shall not disturb the integrity of the final cover, liner(s), or any other components of the containment system, or the function of the monitoring systems unless necessary to comply with the requirements in this part 258. The Director of an approved State may approve any other disturbance if the owner or operator demonstrates that disturbance of the final cover, liner or other component of the containment system, including any removal of waste, will not increase the potential threat to human health or the environment.

(d) The owner or operator must notify the State Director that a post-closure plan has been prepared and placed in the operating record no later than the effective date of this part, October 9, 1993, or by the initial receipt of waste, whichever is later.

(e) Following completion of the post-closure care period for each MSWLF unit, the owner or operator must notify the State Director that a certification, signed by an independent registered professional engineer or approved by the Director of an approved State, verifying that post-closure care has been completed in accordance with the post-closure plan, has been placed in the operating record.

[56 FR 51016, Oct. 9, 1991; 57 FR 28628, June 26, 1992]

§§ 258.62—258.69 [Reserved]

Subpart G—Financial Assurance Criteria

SOURCE: 56 FR 51029, Oct. 9, 1991, unless otherwise noted.

EFFECTIVE DATE NOTE: At 56 FR 51029, Oct. 9, 1991, subpart G of part 258 was added, effective April 9, 1994.

§258.70 Applicability and effective date.

(a) The requirements of this section apply to owners and operators of all MSWLF units, except owners or operators who are State or Federal government entities whose debts and liabilities are the debts and liabilities of a State or the United States.

(b) The requirements of this section are effective April 9, 1994.

§258.71 Financial assurance for closure.

(a) The owner or operator must have a detailed written estimate, in current dollars, of the cost of hiring a third party to close the largest area of all MSWLF units ever requiring a final cover as required under §258.60 at any time during the active life in accordance with the closure plan. The owner or operator must notify the State Director that the estimate has been placed in the operating record.

(1) The cost estimate must equal the cost of closing the largest area of all MSWLF unit ever requiring a final cover at any time during the active life when the extent and manner of its op-

eration would make closure the most expensive, as indicated by its closure plan (see § 258.60(c)(2) of this part).

(2) During the active life of the MSWLF unit, the owner or operator must annually adjust the closure cost estimate for inflation.

(3) The owner or operator must increase the closure cost estimate and the amount of financial assurance provided under paragraph (b) of this section if changes to the closure plan or MSWLF unit conditions increase the maximum cost of closure at any time during the remaining active life.

(4) The owner or operator may reduce the closure cost estimate and the amount of financial assurance provided under paragraph (b) of this section if the cost estimate exceeds the maximum cost of closure at any time during the remaining life of the MSWLF unit. The owner or operator must notify the State Director that the justification for the reduction of the closure cost estimate and the amount of financial assurance has been placed in the operating record.

(b) The owner or operator of each MSWLF unit must establish financial assurance for closure of the MSWLF unit in compliance with § 258.74. The owner or operator must provide continuous coverage for closure until released from financial assurance requirements by demonstrating compliance with § 258.60 (h) and (i).

[56 FR 51029, Oct. 9, 1991; 57 FR 28628, June 26, 1992]

§ 258.72 Financial assurance for post-closure care.

(a) The owner or operator must have a detailed written estimate, in current dollars, of the cost of hiring a third party to conduct post-closure care for the MSWLF unit in compliance with the post-closure plan developed under § 258.61 of this part. The post-closure cost estimate used to demonstrate financial assurance in paragraph (b) of this section must account for the total costs of conducting post-closure care, including annual and periodic costs as described in the post-closure plan over the entire post-closure care period. The owner or operator must notify the State Director that the estimate has been placed in the operating record.

(1) The cost estimate for post-closure care must be based on the most expensive costs of post-closure care during the post-closure care period.

(2) During the active life of the MSWLF unit and during the post-closure care period, the owner or operator must annually adjust the post-closure cost estimate for inflation.

(3) The owner or operator must increase the post-closure care cost estimate and the amount of financial assurance provided under paragraph (b) of this section if changes in the post-closure plan or MSWLF unit conditions increase the maximum costs of post-closure care.

(4) The owner or operator may reduce the post-closure cost estimate and the amount of financial assurance provided under paragraph (b) of this section if the cost estimate exceeds the maximum costs of post-closure care remaining over the post-closure care period. The owner or operator must notify the State Director that the justification for the reduction of the post-closure cost estimate and the amount of financial assurance has been placed in the operating record.

(b) The owner or operator of each MSWLF unit must establish, in a manner in accordance with § 258.74, financial assurance for the costs of post-closure care as required under § 258.61 of this part. The owner or operator must provide continuous coverage for post-closure care until released from financial assurance requirements for post-closure care by demonstrating compliance with § 258.61(e).

§ 258.73 Financial assurance for corrective action.

(a) An owner or operator of a MSWLF unit required to undertake a corrective action program under § 258.58 of this part must have a detailed written estimate, in current dollars, of the cost of hiring a third party to perform the corrective action in accordance with the program required under § 258.58 of this part. The corrective action cost estimate must account for the total costs of corrective action activities as described in the corrective action plan for the entire corrective action period.

The owner or operator must notify the State Director that the estimate has been placed in the operating record.

(1) The owner or operator must annually adjust the estimate for inflation until the corrective action program is completed in accordance with § 258.58(f) of this part.

(2) The owner or operator must increase the corrective action cost estimate and the amount of financial assurance provided under paragraph (b) of this section if changes in the corrective action program or MSWLF unit conditions increase the maximum costs of corrective action.

(3) The owner or operator may reduce the amount of the corrective action cost estimate and the amount of financial assurance provided under paragraph (b) of this section if the cost estimate exceeds the maximum remaining costs of corrective action. The owner or operator must notify the State Director that the justification for the reduction of the corrective action cost estimate and the amount of financial assurance has been placed in the operating record.

(b) The owner or operator of each MSWLF unit required to undertake a corrective action program under § 258.58 of this part must establish, in a manner in accordance with § 258.74, financial assurance for the most recent corrective action program. The owner or operator must provide continuous coverage for corrective action until released from financial assurance requirements for corrective action by demonstrating compliance with § 258.58 (f) and (g).

§ 258.74 Allowable mechanisms.

The mechanisms used to demonstrate financial assurance under this section must ensure that the funds necessary to meet the costs of closure, post-closure care, and corrective action for known releases will be available whenever they are needed. Owners and operators must choose from the options specified in paragraphs (a) through (j) of this section.

(a) *Trust Fund.* (1) An owner or operator may satisfy the requirements of this section by establishing a trust fund which conforms to the requirements of this paragraph. The trustee must be an entity which has the authority to act as a trustee and whose trust operations are regulated and examined by a Federal or State agency. A copy of the trust agreement must be placed in the facility's operating record.

(2) Payments into the trust fund must be made annually by the owner or operator over the term of the initial permit or over the remaining life of the MSWLF unit, whichever is shorter, in the case of a trust fund for closure or post-closure care, or over one-half of the estimated length of the corrective action program in the case of corrective action for known releases. This period is referred to as the pay-in period.

(3) For a trust fund used to demonstrate financial assurance for closure and post-closure care, the first payment into the fund must be at least equal to the current cost estimate for closure or post-closure care, except as provided in paragraph (j) of this section, divided by the number of years in the pay-in period as defined in paragraph (a)(2) of this section. The amount of subsequent payments must be determined by the following formula:

$$\text{Next Payment} = \frac{CE - CV}{Y}$$

where CE is the current cost estimate for closure or post-closure care (updated for inflation or other changes), CV is the current value of the trust fund, and Y is the number of years remaining in the pay-in period.

(4) For a trust fund used to demonstrate financial assurance for corrective action, the first payment into the trust fund must be at least equal to one-half of the current cost estimate for corrective action, except as provided in paragraph (j) of this section, divided by the number of years in the corrective action pay-in period as defined in paragraph (a)(2) of this section. The amount of subsequent payments must be determined by the following formula:

$$\text{Next Payment} = \frac{RB - CV}{Y}$$

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where RB is the most recent estimate of the required trust fund balance for corrective action (i.e., the total costs that will be incurred during the second half of the corrective action period), CV is the current value of the trust fund, and Y is the number of years remaining on the pay-in period.

(5) The initial payment into the trust fund must be made before the initial receipt of waste or before the effective date of this section (April 9, 1994), whichever is later, in the case of closure and post-closure care, or no later than 120 days after the corrective action remedy has been selected in accordance with the requirements of §258.58.

(6) If the owner or operator establishes a trust fund after having used one or more alternate mechanisms specified in this section, the initial payment into the trust fund must be at least the amount that the fund would contain if the trust fund were established initially and annual payments made according to the specifications of this paragraph and §270.74(a) of this section, as applicable.

(7) The owner or operator, or other person authorized to conduct closure, post-closure care, or corrective action activities may request reimbursement from the trustee for these expenditures. Requests for reimbursement will be granted by the trustee only if sufficient funds are remaining in the trust fund to cover the remaining costs of closure, post-closure care, or corrective action, and if justification and documentation of the cost is placed in the operating record. The owner or operator must notify the State Director that the documentation of the justification for reimbursement has been placed in the operating record and that reimbursement has been received.

(8) The trust fund may be terminated by the owner or operator only if the owner or operator substitutes alternate financial assurance as specified in this section or if he is no longer required to demonstrate financial responsibility in accordance with the requirements of §§258.71(b), 258.72(b), or 258.73(b).

(b) *Surety Bond Guaranteeing Payment or Performance.* (1) An owner or operator may demonstrate financial assurance for closure or post-closure care by obtaining a payment or performance surety bond which conforms to the requirements of this paragraph. An owner or operator may demonstrate financial assurance for corrective action by obtaining a performance bond which conforms to the requirements of this paragraph. The bond must be effective before the initial receipt of waste or before the effective date of this section (April 9, 1994), whichever is later, in the case of closure and post-closure care, or no later than 120 days after the corrective action remedy has been selected in accordance with the requirements of §258.58. The owner or operator must notify the State Director that a copy of the bond has been placed in the operating record. The surety company issuing the bond must, at a minimum, be among those listed as acceptable sureties on Federal bonds in Circular 570 of the U.S. Department of the Treasury.

(2) The penal sum of the bond must be in an amount at least equal to the current closure, post-closure care or corrective action cost estimate, whichever is applicable, except as provided in §258.74(k).

(3) Under the terms of the bond, the surety will become liable on the bond obligation when the owner or operator fails to perform as guaranteed by the bond.

(4) The owner or operator must establish a standby trust fund. The standby trust fund must meet the requirements of §258.74(a) except the requirements for initial payment and subsequent annual payments specified in §258.74 (a)(2), (3), (4) and (5).

(5) Payments made under the terms of the bond will be deposited by the surety directly into the standby trust fund. Payments from the trust fund must be approved by the trustee.

(6) Under the terms of the bond, the surety may cancel the bond by sending notice of cancellation by certified mail to the owner and operator and to the State Director 120 days in advance of cancellation. If the surety cancels the bond, the owner or operator must obtain alternate financial assurance as specified in this section.

(7) The owner or operator may cancel the bond only if alternate financial assurance is substituted as specified in this section or if the owner or operator is no longer required to demonstrate financial responsibility in accordance with §258.71(b), 258.72(b) or 258.73(b).

(c) *Letter of Credit.* (1) An owner or operator may satisfy the requirements of this section by obtaining an irrevocable standby letter of credit which conforms to the requirements of this paragraph. The letter of credit must be effective before the initial receipt of waste or before the effective date of this section (April 9, 1994), whichever is later, in the case of closure and post-closure care, or no later than 120 days after the corrective action remedy has been selected in accordance with the requirements of §258.58. The owner or operator must notify the State Director that a copy of the letter of credit has been placed in the operating record. The issuing institution must be an entity which has the authority to issue letters of credit and whose letter-of-credit operations are regulated and examined by a Federal or State agency.

(2) A letter from the owner or operator referring to the letter of credit by number, issuing institution, and date, and providing the following information: Name, and address of the facility, and the amount of funds assured, must be included with the letter of credit in the operating record.

(3) The letter of credit must be irrevocable and issued for a period of at least one year in an amount at least equal to the current cost estimate for closure, post-closure care or corrective action, whichever is applicable, except as provided in §258.74(a). The letter of credit must provide that the expiration date will be automatically extended for a period of at least one year unless the issuing institution has cancelled the letter of credit by sending notice of cancellation by certified mail to the owner and operator and to the State Director 120 days in advance of cancellation. If the letter of credit is cancelled by the issuing institution, the owner or operator must obtain alternate financial assurance.

(4) The owner or operator may cancel the letter of credit only if alternate financial assurance is substituted as specified in this section or if the owner or operator is released from the requirements of this section in accordance with §258.71(b), §258.72(b) or §258.73(b).

(d) *Insurance.* (1) An owner or operator may demonstrate financial assurance for closure and post-closure care by obtaining insurance which conforms to the requirements of this paragraph. The insurance must be effective before the initial receipt of waste or before the effective date of this section (April 9, 1994), whichever is later. At a minimum, the insurer must be licensed to transact the business of insurance, or eligible to provide insurance as an excess or surplus lines insurer, in one or more States. The owner or operator must notify the State Director that a copy of the insurance policy has been placed in the operating record.

(2) The closure or post-closure care insurance policy must guarantee that funds will be available to close the MSWLF unit whenever final closure occurs or to provide post-closure care for the MSWLF unit whenever the post-closure care period begins, whichever is applicable. The policy must also guarantee that once closure or post-closure care begins, the insurer will be responsible for the paying out of funds to the owner or operator or other person authorized to conduct closure or post-closure care, up to an amount equal to the face amount of the policy.

(3) The insurance policy must be issued for a face amount at least equal to the current cost estimate for closure or post-closure care, whichever is applicable, except as provided in §258.74(a). The term *face amount* means the total amount the insurer is obligated to pay under the policy. Actual payments by the insurer will not change the face amount, although the insurer's future liability will be lowered by the amount of the payments.

(4) An owner or operator, or any other person authorized to conduct closure or post-closure care, may receive reimbursements for closure or post-closure expenditures, whichever is applicable. Requests for reimbursement will be granted by the insurer only if the remaining value of the policy is sufficient to cover the remaining costs of closure or post-closure care, and if justification and documentation of the cost is placed in the operating record. The owner or operator must notify the

State Director that the documentation of the justification for reimbursement has been placed in the operating record and that reimbursement has been received.

(5) Each policy must contain a provision allowing assignment of the policy to a successor owner or operator. Such assignment may be conditional upon consent of the insurer, provided that such consent is not unreasonably refused.

(6) The insurance policy must provide that the insurer may not cancel, terminate or fail to renew the policy except for failure to pay the premium. The automatic renewal of the policy must, at a minimum, provide the insured with the option of renewal at the face amount of the expiring policy. If there is a failure to pay the premium, the insurer may cancel the policy by sending notice of cancellation by certified mail to the owner and operator and to the State Director 120 days in advance of cancellation. If the insurer cancels the policy, the owner or operator must obtain alternate financial assurance as specified in this section.

(7) For insurance policies providing coverage for post-closure care, commencing on the date that liability to make payments pursuant to the policy accrues, the insurer will thereafter annually increase the face amount of the policy. Such increase must be equivalent to the face amount of the policy, less any payments made, multiplied by an amount equivalent to 85 percent of the most recent investment rate or of the equivalent coupon-issue yield announced by the U.S. Treasury for 26-week Treasury securities.

(8) The owner or operator may cancel the insurance policy only if alternate financial assurance is substituted as specified in this section or if the owner or operator, is no longer required to demonstrate financial responsibility in accordance with the requirements of §258.71(b), §258.72(b) or §258.73(b).

(e) *Corporate Financial Test.* [Reserved]

(f) *Local Government Financial Test.* [Reserved]

(g) *Corporate Guarantee.* [Reserved]

(h) *Local Government Guarantee.* [Reserved]

(i) *State-Approved Mechanism.* An owner or operator may satisfy the requirements of this section by obtaining any other mechanism that meets the criteria specified in §258.74(1), and that is approved by the Director of an approved State.

(j) *State Assumption of Responsibility.* If the State Director either assumes legal responsibility for an owner or operator's compliance with the closure, post-closure care and/or corrective action requirements of this part, or assures that the funds will be available from State sources to cover the requirements, the owner or operator will be in compliance with the requirements of this section. Any State assumption of responsibility must meet the criteria specified in §258.74(1).

(k) *Use of Multiple Financial Mechanisms.* An owner or operator may satisfy the requirements of this section by establishing more than one financial mechanism per facility. The mechanisms must be as specified in paragraphs (a), (b), (c), (d), (e), (f), (g), (h), (i), and (j) of this section, except that it is the combination of mechanisms, rather than the single mechanism, which must provide financial assurance for an amount at least equal to the current cost estimate for closure, post-closure care or corrective action, whichever is applicable. The financial test and a guarantee provided by a corporate parent, sibling, or grandparent may not be combined if the financial statements of the two firms are consolidated.

(l) The language of the mechanisms listed in paragraphs (a), (b), (c), (d), (e), (f), (g), (h), (i), and (j) of this section must ensure that the instruments satisfy the following criteria:

(1) The financial assurance mechanisms must ensure that the amount of funds assured is sufficient to cover the costs of closure, post-closure care, and corrective action for known releases when needed;

(2) The financial assurance mechanisms must ensure that funds will be available in a timely fashion when needed;

(3) The financial assurance mechanisms must be obtained by the owner or operator by the effective date of these requirements or prior to the initial receipt of solid waste, whichever is later, in the case of closure and post-closure care, and no later that 120 days after the corrective action remedy has been selected in accordance with the requirements of §258.58, until the owner or operator is released from the financial assurance requirements under §§258.71, 258.72 and 258.73.

(4) The financial assurance mechanisms must be legally valid, binding, and enforceable under State and Federal law.

APPENDIX I TO PART 258—CONSTITUENTS FOR DETECTION MONITORING[1]

Common name[2]	CAS RN[3]
Inorganic Constituents:	
(1) Antimony	(Total)
(2) Arsenic	(Total)
(3) Barium	(Total)
(4) Beryllium	(Total)
(5) Cadmium	(Total)
(6) Chromium	(Total)
(7) Cobalt	(Total)
(8) Copper	(Total)
(9) Lead	(Total)
(10) Nickel	(Total)
(11) Selenium	(Total)
(12) Silver	(Total)
(13) Thallium	(Total)
(14) Vanadium	(Total)
(15) Zinc	(Total)
Organic Constituents:	
(16) Acetone	67-64-1
(17) Acrylonitrile	107-13-1
(18) Benzene	71-43-2
(19) Bromochloromethane	74-97-5
(20) Bromodichloromethane	75-27-4
(21) Bromoform; Tribromomethane	75-25-2
(22) Carbon disulfide	75-15-0
(23) Carbon tetrachloride	56-23-5
(24) Chlorobenzene	108-90-7
(25) Chloroethane; Ethyl chloride	75-00-3
(26) Chloroform; Trichloromethane	67-66-3
(27) Dibromochloromethane; Chlorodibromomethane	124-48-1
(28) 1,2-Dibromo-3-chloropropane; DBCP	96-12-8
(29) 1,2-Dibromoethane; Ethylene dibromide; EDB	106-93-4
(30) o-Dichlorobenzene; 1,2-Dichlorobenzene	95-50-1
(31) p-Dichlorobenzene; 1,4-Dichlorobenzene	106-46-7
(32) trans-1,4-Dichloro-2-butene	110-57-6
(33) 1,1-Dichloroethane; Ethylidene chloride	75-34-3
(34) 1,2-Dichloroethane; Ethylene dichloride	107-06-2
(35) 1,1-Dichloroethylene; 1,1-Dichloroethene; Vinylidene chloride	75-35-4
(36) cis-1,2-Dichloroethylene; cis-1,2-Dichloroethene	156-59-2
(37) trans-1,2-Dichloroethylene; trans-1,2-Dichloroethene	156-60-5
(38) 1,2-Dichloropropane; Propylene dichloride	78-87-5
(39) cis-1,3-Dichloropropene	10061-01-5
(40) trans-1,3-Dichloropropene	10061-02-6
(41) Ethylbenzene	100-41-4
(42) 2-Hexanone; Methyl butyl ketone	591-78-6
(43) Methyl bromide; Bromomethane	74-83-9
(44) Methyl chloride; Chloromethane	74-87-3
(45) Methylene bromide; Dibromomethane	74-95-3
(46) Methylene chloride; Dichloromethane	75-09-2
(47) Methyl ethyl ketone; MEK; 2-Butanone	78-93-3
(48) Methyl iodide; Iodomethane	74-88-4
(49) 4-Methyl-2-pentanone; Methyl isobutyl ketone	108-10-1
(50) Styrene	100-42-5
(51) 1,1,1,2-Tetrachloroethane	630-20-6
(52) 1,1,2,2-Tetrachloroethane	79-34-5
(53) Tetrachloroethylene; Tetrachloroethene; Perchloroethylene	127-18-4
(54) Toluene	108-88-3
(55) 1,1,1-Trichloroethane; Methylchloroform	71-55-6
(56) 1,1,2-Trichloroethane	79-00-5
(57) Trichloroethylene; Trichloroethene	79-01-6
(58) Trichlorofluoromethane; CFC-11	75-69-4
(59) 1,2,3-Trichloropropane	96-18-4
(60) Vinyl acetate	108-05-4
(61) Vinyl chloride	75-01-4
(62) Xylenes	1330-20-7

[1] This list contains 47 volatile organics for which possible analytical procedures provided in EPA Report SW-846 "Test Methods for Evaluating Solid Waste," third edition, November 1986, as revised December 1987, includes Method 8260; and 15 metals for which SW-846 provides either Method 6010 or a method from the 7000 series of methods.

[2] Common names are those widely used in government regulations, scientific publications, and commerce; synonyms exist for many chemicals.

[3] Chemical Abstracts Service registry number. Where "Total" is entered, all species in the ground water that contain this element are included.

APPENDIX II TO PART 258—LIST OF HAZARDOUS INORGANIC AND ORGANIC CONSTITUENTS[1]

Common Name[2]	CAS RN[3]	Chemical abstracts service index name[4]	Suggested methods[5]	PQL (µg/L)[6]
Acenaphthene	83-32-9	Acenaphthylene, 1,2-dihydro-	8100	200
			8270	10
Acenaphthylene	208-96-8	Acenaphthylene	8100	200
			8270	10
Acetone	67-64-1	2-Propanone	8260	100

Common Name[2]	CAS RN[3]	Chemical abstracts service index name[4]	Suggested methods[5]	PQL (ug/L)[6]
Acetonitrile; Methyl cyanide	75-05-8	Acetonitrile	8015	100
Acetophenone	98-86-2	Ethanone, 1-phenyl-	8270	10
2-Acetylaminofluorene; 2-AAF	53-96-3	Acetamide, N-9H-fluoren-2-yl-	8270	20
Acrolein	107-02-8	2-Propenal	8030	5
			8260	100
Acrylonitrile	107-13-1	2-Propenenitrile	8030	5
			8260	200
Aldrin	309-00-2	1,4:5,8-Dimethanonaphthalene, 1,2,3,4,10,10-hexachloro-1,4,4a,5,8,8a-hexahydro-(1α,4α,4aβ,5α,8α,8aβ)-	8080	0.05
			8270	10
Allyl chloride	107-05-1	1-Propene, 3-chloro-	8010	5
			8260	10
4-Aminobiphenyl	92-67-1	[1,1'-Biphenyl]-4-amine	8270	20
Anthracene	120-12-7	Anthracene	8100	200
			8270	10
Antimony	(Total)	Antimony	6010	300
			7040	2000
			7041	30
Arsenic	(Total)	Arsenic	6010	500
			7060	10
			7061	20
Barium	(Total)	Barium	6010	20
			7080	1000
Benzene	71-43-2	Benzene	8020	2
			8021	0.1
			8260	5
Benzo[a]anthracene; Benzanthracene	56-55-3	Benz[a]anthracene	8100	200
			8270	10
Benzo[b]fluoranthene	205-99-2	Benz[e]acephenanthrylene	8100	200
			8270	10
Benzo[k]fluoranthene	207-08-9	Benzo[k]fluoranthene	8100	200
			8270	10
Benzo[ghi]perylene	191-24-2	Benzo[ghi]perylene	8100	200
			8270	10
Benzo[a]pyrene	50-32-8	Benzo[a]pyrene	8100	200
			8270	10
Benzyl alcohol	100-51-6	Benzenemethanol	8270	20
Beryllium	(Total)	Beryllium	6010	3
			7090	50
			7091	2
alpha-BHC	319-84-6	Cyclohexane, 1,2,3,4,5,6-hexachloro-, (1α,2α,3β,4α,5β,6β)-.	8080	0.05
			8270	10
beta-BHC	319-85-7	Cyclohexane, 1,2,3,4,5,6-hexachloro-, (1α,2β,3α,4β,5α,6β)-.	8080	0.05
			8270	20
delta-BHC	319-86-8	Cyclohexane, 1,2,3,4,5,6-hexachloro-, (1α,2α,3α,4β,5α,6β)-.	8080	0.1
			8270	20
gamma-BHC; Lindane	58-89-9	Cyclohexane, 1,2,3,4,5,6-hexachloro-, (1α,2α,3β,4α,5α,6β)-.	8080	0.05
			8270	20
Bis(2-chloroethoxy)methane	111-91-1	Ethane, 1,1'-[methylenebis(oxy)]bis[2-chloro-.	8110	5
			8270	10
Bis(2-chloroethyl) ether; Dichloroethyl ether.	111-44-4	Ethane, 1,1'-oxybis[2-chloro-	8110	3
			8270	10
Bis-(2-chloro-1-methylethyl) ether; 2,2'-Dichlorodisopropyl ether; DCIP. See note 7	108-60-1	Propane, 2,2'-oxybis[1-chloro-	8110	10
			8270	10
Bis(2-ethylhexyl) phthalate	117-81-7	1,2-Benzenedicarboxylic acid, bis(2-ethylhexyl) ester.	8060	20
Bromochloromethane; Chlorobromomethane.	74-97-5	Methane, bromochloro-	8021	0.1
			8260	5
Bromodichloromethane; Dibromochloromethane.	75-27-4	Methane, bromodichloro-	8010	1
			8021	0.2
			8260	5
Bromoform; Tribromomethane	75-25-2	Methane, tribromo-	8010	2
			8021	15
			8260	5
4-Bromophenyl phenyl ether	101-55-3	Benzene, 1-bromo-4-phenoxy-	8110	25
			8270	10
Butyl benzyl phthalate; Benzyl butyl phthalate.	85-68-7	1,2-Benzenedicarboxylic acid, butyl phenylmethyl ester.	8060	5
			8270	10

Common Name[2]	CAS RN[3]	Chemical abstracts service index name[4]	Suggested methods[5]	PQL (µg/L)[6]
Cadmium	(Total)	Cadmium	6010	40
			7130	50
			7131	1
Carbon disulfide	75-15-0	Carbon disulfide	8260	100
Carbon tetrachloride	56-23-5	Methane, tetrachloro-	8010	1
			8021	0.1
			8260	10
Chlordane	See Note 8	4,7-Methano-1H-indene, 1,2,4,5,6,7,8,8-octachloro-2,3,3a,4,7,7a-hexahydro-.	8080	0.1
			8270	50
p-Chloroaniline	106-47-8	Benzenamine, 4-chloro-	8270	20
Chlorobenzene	108-90-7	Benzene, chloro-	8010	2
			8020	2
			8021	0.1
			8260	5
Chlorobenzilate	510-15-6	Benzeneacetic acid, 4-chloro-α-(4-chlorophenyl)-α-hydroxy-, ethyl ester.	8270	10
p-Chloro-m-cresol; 4-Chloro-3-methylphenol.	59-50-7	Phenol, 4-chloro-3-methyl-	8040	5
			8270	20
Chloroethane; Ethyl chloride	75-00-3	Ethane, chloro-	8010	5
			8021	1
			8260	10
Chloroform; Trichloromethane	67-66-3	Methane, trichloro-	8010	0.5
			8021	0.2
			8260	5
2-Chloronaphthalene	91-58-7	Naphthalene, 2-chloro-	8120	10
			8270	10
2-Chlorophenol	95-57-8	Phenol, 2-chloro-	8040	5
			8270	10
4-Chlorophenyl phenyl ether	7005-72-3	Benzene, 1-chloro-4-phenoxy-	8110	40
			8270	10
Chloroprene	126-99-8	1,3-Butadiene, 2-chloro-	8010	50
			8260	20
Chromium	(Total)	Chromium	6010	70
			7190	500
			7191	10
Chrysene	218-01-9	Chrysene	8100	200
			8270	10
Cobalt	(Total)	Cobalt	6010	70
			7200	500
			7201	10
Copper	(Total)	Copper	6010	60
			7210	200
			7211	10
m-Cresol; 3-methylphenol	108-39-4	Phenol, 3-methyl-	8270	10
o-Cresol; 2-methylphenol	95-48-7	Phenol, 2-methyl-	8270	10
p-Cresol; 4-methylphenol	106-44-5	Phenol, 4-methyl-	8270	10
Cyanide	57-12-5	Cyanide	9010	200
2,4-D; 2,4-Dichlorophenoxyacetic acid	94-75-7	Acetic acid, (2,4-dichlorophenoxy)-	8150	10
4,4'-DDD	72-54-8	Benzene 1,1'-(2,2-dichloroethylidene)bis[4-chloro-.	8080	0.1
			8270	10
4,4'-DDE	72-55-9	Benzene, 1,1'-(dichloroethenylidene)bis[4-chloro-.	8080	0.05
			8270	10
4,4'-DDT	50-29-3	Benzene, 1,1'-(2,2,2-trichloroethylidene)bis[4-chloro-.	8080	0.1
			8270	10
Diallate	2303-16-4	Carbamothioic acid, bis(1-methylethyl)-,S-(2,3-dichloro-2-propenyl) ester.	8270	10
Dibenz[a,h]anthracene	53-70-3	Dibenz[a,h]anthracene	8100	200
			8270	10
Dibenzofuran	132-64-9	Dibenzofuran	8270	10
Dibromochloromethane; Chlorodibromomethane.	124-48-1	Methane, dibromochloro-	8010	1
			8021	0.3
			8260	5
1,2-Dibromo-3-chloropropane; DBCP	96-12-8	Propane, 1,2-dibromo-3-chloro-	8011	0.1
			8021	30
			8260	25
1,2-Dibromoethane; Ethylene dibromide; EDB.	106-93-4	Ethane, 1,2-dibromo-	8011	0.1
			8021	10
			8260	5

Common Name[a]	CAS RN[b]	Chemical abstracts service index name[c]	Suggested methods[d]	PQL (µg/L)[e]
Di-n-butyl phthalate	84-74-2	1,2-Benzenedicarboxylic acid, dibutyl ester.	8060	5
			8270	10
o-Dichlorobenzene; 1,2-Dichlorobenzene.	95-50-1	Benzene, 1,2-dichloro-	8010	2
			8020	5
			8021	0.5
			8120	10
			8260	5
			8270	10
m-Dichlorobenzene; 1,3-Dichlorobenzene.	541-73-1	Benzene, 1,3-Dichloro-	8010	5
			8020	5
			8021	0.2
			8120	10
			8260	5
			8270	10
p-Dichlorobenzene; 1,4-Dichlorobenzene.	106-46-7	Benzene, 1,4-dichloro-	8010	2
			8020	5
			8021	0.1
			8120	15
			8260	5
			8270	10
3,3'-Dichlorobenzidine	91-94-1	[1,1'-Biphenyl]-4,4'-diamine, 3,3'-dichloro-.	8270	20
trans-1,4-Dichloro-2-butene	110-57-6	2-Butene, 1,4-dichloro-, (E)-	8260	100
Dichlorodifluoromethane; CFC 12;	75-71-8	Methane, dichlorodifluoro-	8021	0.5
			8260	5
1,1-Dichloroethane; Ethylidene chloride.	75-34-3	Ethane, 1,1-dichloro-	8010	1
			8021	0.5
			8260	5
1,2-Dichloroethane; Ethylene dichloride	107-06-2	Ethane, 1,1-dichloro-	8010	0.5
			8021	0.3
			8260	5
1,1-Dichloroethylene; 1,1-Dichloroethene; Vinylidene chloride.	75-35-4	Ethene, 1,1-dichloro-	8010	1
			8021	0.5
			8260	5
cis-1,2-Dichloroethylene; cis-1,2-Dichloroethene.	156-59-2	Ethene, 1,2-dichloro-, (Z)-	8021	0.2
			8260	5
trans-1,2-Dichloroethylene trans-1,2-Dichloroethene.	156-60-5	Ethene, 1,2-dichloro-, (E)-	8010	1
			8021	0.5
			8260	5
2,4-Dichlorophenol	120-83-2	Phenol, 2,4-dichloro-	8040	5
			8270	10
2,6-Dichlorophenol	87-65-0	Phenol, 2,6-dichloro-	8270	10
1,2-Dichloropropane; Propylene dichloride.	78-87-5	Propane, 1,2-dichloro-	8010	0.5
			8021	0.05
			8260	5
1,3-Dichloropropane; Trimethylene dichloride.	142-28-9	Propane, 1,3-dichloro-	8021	0.3
			8260	5
2,2-Dichloropropane; Isopropylidene chloride.	594-20-7	Propane, 2,2-dichloro-	8021	0.5
			8260	15
1,1-Dichloropropene	563-58-6	1-Propene, 1,1-dichloro-	8021	0.2
			8260	5
cis-1,3-Dichloropropene	10061-01-5	1-Propene, 1,3-dichloro-, (Z)-	8010	20
			8260	10
trans-1,3-Dichloropropene	10061-02-6	1-Propene, 1,3-dichloro-, (E)-	8010	5
			8260	10
Dieldrin	60-57-1	2,7:3,6-Dimethanonaphth[2,3-b]oxirene, 3,4,5,6,9,9-hexa, chloro-1a,2,2a,3,6,6a,7,7a-octahydro-, (1aα,2β,2aα,3β,6β,6aα,7β,7aα)-.	8080	0.05
			8270	10
Diethyl phthalate	84-66-2	1,2-Benzenedicarboxylic acid, diethyl ester.	8060	5
			8270	10
0,0-Diethyl 0-2-pyrazinyl phosphorothioate; Thionazin.	297-97-2	Phosphorothioic acid, 0,0-diethyl 0-pyrazinyl ester.	8141	5
			8270	20
Dimethoate	60-51-5	Phosphorodithioic acid, 0,0-dimethyl S-[2-(methylamino)-2-oxoethyl] ester.	8141	3
			8270	20
p-(Dimethylamino)azobenzene	60-11-7	Benzenamine, N,N-dimethyl-4-(phenylazo)-.	8270	10
7,12-Dimethylbenz[a]anthracene	57-97-6	Benz[a]anthracene, 7,12-dimethyl-	8270	10
3,3'-Dimethylbenzidine	119-93-7	[1,1'-Biphenyl]-4,4'-diamine, 3,3'-dimethyl-.	8270	10

Common Name[a]	CAS RN[b]	Chemical abstracts service index name[c]	Suggested methods[d]	PQL (µg/L)[e]
2,4-Dimethylphenol; m-Xylenol	105-67-9	Phenol, 2,4-dimethyl-	8040	5
			8270	10
Dimethyl phthalate	131-11-3	1,2-Benzenedicarboxylic acid, dimethyl ester.	8060	5
			8270	10
m-Dinitrobenzene	99-65-0	Benzene, 1,3-dinitro-	8270	20
4,6-Dinitro-o-cresol 4,6-Dinitro-2-methylphenol.	534-52-1	Phenol, 2-methyl-4,6-dinitro	8040	150
			8270	50
2,4-Dinitrophenol;	51-28-5	Phenol, 2,4-dinitro-	8040	150
			8270	50
2,4-Dinitrotoluene	121-14-2	Benzene, 1-methyl-2,4-dinitro-	8090	0.2
			8270	10
2,6-Dinitrotoluene	606-20-2	Benzene, 2-methyl-1,3-dinitro-	8090	0.1
			8270	10
Dinoseb; DNBP; 2-sec-Butyl-4,6-dinitrophenol.	88-85-7	Phenol, 2-(1-methylpropyl)-4,6-dinitro-	8150	1
			8270	20
Di-n-octyl phthalate	117-84-0	1,2-Benzenedicarboxylic acid, dioctyl ester.	8060	30
			8270	10
Diphenylamine	122-39-4	Benzenamine, N-phenyl-	8270	10
Disulfoton	298-04-4	Phosphorodithioic acid, 0,0-diethyl S-[2-(ethylthio)ethyl] ester.	8140	2
			8141	0.5
			8270	10
Endosulfan I	959-98-8	6,9-Methano-2,4,3-benzodioxathiepin, 6,7,8,9,10,10-hexa- chloro-1,5,5a,6,9,9a-hexahydro-, 3-oxide,	8080	0.1
			8270	20
Endosulfan II	33213-65-9	6,9-Methano-2,4,3-benzodioxathiepin, 6,7,8,9,10,10-hexa- chloro-1,5,5a,6,9,9a-hexahydro-, 3-oxide, (3α,5aα,6β,9β,9aα)-.	8080	0.05
			8270	20
Endosulfan sulfate	1031-07-8	6,9-Methano-2,4,3-benzodioxathiepin, 6,7,8,9,10,10-hexa- chloro-1,5,5a,6,9,9a-hexahydro-,3-3-dioxide.	8080	0.5
			8270	10
Endrin	72-20-8	2,7:3,6-Dimethanonaphth[2,3-b]oxirene, 3,4,5,6,9,9-hexachloro-1a,2,2a,3,6,6a,7,7a-octahydro-, (1aα, 2β,2aβ,3α,6α,6aβ,7β,7aα)-.	8080	0.1
			8270	20
Endrin aldehyde	7421-93-4	1,2,4-Methenocyclopenta[cd]pentalene-5-carboxaldehyde, 2,2a,3,3,4,7-hexachlorodecahydro-, (1α,2β,2aβ,4β,4aβ,5β,6aβ,6bβ,7R*)-.	8080	0.2
			8270	10
Ethylbenzene	100-41-4	Benzene, ethyl-	8020	2
			8221	0.05
			8260	5
Ethyl methacrylate	97-63-2	2-Propenoic acid, 2-methyl-, ethyl ester.	8015	5
			8260	10
			8270	10
Ethyl methanesulfonate	62-50-0	Methanesulfonic acid, ethyl ester	8270	20
Famphur	52-85-7	Phosphorothioic acid, 0-[4-[(dimethylamino)sulfonyl]phenyl] 0,0-dimethyl ester.	8270	20
Fluoranthene	206-44-0	Fluoranthene	8100	200
			8270	10
Fluorene	86-73-7	9H-Fluorene	8100	200
			8270	10
Heptachlor	76-44-8	4,7-Methano-1H-indene, 1,4,5,6,7,8,8-heptachloro-3a,4,7,7a-tetrahydro-.	8080	0.05
			8270	10
Heptachlor epoxide	1024-57-3	2,5-Methano-2H-indeno[1,2-b]oxirene, 2,3,4,5,6,7,7-heptachloro-1a,1b,5,5a,6,6a-hexahydro-, (1aα, 1bβ, 2α, 5α, 5aβ, 6β, 6aα).	8080	1
			8270	10
Hexachlorobenzene	118-74-1	Benzene, hexachloro-	8120	0.5
			8270	10
Hexachlorobutadiene	87-68-3	1,3-Butadiene, 1,1,2,3,4,4-hexachloro-	8021	0.5
			8120	5
			8260	10
			8270	10
Hexachlorocyclopentadiene	77-47-4	1,3-Cyclopentadiene, 1,2,3,4,5,5-hexachloro-.	8120	5
			8270	10

Common Name[2]	CAS RN[3]	Chemical abstracts service index name[4]	Suggested methods[5]	PQL (µg/L)[6]
Hexachloroethane	67-72-1	Ethane, hexachloro-	8120	0.5
			8260	10
			8270	10
Hexachloropropene	1888-71-7	1-Propene, 1,1,2,3,3,3-hexachloro-	8270	10
2-Hexanone; Methyl butyl ketone	591-78-6	2-Hexanone	8260	50
Indeno(1,2,3-cd)pyrene	193-39-5	Indeno(1,2,3-cd)pyrene	8100	200
			8270	10
Isobutyl alcohol	78-83-1	1-Propanol, 2-methyl-	8015	50
			8240	100
Isodrin	465-73-6	1,4,5,8-Dimethanonaphthalene,1,2,3,4,10,10-hexachloro-1,4,4a,5,8,8a hexahydro-(1α,4α,4aβ,5β,8β,8aβ)-.	8270	20
			8260	10
Isophorone	78-59-1	2-Cyclohexen-1-one, 3,5,5-trimethyl-	8090	60
			8270	10
Isosafrole	120-58-1	1,3-Benzodioxole, 5-(1-propenyl)-	8270	10
Kepone	143-50-0	1,3,4-Metheno-2H-cyclobuta[cd]pentalen-2-one, 1,1a,3,3a,4,5,5,5a,5b,6-decachlorooctahydro-.	8270	20
Lead	(Total)	Lead	6010	400
			7420	1000
			7421	10
Mercury	(Total)	Mercury	7470	2
Methacrylonitrile	126-98-7	2-Propenenitrile, 2-methyl-	8015	5
			8260	100
Methapyrilene	91-80-5	1,2-Ethanediamine, N,N-dimethyl-N'-2-pyridinyl-N'1/2-thienylmethyl)-.	8270	100
Methoxychlor	72-43-5	Benzene,1,1'-(2,2,2,trichloroethylidene)bis[4-methoxy-.	8080	2
			8270	10
Methyl bromide; Bromomethane	74-83-9	Methane, bromo-	8010	20
			8021	10
Methyl chloride; Chloromethane	74-87-3	Methane, chloro-	8010	1
			8021	0.3
3-Methylcholanthrene	56-49-5	Benz[j]aceanthrylene, 1,2-dihydro-3-methyl-.	8270	10
Methyl ethyl ketone; MEK; 2-Butanone	78-93-3	2-Butanone	8015	10
			8260	100
Methyl iodide; Iodomethane	74-88-4	Methane, iodo-	8010	40
			8260	10
Methyl methacrylate	80-62-6	2-Propenoic acid, 2-methyl-, methyl ester.	8015	2
			8260	30
Methyl methanesulfonate	66-27-3	Methanesulfonic acid, methyl ester	8270	10
2-Methylnaphthalene	91-57-6	Naphthalene, 2-methyl-	8270	10
Methyl parathion; Parathion methyl	298-00-0	Phosphorothioic acid, 0,0-dimethyl	8140	0.5
			8141	1
			8270	10
4-Methyl-2-pentanone; Methyl isobutyl ketone.	108-10-1	2-Pentanone, 4-methyl-	8015	5
			8260	100
Methylene bromide; Dibromomethane	74-95-3	Methane, dibromo-	8010	15
			8021	20
			8260	10
Methylene chloride; Dichloromethane	75-09-2	Methane, dichloro-	8010	5
			8021	0.2
			8260	10
Naphthalene	91-20-3	Naphthalene	8021	0.5
			8100	200
			8260	5
			8270	10
1,4-Naphthoquinone	130-15-4	1,4-Naphthalenedione	8270	10
1-Naphthylamine	134-32-7	1-Naphthalenamine	8270	10
2-Naphthylamine	91-59-8	2-Naphthalenamine	8270	10
Nickel	(Total)	Nickel	6010	150
			7520	400
o-Nitroaniline; 2-Nitroaniline	88-74-4	Benzenamine, 2-nitro-	8270	50
m-Nitroaniline; 3-Nitroaniline	99-09-2	Benzenamine, 3-nitro-	8270	50
p-Nitroaniline; 4-Nitroaniline	100-01-6	Benzenamine, 4-nitro	8270	20
Nitrobenzene	98-95-3	Benzene, nitro-	8090	40
			8270	10

Common Name[2]	CAS RN[3]	Chemical abstracts service index name[4]	Suggested methods[5]	PQL (µg/L)[6]
o-Nitrophenol; 2-Nitrophenol	88-75-5	Phenol, 2-nitro-	8040	5
			8270	10
p-Nitrophenol; 4-Nitrophenol	100-02-7	Phenol, 4-nitro-	8040	10
			8270	50
N-Nitrosodi-n-butylamine	924-16-3	1-Butanamine, N-butyl-N-nitroso-	8270	10
N-Nitrosodiethylamine	55-18-5	Ethanamine, N-ethyl-N-nitroso-	8270	20
N-Nitrosodimethylamine	62-75-9	Methanamine, N-methyl-N-nitroso-	8070	2
N-Nitrosodiphenylamine	86-30-6	Benzenamine, N-nitroso-N-phenyl-	8070	5
N-Nitrosodipropylamine; N-Nitroso-N-dipropylamine; Di-n-propylnitrosamine.	621-64-7	1-Propanamine, N-nitroso-N-propyl-	8070	10
N-Nitrosomethylethalamine	10595-95-6	Ethanamine, N-methyl-N-nitroso-	8270	10
N-Nitrosopiperidine	100-75-4	Piperidine, 1-nitroso-	8270	20
N-Nitrosopyrrolidine	930-55-2	Pyrrolidine, 1-nitroso-	8270	40
5-Nitro-o-toluidine	99-55-8	Benzenamine, 2-methyl-5-nitro-	8270	10
Parathion	56-38-2	Phosphorothioic acid, 0,0-diethyl 0-(4-nitrophenyl) ester.	8141	0.5
			8270	10
Pentachlorobenzene	608-93-5	Benzene, pentachloro-	8270	10
Pentachloronitrobenzene	82-68-8	Benzene, pentachloronitro-	8270	20
Pentachlorophenol	87-86-5	Phenol, pentachloro-	8040	5
			8270	50
Phenacetin	62-44-2	Acetamide, N-(4-ethoxyphenl)	8270	20
Phenanthrene	85-01-8	Phenanthrene	8100	200
			8270	10
Phenol	108-95-2	Phenol	8040	1
p-Phenylenediamine	106-50-3	1,4-Benzenediamine	8270	10
Phorate	298-02-2	Phosphorodithioic acid, 0,0-diethyl S-[(ethylthio)methyl] ester.	8140	2
			8141	0.5
			8270	10
Polychlorinated biphenyls; PCBs; Aroclors.	See Note 9	1,1'-Biphenyl, chloro derivatives	8080	50
			8270	200
Pronamide	23950-58-5	Benzamide, 3,5-dichloro-N-(1,1-dimethyl-2-propynyl)-.	8270	10
Propionitrile; Ethyl cyanide	107-12-0	Propanenitrile	8015	60
			8260	150
Pyrene	129-00-0	Pyrene	8100	200
			8270	10
Safrole	94-59-7	1,3-Benzodioxole, 5-(2-propenyl)-	8270	10
Selenium	(Total)	Selenium	6010	750
			7740	20
			7741	20
Silver	(Total)	Silver	6010	70
			7760	100
			7761	10
Silvex; 2,4,5-TP	93-72-1	Propanoic acid, 2-(2,4,5-trichlorophenoxy)-.	8150	2
Styrene	100-42-5	Benzene, ethenyl-	8020	1
			8021	0.1
			8260	10
Sulfide	18496-25-8	Sulfide	9030	4000
2,4,5-T; 2,4,5-Trichlorophenoxyacetic acid.	93-76-5	Acetic acid, (2,4,5-trichlorophenoxy)-	8150	2
1,2,4,5-Tetrachlorobenzene	95-94-3	Benzene, 1,2,4,5-tetrachloro-	8270	10
1,1,1,2-Tetrachloroethane	630-20-6	Ethane, 1,1,1,2-tetrachloro-	8010	5
			8021	0.05
			8260	5
1,1,2,2-Tetrachloroethane	79-34-5	Ethane, 1,1,2,2-tetrachloro-	8010	0.5
			8021	0.1
			8260	5
Tetrachloroethylene; Tetrachloroethene; Perchloroethylene.	127-18-4	Ethene, tetrachloro-	8010	0.5
			8021	0.5
			8260	5
2,3,4,6-Tetrachlorophenol	58-90-2	Phenol, 2,3,4,6-tetrachloro-	8270	10
Thallium	(Total)	Thallium	6010	400
			7840	1000
			7841	10
Tin	(Total)	Tin	6010	40
Toluene	108-88-3	Benzene, methyl-	8020	2
			8021	0.1
			8260	5
o-Toluidine	95-53-4	Benzenamine, 2-methyl-	8270	10

Common Name[2]	CAS RN[3]	Chemical abstracts service index name[4]	Suggested methods[5]	PQL (µg/L)[6]
Toxaphene	See Note 10	Toxaphene	8080	2
1,2,4-Trichlorobenzene	120–82–1	Benzene, 1,2,4-trichloro-	8021	0.3
			8120	0.5
			8260	10
			8270	10
1,1,1-Trichloroethane; Methylchloroform	71–55–6	Ethane, 1,1,1-trichloro-	8010	0.3
			8021	0.3
			8260	5
1,1,2-Trichloroethane	79–00–5	Ethane, 1,1,2-trichloro-	8010	0.2
			8260	5
Trichloroethylene; Trichloroethene	79–01–6	Ethene, trichloro-	8010	1
			8021	0.2
			8260	5
Trichlorofluoromethane; CFC–11	75–69–4	Methane, trichlorofluoro-	8010	10
			8021	0.3
			8260	5
2,4,5-Trichlorophenol	95–95–4	Phenol, 2,4,5-trichloro-	8270	10
2,4,6-Trichlorophenol	88–06–2	Phenol, 2,4,6-trichloro-	8040	5
			8270	10
1,2,3-Trichloropropane	96–18–4	Propane, 1,2,3-trichloro-	8010	10
			8021	5
			8260	15
0,0,0-Triethyl phosphorothioate	126–68–1	Phosphorothioic acid, 0,0,0-triethylester.	8270	10
sym-Trinitrobenzene	99–35–4	Benzene, 1,3,5-trinitro-	8270	10
Vanadium	(Total)	Vanadium	6010	80
			7910	2000
			7911	40
Vinyl acetate	108–05–4	Acetic acid, ethenyl ester	8260	50
Vinyl chloride; Chloroethene	75–01–4	Ethene, chloro-	8010	2
			8021	0.4
			8260	10
Xylene (total)	See Note 11	Benzene, dimethyl-	8020	5
			8021	0.2
			8260	5
Zinc	(Total)	Zinc	6010	20
			7950	50
			7951	0.5

Notes

[1] The regulatory requirements pertain only to the list of substances; the right hand columns (Methods and PQL) are given for informational purposes only. See also footnotes 5 and 6.

[2] Common names are those widely used in government regulations, scientific publications, and commerce; synonyms exist for many chemicals.

[3] Chemical Abstracts Service registry number. Where "Total" is entered, all species in the ground water that contain this element are included.

[4] CAS index are those used in the 9th Collective Index.

[5] Suggested Methods refer to analytical procedure numbers used in EPA Report SW–846 "Test Methods for Evaluating Solid Waste", third edition, November 1986, as revised, December 1987. Analytical details can be found in SW–846 and in documentation on file at the agency. CAUTION: The methods listed are representative SW–846 procedures and may not always be the most suitable method(s) for monitoring an analyte under the regulations.

[6] Practical Quantitation Limits (PQLs) are the lowest concentrations of analytes in ground waters that can be reliably determined within specified limits of precision and accuracy by the indicated methods under routine laboratory operating conditions. The PQLs listed are generally stated to one significant figure. PQLs are based on 5 mL samples for volatile organics and 1 L samples for semivolatile organics. CAUTION: The PQL values in many cases are based only on a general estimate for the method and not on a determination for individual compounds; PQLs are not a part of the regulation.

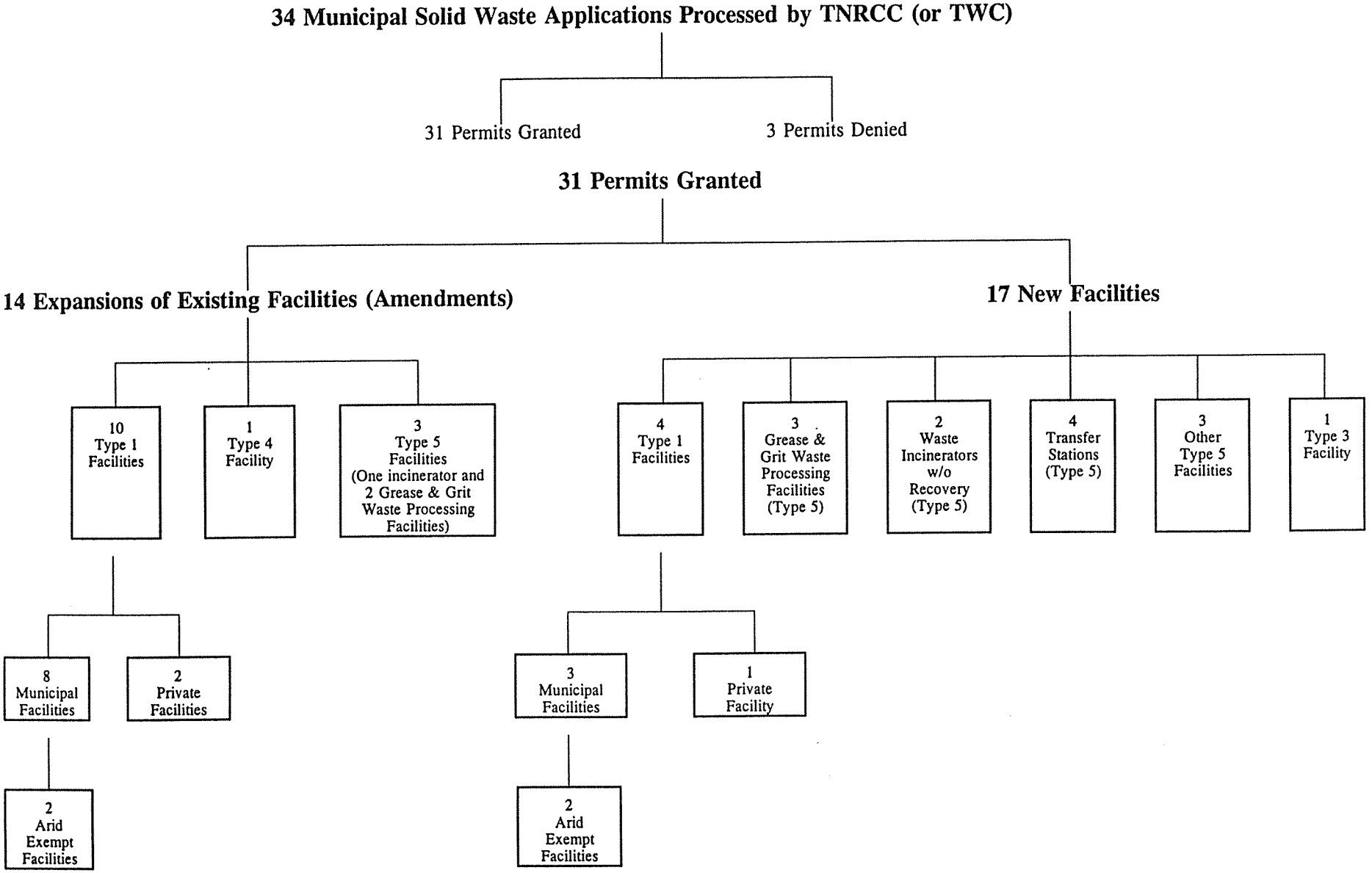
[7] This substance is often called Bis(2-chloroisopropyl) ether, the name Chemical Abstracts Service applies to its noncommercial isomer, Propane, 2,2'-oxybis[2-chloro- (CAS RN 39638–32–9).

[8] Chlordane: This entry includes alpha-chlordane (CAS RN 5103–71–9), beta-chlordane (CAS RN 5103–74–2), gamma-chlordane (CAS RN 5566–34–7), and constituents of chlordane (CAS RN 57–74–9 and CAS RN 12789–03–6). PQL shown is for technical chlordane. PQLs of specific isomers are about 20 µg/L by method 8270.

[9] Polychlorinated biphenyls (CAS RN 1336–36–3); this category contains congener chemicals, including constituents of Aroclor 1016 (CAS RN 12674–11–2), Aroclor 1221 (CAS RN 11104–28–2), Aroclor 1232 (CAS RN 11141–16–5), Aroclor 1242 (CAS RN 53469–21–9), Aroclor 1248 (CAS RN 12672–29–6), Aroclor 1254 (CAS RN 11097–69–1), and Aroclor 1260 (CAS RN 11096–82–5). The PQL shown is an average value for PCB congeners.

[10] Toxaphene: This entry includes congener chemicals contained in technical toxaphene (CAS RN 8001–35–2), i.e., chlorinated camphene.

[11] Xylene (total): This entry includes o-xylene (CAS RN 96–47–6), m-xylene (CAS RN 108–38–3), p-xylene (CAS RN 106–42–3), and unspecified xylenes (dimethylbenzenes) (CAS RN 1330–20–7). PQLs for method 8021 are 0.2 for o-xylene and 0.1 for m- or p-xylene. The PQL for m-xylene is 2.0 µg/L by method 8020 or 8260.



APPENDIX NO. 3

SUPPLEMENTAL DISCUSSION REGARDING MUNICIPAL SOLID WASTE ACTIVITIES

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SUPPLEMENTAL DISCUSSION REGARDING MUNICIPAL SOLID WASTE ACTIVITIES

By
Roliff Purrington

The following sets forth developments in the municipal solid waste program that have generally occurred since preparation and submission of the conference materials.

1. Waste Tire Recycling Fund

At its agenda meeting on July 13, 1994, the Texas Natural Resource Conservation Commission ("TNRCC") adopted amendments to 30 TEX. ADMIN. CODE ("TAC") §§ 330.801-889 and §§ 330.900-939 concerning the waste tire recycling fund ("WTRF") program. These rules, which are extensive, were proposed in the *Texas Register* on April 19, 1994 (*See* 19 TEX. REG. 2830). The new sections deal with a variety of issues concerning waste tire recycling facilities including, without limitation, the following:

a. WTRF definitions;

b. Registration, operation and record-keeping requirements for waste tire baling facilities;

c. Conditions regarding confidentiality for registered processors in the WTRF program;

d. Restrictions for companies or individuals seeking reimbursement under the WTRF program; and

e. Registration, operation and record-keeping requirements for the following:

- Waste tire energy recovery facilities;
- Transfer stations or recycling collection centers.

The new rules were developed to implement statutory changes from Senate Bill 1051, which was adopted in the 1993 Legislative Session and required certain changes to the regulatory scheme for waste tire recycling facilities. The new rules contain complete registration, manifest, and record-keeping requirements for generators, transporters, and waste tire storage and recycling facilities. In addition, the rules also set forth conditions regarding the eligibility of applicants for reimbursement from the WTRF.

2. Air Emissions From Municipal Solid Waste Landfills

The TNRCC also adopted rules regulating air emissions from municipal solid waste landfills. The rules, which appear at 30 TAC §§ 115.152-159, provide that in ozone non-attainment areas, each owner or operator of a municipal solid waste landfill must calculate the volatile organic compound ("VOC") emission rate for the landfill. If that emission rate is greater than 150 Megagrams per year, a municipal solid waste landfill facility must do the following:

a. Install a gas control system designed to meet federal regulations;

b. Control emissions by one of the following ways:

(1) Routing the gas to an open flare designed in accordance with 40 CFR § 60.18;

(2) Installing a control device that reduces total emissions by 98%, or to less than 20 ppm by volume; or

(3) Routing the emissions to a gas treatment system that processes the gas for subsequent use or sale.

In addition, these rules contain various monitoring and record-keeping requirements including the following:

a. Records to demonstrate compliance with applicable exemption criteria, including the annual emissions calculation; and

b. Monitoring requirements of control systems where installed.

The rules require the submission of an annual emissions inventory report as required by 30 TAC § 101.10, which encompasses the calculation of nonmethane organic compounds emission rates. The schedule for municipal solid waste facilities within various counties to come into compliance with the rules is as follows:

a. Collin, Denton & Tarrant Counties - as soon as practicable, but no later than 5/31/95;

b. El Paso County - as soon as practicable, but no later than 11/15/96, or one year after the TNRCC publishes notice in the *Texas Register* regarding its determination of a failure to attain ozone standards by the 11/15/96 attainment deadline; and

c. Brazos, Chambers, Fort Bend, Galveston, Harris, Liberty, Montgomery, Waller Counties - as soon as practicable, but no later than one year after the TNRCC publishes *Texas Register* notification that this rule is necessary due to a failure to attain ozone standards by the 11/15/96 attainment deadline.

3. Medical Waste

The TNRCC proposed on July 15, 1994 (*See* 19 TEX. REG. 5444) amendments to 30 TAC Chapter 330 dealing with the disposal and management of medical waste at municipal solid waste facilities. Among other things, the proposed amendments would make the following changes:

a.	31 TAC §330.4	-	permit not required for treatment process unit used only to treat on-site generated special waste from health-care related facilities;
b.	31 TAC §330.171	-	requirement that shipping documents accompany shipments of medical waste to Type V facilities;
c.	31 TAC §§ 330.641, et seq.	-	requirement of annual registration fees and annual reports for medical waste transporters;
d.	31 TAC §§ 330.1001-1006	-	extensive procedures and regulations for management of medical waste;
		-	requirement for listing of treatment methods applied to medical waste;
		-	permission to discard many types of medical waste with routine municipal solid waste if approved as a special waste and properly labelled; and
		-	registration of medical waste transporters.

4. Lead Acid Batteries

The TNRCC has various requirements regarding the disposal of lead acid batteries. For example, under recently adopted 30 TAC § 330.5, lead acid batteries should not be intentionally or knowingly offered by a generator or transporter for disposal and should not be intentionally or knowingly accepted by a municipal solid waste landfill facility for disposal. Violators are subject to criminal and/or civil penalties under the Solid Waste Disposal Act, and each battery improperly disposed is a separate violation and offense. 30 TAC §§ 330.1101-1109 contain various requirements for the disposal of lead acid batteries. Under 30 TAC § 330.1103, no

person may place a used lead acid battery in mixed municipal solid waste or discard or otherwise dispose of such a battery, except by delivery to one of the following:

a. a battery retailer or battery wholesaler;

b. a secondary lead smelter; or

c. a collection or recycling facility authorized by Texas laws or EPA.

A battery retailer shall dispose of lead acid batteries by delivery to the following:

a. a battery wholesaler or agent thereof;

b. a secondary lead smelter or agent;

c. a battery manufacturer for delivery to a secondary lead smelter; or

d. an authorized collection or recycling facility.

5. Implementation of Proposition Two

At its June 29, 1994 agenda meeting, the TNRCC authorized for proposal in the *Texas Register* new rules at 30 TAC Chapter 277 relating to Proposition Two, the statute enacted in 1993 that established a property tax exemption for "pollution control equipment." These procedural rules were proposed in the July 19, 1994 *Texas Register* (*See* 19 TEX. REG. 5602). The rules set out the procedure by which an owner can apply to the TNRCC for a determination of pollution control use (i.e., a "use determination"). To qualify for the tax exemption, the property must meet all EPA and TNRCC provisions, must have been constructed, acquired, and installed after January 1, 1994, and must not have been taxable by any taxing unit on or before January 1, 1994. An applying party must send an application form to the TNRCC Executive Director, after which the Executive Director makes a decision on the application. The rules contain no provision for a hearing or public notice, although the TNRCC will send notice to the appraisal district in the county where the property is located.

The TNRCC has also prepared a draft Technical Guidelines Manual to assist applicants for a use determination. That manual includes specific examples of pollution control property that will or will not be eligible for the exemption. The TNRCC will hold a hearing on the proposed rules on August 8, 1994 at 10:00 a.m. in Building B (Room 201A) of the TNRCC Central office in Austin.

6. Strategy for Liquid Waste

At its July 27, 1994 agenda meeting, the Commissioners approved a strategy formulated by the TNRCC staff to develop a more efficient system for managing liquid wastes (including grease and grit trap wastes, septage and sewage sludge). These wastes have historically been disposed of in landfills, but Subtitle D banned such disposal. The TNRCC is in the infancy stages of developing specific programs to implement the strategy. Pursuant to the strategy, the TNRCC staff plans to do the following:

a. Improve monitoring of transporters to ensure that liquid waste is properly managed;

b. Develop a state authorization system for mobile processors of liquid waste;

c. Develop a state authorization system for liquid waste transfer stations;

d. Upgrade existing rules dealing with Type V grease and grit trap waste processing facilities;

e. Establish a special TNRCC team to assist permit applicants for Type V grease and grit trap waste permits; and

f. Encourage transfer and temporary storage facilities in smaller communities to be used by haulers and transporters.

The TNRCC will also focus on educational programs regarding liquid waste.

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Coastal Management

"Out to sea"

Jim Wiersema

Lee Sherrod

James M. Wiersema
Horizon Environmental Services, Inc.

James M. Wiersema is a principal and cofounder of Horizon Environmental Services, Inc. Mr. Wiersema has been employed as an environmental consultant for 25 years. He is an aquatic/estuarine ecologist. Throughout his career he has been involved with coastal management projects in every major bay system in Texas from Sabine Lake to the Rio Grande River. Mr. Wiersema has managed or significantly contributed to over 150 coastal projects, including NPDES permits (power stations, industrial facilities); Section 316 a and b permits (power stations); RCT brine discharge permits; Section 10/404 permits (land development, deepwater ports, reservoirs, industrial facilities); and state water rights permits (reservoirs). Additionally, Mr. Wiersema has developed instream minimum flow release programs for 11 reservoirs and provided assessments for an additional five reservoirs. Of these, seven were within 200 miles of the coast and required assessment of bay and estuary freshwater inflow requirements. Additionally, he has managed numerous technical projects defining baseline ecological conditions ranging from nutrient flow analyses through projected commercial finfish and shellfish harvests and assessments of potential impacts to those resources.

Mr. Wiersema has been involved in permitting agency negotiations, mitigation plan development and reclamation for the majority of his project work. He has provided expert testimony at evidentiary hearings and public hearings on over thirty occasions before the TNRCC, U.S. Army Corps of Engineers, RCT and GLO.

Jim Wiersema is an aquatic/estuarine ecologist with 25 years experience in the environmental consulting field.

When asked for some facts of interest about himself as introductory material, he responded with answers to questions most often asked of him during hearings. These include the following:

No, he doesn't want to live next to every project site he works on.

Yes, he does get paid for his work.

No, he doesn't choose to drink or swim in effluent.

and

No, an environmental consultant is not a member of the world's oldest profession.

C. Lee Sherrod
Horizon Environmental Services, Inc.

C. Lee Sherrod is a Principal, cofounder and Consulting Biologist with Horizon Environmental Services, Inc. in Austin, Texas. Mr. Sherrod completed a Bachelor of Sciences degree in Forestry/Wildlife Management from Stephen F. Austin State University and a Master of Arts degree in Botany/Wetland Ecology at the University of Texas at Austin. He has over 15 years experience in the biological consulting and research fields dealing primarily with wetland ecology, terrestrial ecology, threatened or endangered species, and the regulatory aspects of those resources (Section 404-Clean Water Act and Endangered Species Act). Mr. Sherrod has focused much of his experience in Texas, but is also experienced in other parts of the U.S., including much of the southwest, southeast and Atlantic coast. Most of his professional work experience has dealt with biological investigations, impact assessment and permitting assistance for a wide variety of land and water development projects including surface mines, reservoirs, highways, pipelines, urban developments and industrial facilities. He has been extensively involved in endangered species issues for the past several years and is a long-standing member and officer of the Texas Organization for Endangered Species, a state-wide, non profit organization of biological professionals dedicated to conservation, research and education regarding imperiled biological resources of Texas.

C. Lee Sherrod, Principal
Horizon Environmental Services, Inc.

Lee Sherrod is a Wetlands Ecologist with more than 15 years of in-the-trenches experience dealing with wetlands regulatory issues along the Texas coast. In those 15 years he has weathered the many changes in wetlands regulatory policy and technical criteria. Three years ago, when he began to see the new CZM regulations coming to the forefront, he initiated his preparation for their implementation by entering into the Emu ranching business located some 250 miles inland from the coast near a small town called Dripping Springs. In the absence of an ONRW designation for Barton Creek, the regulatory climate of Dripping Springs is simple and the most complex community issues are dealt with over a cup of coffee and a chaw of Red Man at the local feed store. Mr. Sherrod is hopeful of being able to retire into a pair of coveralls, boots and wide brim hat in Drippin' before the new CZM regs are fully implemented and his current state of insanity is elevated to a hopeless level. You can help! Dial (512) 858-4887 for simple business opportunity in Emus.

PAPER WILL BE AVAILABLE AT CONFERENCE

The Effect on Project Permitting of the Texas Coastal Management Program

by
James M. Wiersema
C. Lee Sherrod
Horizon Environmental Services, Inc.

Introduction

This paper discusses the potential effect of the goals, policies and administration of the proposed Texas Coastal Management Program (CMP) on the permitting of projects in the coastal zone.

The CMP is designed to meet the minimum standards of the Federal Coastal Zone Management Act (CZMA) of 1972 as amended. In doing so, the State of Texas receives three things:

(1) A comprehensive management program for the coast for all activities
(2) Federal compliance with the CMP
(3) Federal funds for CMP implementation

The state and its citizens also get an expanded set of rules and regulations which must be dealt with when utilizing coastal areas for nearly any purpose.

The CMP is a massive undertaking which requires that the state meet numerous federal guidelines both in the development and operation phases of the CMP. A check list of 25 items can essentially be summarized by four major activity areas as follows:

(1) Identify and develop inventories by type and geographic distribution, of the coastal resources over which the CMP will exert land and water use controls. This includes establishing the boundaries for the resources included in the CMP.

(2) List the permissible land and water uses in the CMP area. This also requires providing guidelines for such use by type of use and resource affected.

(3) Provide a management structure and procedures for developing and administering the CMP under state authority.

(4) Develop and implement a planning process for coastal areas and incorporate existing plans, including development of Special Areas Management Plans.

The Texas CMP is administered by the Coastal Coordination Council (CCC) comprised of :

Commissioner of the General Land Office; Chairman
Attorney General
Parks And Wildlife Commission Chairman
TNRCC Commission Chairman
Railroad Commission of Texas member
local coastal area elected official
coastal resident

The General Land Office is the designated lead agency to coordinate and develop the CMP in cooperation with other state agencies having responsibilities relating to coastal matters. Various task forces and other groups have been established to assist the CCC as well.

Given the large scope of the CMP, this paper will not review or summarize all aspects of the CMP. Instead, it will define the coastal resources affected by the CMP, the permittable uses of such resources under the CMP and differences in permitting under the CMP.

In several sections of this paper, the exact verbiage of the CMP has been incorporated to insure accuracy. Such sections were usually edited for brevity's sake, generally by reducing the amount of descriptive material contained therein and are as such not exact quotations. All such sections of the paper are designated by square brackets ([ ]).

Resource Inventory and Boundary

The significance of the resource inventory relative to permitting is that the CMP provides itemized lists of coastal resource types which must be considered by anyone seeking permits in the coastal area.

The CMP is a very comprehensive plan which encompasses virtually every natural resource area and type of land use along the coast.

The boundaries of the CMP encompass all the areas within the 19 first tier coastal Texas counties listed below:

Cameron	Refugio	Galveston
Willacy	Calhoun	Harris
Kenedy	Victoria	Chambers
Kleberg	Jackson	Liberty
Nueces	Matagorda	Jefferson
San Patricio	Brazoria	Orange
Aransas		

Additionally, the CMP reaches seaward into the Gulf of Mexico to the limit of state title and ownership three marine leagues (10.36 miles) from the State's gulf shoreline. On the east, the boundary is the adjudicated boundary between Louisiana and Texas. To the south, the boundary is the international border with Mexico. The boundaries include all lands except for certain federal lands or lands held solely for federal use. (National Wildlife Refuges and military bases, etc.). This boundary was adopted by the CCC in September 1993.

It should be noted that for certain types of projects the CMP has jurisdiction outside the previously described boundary. Title 31 Chapter 505.11 describes actions permitted by the Texas Natural Resource Conservation Commission (TNRCC) which must be consistent with the goals and policies of the CMP as listed below:

[(i) Permit. Point-source wastewater discharge permits for discharges within the second tier coastal counties in excess of 300,000 gallons per day for industrial discharges and 1,000,000 gallons per day for municipal discharges.

(ii) Permit. An application for a new water right located within 200 stream miles of the coast and proposing an appropriation of 5,000 acre-feet of water per year or more.

(iii) Permit Amendment. An application to amend a water right located within 200 stream miles of the coast and requesting:

(I) an increase of 5,000 acre-feet or more of water per year or an increase in the appropriative amount in the existing permit;

(II) a change in the purpose of the use to a more consumptive use of water;

(III) a change in the diversion rate;

(IV) a change in the diversion point.]

To meet the requirements of the federal CZM Act of 1972, numerous opportunities for agency and public input at hearings and workshops identified principal issues of state concern in the coastal area as:

(1) Coastal erosion
(2) Coastal wetland protection
(3) Water supply and water quality
(4) Dune protection
(5) Shoreline access
(6) Institutional concerns

To address the issues of concern the CMP defined the following Coastal Natural Resource Areas (CNRA) which will require special management.

[*Waters in the open Gulf of Mexico* are waters seaward of coastal barrier islands and bays and estuaries and extending to the territorial limits of the state (i.e., approximately 10.36 miles offshore).

Waters under tidal influence are those waters in the state that are contained behind coastal barrier islands and within bays and estuaries and rivers to the inland extent of tidal influence.

Coastal public submerged lands are all lands underlying waters under tidal influence or waters of the open Gulf of Mexico that are owned by an agency or subdivision of the state.

Coastal wetlands are those areas having a predominance of hydric soils that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, the growth and regeneration of hydrophytic vegetation, as defined in the Texas Water Code, and that lie within the Oil Spill Prevention and Response Act Coastal Facility Designation Line or within rivers and streams to the inland extent of tidal influence and within one mile of the cut banks of those rivers and streams, except for the Trinity and Neches rivers. On the Trinity River, coastal wetlands are those wetlands occurring to the extent of tidal influence and between the cut bank on the western shoreline to FM 565 and FM 1409 and between the cut bank on the eastern shoreline to FM 563. On the Neches River, coastal wetlands are those wetlands occurring to the extent of tidal influence and between the cut bank to one mile from the western shoreline and between the cut bank on the eastern shoreline to FM 105.

Submerged aquatic vegetation is rooted aquatic vegetation growing in permanently inundated areas in estuarine and marine systems, rivers, and lakes.

Tidal sand and mud flats are silt, clay, or sand substrates, unvegetated or vegetated by algal mats, that occur in the intertidal zone and that are regularly or intermittently exposed and flooded by tides.

Oyster reefs are natural or artificial formations in intertidal or subtidal areas that are composed of oyster shell, live oysters, and other organisms and that are discrete, contiguous, and clearly distinguishable from scattered oysters.

Hard substrate reefs are naturally occurring hard substrate formations, such as rock outcrops or serpulid worm reefs (living or dead), in intertidal or subtidal areas that are discrete and contiguous.

Coastal barriers are barrier islands, peninsulas and spits, deltaic headlands, and chenier plains that are subject to wave, tidal, and wind energy from the Gulf of Mexico. Barrier islands are Galveston, Matagorda, San Jose, Mustang, and North and South Padre islands.

Coastal shore areas are all areas within 100 feet landward of the high water mark on coastal public submerged land.

Gulf beaches are beaches bordering on the Gulf of Mexico that extend inland from the line of mean low tide to the natural line of vegetation bordering on the seaward shore of the Gulf of Mexico, or such larger contiguous area to which the public has acquired a right of use or easement to or over by prescription, dedication, or estoppel, or has retained a right by virtue of continuous right in the public since time immemorial.

Critical dune areas are protected sand dune complexes on the gulf shoreline within 1,000 feet of mean high tide.

Special hazard areas are low-lying coastal areas prone to flooding. They include the floodplains that are susceptible to one percent or greater chance of flooding in any given year, and bay and gulf shores that are exposed to high-velocity wave action from storms, or prone to severe flood-related erosion.

Critical erosion areas are those gulf and bay shorelines that are undergoing erosion and are determined to be critical according to a series of criteria developed by state and local government.

Coastal historic areas are state archeological landmarks that are designated by the Texas Antiquities Committee as being coastal in character.

Coastal parks, wildlife management areas, and preserves are any lands owned by the state that are designated and used as parks, recreation areas, scientific areas,

wildlife refuges, or historic sites and that are designated by the Texas Parks and Wildlife Department as being coastal in character.]

The list of CNRAs is so inclusive that about all that is not included would be inland upland areas. However, upland areas in coastal barrier islands, onshore peninsulas, deltas and chenier plains subject to wave, tidal and wind energy from the Gulf of Mexico by the above descriptions are included as CNRAs as are other shore and dune areas variously included from 100 to 1000 feet inland, plus any uplands designated by the Texas Antiquities Committee as archeological landmarks. Finally, upland areas owned by the state and designated by the TPWD as coastal in character are included as well.

Uses to be Managed

Of great importance is that the CMP includes policies to manage uses of coastal areas which may adversely affect CNRAs. Such policies can also definitely affect the siting and function of facilities in upland areas. Therefore little development activity in the coastal area will not fall under the CMP.

Listed below are the types of uses to be managed by the CMP. The descriptions are included as given in the Texas CMP to show the breadth of the coverage.

[*Energy and energy-related activities* include siting, construction, and maintenance of electric generating facilities, electric transmission lines, and associated facilities such as waste management, and activities associated with access.

Oil and gas exploration and production includes geophysical operations, waste management, pipeline placement, and activities associated with access.

Residential development includes siting, construction, and maintenance of single- and multi-unit dwellings; filling; canal dredging; placement of structures for shoreline access and shoreline protection; and on-site sewage disposal, stormwater control, and waste management for subdivisions and municipalities.

Commercial development includes siting, construction, and maintenance of offices, warehouses, retail stores, hotels, restaurants; filling; waste management; stormwater management; dredging; and the construction of structures for shoreline access and shoreline protection.

Industrial development includes siting, construction, and maintenance of manufacturing and petrochemical plants, refineries, processing facilities, and ports; mineral mining; waste management; air pollution control; filling; dredging; construction of structures for shoreline access and shoreline protection; and stormwater management.

Public development includes siting, construction, and maintenance of public structures such as hospitals, schools, municipal buildings, and public works (e.g., dams, reservoirs, flood control projects), and associated activities such as filling, waste management, dredging, and construction of structures for shoreline access and shoreline protection.

Transportation includes siting, construction, and maintenance of roads, highways, bridges, causeways, airports, railroads, and non-energy transmission lines, and associated activities such as filling, dredging, draining, and stormwater management.

Agriculture includes farming, ranching, aquaculture, silviculture, range management, and associated activities such as water impoundments and diversions.

Recreational development and uses include siting, construction, and maintenance of state-owned fishing cabins, artificial reefs, and public facilities, and associated activities such as waste management, dredging, stormwater management, and construction of structures for shoreline access and shoreline protection, boating, fishing, and hunting.]

The importance of the above list is that development guidelines for all these uses have been developed for the CMP which can significantly constrain the use of coastal areas.

Administrative Procedures

Most of the uses listed above are already regulated to some level by one or more of some ten state and eight federal agencies plus numerous local governments which administer laws, regulations and ordinances.

Unlike some other states which require specific CZM permits (e.g., Louisiana coastal use permit), the Texas CMP uses existing state agencies and authorities to regulate activity in the coastal zone. However, since the CMP requires those agencies to adhere to its established policies, the effect is the same but simply diffused throughout the various individual permits issued by state or federal agencies under CMP purview.

The Coastal Coordination Act empowers the CCC to take action to insure compliance through referral remand and reversal procedures. The CCC intends to rely primarily on review and certification of state agency rules and federal consistency reviews to insure compliance with CMP policy and goals. If an action is deemed inconsistent the CCC can review individual actions. An action must be inconsistent with the CMP goals and policies to be remanded or reversed. For federal licenses and permits, the federal consistency review is the process by which the state can review

an action undertaken, licensed, permitted or funded by a federal agency that adversely affects any CNRA within the CMP boundary. If found inconsistent, with few exceptions (e.g., national interest), the action cannot be undertaken. All applicants for federal licenses or permits must submit a consistency certification to the secretary of the CCC. It must read as follows:

[The proposed activity complies with Texas' approved Coastal Management Program and will be conducted in a manner consistent with such program.

The applicant must also furnish the state with: (1) a copy of the federal application and all supporting material provided to the federal agency; (2) a detailed description of the proposed activity and its associated facilities adequate to permit an assessment of their probable effects on coastal natural resources; (3) a list identifying all federal, state, and local permits or authorizations subject to the CMP and required for the proposed activity and its associated facilities; (4) a brief assessment relating the probable effects of the proposed activity and its associated facilities on CNRAs to the relevant elements of the CMP; and (5) a brief set of findings, indicating that the proposed activity, its associated facilities, and their effects are all consistent with the goals and policies of the CMP.

Maps, diagrams, technical data, and other relevant material must be submitted if the written documentation does not adequately describe the proposed activity. The applicant must give appropriate weight to the goals and policies of the CMP, demonstrate consistency and adequately consider "encouragement" policies of the CMP.

The Council must notify the applicant if additional information is required to review the consistency certification within 15 days of submission.

Upon receipt of an administratively complete consistency certification, the Council will conduct a consistency review of the proposed activity and, if found to be consistent with the CMP goals and policies, the Council will issue a consistency concurrence.

To avoid delays, applicants for federal licenses and permits must, to the extent practicable, consolidate related federal and state license and permit activities subject to consistency review.

A public notice will be published in the Texas Register upon receipt of the consistency certification. The notice will request that comments be submitted within 30 days of publication of the notice. The Council may

extend the public comment period and schedule a public hearing on the consistency certification.

The Council must issue consistency concurrences or objections within six months of receipt of the consistency certification. The chairman must refer the federal license or permit activity within 90 days of receipt of an administratively complete consistency certification or the activity is conclusively presumed to be consistent.

If the activity is referred, the Council must review and either concur with or object to the federal license or permit activity within 180 days following commencement of Council review.

The only basis on which the Council may object to a consistency certification is: (1) the proposed activity is inconsistent with the goals and policies of the CMP, and (2) the applicant failed to provide the required information and data listed above after receiving a written request from the state.

Following receipt of a consistency objection, the federal agency cannot issue the federal license or permit except under special circumstances.]

The above federal consistency certification review process obviously increases the level of work an applicant must perform to acquire permits. Additionally, it adds another permitting time requirement perhaps concurrent but separate from the federal permit requirement. The process also provides two additional mechanisms for intervention by protestors. First is the public hearing and the second is an ability by interested parties to request review by the Assistant Administrator of Federal Actions (Department of Commerce) if an agency is believed to have made a decision incompatible with the CMP.

CMP Goals and Policies

Up to this point we have described the area of applicability, listed the CNRAs, described the uses of CNRAs which fall under the CMP and summarized how the CCC will insure consistency with CMP goals and policies. It is important to realize for the CCC to have jurisdiction, it was imperative that they do the foregoing. Once accomplished, the CNRAs are defined by the CMP as areas requiring special management. Special management allows the CCC to coordinate the administration of all existing rules and regulations as well as promulgate new requirements thus establishing the power base from which to control land use where under existing rules such control is difficult at best to achieve except in a piecemeal fashion. Special management designation also allows the development of management plans which cover areas not included or loosely covered now under existing regulations. Therefore

the longer and more inclusive the lists of areas and uses in the CMP, the more regulatory power gained. All the CCC had to do was to propose coverage in the CMP and it would be granted authority. The CCC will effectively have control over, among other industries, the top two revenue producing industries, oil and gas/petrochemicals and tourism since the major portion of each is contained within the CMP boundary. While the CCC may not control all day-to-day aspects of permittable uses, it will affect any growth and development and through its Special Area Management Plans (SAMP) process potentially add more and more limitations to operations if negative effects on CNRAs can be judged overriding. Conversely, given the relatively difficult process of permitting coastal activities at present, the CMP could offer some hope of facilitation through providing consistency and streamlining permit procedures, especially when multiple agencies are involved. Furthermore, given the current regulatory climate development of reasonable land use plans which assessed and determined levels of future CNRA use would be useful. Far too often, the approval of a permit is held up or denied because no estimates of cumulative impacts are available. Permitting and resource protection agencies often balk at permit approvals because of a fear of setting precedent which would open the door for accelerated resource impacts. Balanced planning which is not controlled by either total preservationists or those who want no controls on use or growth could be extremely useful. Realistically, proper planning will probably never succeed because too many special interests on both sides of the issue will either defeat the resulting plan directly or weaken it with exceptions or variances which neutralize the effectiveness.

If one examines the stated goals of the CMP, the list clearly defines the perceived need to preserve, restore and enhance CNRAs while balancing their use for compatible economic development, and ensuring the public's use of coastal resources. However, the CMP polices and administrative procedures which are consistent with the federal Coastal Zone Management Act of 1972, as required by law, are invariably promulgated from a preservation, reclamation and enhancement viewpoint. The major emphasis behind development of the CZMA of 1972 and the Texas CMP is the desire to stop impacts to the CNRAs. The policies of the CMP are more restrictive not less. There are no obvious areas wherein the goal of the CMP policies is clearly oriented to establishing acceptable levels of impact to CNRAs. The effort is clearly designed to further restrict potential economic development often likely to areas where a particular industry may have no interest in locating.

The goal to streamline permitting is laudable, but the policies appear to add additional levels of bureaucracy. Agencies often only remotely connected to permitting, such as the School Land Board and GLO, will now essentially have permitting authority and review responsibilities for consistency duplicative of federal agencies such as the U.S. Army Corps of Engineers. Furthermore, the federal consistency certification process certainly adds to permitting effort.

For each major CNRA use type the CMP states its policy. Since there are 18 major types, such as Energy and Energy-Related activities, Residential Development, Agriculture, Dredging, etc., all cannot be adequately reviewed here. Rather, to exemplify the above comments, selected activities will be reviewed as examples of how the CMP could affect permitting.

For each major activity, the CMP goals outline the various policies concerning that activity, present the management authority (agency and rules) and then presents related policies which the CCC has promulgated for adoption. The policies set forth are usually those already established by state or federal regulations with regard to siting and operation of activities on facilities even though generally only the state statues are referred to in the CMP policy. For instance, under the policy for Electric Generating and Transmission facilities, the siting of generating and transmission facilities must currently address sensitivity of habitats, reduce or avoid impingement and entrainment and avoid important public areas, and avoid impacts to threatened or endangered species. However, the use of the word "practicable" by the CMP in defining the level of impact avoidance or reduction can be very problematic. All the listed impacts must be avoided to the greatest extent practicable. The CMP defines practicable as "available and capable of being done after taking into consideration existing technology, cost, and logistics in light of the overall purpose of the activity. No one of these factors shall be the sole deciding factor in determining whether an alternative is practicable." Elsewhere in the CMP it is stated that the overall purpose need not be met by the same project or process if the project goal can be met (e.g., no reservoir if water conservation would suffice or no canal system if a marina would suffice, etc.). Furthermore, note the use of the term "alternatives" in the definition of practicable. The CMP is heavily weighted to alternatives analyses and by defining the most practicable alternative as being the permittable option has potentially accumulated more veto power than most permits have been subjected to under existing regulations. Practicability in the CMP is a judgement call and can be very subjective. Furthermore, the practicability of a project will ultimately be defined by those administering the CMP, not the applicant.

Agricultural uses are subject to Texas State Soil and Water Conservation Board (TSSWCB) criteria (being developed) which will abate agricultural and silvicultural non-point source pollution and require compliance with TNRCC surface water quality standards. Municipal wastewater policies are also very similar to existing regulations except where CMP terms such as critical areas are used, but TNRCC is, according to the CMP, modifying its regulations to include CMP terminology to ensure consistency. Impoundments and diversion policies in the CMP are also similar to the current TNRCC requirements. What is unusual about impoundments and diversions is that the CMP does not refer to related policies concerning this activity. It is only one of five activities for which no related policies need be considered. The others include Fishing, Hunting and Threatened and Endangered Species (TPWD); Oil Spill Prevention, Response and Remediation (GLO); Air Emissions (TNRCC); and non-point source

pollution (multiple agencies). All remaining activities must also deal with the policy for development in CNRAs, most must be concerned with dredging and disposal policies and generally 5 to 7 activities each must deal with policies on shoreline access, solid waste disposal, air emissions or impoundment and diversion. In each case the addition of the related policies adds considerably to the information required of an applicant and subjects the permit to increased levels of scrutiny. In many cases, federal and other state regulations already exist which control these actions. However, in some cases, agencies are now looking at far more aspects of a project than they previously did because they must insure consistency. The most important related policy, because it opens Pandora's box, is "Development in CNRAs." The requirements of this policy are such that it may be practically impossible to show compliance. Under development in critical areas (which includes most CNRAs) the policies in part are as follows:

[A. Development in Critical Areas

Policies

Dredging and construction of structures in, or the discharge of dredged or fill material into, critical areas shall comply with the following policies.

The policies in this section shall be applied in a manner consistent with the goal of achieving no net loss of critical area functions and values.

1. Persons proposing development in critical areas shall demonstrate that no practicable alternative with less adverse effects is available.

    a. The person proposing the activity shall demonstrate that the activity is water-dependent. <u>If the activity is not water dependent, practicable alternatives with less adverse effects are presumed to exist</u>.

    b. The analysis of alternatives shall be conducted in light of the activity's overall purpose.

    c. Alternatives may include different operation or maintenance techniques or practices or a different location, design, configuration, or size.

2. In evaluating practicable alternatives, the following sequence shall be applied:

    a. Adverse effects on critical areas shall be avoided to the greatest extent practicable.

b. Unavoidable adverse effects shall be minimized by limiting the degree or magnitude of the activity and its implementation.

c. Appropriate and practicable compensatory mitigation shall be required for all adverse effects that cannot be avoided or minimized.

. . .

6. Development in critical areas shall not be authorized if significant degradation of critical areas will occur. Significant degradation occurs if:

a. the activity will jeopardize the continued existence of species listed as endangered or threatened, or will result in likelihood of the destruction or adverse modification of a habitat determined to be a critical habitat, under the Endangered Species Act, 16 U.S.C.A. §§1531-1544;

b. the activity will cause or contribute, after consideration of dilution and dispersion, to violation of any applicable surface water quality standards established under §501.14(f) of the proposed rule for goals and policies and section XI.B of this chapter;

c. the activity violates any applicable toxic effluent standard or prohibition established under §501.14(f);

d. the activity violates any requirement imposed to protect a marine sanctuary designated under Title III of the Marine Protection, research, and Sanctuaries Act of 1972; or

e. taking into account the nature and degree of all identifiable adverse effects, including their persistence, permanence, and areal extent, the activity will, individually or collectively, cause or contribute to significant adverse effects on:

i. human health and welfare, including effects on water supplies, plankton, benthos, fish, shellfish, wildlife, and consumption of fish and wildlife;

ii. the life stages of aquatic life and other wildlife dependent on aquatic ecosystems, including the transfer, concentration, or spread of pollutants or their byproducts beyond the site, or their introduction into an ecosystem, through biological, physical, or chemical processes;

iii. ecosystem diversity, productivity, and stability, including loss of fish and wildlife habitat or loss of the capacity of a coastal wetland to assimilate nutrients, purify water, or reduce wave energy; or

iv. generally accepted recreational, aesthetic, or economic values.

7. Agencies required to comply with this section will coordinate with one another and with federal agencies when evaluating alternatives, determining appropriate and practicable mitigation, and assessing significant degradation. Those agencies' rules governing authorizations for development in critical areas shall require a demonstration that the requirements of Policies 1-6 of this section have been satisfied.]

This "Development in CNRAs" section also covers development on coastal public submerged lands, construction in beach/dune systems, development in coastal barrier systems, state-owned lands and coastal historic areas. In each the stipulations for development are extremely restrictive and generally prohibitive or would cause great modification to projects which have typically been proposed in similar areas in the past. Remember that these are related policies applied in addition to those policies directly promulgated for a particular use type. All state agencies administering the primary regulations must also incorporate the related policies' requirements into their permit process as well.

To further define the problems these policies can cause a discussion of some of the conditions for development in critical areas will suffice. Under provision 1a. above water dependency has always been a major issue; however, if a CMP administrator feels that your project is not water dependent you will not get a permit or the permit may be for something other than the project you envisioned (1c.) An acceptable alternative under the CMP may be in a different location or of different design or size. Again the applicant will not make that decision. Such major potential changes seem to violate the correct use of the term "practicable alternative" because the applicant and his experts may not agree that the project as permittable meets their original goals. Item 6.0 denies authorization if significant degradation occurs to any one of a number of receptors such as T&E species, water quality standards, marine sanctuaries and human health. Such is more or less the situation under existing regulations. However, caveats 6(e)(ii) and (iii) are very tough to demonstrate or prove, especially before operation. They require data which have not yet been established for baseline conditions much less for operational conditions. Therefore the applicant who is being asked to prove no significant effect may not be able to comply. No one has defined what level of effect is significant and the CCC yardstick for impact could easily be much different than the applicants. Item 6(e)(ii) implies that spreading pollutants beyond the site and their introduction into an ecosystem is a

significant effect. Every discharge currently does this. There is no way to prevent the spread of a permitted pollutant in an ecosystem except zero discharge. No quantification is alluded to in 6(e)(ii), just the spreading. The items in 6(e)(iii) should quantify what level of change in diversity, productivity and stability as well as define the level to which assimilation of nutrients or water purification by wetlands must be affected. Item 7 clearly requires that the applicant or the agencies demonstrate that all those factors have been assessed for significant adverse effect. Unless significant levels of effect are defined relative to the norm, these items present enormous problems. As stated above, currently the data for baseline conditions for most of these requirements does not exist and can not be easily obtained, if at all.

The Texas CMP is an ambitious attempt to deal with coastal management. Because of its complexity, much of that required for federal approval of the plan, the CMP has many areas subject to different interpretations. Despite the stated goals to reduce bureaucracy and streamline permitting, our review of the program indicates the contrary. Numerous aspects of the program have the potential to slow permitting, require more complex analyses of the applicant and increase the number of reasons a permit can be denied. Since much of the effect of these aspects is based upon interpretation of the CMP requirements, the effect on permitting will depend upon the administration of the program to a great extent. Conversely much about the CMP can be extremely useful. If administered correctly the CMP presents an opportunity to deal with numerous problems of coastal management which have vexed regulators and applicants alike for years. To be effective, the CMP has to do more than hold applicants to development criteria but also must provide guidance to the agencies, applicants and the public as to what constitutes acceptable levels of impact. This would require developing guidelines which quantify the amount of CNRA use which is acceptably placed in a geographic context (e.g., how many acres and where). If not, the CMP polices will come to be viewed as an additional set of criteria to deal with rather than as a guide for compatible development. Obviously, the information gathering effort for CNRAs which the CMP includes is a monumental and very important task. Without a sufficient resource inventory the effect of CNRA development cannot be assessed from a cumulative standpoint. The resource inventory and the assessment of trends in CNRA use is a necessity for the CMP planning process to succeed. The CCC must ultimately provide guidance as to acceptable levels of development which are quantitative and be prepared to defend those estimates. Working from that viewpoint, the enormous control the CCC can exert over development could streamline permitting, insure protection of CNRAs, support economic growth and development and protect the public trust over the long term.

EPA Region 6 Update

"What's cooking?"

Jane Saginaw

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 6
1445 ROSS AVENUE, SUITE 1200
DALLAS, TX 75202

JANE N. SAGINAW

Regional Administrator
U. S. Environmental Protection Agency, Region 6

On December 3, 1993, President Clinton named Jane N. Saginaw as Regional Administrator for EPA's Region 6 office, headquartered in Dallas, Texas. In this position, she directs the Federal environmental programs affecting Arkansas, Louisiana, New Mexico, Oklahoma, and Texas.

Ms. Saginaw came to EPA with 12 years experience at the Dallas law firm of Baron & Budd, where she was a partner. She specialized in litigation and appellate practice in the field of chemical and environmental injury. Saginaw also worked as a trial attorney for the Federal Energy Regulatory Commission in 1980-1981.

She is a 1980 honors graduate of the University of Texas at Austin, School of Law. She holds a bachelor's degree from the University of California at Berkeley, where she graduated Summa Cum Laude and Phi Beta Kappa.

Saginaw has served on the Texas Agricultural Resources Protection Authority, City of Dallas Environmental Health Commission and is a member of the American Bar Association, Association of Trial Lawyers of America, and the Texas Trial Lawyers Association.

At her official Swearing-In Ceremony on January 12, 1994, Saginaw recounted her life-long passion for the environment -- including forming her high school's first Ecology Club and debating the need for a Federal environmental agency while at Thomas Jefferson High School in Dallas.

Ms. Saginaw is married and the mother of pre-school twins.

NO WRITTEN MATERIALS
WERE PROVIDED FOR THIS SESSION

Water Quality

"The bucket stops here"

Jim Davenport

BIOGRAPHY
of
Jim Davenport

Jim Davenport is leader of the Water Quality Standards Team of the Texas Natural Resource Water Conservation Commission. This group develops and implements water quality standards and goals for the surface waters of Texas. The Standards Team is also involved in a variety of water quality management programs.

He initially joined the Commission as a member of the Water Quality Modeling Team, where he evaluated environmental impacts to Texas streams and reservoirs. He has also been a research assistant with the University of Texas at Austin, and an environmental consultant with Espey, Huston, & Associates.

He received a B.A. in Biology from Trinity University, and an M.A. and a Ph.D. in Aquatic Biology from the University of Texas at Austin.

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TEXAS SURFACE WATER QUALITY STANDARDS

OVERVIEW OF THE 1994 TRIENNIAL REVISIONS

Jim Davenport, TNRCC **July 18, 1994**

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INTRODUCTION

The Texas Surface Water Quality Standards (Title 30, Chapter 307 of the Texas Administrative Code) establish explicit water quality goals throughout the state. Diverse sources have shaped standards development - including cities, industries, environmental interests, and the U.S. Environmental Protection Agency, which has approval authority over state water quality standards.

Regional hydrologic and geologic diversity is given consideration by dividing major river basins, bays and estuaries into defined

segments (referred to as classified or designated segments). The standards rule contains (1) general standards which apply to all surface water in the state, and (2) segment-specific standards which identify appropriate uses (aquatic life, contact or noncontact recreation, drinking water, etc.) and list upper and lower limits for common indicators (criteria) of water quality - such as dissolved oxygen, temperature, pH, dissolved minerals, and fecal coliform bacteria.

Water quality standards are publicly revised at least every three years in order to incorporate new information on potential pollutants and additional data about water quality conditions in specific waterbodies, and to address new state and federal regulatory requirements. The current standards were revised during 1990/1991, adopted by the Texas Water Commission on June 12, 1991, and approved by EPA on September 24, 1991. Major additions included (1) adopting numerical criteria for 61 toxic pollutants in order to protect human health, (2) substantially elevating the presumed aquatic life use for small perennial streams (from limited to high), and (3) specifically defining and including wetlands in the standards.

The Texas Surface Water Quality Standards include several key sections which are essential to their overall effectiveness. The General Criteria (307.4) contain a variety of narrative statewide provisions which define the general goals to be attained by all waters in the state. These provisions are particularly important in dealing with those pollutants which are not addressed by specific numerical criteria. The General Criteria also specify procedures which are used to develop site-specific standards for small unclassified waterbodies.

The Antidegradation Policy (307.5) establishes extra protection for high quality waterbodies. In accordance with EPA requirements, this policy stipulates that no degradation will be allowed in high quality waters, unless the resulting degradation is demonstrated to be economically and socially justified. The antidegradation policy also provides for establishing Outstanding National Resource Waters, in which no degradation is allowed under any circumstances.

Standards for Toxic Materials (307.6) include numerical criteria (as maximum instream concentrations) for 35 toxic pollutants in order to protect aquatic life. Human consumption of fish and drinking water is protected by numerical criteria for 61 toxic pollutants. This section also requires larger wastewater dischargers to conduct biomonitoring, which involves exposing selected aquatic organisms to samples of the discharge effluent. Any significant toxicity observed during biomonitoring must then be evaluated and eliminated.

Appropriate numerical criteria needed to support various water-quality related uses are defined in Section 307.7. Conditions

under which portions of the standards do not apply - such as in mixing zones near discharge points, or at unusually low streamflows - are noted in Section 307.8. Sampling and analytical procedures to assess standards attainment are described in Section 307.9. Site-specific standards for designated waterbodies are individually listed in Section 307.10 (Appendices A,B,C,D and E).

Procedures for implementing the Texas Surface Water Quality Standards are described in "Implementation of the Texas Natural Resource Conservation Commission Standards Via Permitting." This document is periodically revised and adopted as part of the Continuing Planning Process."

HISTORICAL NOTES ON STANDARDS DEVELOPMENT IN TEXAS

Texas has had codified water quality standards since 1967, well before the requirements of the U.S. Clean Water Act. Much of the present general format was established in the early 1970's as EPA requirements for state standards became more defined.

Initially, site-specific standards were set for water bodies in the state relatively quickly, and in many cases there was little data to establish uses and criteria. Many of the changes in water quality standards have involved revisions to these initial standards.

In 1983, EPA promulgated a regulation (40 CFR Part 131) which established very stringent requirements for any lowering of state standards, or for setting any standards below the Clean Water Act"s "fishable/swimmable" goals. These requirements must be addressed by a formal "use-attainability analysis" which is submitted by a state in support of site-specific standards changes. In effect, these new requirements make it procedurally very difficult to lower any existing state water-quality standards on a site-specific basis.

The Texas Water Commission (now part of the Texas Natural Resource Conservation Commission) formed a separate Standards Team in 1985 to deal with the increasing public interest in water quality standards, and with the rapidly expanding EPA requirements for standards development.

In 1986, the Sierra Club, Sportsmen's Clubs of Texas, and the Environmental Defense Fund sued EPA for approving the 1984 Texas Standards. The suit included the following complaints: (1) There were no numerical criteria in the standards for toxic substances. (2) Some of the waterbodies with relatively low standards for aquatic life use and recreational use were not addressed by an appropriate use-attainability analysis. (3) TWC did not conduct adequate analyses of total maximum daily loads - particularly for substances other than oxygen-demanding materials. (4) The general

minimum presumption for dissolved oxygen in unclassified perennial streams (3.0 milligrams per liter) was too low. (5) The antidegradation policy in the standards was not being implemented.

The Texas Municipal League, Texas Chemical Council, and a consortium of electrical utilities joined the suit on behalf of EPA; the Texas Parks and Wildlife Department and the Texas Department of Agriculture joined with the plaintiffs, and the Texas Water Commission took a neutral position. Numerous settlement meetings were held, and many of the complaints were addressed in the 1988 triennial standards revisions. New revisions included (1) adopting 30 numerical toxic criteria to protect aquatic life, (2) applying fecal coliform criteria for contact recreation to unclassified waters, (3) committing to determine site-specific standards for unclassifed waters during discharge permit actions, (4) conducting use-attainability analyses for waterbodies with controversial site-specific standards, and (5) requiring biomonitoring toxicity testing by major dischargers.

The lawsuit was revised in 1988 to emphasize the need for numerical toxic criteria to protect human health, the development of total maximum daily loads, and improvement of the minimum presumed standards for unclassified waters.

Another general issue for the 1988 revisions centered around the need for better estimates of what standards changes would cost the regulated community. The Texas Municipal League and others indicated that TWC was not fully complying with rulemaking requirements for fiscal impact notes. In response, TWC conducted additional analyses of the costs of the major standards revisions proposed for 1988.

Standards continued to generally become more stringent during the 1991 triennial revisions: (1) Criteria to protect human health from fish consumption and drinking water were added for 61 toxic substances. (2) The presumed standards for unclassifed perennial freshwaters were elevated to a high quality aquatic life use with a dissolved oxygen criterion of 5.0 mg/L. TWC also worked with EPA to develop more efficient procedures for changing presumed standards on a site-specific basis. (3) Biomonitoring requirements for dischargers were expanded to include testing for short-term lethality in undiluted effluent. (4) A temporary variance procedure was initiated to allow a permittee up to an additional three years compliance period in order to conduct a study to support a site-specific standards revision - if it appears that a different standard is justified.

The question of compliance cost was also a major issue in the 1991 revisions. New state legislation required that the Texas Employment Commission review proposed state regulations, in order to estimate impacts on the Texas economy. The Employment Commission subsequently indicated that there was not sufficient

information for them to review the standards proposals. TWC responded by developing more analyses of economic impact - but the additional cost estimates could not completely address all possible costs of the new revisions.

After the 1991 revisions, many of the complaints in the lawsuit had been addressed, but the suit is still filed in Federal District Court in Dallas. A second lawsuit was filed against the 1991 revisions, this time by the Texas Forestry Association. The primary complaint focused on the human health criteria for dioxin, which is sometimes produced by the bleaching process in paper mills. The particular objection was that the new criteria were applied additively to seven forms of dioxin - rather than just to the form of primary carcinogenic concern (2,3,7,8 TCDD). No further action on this lawsuit has occurred to date.

In December 1992, EPA published a "National Toxics Rule", which federally promulgated numerical toxic criteria for 14 states. Texas is considered to be compliant with EPA standards requirements for toxic substances and is not on the list for federal promulgation.

SCHEDULE FOR THE 1994 STANDARDS REVISIONS

* February 1994 - Circulate draft proposals for comment.

* May 25, 1994 - Present revised proposals at TNRCC agenda.

* Send proposed standards to the Texas Employment Commission for their review of economic impacts.

* July 1994 - Publish notice of hearing in Texas Register (45 days notice required).

* September 1994 - Conduct public hearings, which could include one major hearing in Austin and also hearings near each proposed Outstanding National Resource Water.

* November 1994 - Commission adopts revised rule at agenda.

MAJOR PROPOSED REVISIONS FOR 1994

Antidegradation: Protection of High Quality Waterbodies

Existing Antidegradation Policy: The antidegradation policy is intended to provide extra protection to high quality waters. Although antidegradation is not specifically addressed in the Federal Clean Water Act, EPA regulation requires that all state standards contain an antidegradation policy. The three basic provisions are as follows:

(1) Existing water-quality related uses cannot be impaired in any waters in the state.

(2) There can be no degradation of high quality waters unless that degradation is demonstrated to be "economically and socially justified."

(3) For waters which are determined to be "Outstanding National Resource Waters" (ONRWs), no degradation of water quality is allowed under any circumstances.

Implementation of the Existing Antidegradation Policy: All permit actions are reviewed to protect existing uses. Permits for new or increased discharges to waterbodies with high or exceptional quality aquatic life uses are reviewed for potential degradation, even if numerical criteria will be met. If significant degradation is anticipated, this is put in public notices concerning the permit; and the permit applicant is given opportunity to demonstrate that degradation of high quality waters is socially and economically justified. Problems with implementation include the following:

(1) Significant "degradation" is difficult to define and assess.

(2) Social and economic justification is also difficult to define.

Outstanding National Resource Waters: The Antidegradation Policy in the Standards states that "the quality of Outstanding National Resource Waters (ONRWs) will be maintained and protected." In essence, this policy means that no increase in pollutant loading - from wastewater discharges, stormwater permits, dredging operations, etc. - will be allowed to a waterbody which has been determined to be an ONRW. ONRW protection also prohibits activities in adjacent or upstream waters which would degrade the water quality of the ONRW.

At the present time, there are no waterbodies in Texas which have been specifically designated as an ONRW. States have typically become cautious in designating ONRWs. In some cases the resulting restrictions on discharge permits and on shoreline development - particularly those imposed by EPA - have been more stringent than was originally envisioned. Conversely, there are reasonable arguments that a limited number of appropriate waterbodies should be fully protected by ONRW status.

It is very important that the affected local public understand the significance of this designation. The "no-degradation" provision for an ONRW is stringently implemented by existing and future authorities of state and federal agencies. In addition, an ONRW designation is very difficult to revoke, since both state and federal approval is required to remove it.

Other Options to Protect Outstanding Waters: Some states are exploring the development of "outstanding state resource waters," which can be governed by more flexible regulatory policies that do not automatically invoke EPA's stringent requirements for ONRWs.

Watershed rules, which generally specify various "across-the-board" treatment requirements for permitted discharges in a particular area, provide an additional regulatory means to protect waters of special concern. Existing TWC watershed rules address Lakes Travis and Austin, Lakes Inks and Buchanan, Clear Lake, Lake Houston, Colorado River and tributaries from Austin to Smithville, Lakes Lyndon B. Johnson and Marble Falls, and Lakes Worth, Eagle Mountain, Bridgeport, Cedar Creek, Arlington, Benbrook and Richland-Chambers.

Proposed Revision: Designate Christmas Bay, South Bay, Caddo Lake, and the streams in the Guadalupe Mountains National Park as the first Outstanding National Resource Waters for Texas [307.5(d)]. Explicit provisions for this designation include (1) no increase in permitted discharges (including stormwater discharges) directly to each ONRW, (2) prohibition of dredging to construct major new channels, (3) allowance of maintenance dredging for existing channels, (4) definition of "adjacent waters", within which discharge permits, etc. would be reviewed to avoid potential degradation of the ONRW.

Each of the these areas is ecologically exceptional and appropriate as an ONRW; and there is local support and interest for these designations. Economic or other adverse impacts in the watersheds of the proposed ONRWs do not appear to be large, but this will be further considered during public comment. Additional background information is available for each proposed ONRW.

To Consider: In addition, a petition has been been submitted by the Save Barton Creek Association, Hill Country Foundation, Save Our Springs Legal Defense Fund, and Austin Sierra Club to designate Barton Creek as an ONRW. This request includes rules language for the designation. Implementation authority of Barton Creek as an ONRW would include (1) TNRCC permits for the discharge or irrigation of treated wastewater, (2) the Edwards Aquifer Rule, (4) EPA stormwater permits, and (5) the TNRCC requirements for municipal pollution abatement plans, which are under development. All of Barton Creek, including Barton Springs and Zilker pool, would be part of the ONRW designation. Adjacent waters would include watersheds which contribute to the recharge of Barton Springs - such as portions of Little Barton Creek, Williamson Creek, Slaughter Creek, Bear Creek, Little Bear Creek, and Onion Creek.

TNRCC has solicited public written comments on this petition as submitted, and the comment period was from June 28th through July 28th. The Commission is evaluating comments and assessing economic

impacts to consider if and how Barton Creek should be formally proposed as an ONRW.

Presumed Standards for Unclassified Waters

Smaller waterbodies, which do not have site-specific standards as designated segments, are protected by presumed standards in the general criteria. Perennial waterbodies, for example, have the following standards assigned as a minimum presumption: (1) a high quality aquatic life use and a dissolved oxygen criterion of 5.0 milligrams per liter (for freshwaters), (2) a contact recreational use and a fecal coliform criterion of 200 per 100 milliliters, and (3) chronic (more stringent) aquatic life toxic criteria. A change to the standards rule is required to obtain a lower standard than the minimum presumption, and this change requires substantial effort by TNRCC staff and an affected permittee.

TNRCC has been conducting studies of small streams in various ecoregions of the state, and the results indicate that the presumed standards are appropriate for the majority of perennial waterbodies in the state. However, different dissolved oxygen criteria may be appropriate for some perennial streams in east Texas.

Proposed Revision: Adjust the presumed dissolved oxygen criteria for perennial unclassified streams in east Texas. The presumption of high quality aquatic life-use for perennial streams [307.4(h)] is not changed, but the dissolved oxygen criteria required to attain this high use are adjusted for southeast and northeast Texas [307.7(b)(3)]. Under this change, dissolved oxygen criteria vary with streamflow and with "bedslope" (the steepness of the downhill slope that the stream follows), [Table 5]. In practical terms, this revision will primarily affect the dissolved oxygen criteria only in small sluggish streams, and then only at very low stream flows. Even for these streams, higher dissolved oxygen criteria will apply during periods of higher streamflow.

TASK FORCE 21 - WATER QUALITY STANDARDS WORKGROUP

The water quality standards workgroup of Task Force 21 has had four long meetings, which provided substantional comment and additional information. The workgroup presented a report for the Task Force 21 meeting on 5/13/94. The report contained different recommendations on some issues: one from the regulated perspective, one from the environmental perspective. Members of the workgroup presented their positions at the TNRCC agenda on May 25, 1994.

LIST OF SUBSTANTIAL CHANGES PROPOSED FOR THE STANDARDS

307.2(f). An extension of an interim permit limit is allowed in order to provide time to adopt a site-specific standard.

307.3(a)(42). The exclusion of dissolved salts from the definition of toxicity is clarified by (1) listing applicable substances, and by (2) allowing this exclusion only in cases where any adverse effects are due to ambient concentrations of these substances.

307.5(d). Christmas Bay, South Bay, Caddo Lake, and streams in the Guadalupe Mountains National Park are designated as Outstanding National Resource Waters; Barton Creek is under consideration.

307.6(c). In Table 1, toxic criteria to protect aquatic life are added for dicofol (a pesticide), and diuron (an herbicide). Endosulfan is divided into three congeners, each with the same criteria as before. In accordance with recent EPA guidance, chronic criteria for silver are deleted and the marine acute criterion for silver is made more stringent.

307.6(c)(10)(G). Water-effects tests are listed as an appropriate method to develop a site-specific standard for a toxic pollutant.

307.6(d)(1). In Table 3, criteria for human health protection are added for benzo(a)anthracene, benzo(a)pyrene, chrysene, and cyanide. Criteria are lowered (made more stringent) for five toxicants, in order to incorporate new maximum contaminant levels for drinking water.

307.7(b)(3)(A). Dissolved oxygen criteria for small, unclassified streams in east Texas are modified to incorporate results of the TNRCC ecoregion studies. These streams are still presumed to have a high aquatic life use. As indicated in Table 5, dissolved oxygen criteria are lowered for very slow-moving streams with little streamflow.

307.8(d). A new provision is added to indicate that effluent limits are not required in permits for discharges of once-throiugh cooling water, for substances wich may be present in the intake water but which are not added by the discharging facility.

307.10, Appendices A and C. Numerous revisions are made to site-specific standards for designated segments. These changes are proposed to improve segment boundary definitions, correct names of waterbodies, etc. Substantive changes include (1) adding Cooper Lake as a new designated segment (Segment 0307); (2) downgrading some of the uses and criteria for Rita Blanca Lake (Segment 0105), in order to note that this reservoir is now used primarily as a waterfowl management area; and (3) lowering the critical low-flow for headwaters of the San Marcos River. Some requests - such as from LCRA to elevate the the standards for portions of the Colorado River below Austin to "exceptional quality aquatic life" - remain under evaluation.

307.10, Appendix D. 34 waterbodies are added for "partial classification", in order to designate aquatic life uses and

dissolved oxygen criteria.

307.10, Appendix E. New Appendix E is added in order to list site-specific standards for specific toxic pollutants. Initially, site-specific criteria are established for copper in two creeks in Cherokee County plus Johnson Creek Reservoir in Marion County, and for lead in Big Cypress Creek.

STANDARDS ISSUES FOR FUTURE DEVELOPMENT

Several kinds of innovative standards remain under national and state development. These will be considered in public comments for 1994, future standards revisions, and other avenues for water qualilty management; but there are no initial staff recommendations for 1994.

Nutrients

The current Texas standards do not specify numerical concentration criteria for nutrients. Narrative provisions in the General Criteria indicate that nutrients shall not "cause excessive gtrowth of aquatic vegetation which impairs an existing, attainable, or designated use" and "site-specific nutrient criteria, nutrient permit limitations, and/or separate rules to control nutrients in individual watersheds will be established where appropriate..." There are regulatory advantages to having numerical nutrient criteria, but they are difficult to develop and implement.

Other regulatory approaches also address nutrient reduction. TNRCC watershed rules, for example, prohibit discharges or require effluent phosphorus reduction in the watersheds of Lakes Travis and Austin, Lakes Inks and Buchanan, Tributaries to the Colorado River from Austin To Smithville, and Lakes LBJ and Marble Falls.

Development of numerical nutrient criteria and implementation procedures is beyond the present scope of the 1994 triennial revision. TNRCC staff are reviewing regulatory options and other incentives to control nutrients, however, and nutrient criteria will remain an important issue for standards and water quality management.

Salinity

For classified freshwater segments, the standards contain site-specific criteria for various dissolved salts such as chlorides, sulfates, and total dissolved solids. The General Criteria prohibit adverse saline impacts on both fresh and estuarine waters, but there are no numerical criteria for salts in estuarine waters. There are also no numerical criteria that specifically apply to small, unclassified freshwater streams and lakes.

The site-specific development of numerical salinity criteria for estuaries continues to be hindered by the complexity of estuarine salinity gradients. For freshwater streams, additional general criteria for dissolved salts are being evaluated.

Sediment Criteria

Existing numerical criteria for toxicants in water do not necessarily preclude accumulation of toxic substances in bottom sediments. Sediment criteria to protect bottom-dwelling aquatic life are under development by EPA, and the states of Washington and Florida have established limited-purpose sediment criteria. Additional development is needed to (1) establish technically adequate criteria, and to (2) define realistic implementation procedures.

Wet-weather, Nonpoint Source Criteria

Many of the existing standards are not applicable to conditions that occur during periods of rainfall. These conditions are of shorter duration than the applicable period of exposure for most of the criteria. In addition, data on appropriate ambient water quality during wet weather is limited. As NPDES stormwater permitting and nonpoint source programs progress, however, there will be an increasing need for developing or modifying criteria to address wet-weather flows and nonpoint source pollution. One of the priorities of the Clean Rivers Program (SB 818) is to acquire additional data to (1) measure nonpoint source impacts and (2) develop reasonable water quality goals for nonpoint source control programs.

Biocriteria

Biocriteria are based on quantitative measures of the health of indigenous aquatic communities. These measures include various indices of diversity, species number, proportion of sensitive species, etc. Potentially, biocriteria can be utilized as a direct indicator of pollutant impacts on aquatic organisms. TNRCC has already developed quantitative biological indices to define aquatic life categories, and for many purposes these indices are equivalent to biocriteria. EPA is in the process of formulating new policies and future requirements for biocriteria in state standards.

Indicators of Potential Pathogens

The bacterial indicator for recreational suitability is fecal coliform; an average concentration of 200 fecal coliform per 100 milliliters of water is the criterion for contact recreaction. Fecal coliform are supposed to indicate contamination by human sewage, but there are also numerous other sources for fecal coliform in natural waters that obscure results. An additional problem is the lack of a strong link between fecal coliform

concentration and incidence of disease.

EPA now recommends other bacterial indicators, such as E. coli for freshwaters and Enterococcus for marine waters. These new indicators do have a somewhat better correlation with the occurrence of respiratory illness and gastroenteritis. There are still problems from non-human sources of these indicators, however, and separate fecal coliform criteria would be necessary for oyster-harvesting waters. Instream data is needed to see if this change would be advantageous for the Texas standards. TNRCC is conducting some comparative tests of the various indicators, and several local monitoring programs in the state will also provide data.

Wildlife Criteria

The standards have narrative provisions to protect wildlife and livestock from exposure to toxic substances via the consumption of water and aquatic organisms. Additionally, the numerical toxic criteria for human health also provide substantial protection to wildlife. There are concerns, however, that some species of wildlife may be unusually sensitive to particular toxicants. Research is continuing at the national level to develop guidance for wildlife protection criteria.

Air Quality Issues

"Brushing cobwebs off the sky"

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Biographical Sketch

Beverly Ann Hartsock

BEVERLY HARTSOCK (Austin) serves as Deputy Executive Director for the Office of Air Quality of the newly created Texas Natural Resource Conservation Commission (formerly Texas Air Control Board). As Deputy Executive Director, Beverly oversees the state's air quality program including its permitting, enforcement, monitoring, mobile source, and planning functions. She received her bachelor of arts degree in biology with honors from the University of Texas at Austin and her master of arts degree in botany from the University of Texas at Austin. Beverly has worked with the agency since 1978 and has served as Regulation Development Section Chief, Control Strategy Division Director, as Executive Assistant, and Deputy Director for Government and Community Affairs. Beverly is a member of Phi Beta Kappa. She is also a member of the Air and Waste Management Association, Executive Women in Texas State Government, and the State and Territorial Air Pollution Program Administrators.

A.

HAZARDOUS AIR POLLUTANTS

Prior to 1990, the federal Clean Air Act (" FCAA") directed EPA to publish and revise a list of hazardous air pollutants ("HAPs") for which it intended to promulgate emission standards.[1] The FCAA defined HAPs as any air pollutant not subject to a National Ambient Air Quality Standard that "cause or contribute to air pollution which may reasonably be anticipated to result in an increase in mortality or an increase in serious irreversible, or incapacitating reversible, illness."[2] Within 180 days of listing a HAP, EPA was to propose an emission standard for the pollutant and adopt a final rule within 180 days of the proposal.[3] The FCAA required that the emission standard provide an ample margin of safety to protect human health; emission standards could include design, equipment, work practice, or operational standards if a more traditional emission standard was not feasible.[4] Lawsuits, the difficulties of establishing "safe" levels for HAPs, particularly carcinogens, and inadequate resources resulted in EPA establishing emission standards for only eight HAPs.

The 1990 FCAA amendments ended the paralysis surrounding the regulation of HAPs by statutorily establishing a list of 189 HAPs[5] and changing the initial regulatory efforts from promulgating "safe" levels of HAPs to requiring the installation of control technologies that would reduce emissions. The required level of control is the maximum achievable control technology ("MACT"). Major sources of HAPs (those emitting 10 tons per year or more of one HAP or 25 tons per year or more of all HAPs combined) must install MACT pursuant to a schedule established by EPA.[6] For new sources, EPA will set MACT at a level at least as stringent as the best controlled similar source; for existing sources, MACT should be at least as stringent as the average emission limitation achieved by the best performing 12 percent of similar existing sources (or by the top five sources if there are fewer than 30 sources in the category).[7] All non-major sources of HAPs are "area sources" and may be required to install MACT or generally available control technology ("GACT") if EPA determines that emissions from a category of area sources present a threat of adverse effects to human health or the environment.

The second phase of the new regulatory scheme for HAPs is consideration of residual risks posed by emissions of HAPs after installation of MACT. EPA is directed to report to

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1 42 U.S.C. § 7412(b)(1)(A) (1983).

2 42 U.S.C. § 7412(a)(1) (1983).

3 42 U.S.C. § 7412(b)(1)(B) (1983).

4 42 U.S.C. § 7412(e) (1983).

5 42 U.S.C. § 7412(b) (1991).

6 42 U.S.C. § 7412(a)(1) (1991).

7 42 U.S.C. § 7412(d)(3) (1991).

Congress by November 15, 1996 regarding residual risks including any recommendations for additional regulation.[8] If Congress does not act on any EPA recommendations, the FCAA directs EPA to promulgate as necessary, health-based regulations that include reducing the lifetime excess cancer risk to a most exposed individual to less than one in one million (1x10-6).[9]

The 1990 amendments also added an entirely new program that requires EPA to identify chemicals that would pose a significant hazard if accidentally released. EPA must then establish rules that require companies that handle those chemicals in amounts above a threshold level to develop a risk management plan that includes procedures to detect and prevent or minimize accidental releases.[10]

The following lists the status of various rulemaking initiatives of the EPA under the revised FCAA provisions for the regulation of HAPs.

ACCIDENTAL RELEASE PROGRAM (RISK MANAGEMENT)

EPA has published final rules that list 77 toxic, 63 flammable and certain explosive substances for regulation to prevent accidental releases.[11] In those rules, EPA established a threshold quantity for each substance; sources which have at least the applicable threshold quantity of a listed substance contained in a process will be required to develop a substantive risk management plan. The rules define a process to include all activities that use, store, manufacture, handle, or move the substance.[12] All vessels involved in such activities that are interconnected or located such that all could be involved in a single release situation are considered to be a single process.

The substantive risk management rules that would establish the requirements for development of an acceptable risk management plan were proposed on October 20, 1993.[13] The proposed rules would require the development of a plan that addresses three elements: hazard assessment; accident prevention; and emergency response. The hazard assessment would have to be made for a worst case scenario as well as more likely release scenarios. The proposed definition of worst case scenario as the instantaneous loss of all of the regulated substance from the process, including the complete failure of all mitigation systems, has generated significant

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8 42 U.S.C. § 7412(f) (1991).

9 42 U.S.C. § 7412(f)(2) (1991).

10 42 U.S.C. § 7412(r) (1991).

11 40 C.F.R. Part 68.

12 40 C.F.R. § 68.3.

13 58 Federal Register 54190 (October 20, 1993).

critical comments from the regulated community. In response, an EPA official has indicated that the agency will issue a supplemental rulemaking this summer asking for additional public comments on the definition of "worst case scenario" and other items, including whether the states should implement the program.

CONSTRUCTION, MODIFICATION AND RECONSTRUCTION OF MAJOR SOURCES

On April 1, 1994, EPA published proposed rules[14] that would implement the provisions of §112(g) of the FCAA that require owners or operators of major sources of HAP to install MACT whenever such sources are constructed, reconstructed, or modified. The primary impacts of the proposed rules are the inclusion of definitions and procedures for the determination of what constitutes construction, modification, and reconstruction of a major source and the establishment of a process for the determination of what constitutes MACT when EPA has missed its deadline for promulgating a MACT standard for a source category.

In the proposal, EPA provides two optional approaches for determining whether emission decreases at a source may be used to offset proposed emission increases to avoid modification status.[15] Decreases of a different HAP may be used to offset increases if there is an equal or greater decrease in the quantity of emissions of the different HAP deemed more hazardous than the increases; EPA has proposed a methodology for making that determination, and has specifically solicited comments on that methodology. Additionally, EPA has proposed two alternative interpretations for what will constitute construction of a major-emitting source: one interpretation would include any addition of a major emission unit, the other would limit the term to the addition of major-emitting equipment at a site where the total emissions of any HAP are less than the de minimis level set in the rules.[16] The de minimis levels are also of significance in the determination of whether a modification has occurred; increases of a HAP at a major source that are below the de minimis levels do not constitute a modification.[17]

HAZARDOUS ORGANIC NESHAP ("HON")

On April 22, 1994, EPA published final rules establishing NESHAP for certain organic HAP from the synthetic organic chemical manufacturing industry ("SOCMI").[18] This highly

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14 59 Federal Register 15504 (April 1, 1994).

15 59 Federal Register 15548 (April 1, 1994).

16 59 Federal Register 15521 (April 1, 1994).

17 59 Federal Register 15525 (April 1, 1994).

18 40 C.F.R. Part 63, Subparts F-I.

complex rulemaking is divided into four subparts (F-I) of 40 CFR Part 63. EPA estimates that the total nationwide annual cost of the rule will be $230 million/year and that compliance with the rule should result in a reduction in emissions of HAP of 510,000 tons/year.[19]

Subpart F establishes the applicability of the HON to major sources producing as a primary product any of 385 specified chemicals, and using as a reactant or producing any of 112 organic HAP. The source consists of all the SOCMI process units subject to the rule and located on the same property, or on contiguous or adjacent properties under common control.[20] The source may include process vents, storage vessels, transfer racks, wastewater and the associated treatment residuals, pumps, compressors, agitators, pressure relief devices, sampling connection systems, open-ended valves or lines, valves, connectors, and instrumentation systems. Sources subject to the HON must develop a plan to address start-ups, shutdowns, and malfunctions. Testing, monitoring, record keeping and reporting requirements are also established in Subpart F

Subpart G establishes the MACT standard and associated requirements for process vents, storage vessels, transfer racks, and wastewater streams. MACT is an allowable emissions level reflecting the sum of the emissions from all emission points in the source that meet the HON applicability criteria through the use of reference control technologies.[21] Other emission points are included in the determination of the allowable emission rate even though controls are not required on those points. As an alternative to applying the reference control technologies to each emission point, owners of existing (not new) sources may use emissions averaging for process vents, storage vessels, transfer racks, and wastewater streams not treated in biological treatment units. However, the states are expressly given the discretion to not allow emissions averaging in their implementation of the HON. Emissions averaging is limited to no more than 20 points (25 if pollution prevention is employed) and it must be demonstrated that emissions under an averaging scheme will not result in greater risk than emissions from use of the reference control technologies on each point. EPA intends to offer guidance on how to conduct risk analysis on emission averaging by the end of the summer.

Subpart H applies to equipment in organic HAP service for 300 or more hours each year associated with a process subject to Subpart F or I. The MACT standards apply to valves, pumps, connectors, compressors, pressure relief devices, open-ended valves or lines, sampling connection systems, surge control vessels, bottoms receivers, agitators, and closed vent and control systems used to control emissions from any of the other listed equipment. The standards generally consist of monitoring to detect leaks and leak repair standards.

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19 59 Federal Register 19410-19411 (April 22, 1994).

20 40 C.F.R. § 63.101(b).

21 40 C.F.R. § 63.112.

Subpart I provides applicability criteria for non-SOCMI processes; sources meeting the applicability criteria would be required to meet the Subpart H standards.

EPA delayed promulgation of the HON for medium sized storage vessels in order to resolve a significant statutory interpretation question that has significant ramifications for all NESHAP MACT promulgations. The FCAA provides that for existing and modified sources, MACT should be no less stringent than the "average emission limitation achieved by the best performing 12 percent of the existing sources . . . ."[22] EPA had suggested two possible interpretations of that requirement. One interpretation, called the "higher floor interpretation" would have MACT determined by the average or median of the emission limitations achieved by each of the best performing 12% of sources; thus, MACT would be set at approximately the 94th percentile level. The "lower floor interpretation" would have MACT established by determining the average emission limitation actually achieved by all of the 12% best performing sources. This would result in MACT being set at level achieved by the worst performing source within the top 12%; essentially, at the 88th percentile level. On June 6, 1994, EPA promulgated the additional HON rules and selected the "higher floor interpretation" as the appropriate mechanism, to establish MACT for the medium sized storage vessels.[23] EPA indicated that although the higher floor interpretation would be "presumptively" followed in future MACT promulgations, it is not binding and EPA believes it has substantial discretion is setting MACT floors.

EFFORTS TO STREAMLINE NEW SOURCE REVIEW

Over the last several years, numerous efforts to "streamline" the state new source review ("NSR") program have been undertaken. Many of those efforts have involved task force studies or other examinations by outside groups. The 1993 Texas legislative session enacted several changes to the Texas Clean Air Act ("TCAA") that served to decrease the need for new source review permits or expedited the process of obtaining a permit. At the time this paper was written, the TNRCC with the assistance of its Task Force 21 was studying additional proposals to decrease the number of instances in which permits or permit amendments are needed to authorize changes to existing facilities. Although federal NSR affects substantially fewer sources than does state NSR many of the same streamlining concepts have recently been examined by EPA for possible implementation in the federal new source review program.

STATE EFFORTS

The Texas Air Control Board (predecessor to the TNRCC) adopted a set of recommendations for streamlining state new source review developed by its Permits Oversight Committee through a series of workshops involving over seventy participants. The recommendations did not involve proposals to relax basic air pollution requirements; instead the

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22 42 U.S.C. § 7412(d)(3) (1991).

23 59 Federal Register 29196.

participants focused on "bottlenecks" and other administrative difficulties that slow down the process. The recommendations included more standardization of permit review elements such as best available control technology determinations, health effects review, and permit conditions and the development of mechanisms for communicating and resolving perceived deficiencies in a permit application.[24]

The 73rd Texas Legislature addressed concerns of the regulated community that the permitting process inhibited the ability of companies to implement pollution reduction projects. The installation of many types of air pollution controls such as incineration devices constitutes the construction of a facility since the control equipment will emit new air contaminants in addition to reducing other contaminants. The 73rd Legislature amended Section 382.057 of the TCAA to provide that the agency should by rule exempt from permit requirements or issue a standard permit for installation of emission control equipment that constitutes a modification or a new facility subject to such conditions restricting the applicability of the exemption or standard permit deemed necessary.[25] Pursuant to this statutory directive, the TNRCC has adopted rules that provide standard permits for voluntary and required pollution control projects; applicability of these standard permits is restricted as set forth in the conditions of the Standard Exemptions.[26]

The TNRCC has commenced an additional round of permit streamlining efforts pursuant to a petition submitted by the Texas Mid-Continent Oil & Gas Association ("TMOGA"). The issues raised by the petition were referred to the TNRCC's Task Force 21. Task Force members have reached agreement on a number of issues but were unable to reach agreement on the following three major issues:

1. TMOGA requested that when a permit authorizing operational changes requires new or revised emission control equipment, installation of the required controls not be required at the same time the operational changes are made. TMOGA instead suggested that the agency require installation at the next scheduled shut-down of the refinery. This would minimize costs by not forcing the company to suffer additional down-time to install the new or revised controls.

2. TMOGA recommended that the TNRCC adopt a policy that would provide that permit renewal reviews would not result in a requirement for new or revised controls unless there were a history of compliance problems; and

3. TMOGA requested that permits for refineries contain additional operational flexibility including the ability to increase production levels so long as emissions did not exceed the maximum levels established in the conditions of the permit.

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24 Recommendations for Streamlining the Texas Air Control Board Permitting Process, February 16, 1993.

25 Texas Health & Safety Code § 382.057(a).

26 30 TAC Chapter 116, Subchapter F.

The Commissioners at the June 29, 1994 considered the interim report from the task force. They directed the staff to move forward with an "alternative permitting proposal" that is designed to encourage innovation, reduce compliance costs, and increase the operational flexibility available to the permit holder. The basic concept would allow sources that are or will become "well-controlled" (taking into consideration the age of the source) to make operational changes including limited production increases and changes in raw materials for a five year period without having to undergo a BACT review or a permit amendment process. The flexible permit could cover an individual source or a larger grouping of sources, including a site-wide permit; however, to qualify for the "flexible permit" all units that are "tied together" or integrally related will have to be included. If additional controls are needed to qualify the source for the flexible permit, the installation schedule for the controls would be negotiated with the applicant and placed in the flexible permit as an enforceable condition of the permit.

On the issue of technology review standards for permit continuances, the Commissioners directed the staff to continue the present practice of requiring new or revised controls when it appears economically reasonable. The commissioners further directed that the staff revise its published guidelines to more accurately state the present practice and provide the public an opportunity to comment on the proposed revisions.

Regarding delayed installation of BACT controls for permitted operational changes, the Commissioners directed that the staff allow delayed installation on a case by case basis where delayed installation would be consistent with all legal requirements, including economic reasonableness.

FEDERAL EFFORTS

An EPA sponsored NSR workgroup has been meeting for several months in an attempt to reach agreement on a proposal to streamline NSR. The topics considered by the workgroup are, in many instances, similar to the ones that have been or are being addressed by the state, and include:

1. Establishment of an accessible data base containing EPA determinations regarding control technologies that meet applicable requirements. The data base could be used by persons preparing permit applications to help determine the control technology that will be required.

2. Provide a cut-off date beyond which a potential permit applicant would not be required to examine whether new control technologies had emerged that could be considered as BACT or LAER. Industry representatives in the workgroup have suggested that the cut-off date be six months prior to the filing of the application; environmental interests have criticized that proposal as eliminating the ability of the public to affect control technology decisions through the public comment process since the public comment period would occur long after the applicant's obligation to research new technologies had ended.

3. Exemptions from NSR requirements for pollution control projects.

4. Exemption from NSR for environmentally insignificant equipment or process changes. The industry proposal on this topic was modified to allow for a technology review to be performed on those changes so long as the review is performed by the state, not by EPA.

Negotiations over these topics have generally failed to result in significant agreements. EPA is moving forward with its plans to develop a proposed new source review streamlining rule by January 1, 1995, with final promulgation by January 1, 1996. Among the possible proposals is a "clean unit" exclusion from NSR for certain changes at units that have recently undergone a BACT or LAER review and meet certain criteria. The baseline that is used to determine whether an existing unit will increase emissions may also change; EPA is considering allowing emissions during any twelve consecutive months in the previous ten years to be used as the baseline.

MOBILE SOURCES

Since the 1960s, mobile sources have been regulated by the federal government as primary sources of ozone precursors (hydrocarbons, nitrogen oxides and carbon monoxide). The continuing inability of most ozone nonattainment areas to achieve attainment, the prior significant regulation of point sources, and the growing recognition of the impact of mobile sources on ozone formation led Congress to add substantial new requirements on mobile source emissions in the 1990 FCAA amendments. These requirements include both new controls, restrictions on fuels, expanded inspection and maintenance programs, and attempts to reduce the amount of vehicle miles traveled.

INSPECTION AND MAINTENANCE

All four Texas ozone nonattainment areas (Dallas/Ft. Worth, Beaumont/Pt. Arthur, Houston/Galveston, and El Paso) will be subject to vehicle emissions testing (I/M) programs that will be more comprehensive than the testing programs that have previously existed.[27] All four areas will use a centralized, test-only system. Under this system, emissions testing will be done at a facility that only does emissions testing; vehicle owners will still have to undergo the DPS vehicle safety inspection test at a separate location. A limited number of emission testing stations will be established in each nonattainment area such that a station will be within five miles of 80% of the population and within 12 miles of 95% of the population. The test will be required every other year and the test must be passed (or a waiver granted) in order for the car to be registered. A waiver may be granted if a minimum expenditure for repairs is made and the car still does not pass inspection. The minimum expenditure varies depending on the age of the vehicle and in which nonattainment area it is registered. To qualify for the waiver the repairs must have been made by a TNRCC certified emission repair technician at a TNRCC

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[27] 30 TAC §114.3.

certified emission repair facility. The testing stations will not be allowed to perform vehicle repairs. An effort is under way to establish a one-time only waiver for low-income vehicle owners.

The type of emission testing performed will vary depending on the age of the vehicle and in which nonattainment area it is located. In all areas except Beaumont/Pt. Arthur, an enhanced system of testing which utilizes more sophisticated testing equipment will be employed on newer model vehicles.

Because of concessions EPA is prepared to grant California for its I/M program, requests have been made to reexamine the Texas program.

EMPLOYER TRIP REDUCTION

This federally mandated program is applicable only in the Houston nonattainment area for employers with 100 or more employees (including regularly reporting contract workers and certain temporary and part-time workers). Its goal is to reduce emissions related to employee work-related trips during the morning "rush hour" (6:00 - 10:00 a.m., M-F). The goal is to be accomplished by specifying a required amount of increase in average passenger occupancy, or its emission reduction equivalent. The employer is required to develop, submit, and implement a plan to achieve the required increase in average passenger occupancy.[28] It is up to the employer to determine how to achieve the required emissions reduction; options may include car pooling, mass transit, staggered or compressed work hours, alternative fuel vehicles, and telecommuting (employees working from their homes).

CLEAN FUELS

A significant issue of controversy has been the TNRCC's attempt to satisfy all stakeholders in revising the Texas Alternative Fuel Fleet ("TAFF") program. The TAFF is designed to meet the federal Clean Fuel Fleet regulations in addition to implementing state statutory requirements. The federal requirements apply to vehicle fleets operating in certain serious, severe and extreme ozone nonattainment areas and carbon monoxide nonattainment areas. Consistent with existing state statutory requirements, the TNRCC rules would be applicable to metropolitan rapid transit and regional transportation authorities and city transportation departments in consolidated metropolitan statistical area with populations of 350,000 or more that are nonattainment for ozone, carbon monoxide, nitrogen oxides or particulates.[29] The primary point of controversy has been over what fuels will qualify as "alternative fuels". The federal rules provide a "fuel neutral" approach that allows reformulated gasoline ("RFG") and low sulfur diesel to qualify as alternative fuels. The TNRCC had previously limited alternative fuels to natural gas, liquified petroleum gas, electricity, methanol

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[28] 30 TAC § 114.21.

[29] 30 TAC § 114.11.

and methanol blends, and ethanol and ethanol blends. The TNRCC heard over fours hours of comments at its June 29, 1994 meeting and ultimately voted to defer until December 31, 1996 the decision of whether to include RFG and low sulfur diesel as approved alternative fuels. The Commissioners also directed that the TNRCC contract with an independent firm to conduct a study of the various alternatives associated with an alternative fuels program.

In a separate proposed rule, the TNRCC is extending the opportunity for fleets in the serious, severe, or extreme nonattainment areas to earn mobile emission reduction credits ("MERC") by expediting their conversion schedule beyond the minimum requirements or by permanently removing a high emitting vehicle from the fleet. [30] A MERC may be used or sold to others for use in various programs for which emission reduction credits may be used. The amount of the credit and the length of time that a MERC could be used as a credit would be a function of the remaining vehicle miles of the mobile source as determined by standards set forth in the proposed rule.

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[30] 19 Texas Register 4621 (June 14, 1994).

B.

TITLE V--FEDERAL OPERATING PERMITS PROGRAM

PROGRAM SUMMARY

A significant portion of the legislative debate on the 1990 federal Clean Air Act Amendments centered on the need to assure that industrial sources were complying with the numerous regulations and specific emission standards established by EPA. The result was the creation of the Title V Federal Operating Permits Program.[1] The conceptual design of this program was to create a single document which codifies all the applicable requirements for a particular source. The program was partially patterned after the NPDES permit system under the Clean Water Act. The program also requires EPA veto authority[2] and adequate public notice[3] as part of the permit issuance process. This simple concept resulted in several pages of statutory language, hundreds of pages of Federal Register notices, and one consolidated lawsuit.

Under the statute, EPA was required to promulgate rules by November 15, 1991, which established the framework for states to follow in developing their individual operating permit programs.[4] Due to several controversies, EPA did not issue final regulations until July 1992.[5] Implementation of this program is intended to fall on the states. By November 15, 1993, states were required to submit to EPA its rules and plans to implement the operating permit program for that state.[6] The states were to meet the criteria set forth in the EPA Part 70 rules issued in July 1992. Within twelve months, EPA must review the state's submissions and either grant interim, final, or partial approval, or disapprove the submittal.[7] If a state fails to submit an approvable program, EPA must implement the program in that state.[8]

One of the more controversial issues was the extent public notice should be required prior to a change being made at the industrial source. The President's Council on Competitiveness chaired by Vice President Quayle became involved, and the final rule

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[1] 42 U.S.C. §§ 7661-7661f (1991).

[2] 42 U.S.C. § 7661d (1991).

[3] 42 U.S.C. § 7661a(b)(6) (1991).

[4] 42 U.S.C. § 7661a(b) (1991).

[5] 57 Fed. Reg. 32250 (July 21, 1992), codified at 40 C.F.R. Part 70.

[6] 42 U.S.C. § 7661a(d)(1) (1991).

[7] 42 U.S.C. § 7661a(d)(2) & (g) (1991).

[8] 42 U.S.C. § 7661a(d)(3) (1991).

issued by EPA allowed for certain categories of changes to occur without prior public notice.[9]

A second critical issue is the extent to which existing state requirements must be incorporated into the federal operating permit. Many states, including Texas, have had existing permit programs for over 20 years--a fact that was not always recognized in development of the federal legislation and rulemaking. When the NPDES program was first established in the 1970s, very few, if any, local programs were in place, thus it was easier for EPA to establish a national model. However, after two decades of local air permitting experience, it is much more difficult to impose a uniform federal model on existing bureaucratic structures. Additionally, while industrial facilities discharge water through a discreet number of outfalls that usually can be measured for flow and chemical constituents, air emissions come from hundreds of different emission points, only some of which are capable of being captured, controlled and measured. This adds a level of uncertainty regarding actual air quality impacts that concerns the public.

STATUS OF TEXAS PROGRAM

In Texas, the Texas Air Control Board (TACB) held a series of roundtables involving interested parties, including the regulated community and environmentalists, to discuss implementation of the federal operating permit program and to develop the state rules. The final result was the establishment of the new Regulation XII.[10]

While many states are attempting to consolidate their existing permit programs with the federal operating permit program, Texas has chosen to keep the state preconstruction permit and federal operating programs separate at this time. As discussed above, one of the key issues with the Part 70 rules is the extent that state requirements are also applicable requirements and must be included in the federal operating permit. Texas has a very comprehensive new source review program that requires virtually any change at a facility to require new source review authorization.[11] Due to the stringency of the program the state has developed the Standard Exemption List. If a proposed modification meets each requirement of one of the standard exemptions, the change can be made without further TNRCC authorization.[12]

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[9] 40 C.F.R. § 70.7(e) (1993).

[10] 30 Tex. Admin. Code § 122.

[11] Tex. Health & Safety Code § 382.0512; 30 Tex. Admin. Code § 116, Subchapter B.

[12] 30 Tex. Admin. Code § 116.211-.213.

Additionally, as part of the Texas new source review program, if the public requests a hearing, the hearing is not a public meeting where people come and state their concerns, but instead is a contested case hearing under the requirements of Texas administrative law. This can result in a 6 - 12 month delay in issuance of the permit.

Combining the state preconstruction permit program with the federal operating permit program could have significant negative impacts. It would likely result in additional delay for a source prior to receiving authorization to begin construction and inhibit the ability to use standard exemptions to authorize changes at facilities. The agency permit staff would also be inundated with thousands of additional permit amendments if the standard exemption process was lost. Consequently, the final Regulation XII adopted by TACB established a separate program for satisfying the operating permit program requirement of Title V while preserving the existing preconstruction permit program and avoiding any additional preconstruction delay.

Texas was one of the few states to make a complete submission to EPA by the November 15, 1993 deadline. At this time, it is anticipated that EPA will publish in the Federal Register in August 1994 a proposal to provide interim approval for the Texas program. However, there is still at least one significant disagreement between EPA and TNRCC regarding the design of the Texas operating permit program.

In establishing two separate programs, Texas made the decision that the permits and standard exemptions developed under Regulation VI[13] would not be considered applicable requirements under the federal operating permit program and, thus, would not be part of the operating permits issued under Regulation XII. Currently, EPA has taken the position that permits issued under Regulation VI are both federally enforceable and applicable requirements under the operating permit rules established by EPA. This issue must be resolved before Texas will receive final approval for its program.

STATUS OF EPA RULES

Additional developments have occurred at the federal level. In response to the lawsuits filed by industry, local governments, and environmental groups, EPA is in the process of proposing changes to its Part 70 rules. EPA has announced that they will be revising the permit modification procedure and require more public notice than previously included in Part 70. This proposal is due to be published in the Federal Register in early August 1994. This proposal, if adopted by EPA, could have a significant impact on whether Texas receives final approval for its operating permit program as currently constructed. Also, in response to the lawsuits, EPA will be publishing additional proposed revisions to the Part 70 rules in Fall 1994.

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[13] 30 Tex. Admin. Code § 116.

NO_x RACT

As part of the 1990 Amendments, states must require reasonably available control technology (RACT) be installed on major sources of nitrogen oxides (NO_x) in most ozone nonattainment areas by May 1995[14]. In Texas, this includes Dallas/Fort Worth, El Paso, Houston, and Beaumont/Port Arthur areas. As has been its practice during implementation of the 1990 federal Clean Air Act Amendments, TACB/TNRCC was out in front in developing its NO_x RACT rules.[15] The NO_x RACT rules were developed in several phases. Phase I established the basic NO_x emission standards[16]. Phase II made corrections to the original rule and included a source cap,[17] which is an innovative way to allow a company to average their NO_x emissions over several sources at the same plant so as to reduce the compliance costs while achieving equivalent emission reductions. Phase III added provisions allowing for parametric emissions monitoring equipment to be used in lieu of continuous emissions monitors.[18]

Under § 182(f) of the federal Clean Air Act, a state can petition EPA to exempt an area from the NO_x requirements if it can demonstrate that the area can reach attainment through reductions of volatile organic compounds (VOCs) alone. TNRCC has submitted such a request for both the Dallas/Fort Worth and El Paso areas. In the Houston and Beaumont/Port Arthur nonattainment areas, preliminary urban airshed modeling indicates that at this time reductions of NO_x will not result in reductions of ambient ozone concentrations. Consequently, the state has petitioned EPA to allow it to delay implementation of NO_x RACT for two years to May 1997. TNRCC has proposed changes to the state rule to reflect this delay.[19] The state plans on finalizing modeling by Spring 1995 at which time it will begin to develop the final attainment demonstration for the Houston and Beaumont/Port Arthur areas which may include NO_x reductions.

Texas has also been at the forefront of developing innovative ways to comply with regulatory mandates. At the July 27, 1994 agenda meeting, TNRCC adopted a NO_x RACT trading rule.[20] This provision allows a company to control a unit not subject to the NO_x RACT rule in lieu of putting controls on a unit required to have them. This

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[14] 42 U.S.C. § 7511a(b)(2) & (f) (1993).

[15] 30 Tex. Admin. Code § 117.

[16] 18 Tex. Reg. 3409 (May 28, 1993).

[17] 18 Tex. Reg. 8956 (Dec. 3, 1993).

[18] 19 Tex. Reg. 4523 (June 10, 1994).

[19] 19 Tex. Reg. 4487 (June 10, 1994).

[20] The proposed rule was published at 19 Tex. Reg. 1443 (Mar. 1, 1994).

should further reduce the cost for complying with the NO_x RACT rules while achieving even greater emission reductions. Additionally, the credits generated can be traded between companies within the same ozone nonattainment area.

STATE IMPLEMENTATION PLAN REQUIREMENTS FOR OZONE NONATTAINMENT AREAS

The Federal Clean Air Act Amendments of 1990 (FCAAA) required an initial 15% net of growth reduction of volatile organic compounds (VOCs) from the 1990 emissions inventory by November 15, 1996[1]. The State submitted this plan to EPA by May 15, 1994, and the plan has been determined to be administratively complete. These reductions were the first step in a process to enable nonattainment areas to reach attainment by the statutory deadline. Nonattainment areas included in that round of rulemaking were Dallas/Fort Worth, El Paso, Houston/Galveston, and Beaumont/Port Arthur.

The FCAAA require a Post-96 Rate-of-Progress (ROP) State Implementation Plan (SIP) revision and accompanying rules to be submitted by November 15, 1994.[2] This SIP submittal must demonstrate how the Houston/Galveston and Beaumont/Port Arthur nonattainment areas intend to demonstrate attainment as well as to achieve a 3% per year reduction of VOCs and/or oxides of nitrogen (NOx) until the year 1999 for Beaumont/Port Arthur or 2007 for Houston/Galveston, or until attainment status is reached. The plan must also contain an additional 3% of contingency measures to be implemented if the nonattainment area fails to meet a deadline.

By the November 1994 deadline, the State plans to submit rules to achieve all or a portion of the first three years' reductions (or 9% net of growth). This "downpayment" approach is designed to meet the requirements for the years 1997-1999. A final SIP revision will be based upon Urban Airshed Modeling (UAM) using data obtained from the Coastal Oxidant Assessment for Southeast Texas (COAST) study. This series of modeling runs will provide the State with an effective planning tool which will more clearly guide the formulation of effective ozone control strategy. This assessment should be completed by 1996, at which time the State will develop any further rules necessary to reach attainment as evidenced by the model.

For Dallas/Fort Worth and El Paso, SIP revisions will be submitted by November 15, 1994, demonstrating an attainment of the ozone standard through modeling. Consequently, they will not be involved in the Post-96 ROP SIP revision submittal.

For the Houston/Galveston and Beaumont/Port Arthur areas, the "downpayment" approach is designed to fulfill the Post-96 ROP requirements of the FCAAA. Failure to submit a complete SIP revision would result in a findings letter which

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[1] 42 U.S.C. § 7511a.

[2] 42 U.S.C. § 7511a.

would freeze highway funds within 120 days[3], and start a sanctions clock. If the identified deficiencies were not remedied, sanctions consisting of a loss of millions of dollars in highway funds and EPA grant funding for the Air Program could be imposed. Additionally, EPA would write a federal implementation plan (FIP) for the nonattainment area.

Within the last couple of weeks the State has been told by the U.S. Environmental Protection Agency (EPA) that their "downpayment" approach will not satisfy the FCAAA requirements for the submission of a demonstration of attainment SIP in November of 1994. Although discussions are ongoing with representatives of EPA, it appears that Texas will likely receive a findings letter from EPA by January 15, 1995, which would freeze highway funds within 120 days, and start an 18 months sanctions clock. The TNRCC at its meeting on July 27, 1994, indicated that it would pursue all available options to avoid the freezing of highway funds including, if necessary, amendments to the FCAAA.

Because preliminary modeling by the State indicated that reductions of NOx would not contribute to a reduction of ozone levels, and pursuant to the direction from EPA, Assistant Administrator Mary Nichols on June 30, 1994, the State is preparing to file a Section 182(f) petition[4] to EPA to temporarily delay the imposition of NOx Reasonably Available Control Technology (RACT) requirements embodied in Regulation VII at 30 T.A.C. Chapter 117. It is likely that this petition will be filed by the State in August with final action by the EPA not to occur before March of 1995. In the meantime, the State has advised those companies subject to Regulation VII that they may defer implementing the required controls until EPA disapproves the Section 182(f) petition or subsequent UAM modeling for the attainment demonstration indicates that NOx reductions will be effective in reducing ozone levels.

Legislation

The following is a list of potential legislative issues that may be addressed by the 1995 Texas Legislature.

- First, what alternative fuels will be deemed to be equivalent to compressed natural gas under the legislation[5] approved by the 1989 Legislature? The TNRCC on July 6, 1994, requested the staff to initiate a study to determine which alternative fuels are equivalent for the purposes of the Texas Alternative Fuel Fleet (TAFF) program. The legislation from the 1995

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[3] See 62 Fed. Reg. 62188 et seq, November 24, 1993.

[4] 42 U.S.C. § 7511a.

[5] See Texas Health & Safety Code, Chapter 382, Subchapter F.

Legislature could preempt this action by the TNRCC or give further direction to the TNRCC relative to its studies.

- Whether the TNRCC will be authorized to adopt the California vehicle program for low emission vehicles (LEV)? The 1991 Legislature authorized a study of various factors relative to this issue[6]. The 1993 Legislature did not act in view of the ongoing court activity on this issue in the State of New York. It is likely that this issue will be addressed by the 1995 Legislature in view of the ongoing activity in other states.

- Will a provision be added to the vehicle inspection and maintenance provisions of the Texas Clean Air Act to authorize a hardship waivers for low income individuals or provide revenue to pay for repairing non-complying vehicles owned by low-income individuals? The TNRCC has been attempting to address this issue over the last several months and as recently as July 27 directed the staff to further investigate and identify the individuals who should receive such a waiver or other assistance.

- Will any changes to the new source review permitting provisions of the Texas Clean Air Act be amended in order to provide more operating flexibility to permittees? The TNRCC is in a process of developing and promulgating rules to implement a flexible operating permit program. At least one issue relating to restrictions on facilities requiring Best Available Control Technology (BACT) has been identified as a possible impediment to an appropriate flexible operating program.

- Will fees be imposed through the vehicle inspection and maintenance program or through other means to support a vehicle scrappage program? The vehicle scrappage program has been identified as a possible means of eliminating the "dirtiest" vehicles from the road; however, without some funding from fees there may not be enough interest from the private sector to pay for the scrappage of these "dirty" vehicles.

- Will fees be imposed to support Area Emission Reduction Credit Organizations (AERCO)? AERCOs were authorized by the Legislature in 1993 to help generate emission reduction credits in ozone nonattainment areas[7]. However, without some financial support, they may have difficulty in effectively accomplishing their purpose.

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[6] Texas Health & Safety Code § 382.019.

[7] Texas Health and Safety Code, Chapter 384.

- Will there be efforts to restrict air pollution fees from being directed or transferred to general revenue? Some of the fees collected by the TNRCC are directed to general revenue to the dismay of those paying the fees. It is argued that these fees should be restricted to the programs for which they are designed to support.

- Should the TNRCC be given additional authority to encourage innovative control technology, alternative cost-effective mechanisms for achieving compliance and more effective transportation control measures? In view of the cost of the ozone nonattainment SIPs and the need to utilize the most cost-effective mechanisms to achieve compliance, there is a sentiment that the TNRCC should provide more incentives. One question is whether the TNRCC needs additional authority to provide such incentives.

Indirect Risk Assessment

"What if . . . ?"

Laurie Haws

Steve Washburn

BIOGRAPHICAL SKETCH

LAURIE COUTURE HAWS, Ph.D.

Dr. Haws is a manager within the Toxicology and Risk Assessment Section of the Office of Air Quality at the Texas Natural Resource Conservation Commission. She has expertise in the areas of toxicology, risk assessment, teratology, and chemical disposition. Currently, Dr. Haws leads the TNRCC team evaluating the health and environmental risks associated with waste combustion facilities.

Prior to joining the TNRCC, Dr. Haws worked as a Senior Associate Scientist for ENVIRON Corporation. While at ENVIRON, Dr. Haws assessed potential health risks posed by food additives, medical devices, human and veterinary drugs, pesticides, and industrial chemicals. For a number of projects, Dr. Haws conducted biologically-based risk assessments which incorporated information on pharmacokinetics and secondary mechanisms of carcinogenesis.

Dr. Haws holds a M.S. in Environmental Science and Engineering/ Toxicology and a Ph.D. in Toxicology from the University of North Carolina at Chapel Hill where her research focused on the toxicity of various polychlorinated dioxins and furans. She received a B.S. in Environmental Biology from Long Island University.

STEPHEN T. WASHBURN: Mr. Washburn is a Principal at ENVIRON Corporation. He is an expert in the field of risk assessment, with special emphasis in the development of models to predict chemical fate and transport in the environment. At ENVIRON, Mr. Washburn has performed Superfund- and RCRA-site risk assessments; evaluated hazardous waste and municipal solid waste incineration facilities; coordinated detailed multi-pathway risk assessments for a variety of industrial facilities; and directed remedial design and remedial action activities at hazardous waste sites. He has provided expert testimony on risk assessment and hazardous waste management, and has been widely published in scientific texts and journals. Prior to joining ENVIRON, Mr. Washburn worked as a Process Design Engineer for Kesler Engineering in Highland Park, New Jersey, and as a Materials Analyst for Alfa Laval AB of Stockholm, Sweden. He has an M.S. in Chemical Engineering from the Massachusetts Institute of Technology and a B.S.E. in Chemical Engineering from Princeton University.

Indirect Risk Assessment Panel Discussion

Sixth Annual Texas Environmental Superconference

Austin, Texas

August 4, 1994

Laurie Haws, TNRCC

Austin, Texas

Stephen Washburn, ENVIRON Corporation

Princeton, N.J.

ENVIRON

Risk Assessment:
Risk = (Exposure)(Toxicity)

ENVIRON

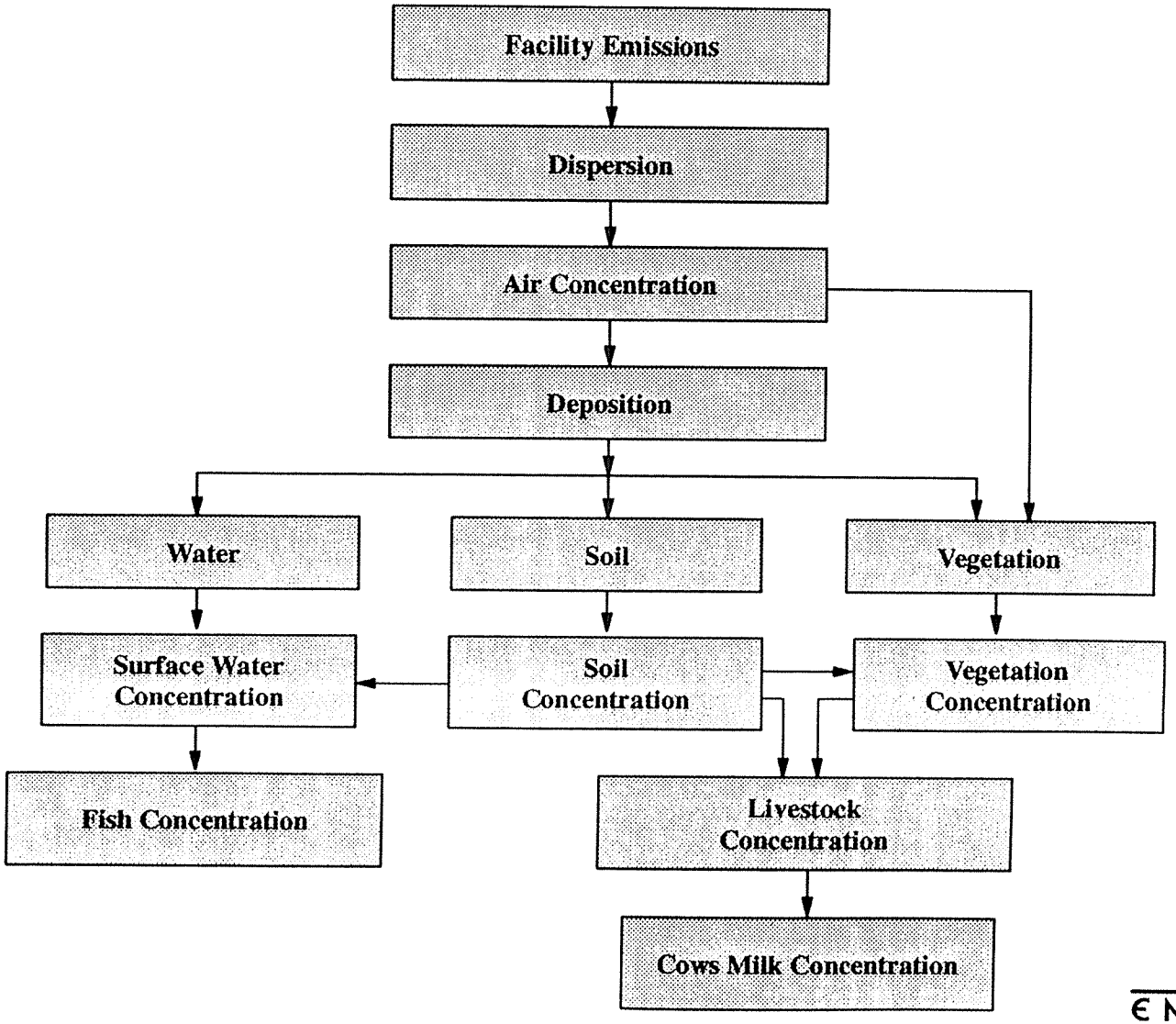
What is an "Indirect" Exposure Pathway?

ENVIRON

Examples of Pathways

Release to:	Direct	Indirect
• Air	• Inhalation	• Deposition onto soil • Deposition onto Surface Water • Food Chain (vegetables, meat, milk) • Infant Ingestion of Mothers Milk
• Soil	• Soil Ingestion • Soil Dermal Contact	• Food Chain • Infant Ingestion of Mothers Milk • Inhalation of Dust and Vapors • Leaching to Ground Water • Runoff to Surface Water
• Ground Water	• Drinking Water	• Volatilization into Basements, (Inhalation) • Volatilization During Showers, (Inhalation) • Irrigation, Food Chain • Discharge to Surface Water
• Surface Water	• Dermal Contact • Drinking Water	• Volatilization, (Inhalation) • Ingestion of Fish • Irrigation, Food Chain

Example: Release to Air



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What are the Typical Exposure Scenarios Considered?

ENVIRON

Potential Routes of Human Exposure Example: Release to Air

- Inhalation
- Ingestion of Soil/Dust
- Dermal Contact with Soil/Dust
- Consumption of Vegetation (Fruits, Vegetables, Grains)
- Consumption of Fish
- Consumption of Meat (e.g., Beef, Pork, Poultry, Eggs)
- Consumption of Milk and Milk Products
- Consumption of Surface Water (Pond, River, Cistern)
- Infant Ingestion of Mothers Milk

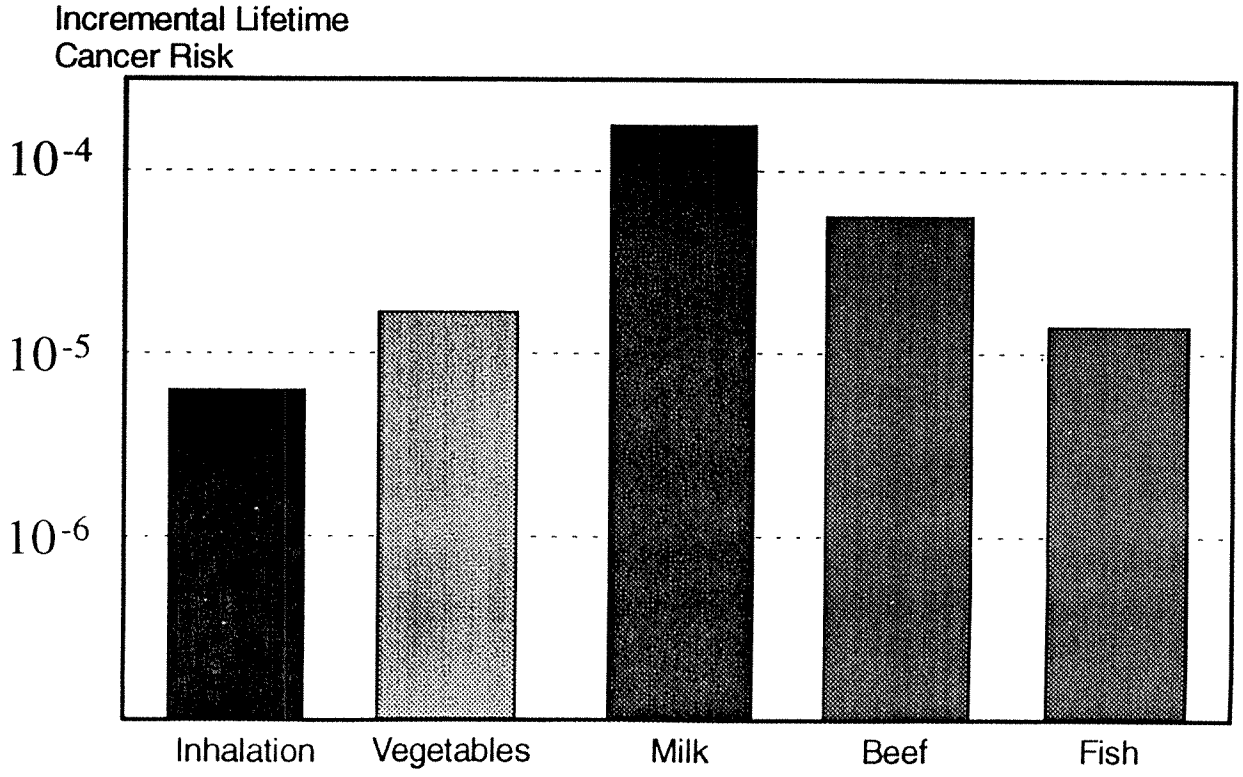
ENVIRON

When are Indirect Exposure Pathways Important?

ENVIRON

Case Study: Remedy Selection at Midwest Superfund Site

Risks Posed by Excavation Under USEPA Remedy



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What Chemicals Usually Pose the Greatest Risks Through Indirect Pathways?

ENVIRON

Case Study: Midwest Superfund Site

Chemicals of Greatest Concern

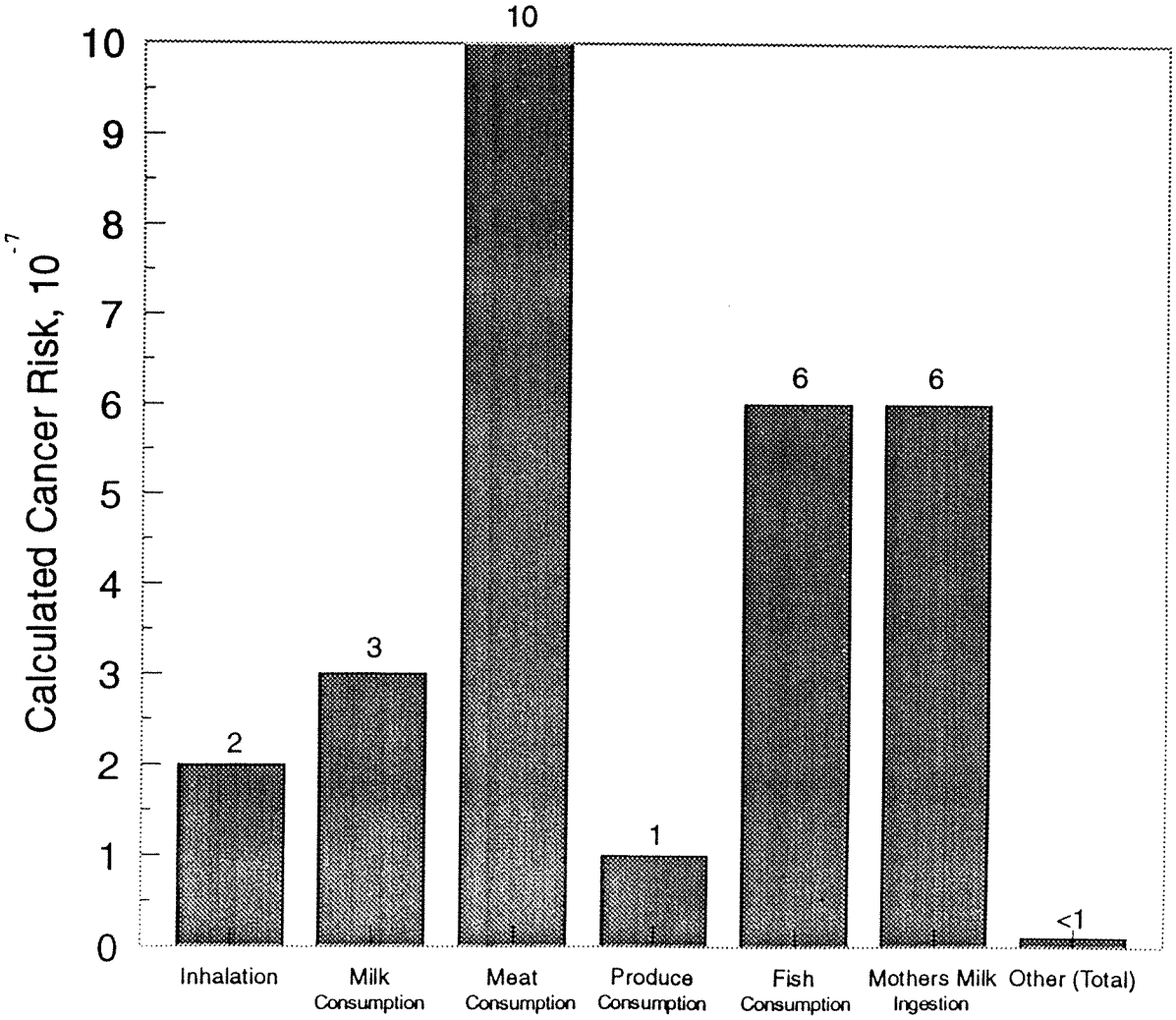
- Indirect Pathways
  - Polynuclear Aromatic Hydrocarbons
  - Polychlorinated Biphenyls
- Inhalation
  - Dichloroethane
  - Dichloroethylene
  - Other Volatile Organic Compounds (VOCs)

ENVIRON

What Combinations of Pathways and Chemicals Tend to Drive Risk?

ENVIRON

Calculated Cancer Risks, Rural Hazardous Waste Incinerator Stack Emissions



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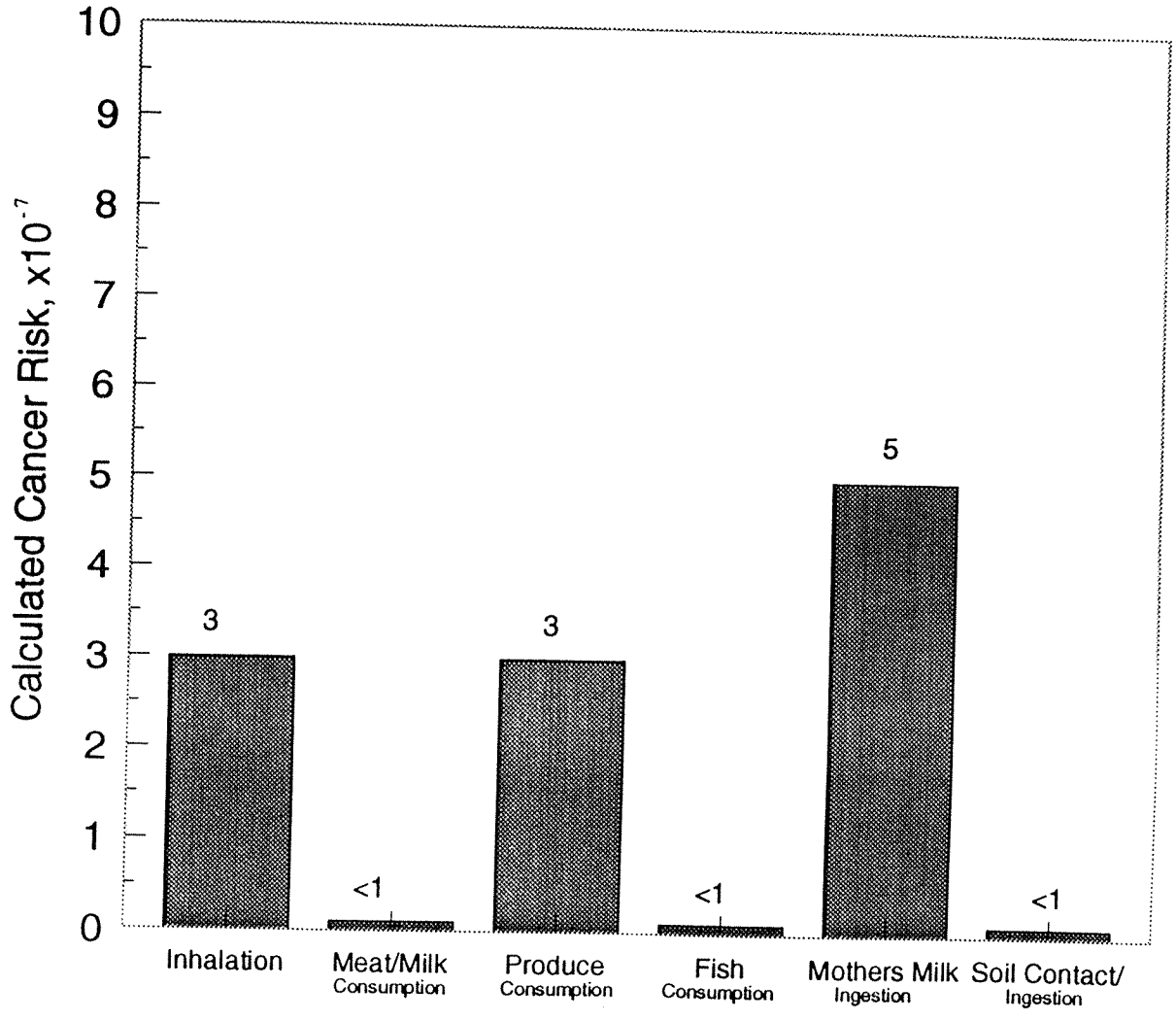
Chemicals Contributing Most Significantly to Risk: Rural HW Incinerator Stack Emissions

	Cancer	Non-Cancer
Inhalation	Arsenic Cadmium Chromium Dioxin	Chromium
Meat/Milk	Dioxin PCBs	Mercury
Produce	Dioxin PCBs PAHs	Mercury
Fish	Dioxin PCBs	Mercury
Mothers Milk	Dioxin	Dioxin

ENVIRON

Calculated Cancer Risks, Urban MSW Incinerator Stack Emissions



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Chemicals Contributing Most Significantly to Risk: Urban MSW Incinerator Stack Emissions

	Cancer	Non-Cancer
Inhalation	Nickel Chromium Cadmium	HCl Chromium
Produce	Dioxin PAHs	Mercury Dioxin
Fish	Dioxin PCBs	Mercury
Mothers Milk	Dioxin	Dioxin

ENVIRON

How are Regulations and Guidance Changing to Address Indirect Pathways?

ENVIRON

"The Agency believes that generally, future permits [for hazardous waste incinerators] should not be issued unless the risks from indirect exposures are assessed and adequate limits for dioxin, metal, and particulates have been established".
Carol Browner, EPA Administrator, in response to House Energy & Commerce Committee (August 1993)

ENVIRON

"In compliance with EPA's National Hazardous Waste Reduction and Combustion Strategy, the TNRCC is now requiring that permit applications for certain types of combustion sources include a comprehensive risk assessment which considers both direct and indirect routes of exposures".
TNRCC Draft Indirect Exposure Document (March 1994)

ENVIRON

Recent USEPA Guidance

- Risk Assessment Guidance for Superfund, Volume 1, Human Health Evaluation Manual (Part A), Interim Final (USEPA 1989)
- Interim Final Methodology for Assessing Health Risks Associated with Indirect Exposure to Combustor Emissions (USEPA 1990)
- Draft Estimating Exposure to Dioxin-Like Compounds (USEPA 1992)
- Draft Addendum to Methodology for Assessing Health Risks Associated with Indirect Exposure to Combustor Emissions (USEPA 1993)
- Revised Draft of Risk Assessment Implementation Guidance for Hazardous Waste Combustion Facilities (USEPA 1994)

ENVIRON

Recent State Guidance

- CAPCOA (California) Air Toxics "Hot Spots" Program, Risk Assessment Guidelines (CAPCOA 1991)
- TNRCC (Texas) Draft Indirect Exposure Document (TNRCC 1994)

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How Can Regulations Keep Up with the Rapid Evolution of Indirect Exposure Assessment?

ENVIRON

How Can We Best Communicate the Results of an Indirect Exposure Assessment to the Public?

ENVIRON

Obtaining Information from the TNRCC

"Here we go round the mulberry bush . . ."

Carol Batterton

CAROL V. BATTERTON

Director, Environmental Training Division
Texas Natural Resource Conservation Commission

Carol V. Batterton received her B.S. in biology from Baylor University and her M.A. in biological sciences from the University of Texas at Austin. From 1978 to 1985 she worked for the Texas Department of Water Resources becoming Head of the Enforcement Support Unit in 1984. With the reorganization of the Texas Water Commission in 1985, Ms. Batterton was promoted to Assistant Section Chief of Wastewater Enforcement. From 1986 until March of 1993, she served as director of the Field Operations Division. In March of 1993, Ms. Batterton was named director of the new Office of Technical Training. She presently serves as director of the Environmental Training Division of the Texas Natural Resource Conservation Commission. She is also a past president of the Water Environment Association of Texas (formerly the Texas Water Pollution Control Association).

OBTAINING INFORMATION FROM THE TNRCC

OR

"HERE WE GO 'ROUND THE MULBERRY BUSH"

CAROL V. BATTERTON, DIRECTOR
ENVIRONMENTAL TRAINING DIVISION
TEXAS NATURAL RESOURCE CONSERVATION COMMISSION

OBTAINING INFORMATION FROM THE TNRCC

"HERE WE GO 'ROUND THE MULBERRY BUSH"

Being responsive to the public and the regulated community is a high priority at the Texas Natural Resource Conservation Commission. Part of meeting this goal involves making information about the agency and agency programs widely available to those who request it. Since the creation of the TNRCC, the agency has more information available now than ever before. However, because of the reorganization and consolidation of agencies, it can be very frustrating and time consuming for someone outside the agency to locate the right person or organizational unit to supply needed materials or information. This presentation will cover some of the major sources and processes for securing information from the TNRCC.

RULES AND STATUTES

One of the most common requests for information received from the public or regulated community is for rules and statutes (laws) which govern TNRCC's programs. Statutes (laws) are enacted by the Texas Legislature and serve as a general framework and policy for the agency's various programs. TNRCC then adopts rules (with public input) which detail the specific means that a law will be implemented. The compilation of rules issued by all state agencies is called the Texas Administrative Code. Copies of rules must be obtained from sources outside of the agency. Official versions of the rules are available from:

Texas Register
P. O. Box 13824
Austin, Texas 78711-3824
Phone: (512) 463-5561

OR

West Publishing Company
P. O. Box 64526
St. Paul, Minnesota 55164-0526
Phone: (612) 687-7000 or
1-800-328-9352

Unofficial versions of the rules are available from multiple sources which are listed in the attached agency brochure "Obtaining the Rules" (Attachment 1). This brochure also lists the various TAC chapter numbers and titles for easy reference when ordering rules.

Members of the public and regulated community often have an interest in staying abreast of proposed new rules or amendments to existing rules. A log of TNRCC rule changes in progress can be obtained from the Office of Policy and Research at 463-8225.

TNRCC ON-LINE

One of the newest and most comprehensive ways to obtain information about TNRCC is through the agency's computerized on-line bulletin board system. Users can obtain up to date information about commission agendas, agency events, job postings, and program information with a PC and Modem. There is no charge to users other than long distance telephone charges which may be incurred. The dial-in number for TNRCC On-Line from your PC and Modem is (512) 239-0700. See Attachment 2 for more information.

REPORTS FROM TNRCC AUTOMATED PRODUCTION SYSTEM DATABASES

A considerable amount of information on TNRCC permits, registrations, licenses, enforcement actions, monitoring data and other activities is maintained in databases on agency computers. Attachment 3 describes the information and how to request it from the Information Resources Division. Requests must be in writing and there is a charge for the service. Requestors are encouraged to call first, so that staff may assist in wording the request to help you get exactly what you want.

CENTRAL RECORDS MANAGEMENT

The Information Resources Division also includes TNRCC's Central Records Management. TNRCC's Central Records include the official agency files on paper or microfiche as well as hard copy of some computer records. Files are generally maintained by facility and contain copies of permits, registrations, and any correspondence or memos generated or received concerning that facility. Files and reports may be checked out for review on-site and arrangements can be made for copies (including certified copies) for a nominal fee.

In recent years, the location of agency records facilities has been decentralized so that in most cases, files are now located in the same building as the respective program staff. However, if you have not used a particular records facility before, you may want to call ahead to verify the location. Also, if you are requesting a file for a facility which is under enforcement action, you may want to call ahead to verify the availability of the file for public review. See Attachment 4 for the locations and phone numbers of Central Records facilities.

RESOURCE CENTER

The TNRCC Resource Center contains the agency library, publications distribution, and the Clean Texas 2000 Information Center.

The Clean Texas 2000 Information Center has a hot line (1-800-64-Texas) which provides the public with publications and information on reducing waste, recycling and yard care. The hot line also provides information about local recycling centers for household waste.

The Publications Distribution Unit stocks and distributes TNRCC publications as well as those previously distributed by TWC and TACB. A catalogue of agency publications available for purchase can be obtained by writing or calling (512) 239-0028. (Attachment 5)

EDUCATIONAL OUTREACH

One of the best ways to get up to the minute information about agency programs is to attend an agency sponsored educational outreach event. These events coordinated by Government and Business Assistance in the Environmental Training Division are held across the state on an established schedule and they cover most of the agency's major programs. At a workshop or seminar, TNRCC staff who are actually responsible for implementing the programs make presentations. The focus is on nuts and bolts of now to comply with agency regulations. During the next fiscal year, we will be placing more emphasis on workshops which explain implementation of new rules. Information on these events can be obtained by calling (512) 239-6630. If you would like to be on the mailing list for TNRCC seminars, please complete the request form (Attachment 6) and return it to the address indicated.

In addition to the seminars and workshops coordinated by the Environmental Training Division, The Office of Pollution Prevention and Recycling also conducts workshops on pollution prevention and technical assistance for small businesses. Information on these events can be obtained by calling 1-800-447-2827. (See Attachment 7)

STATUS OF AGENCY ACTIONS

Another area where we have frequent requests concerns the status of a request for a new or amended permit. Admittedly, TNRCC does not at present have a good system for providing this information in a timely and accurate manner. We have, however, recognized this need and have assembled an internal working group to establish a process to make this information more readily available.

Agendas for the weekly commission meetings are available free of charge. These agendas include upcoming permits, enforcement actions, and other agency actions. A subscription package is available for $15 a month which includes the upcoming agendas, the marked agenda from previous meetings, and a monthly update of rules under development. The subscription form is included as Attachment 8.

OMBUDSMAN

If all else fails, the Ombudsman's office of the TNRCC is available to assist the public and regulated community in working with the agency. If you are unable to obtain needed information through regular channels or if you do not know where to start, please use the resources of the Ombudsman's Office at (512) 475-2222 (Attachment 9).

TEXAS NATURAL RESOURCE CONSERVATION COMMISSION

OBTAINING THE RULES

Texas Natural Resource Conservation Commission (TNRCC) rules are available from a number of sources in a range of prices. Choosing which service to use depends upon the format desired. Official and unofficial copies are available, as well as whole and partial sections of rules.

The following list outlines sources known to the Commission for obtaining the rules. Prices are subject to change and should be used as guidelines only. Please contact each company or agency directly for more detailed information when comparing products.

Official Versions:

(Approved by the Secretary of State)

❑ Available from:
Texas Register
P.O. Box 13824
Austin, TX 78711-3824
Phone: (512) 463-5561

Texas Register subscriptions:
Printed: yr. - $95; 6 mos. - $75; single issue - $5

Electronic: yr. - $90; 6 mos. - $70; single issue - $5

Published twice each week. Government documents contained in each issue include emergency, proposed, withdrawn and adopted sections of all state agency rules in chronological order. Quarterly and annual indexes are included in the subscription. This is the most up-to-date source and tracks rules in progress, but it would require research to pull together all of the rules for the TNRCC.

The Texas Register also sells Chapter 290 ($20), Chapter 330 ($45), Chapter 334 ($35) and Chapter 335 ($25). Updates can be obtained on disk, or in print, for $15 per chapter per year. Call for price information regarding air rules.

❑ Available from:
West Publishing Company
P.O. Box 64526
St. Paul, MN 55164-0526
Phone: (612) 687-7000 or 1-800-328-9352
Fax: (612) 687-7302

Official Texas Administrative Code, Title 30: Environmental Quality

Subscriptions: Softbound - yr. - $130

Published in cooperation with the *Texas Register*, it is the only official compilation of all the rules adopted by 15 natural resource agencies including the TNRCC. Semi-annual softbound supplements are issued. This eliminates the need for collation and substitution of pages required by a loose-leaf format.

Unofficial Versions:

(Alphabetical Order)

❑ Available from:
Agency Information Consultants (AIC)
P.O. Box 2181 (1708 Guadalupe)
Austin, TX 78768-2181
Phone: (512) 478-8991 or 1-800-945-9509
Fax: (512) 478-5215

Sells the TNRCC version of the permanent rules in several formats: by chapter ($15 minimum order), as a set ($220) and as a subscription service, which provides updates/changes to the rules on a set basis ($300) or on a

(continued)

Code or Rule?

Laws enacted by the Texas Legislature appear in the form of statues or codes such as the Texas Water Code. These are usually general statements of regulatory policy that the Legislature has decided should be observed by the public.

In these statues or codes, the Legislature often directs that state agencies develop the specifics or details of these regulatory policies. These specific requirements are adopted with public input by state agencies and are called rules. The Texas Administrative Code is a compilation of the current rules issued by all state agencies.

Both statutes and rules have the force of law. However, if there is a conflict in meaning, a statute or code always takes precedent over a rule.

Statutes such as the Texas Water Code and the Health and Safety Code are available from the West Publishing Company (see Official Versions for address and phone number).

Rules for the Texas Natural Resource Conservation Commission are available from the services listed in this publication.

chapter basis (priced separately) as issued. Both paper and diskette copies are available. A price list is available on request.

❑ Available from:
AP Environmental Data Co.
13740 Research Blvd., Suite A-3
Austin, TX 78750
Phone: (512) 250-2100
Fax: (512) 250-9200

AP Data can provide the TNRCC's permanent and emergency rules on diskette and through on-line modem access. Complete set of rules provided on diskette for $25. Free for AP Data on-line registrants. Monthly subscription also available. Formatted as either ASCII text or WordPerfect®.

❑ Available from:
Class-it Services
1104 Nueces, Suite 3
Austin, TX 78701
Phone: (512) 472-1940
Fax: (512) 472-5634

Class-it Services provides the rules and regulations issued by the TNRCC by chapter ($12.50 minimum order), and as a complete set ($195); air rules complete set ($105). A monthly subscription service supplies updates to the emergency and adopted rules (call for prices). Discounts are available to waste managers and environmental professionals. Regulations from other state and federal agencies also can be obtained.

❑ Available from:
Environmental Compliance Reporter, Inc.
3202 W. Anderson Lane, Suite 208-170
Austin, TX 78757-1022
Phone: (512) 447-0447
Fax: 1-800-776-6904

Environmental Compliance Reporter, Inc., sells individual copies of draft, proposed, emergency and adopted agency rules through its newsletter, *Texas Industry Environmental Advisor.* Annual Subscriptions to the newsletter, which provides comprehensive environmental coverage of the TNRCC, the Texas Department of Health and the Texas Railroad Commission, are $345 per year. Free samples are available.

❑ Available from:
Geosource Incorporated
2201 N. Lamar, Suite 200
Austin, TX 78705
Phone: (512) 474-6721 or 1-800-299-1845
Fax: (512) 474-5428

Geosource provides rules and regulations issued by the TNRCC by single or multiple chapter on diskette or hard copy. Prices start at ($15) per chapter, ($200) entire set - hard copy and ($40) entire set - diskette. Rules from various agencies such as the Texas Department of Agriculture also are available.

❑ Available from:
Independent Water & Sewer Companies of Texas, Inc. (IWSC)
6101 W. Courtyard Drive, Suite 221
Austin, TX 78730
Phone: (512) 346-8242
Fax: (512) 346-2817

Only laws and rules regarding water utility regulation are available from this source. Bound volume(s) cost $25 for IWSC members; $35 for non-members. Price includes copies of both Water Code, Chapter 13 and Texas Administrative Code, Chapter 291. (Not sold separately.)

❑ Available from:
RPC Publications
7600 Chevy Chase, Suite 500
Austin, TX 78753
Phone: (512) 371-8100 or 1-800-580-4567
Fax: (512) 371-8448

RPC produces newsletters from information gathered from various Texas agencies and is a regulatory agency rules monitoring service. Rules are updated as they are adopted and sent in loose-leaf form to subscribers. Natural resource-related newsletters include *Texas Natural Resources Reporter* (24 issues annually, $575) and *Water Resources Report* (24 issues annually, $295).

TNRCC final rules cost $445 per year. TNRCC flash rules (proposed rules and emergency adopted rules) also are available at $295 per year. Some chapters may be purchased separately for $75 each. Texas Water Development Board (TWDB) final rules and updates are $295 annually. TWDB flash rules are $175 per year.

Obtaining Electronic Forms

As of this printing, only one source for electronic versions of TNRCC forms is known by the Commission. Consultants, contractors and regulated entities should contact this company for more detailed information on the format and price of these products. The Commission hopes to add more sources in successive printings of this publication.

❑ Available from:
Forms On-A-Disk, Inc.
13140 Coit Road, Suite 518
Dallas, TX 75240
Phone: (214) 994-0580
Fax: (214) 644-3613

Forms On-A-Disk, Inc., copies original TNRCC forms using generic fonts in WordPerfect 5.1® and Microsoft Word® for Windows™ for familiar completion and printer compatibility. Both 3-½ and 5-¼ inch disk sizes are available. Forms disks are available for the divisions of Petroleum Storage Tank (PST) Reimbursement and Responsible Party, Industrial & Hazardous Waste, Wastewater Enforcement and Flood Management & Ground Water Programs as well as the Discharge Monitoring Report (DMR) for the U.S. Environmental Protection Agency. TNRCC form worksheets for source reduction and waste minimization plans also are available. [No Macintosh® available.]

Form disk prices range from $235 for PST Reimbursement to $89 for Wastewater Enforcement. The EPA's DMR on disk cost $69. Call for more detailed price information.

Referencing the Rules:

When ordering only portions of the rules, reference the following TNRCC Chapters or Texas Administrative Code (TAC) Sections:

30 TAC Section; TNRCC Chapter

101. General Rules
103. Rules of Procedure
105. Enforcement Rules
111. Control of Air Pollution from Visible Emissions and Particulate Matter
112. Control of Air Pollution from Sulphur Compounds
113. Control of Air Pollution from Toxic Materials
114. Control of Air Pollution from Motor Vehicles
115. Control of Air Pollution from Volatile Organic Compounds
116. Control of Air Pollution by Permits for New Construction or Modification
117. Control of Air Pollution from Nitrogen Compounds
118. Control of Air Pollution Episodes
119. Control of Air Pollution from Carbon Monoxide
120. Control of Air Pollution from Hazardous Waste or Solid Waste Management Facilities
121. Control of Air Pollution from Municipal Solid Waste Facilities
122. Federal Operating Permits
261. Introductory Provisions
263. General Rules
264. Alternative Dispute Resolution
265. Procedures Before Public Hearing
267. Procedures During Public Hearing
269. Procedures After Public Hearing Before an Examiner
271. Procedures After Public Hearing Before the Full Commission
273. Procedures After Final Decision
274. Expediting the Complex Hearings
275. Special Provisions
279. Water Quality Certification
281. Applications Processing
284. Private Sewage Facilities
285. On-Site Wastewater Treatment
286. On-Site Wastewater Treatment Research Council
288. Water Conservation Plans, Guidelines and Requirements
289. Weather Modification
290. Water Hygiene
291. Water Rates
292. River Authorties
293. Water Districts
294. Underground Water Management Areas
295. Water Rights, Procedural
297. Water Rights, Substantive
299. Dams and Reservoirs
301. Levee Improvement Districts, District Plans of Reclamation and Levees and Other Improvements
303. Operation of the Rio Grande
304. Watermaster Operations
305. Consolidated Permits
307. Supplemental Surface Water Quality Standards
308. Criteria and Standards for National Pollutant Discharge Elimination System
309. Effluent Limitations
310. Use of Reclaimed Water
311. Watershed Protection
312. Sludge Use, Disposal, and Transportation
313. Edwards Aquifer
314. Texas Pollutant Effluent Standards and Prohibitions
315. Pretreatment Regulations for Existing and New Sources of Pollution
317. Design Criteria for Sewerage Systems
319. General Regulations Incorporated into Permits
320. Regional Assessments of Water Quality
321. Control of Certain Activities by Rule
322. Community Wastewater Planning
323. Waste Disposal Approvals
325. Certificates of Competency
329. Drilled or Mined Shafts
330. Municipal Solid Waste
331. Underground Injection Control
334. Underground and Aboveground Storage Tanks
335. Industrial Solid Waste and Municipal Hazardous Waste
336. Radiation Rules
337. Enforcement
338. Water Well Drillers Rules
339. Pump Installers Rules
340. General Rules (Water Well Drillers)
341. Practice and Procedure
343. Oil and Hazardous Substances
344. Irrigators Advisory Council
351. Regionalization

(Because of the September 1, 1993, consolidation of the TWC and TACB, some rules remain subject to revision or modification.)

What is TNRCC OnLine?

January 1994 GI-54



TNRCC OnLine is a computerized on-line bulletin board system for accessing information about the Texas Natural Resource Conservation Commission (TNRCC) and the environmental services the agency provides.

What Items Can I Access Through **TNRCC OnLine?**

Our initial offerings include:

- ❑ Weekly Agendas;
- ❑ Calendar of Events;
- ❑ Job Postings;
- ❑ Small Business Technical Assistance;
- ❑ and other general interest topics.

We look forward to expanding TNRCC OnLine as our Air, Waste and Water programs complete the process of formatting their information.

How Do I Access **TNRCC OnLine?**

From your PC and modem, dial:

512/239-0700

TNRCC OnLine operates on any PC compatible computer. It supports up to 14,400 baud modems and follows the most common communication settings: NO parity, 8 databits, 1 stopbit, FULL duplex(N,8,1,F). Downloaded data is provided in ASCII or WordPerfect zipped and unzipped format. DATA menus and prompts are provided to guide you along step-by-step.

What Does **TNRCC OnLine** Cost?

If you have the necessary PC and modem, then setting up a user account, viewing items and retrieving items from TNRCC OnLine are FREE. (If you are calling long-distance, you will incur a long distance charge)

Who Can I Call About **TNRCC OnLine?**

If you have a problem with TNRCC OnLine, or wish to make a suggestion, contact:

Technical Support Help Desk
512/239-0911.

TEXAS NATURAL RESOURCE CONSERVATION COMMISSION

The TNRCC is an equal opportunity employer and does not discriminate on the basis of race, color, religion, sex, national origin, age or disability in employment or in the provision of services, programs or activities.

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ATTACHMENT 3

TEXAS NATURAL RESOURCE CONSERVATION COMMISSION

INFORMATION RESOURCES DIVISION

- Production Reports & Requests/Coordination Services Unit
- The types of data and/or information that are available
- What are the fees and charges?
- How to place an order
- Another source for TNRCC files and records

o **THE TNRCC IR/Production Reports & Requests/Coordination Services Unit**

The Production Reports and Requests/Coordination Services unit (Information Resources Division) serves as the "Data Center" clearinghouse for various types of reports and data that are provided from existing TNRCC automated production system databases. The data is supplied to governmental agencies, schools and universities as well as a number of private individuals and businesses. The primary objective of the Production Reports & Requests/Coordination Services is to make data and information accessible from the Texas Natural Resource Conservation Commission's automated files.

As a focal point for dispensing data and information from the agency's automated digital files, the Production Reports & Requests/Coordination Services Unit plays a vital role in linking the customer with data. Matching the needs of the customer with the appropriate automated system (or data set) and providing the requested data in the prescribed format are processes by which our primary objective is achieved.

o **Types of Data**

Information from the following databases are provided on a regular basis:

Texas Solid Waste System Activity File - contains waste manifest information on generators / shippers of hazardous and solid waste

Petroleum Storage Tank Registration File - contains information on registered aboveground and underground storage tanks

Leaking Petroleum Storage Tank Database - contains information of reported leaking petroleum storage tanks in Texas

Industrial Solid Waste Registration Master File - contains information on names, addresses and etc. of permitted hazardous and solid waste facilities

Types of data (continue)

Air Permit Renewals - A listing of air permit renewal notices that are mailed during a specified month for renewal six months later

Notices of Violations - A listing of Air permit violations that occurred during a specified time period

Air Permit Applications - A listing of air permit applications as received by TNRCC during a specified month or time period

State Summary File - A file on diskette that lists all the EPA criteria pollutants, allowable and actual, in a yearly running total format (text,ascii,dbf,paradox)

Emissions Inventory Questionnaire - A comprehensive summary listing for a specified account of emission information, facilities, abatement devices, and so forth

Modeling Extract with Fugitive Emissions - a listing and diskette (EPA's ISC2 format) of all sources within a designated radius of a selected point

Emissions Summary Report (EMISUM) - A listing which provides a means by which emissions from an account may be viewed without obtaining a complete Emissions Inventory Listing

Compliance History Reports - A listing of enforcement activities at an account during a selected date range for certain parameters

Water Quality Permits - Database containing permit information on water and wastewater permits

State Water Districts - Selected information concerning water districts in Texas

Water Utilities - Database containing information on water and sewer utilities

Public Drinking Water Systems Inventory - Listing of surface, ground and public water supply systems

Certified Wastewater Operators - Database containing reports of wastewater facilities, operators and their facilities, operation companies, and approved certified operator training courses

o **FEES and CHARGES**

Our fees are based on the *TNRCC Computer Center's Rate Schedule of Charges* which includes: Central Processing Unit (CPU) rate of $232/hour, print charges of .0125 cents/page, and $18.50/hour for staff time. A $15.00 minimum charge applies in all cases where a bill is issued. We bill at cost for microfiche, diskettes and any additional outlays including a postage and handling fee and appropriate state and local sales tax.

o **HOW TO PLACE AN ORDER**

A few simple steps will assist us in improving OUR customer services to YOU. Any request for data should be submitted in writing to:

TNRCC/ Information Resources Division
Production Reports & Requests/Coordination Services
P.O. Box 13087
Austin, Tx 78711-3087

For additional questions or information, Please call or "FAX":

Voice - (512) 239-0986 or 239-0753

Fax - (512) 239-0888

Office Hours: 8:00 a.m. - 5:00 p.m Monday-Friday

o **ANOTHER SOURCE FOR TNRCC FILES AND RECORDS**

In addition to the customer services offered by the Production Reports & Request/Coordination Services Unit, the Information Resources Division has a Central Records Management Unit that maintains files, microfiche and hard copy computer reports for public access. These files and reports can be checked out for review or copies may be obtained at a nominal fee. For additional information, please see the attachment concerning the four(4) Central Records Management locations.

ATTACHMENT 4

Texas Natural Resource Conservation Commission
Record Services Locations

Stephen F. Austin Building
1700 N. Congress, Room B12
512/463-8562
FAX # 512/463-3025

Agriculture - Unpermitted
Chain of Custody
Complaint Files (except Spill Response & Water Utilities)
Dredging
Groundwater Technical Data (Located Well data is available at the Texas Water Development Board - 611 S. Congress, Room 101)
Industrial/Municipal Waste Discharge
NPDES Permits
SARA Form R's
Stream Monitoring
Water Rights files including: Adjudications, Applications, Certified Filings, Claims, Temporary Applications, Water Supply Contracts

Park 35, Building D, Room 190
12118 N. IH 35
512/239-2920 & 239-2921
FAX# 512/239-2930

Superfund - State & Federal
Hazardous Waste
Industrial Solid Waste
Petroleum Storage Tanks

Park 35, Building F, Room 1151
12015 Park 35 Circle
512/239-6204
FAX# 512/239-6211

Certificates of Convenience & Necessity (includes water utility rate cases)
Districts
Municipal Solid Waste
Public Water Supply
Radioactive Waste
Waste Disposal Wells

Park 35, Building C, Room 108
12124 Park 35 Circle
512/239-1540
FAX# 512/239-1212

Clean Air Permits/ Compliance Files

Operating Hours of for all four locations are Monday-Friday 8 am - 5 pm Our Mailing Address is:

Texas Natural Resource Conservation Commission
P. O. Box 13087
Austin, TX 78711-3087

Rev. 11/16/92

ATTACHMENT 5



TNRCC

RESOURCE CENTER

Our services are just a phone call away!

Phone Numbers

Resource Center Manager, Sylvia von Fange	(512) 239-0024
Library-Reference, Penelope Williams	(512) 239-0020
Library-Circulation/Periodicals, Kerry Williams	(512) 239-0025
Publications Distribution, James McKinney	(512) 239-0028
Clean Texas 2000 Information Center	1-800-64-TEXAS
or...in Austin, Greg Bryant, Cathy Speer	(512) 239-6945

Mailing Address: P.O. Box 13087, Austin, TX 78711-3087
In Person: 12120 Park 35 Circle, Building A, Room 102

Welcome to the Texas Natural Resource Conservation Commission (TNRCC) RESOURCE CENTER, a component of the Public Information & Education Division. We hope that you will become a frequest user of our services. The Center serves the information needs of the TNRCC staff, other state agencies, consulting firms, businesses, universities, teachers, students, and interested citizens. Each of our three units is open to the public from 8:00 a.m. to 5:00 p.m. Monday through Friday. If you need expertise to answer questions on the TNRCC's more technical programs, the Resource Center staff can refer you to appropriate TNRCC personnel or to another agency.

★CLEAN TEXAS 2000 INFORMATION CENTER★

MISSION:

* To provide the public with free, general non-technical environmental information.

* To refer the public to the proper source in the agency for other information.

* To help Texans discover ways to reduce waste, start recycling and composting, choose environmentally-friendly products, and improve water and air quality.

CALL OUR TOLL-FREE NUMBER, 1-800-64-TEXAS, TO GET:

- free publications: brochures, flyers, how-to-manuals, and magazine article reprints
- a "Media Catalog" which lists videos appropriate for viewing by audience levels ranging from kindergarten to professional, which are available for free rental by schools and civic groups
- locations to take used oil for recycling
- businesses in your area that will accept your aluminum, newspapers, corrugated cardboard, paper, plastic, steel cans and other metals, textiles and glass for recycling

★LIBRARY★

MISSION:

* To provide scientific, technical, and legislative information services in support of the TNRCC's programs.

The library meets this mission by:

- Acquisition of books, reports, magazines, and data with subject concentrations in

•water	•geology	•hazardous waste
•recycling	•air quality	•petroleum storage tanks
•ecology	•pollution	

- Resources including directories, encyclopedias, statutes, selected federal government documents (primarily from U.S. Environmental Protection Agency, Corps of Engineers, Bureau of Reclamation), telephone directories for most Texas cities, access to TEXCAT (State Library) and UTCAT (University of Texas Library) databases;
- Reference services for both quickly answered, routine questions, and in-depth research questions;
- Inter-library loan services (borrowing materials from other libraries) for TNRCC staff, and loaning our materials to other libraries;
- Assistance in obtaining ordering information for books and journals
- Photocopy services; and
- Circulation services to State agency personnel
  - Books circulate for 1 month if not requested by another staff member
  - Journals circulate for two days to TNRCC staff only
  - Law books circulate for two days to TNRCC staff only

The library has over 60,000 volumes, over 250 journal subscriptions, and access to CD-ROM databases for the Federal Register and the Code of Federal Regulations, Title 40.

Materials added after September, 1993 are accessible through the Texas State Library on-line public access catalog (TEXCAT). On-line: 512/475-4444, Modem settings: N81,VT-100, up to 14,4000 baud. Internet: **gabi.tsl.texas.gov** or **192.80.50.1**. Login as **tnr**; press **return** twice to reach the on-line public access catalog. Materials owned by the TNRCC Library will be highlighted. Older materials can be found in the Library's microfiche catalog.

★PUBLICATIONS★

MISSION:

* To provide access to all material published by TNRCC programs by being the major distribution point for the Agency.

This Unit stocks and distributes TNRCC publications, as well as those previously published by the Texas Water Commission and the Texas Air Control Board. The Publications Unit also works with TNRCC's program offices to help provide materials in bulk for conferences and presentations. Requests may be made in person, in writing, or by phone. A "Publications Catalog" which lists all publications and gives price information is available on request, and a display area of available publications is maintained for walk-in visitors.

ATTACHMENT 6

NAMES FOR MAILING LIST

Company Name

First Name Last Name

Address 1

Address 2

City State

Zip Code Phone

Areas of Interest:

- ❑ Exhibiting

- ❑ All
- ❑ Municipal Solid Waste Management
- ❑ Industrial and Hazardous Waste Management
- ❑ Petroleum Storage Tanks
- Water/Wastewater Management
  - ❑ Industrial
  - ❑ Municipal
- ❑ Agriculture
- ❑ Air Quality Management

Notes:

Please return to:

Government & Business Assistance Section
Environmental Training Division
TNRCC
P. O. Box 13087
Austin, Texas 78711-3087

ATTACHMENT 7

Purpose

Small businesses usually do not have the time or financial resources to stay on top of all environmental regulations that may affect them. In the Federal Clean Air Act Amendments of 1990, Congress required every state to have a program that helps small businesses

Free Services to Small Businesses

- Explain environmental rules that may apply to the type of work you do
- Help you satisfy current requirements and plan ahead for the future
- Ensure that your interests as a small business are considered when new rules are developed
- Provide specialized help to individuals and affected industries
- Help you find ways to save money and operate more efficiently
- Advise on new technologies and pollution prevention

Help Without Harm

When you contact the Small Business Technical Assistance Program, the information you provide about your business is confidential and not shared with regulatory programs. If you are in violation of a law you are always subject to detection, but you will not be found through your contact with this office.

Peace of Mind for Small Business

Improved environmental standards protect all Texans. Through the Small Business Technical Assistance Program, you can be sure that as a small business you are meeting your commitment to pollution prevention.

What We Can Do For You

Assistance
Guide you individually through the process for getting TNRCC permits or claiming exemptions

Information
Help you stay informed of technical rules and issues that affect your industry

Training
Hold workshops to help you understand rules, forms and requirements

Technology
Share information on equipment and methods that may help you meet requirements, save money and reduce or prevent pollution

Many small businesses are subject to air quality requirements:

- Air conditioing and refrigeration contractors
- Asphalt contractors
- Autobody paint shops
- Autobody repair shops
- Bakeries
- Dry cleaners and laundries
- Furniture makers and refinishers
- Gas stations & any business with a gas pump
- Laboratories
- Makers of fiberglass, plastic and cultured marble
- Metal finishers and fabricators
- Painters (architectural coatings)
- Printers & publishers

and many more

SMALL BUSINESS TECHNICAL ASSISTANCE
TEXAS NATURAL RESOURCE
CONSERVATION COMMISSION
P.O. BOX 13087
AUSTIN, TEXAS 78711-3087
Phone: 512/239-1064 Fax: 512/239-1055
Houston Office:713/666-4964, ext. 653
Hotline 1-800-447-2827

CLEAN TEXAS 2000

Printed on recycled paper 1/94

HOW SMALL BUSINESS CAN GET ASSISTANCE WITH AIR QUALITY & ENVIRONMENTAL REQUIREMENTS

TNRCC
SMALL BUSINESS TECHNICAL ASSISTANCE

TNRCC Agenda Subscription Form

The TNRCC agenda for each weekly Commission meeting is available free of charge upon request. Please use the subscription form below to have your name placed on the mailing list.

A supplemental subscription package is available for $15 per month. This package includes the upcoming weekly agenda, the marked agenda from the previous meeting, plus a monthly update on TNRCC rules under development. The marked agenda provides a notation indicating the action taken by the Commissioners on each item that came before them during an agenda meeting.

Name _____

Organization _____

Address _____

City _____ State _____ Zip Code _____

Please check the subscription desired.

❒ Weekly Agenda (No Charge) ❒ Supplemental Subscription ($15 monthly/$180 year).

Enclosed is a check or money order in the amount of $ _____ .

Please make checks payable to the Texas Natural Resource Conservation Commission or TNRCC.

A supplemental subscription cannot be started until payment is received by TNRCC.

MAIL TO: TNRCC Agenda Subscription
P.O. Box 13088
Austin, Texas 78711

Please reproduce this form if additional copies are needed.

The Texas Environment

Texas Natural Resource Conservation Commission
Agency Communications
P.O. Box 13087
Austin, Texas 78711-3087

TNRCC

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Texas Natural Resource Conservation Commission

Office of the Ombudsman

The Texas Natural Resource Conservation Commission's (TNRCC) Office of the Ombudsman provides a clear point of contact for citizens who need information about the agency or for those frustrated by the agency's rules and regulations, policies and procedures.

Direct citizen input compels the Ombudsman to look at agency systems and processes to determine if citizens are treated fairly, rules are applied equally, issues are resolved in a timely manner, staff is responsive and accessible, and if clear and accurate information is provided. The Office of the Ombudsman has established a forum for addressing and resolving citizen complaints and concerns, thereby providing an essential element in improving the quality of Texas government.

The Office of the Ombudsman is designed to help citizens by:

- Promptly investigating complaints against the Texas Natural Resource Conservation Commission or TNRCC employees;
- Recommending specific corrective action to the TNRCC whenever an investigation reveals that a mistaken, unfair, or arbitrary action has occurred;
- Developing general recommendations that promote a continuing improvement in the policies and procedures of the TNRCC;
- Responding to requests for general information.

The Texas Natural Resource Conservation Commission's Office of the Ombudsman was established in 1991 as Chairman John Hall assumed leadership of the former Texas Water Commission. The newly formed TNRCC is dedicated to protecting human health and the environment, creating a pollution free future, building working partnerships with communities and businesses, and making the agency more responsive and accessible to the public. The Ombudsman ensures citizen involvement in fulfilling these commitments.

To contact the TNRCC Ombudsman, call (512) 475-2222, or write to:

Mary Gordon Spence
Texas Natural Resource Conservation Commission
Office of the Ombudsman
P.O. Box 13087
Austin, Texas 78711-3087

The Texas Natural Resource Conservation Commission is an equal opportunity employer and does not discriminate on the basis of race, color, religion, sex, national origin, age, disability in employment or in the provision of services, programs, or activities. In compliance with the Americans with Disabilities Act, this document may be requested in alternate formats by contacting Public Information and Education at (512) 239-0030, Telefax (512) 239-0055, or TDD 1-800-RELAY, or by writing or visiting 12100 Park 35 Circle, Bldg. A, Austin, Texas 78753.

TNRCC ORGANIZATION

March 15, 1994

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463-7875

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Gloria Vasquez
463-7898

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Region 4-Arlington
Region 5-Tyler
Region 6-El Paso
Region 7-Odessa
Region 8-San Angelo
Region 9-Waco
Region 10-Beaumont
Region 11-Austin
Region 12-Houston
Region 13-San Antonio
Region 14-Corpus Christi
Region 15-Harlingen
TNRCC Lab-Houston

OFFICE OF ADMINISTRATIVE SERVICES
Nancy Vaughan, Deputy Executive Director
239-0590

QUALITY MANAGEMENT
Marc Dominus
239-0555

INFORMATION RESOURCES
Terry Parmley
239-0823

HUMAN RESOURCES
Linda Moore Smith
239-0102

CHIEF FINANCIAL OFFICER
Bill Briggs
239-0007

BUDGET & PLANNING
Bennie Engelke
239-0202

FINANCIAL ADMINISTRATION
Melanie Callahan
239-0250

ADMINISTRATIVE AUDITS & FINANCIAL ASSURANCE
Dianna Gordon
239-6240

EQUAL OPPORTUNITY DEVELOPMENT
Yvonne Davis
239-0486

SUPPORT SERVICES
Ed House
239-0070

PUBLIC INFORMATION & EDUCATION
M.A. Bengtson
239-0014

GENERAL ASSISTANCE OPERATORS
512/239-1000

Project Development Hypothetical

"Being nimble"

John Vay

Mike James

Lial Tischler

To: Lyle Tischler, E-Consultant, Inc.
John Vay, Vay & Associates, L.L.P.

From: Mike James, Simple Simon Petrochemicals, Inc.

Date: July 25, 1994

Subject: Siting for New Manufacturing Facility in Texas

Our company's top management has decided to cancel proposed expansion of manufacturing capacity at our Pennsylvania plant for our proprietary, state-of-the-art solvent substitute, Simonsez®. Instead, we are to move at "flank speed" to identify an appropriate site in Texas to build a new manufacturing facility, designed to be "expansion-friendly" to accommodate expected explosive demand for this product. Ozone attainment and hazardous air pollutant requirements under the 1990 Clean Air Act may squeeze out current solvents make this environmentally benign product "Number One". I cannot stress to you too much how important it is that we make the right recommendations so that this facility can be up and operating according to our management's timetable. I am proposing an initial meeting for Friday morning, August 5, at which time I will need your preliminary advice.

What follows is the general outline of the facility and our preferred optional locations for siting it. All of these locations are proximate to our existing pipeline corridor, which will facilitate movements of feedstocks and finished product.

While the plant produces a uniquely good-actor type of product, the by-products and wastes associated with production are not so benign. Principal regulated air emissions generated by the process and related facilities will be benzene, toluene, xylene and a variety of less-hazardous Volatile Organic Compounds. Process-contact and non-contact wastewaters will be generated and, of course, stormwater runoff must be managed.

Among non-wastewater streams generated will be non-hazardous and hazardous wastes, including Quadraicky Turnoff ("QIT"). The latter is very toxic and volatile, and will be produced in such large quantities that we are seriously considering putting in an onsite hazardous waste incinerator to avoid transportation and disposal costs. Such a unit would have dedicated storage tanks. While the incinerator initially would handle only this plant's liquid waste streams, we would build it with capacity to handle similar streams from some of our other Texas plants, and potentially to accept some wastes from other companies' plants.

Here are the locations and what I know about them:

St. Ives, in Harris County. Part of this proposed site floods in heavy rains and we realize that may present some tough issues. This is a heavily industrialized area but a neighborhood is located approximately one-half mile to the northwest. I am told that this neighborhood's residents are African-Americans and low-income. I understand also that, in recent years, a group has formed in the neighborhood which has voiced many complaints to the media and elected officials about their part of the county being industry's "dumping ground", while industry employs very few of the neighborhood's residents. Our top management feels we have a good record in equal employment opportunity and community outreach, and is highly sensitive to the possibility that the company might be accused of participating in "environmental injustice".

Harris County, of course, is an ozone non-attainment area. We will need to investigate the availability of "banked" VOC emission reductions, both inside and outside the company.

Victoria County. This area is rural with low population density. The proposed site is near a bay that is a "nursery" for many marine organisms, and about one mile away from a wildlife preserve.

As you know, ozone attainment status for the Victoria area has been somewhat uncertain, although recent indications are that EPA may determine that it is in attainment.

Cameron County. This site is the most distant from current markets, but its proximity to Mexico could be beneficial if NAFTA-inspired initiatives bring greater controls on air emissions for manufacturing plants in Monterey and along the border. An industrial ship channel in this area would facilitate transportation. A potential negative for this site is the presence of a colonia, only about one-quarter mile away. Again, "environmental injustice" is a quagmire we want to avoid.

Okay, let's go!

MAJ:chm

	Saint Ives	Victoria County	Cameron County
Surface Waters	Discharge is Houston Ship Channel Drains into most productive estuary in Texas (Galveston) HSC is water quality limited Highest level of treatment required, better than BPT/BAT Many existing dischargers may severely limit future growth if water quality does not improve	Discharge to Victoria Barge Canal Drains into highly productive San Antonio Bay Effluent limited segment BPT/BAT treatment is sufficient Only 3 existing industrial dischargers and water quality is good	Discharge to Brownsville Barge Canal Connected to a body of water being considered as ONRW Effluent limited segment BPT/BAT treatment is sufficient if not ONRW If designated ONRW, discharge may be infeasible; very restrictive anti-degradation review required
Relative ranking	2	1	3
Biological Resources	Grassland and brush No significant habitat for large animals Possible habitat for Houston Toad (endangered) Adjacent areas are not valuable habitat (industrial)	35% wooded; 50% grass; 15% wetland Excellent wildlife habitat for deer, small mammals, migratory birds Eagle nest on site in woods, whooping cranes may feed in wetlands Wildlife preserve 1 mile to south	Brush and grass cover Small mammal habitat, food supplies for migratory birds No known threatened or endangered species Adjacent lands are similar habitat to site
Relative rank	2	3	1
Socioeconomic Resources	Industrial area, some residences Nearest residential neighborhood is 1/2 mile north Community is majority black Incorporated township Population within 1 mile radius is 11,500 Median family income $15,000 Police and fire services	Farming and ranching area Nearest residence is 3 miles from site Victoria, 18 miles away, is nearest Residents in immediate area are 70% white, 8% black, 22% hispanic Unincorporated, rural Population within 1 mile radius is 100 Median family income $45,000 County sheriff, no fire protection	Industrial area, some residences Nearest residential neighborhood is 1/4 mile north (colonia) Residents are majority hispanic Unincorporated area Population within 1 mile radius 3,500 Median family income $11,000 County sheriff, volunteer fire service
Relative ranking	2	1	3

Simple Simon Petrochemicals
New Solvent Substitutes Plant
Environmental Evaluation of Alternative Sites

	Saint Ives	Victoria County	Cameron County
Air Quality			
	Severe ozone non-attainment area SS has offsets available Requires LAERs for all VOC sources PSD increments for NOx, SO2 are 70% used Will require additional controls compared to other sites	Ozone nonattainment, may be reclassified SS does not have offsets Requires LAERs for all VOC sources PSD increments relatively unused	Ozone attainment area Only BACT required PSD increments unused
Relative ranking	3	2	1
Topography/Geology	Flat, little topographic relief Clayey soils, high shrink-swell 30% of the site is inundated with rainfall >2 inches	75% of site is flat, bluff along barge canal Clayey soil, high shrink-swell Lower 25% of site is subject to flooding by hurricane surge	Flat, bluff along barge canal Sandy loam, sand Area of dock is subject to flooding by hurricane surge
Water Supply	Water can be purchased from industrial water district Supply is ample during dry periods Shallow ground water unusable Deep groundwater cannot be pumped due to subsidence	Water can be purchased from GBRA Supply may be subject to some curtailment during droughts Shallow ground water used for livestock, too limited for industrial use Deep ground water is saline	Water can be purchased from County water district Supply may be subject to some curtailment during droughts No shallow ground water Deep ground water is saline
Relative ranking	1	2	3

July 16, 1994

Biographical Sketch
Lial F. Tischler

Lial Tischler received a B.S. degree in civil engineering from Texas Western College and M.S. and Ph.D. degrees in environmental health engineering from the University of Texas at Austin. After graduation, he served two years in the Sanitary Engineering Division of the U.S. Army. He joined the Texas Water Development Board, the state water resources planning agency, in 1970 as a systems engineer. In 1971, he became director of the Board's Systems Engineering Division. In 1973, Dr. Tischler joined Engineering-Science, Inc. (ES) as manager of the Austin Office; in 1977 he was appointed vice president. From 1980 until 1986, he was manager of the Southwest Region for ES. Dr. Tischler and Dianna Kocurek founded Tischler/Kocurek, an environmental engineering consulting firm, in 1986.

Dr. Tischler has over 23 years of experience in industrial wastewater treatment, solid and hazardous waste management, surface and ground water hydrology, and water quality analysis. He has extensive experience in developing and using surface and ground water quality models to evaluate the effects of wastewater discharges and water resources projects. Since the mid-1970's Dr. Tischler has assisted industrial clients and trade associations in regulatory matters related to wastewater, water quality, and solid and hazardous waste management. This work has included preparing technical comments on federal and state regulations as well as assisting individual clients with permits. Dr. Tischler has prepared technical comments and/or presented oral comments for water quality standards rulemakings in seven states. Tischler/Kocurek currently serve as technical consultants to the American Petroleum Institute, Chemical Manufacturers Association, and Pharmaceutical Manufacturers Associations on wastewater, water quality, and hazardous waste issues.

Manufacturing Plant Site Selection
Environmental Considerations

Lial Tischler
Tischler/Kocurek
Round Rock, Texas

Introduction

Selection of a green field site for a new manufacturing facility involves a number of considerations. These typically include:

(1) availability of a sufficiently large tract of land suitable for construction, including a buffer zone, at an acceptable cost;
(2) access to transportation facilities for raw materials and products;
(3) availability of construction and operating labor;
(4) availability of markets for products;
(5) availability of raw materials; and
(6) the environmental characteristics of the site.

Another consideration is the quality of life in communities where plant employees would live.

Note that environmental characteristics of a site are only one of multiple characteristics that planners consider when selecting a site for a new plant. This should be emphasized because often a site may seem to be a poor choice from an environmental standpoint, but has other attractive attributes that make it the best choice for a new plant. A typical example is a pulp mill — because of the cost of transporting pulp wood long distances, such mills are usually located near the source of the wood. For petroleum refineries and chemical plants, which can receive raw materials by pipeline, ship, railroad, or truck, location near the source of the raw materials is less important than location near the necessary transportation facilities. Notwithstanding these other considerations, because compliance with multiple environmental regulations is a major effort at every manufacturing plant, planners now recognize that selection of a site that has characteristics that will make compliance with regulations more difficult will have a long-term negative impact on the profitability of the plant.

Another major consideration in site selection occurs if the manufacturing plant is subject to new source performance standards for industrial dischargers adopted pursuant to Section 307 of the Clean Water Act. Such new sources must obtain a new source NPDES discharge permit, which

constitutes a significant federal action under the National Environmental Policy Act (NEPA) if the permit is issued by a U.S. Environmental Protection Agency (EPA) regional office, which is the situation in Texas and Louisiana. (Note: if the NPDES permit is issued by a state that has been delegated to issue such permits, then such issuance is not a significant federal action and NEPA does not apply.) If a new source NPDES permit must be issued by EPA, then the entire manufacturing plant including its associated facilities (pipelines, barge docks, etc.) are subject to a NEPA environmental review. If EPA finds that significant environmental impacts may occur as a result of the proposed plant, then EPA must prepare an environmental impact study which must be made available for public review and comment. The NPDES permit is a construction permit in this case, and no construction can be initiated at the site until the environmental review process under NEPA, including the opportunity for public review and comment, is completed and the permit is issued. The regulations governing new source review under the Clean Water Act are found at 40 CFR 122.29.

Permits issued by the U.S. Army Corps of Engineers may also trigger a NEPA review. Permits for dredging and filling required for dock construction for a new plant are considered a significant federal action and will result in a NEPA review. Any construction in wetlands, pipeline and road crossings of natural streams, and similar activities may require Corps of Engineers permits and are subject to review. Unlike EPA, however, the Corps of Engineers typically limits their environmental reviews to the specific activity(s) that necessitates the permit and does not necessarily review the entire project.

This paper focuses on prepurchase site evaluation and rating on an environmental basis. The evaluations and approaches described are based on the experience of the writer, who has directed 6 such studies for major chemical manufacturing facilities since 1975.

The environmental site selection process can be broken down into several steps:

(1) project description;
(2) collection of environmental data;
(3) evaluation of site environmental characteristics; and
(4) site rating to compare to alternate sites.

This paper describes each of these steps and the major considerations in each.

Project Description

At the time of site selection and purchasing, the details of the proposed manufacturing project are usually not well-defined. The location and boundaries of the property being considered for

purchase and site development are the essential elements for prepurchase environmental evaluation. The project planners should also provide the environmental review team with the following information, if available, which is considered preliminary and subject to change:

- plant plot plan including required transportation facilities (roads, railroads, barge docks, pipelines);
- estimated plant process air emissions sources and pollutants (there is usually not a good estimate of emission quantities at the prepurchase stage);
- estimated water use and wastewater discharges, including significant pollutants expected in the wastewater;
- estimated solid waste disposal needs; and
- estimated employment during construction and operation.

The project description information outlined above allows the reviewers to more completely compare different sites being considered for development. This information can also help determine if a site has an environmental characteristic that could make development essentially impractical. In the absence of such information, the comparisons between sites are more generic.

The site location information provides the basis for collecting the data to define the baseline conditions at each site being considered for development. The preliminary project description information can be used to collect more specific data on each site that provide for a more complete characterization and suitability evaluation.

Collection of environmental data

The environmental data on each site being considered must be collected from local, state, and federal agencies. Universities and environmental groups are also potential sources of information. Sometimes, data collection must be discreet because the purchaser does not want to identify itself to landowners. In such cases,a site visit to the tract of land being purchased is not possible. Fortunately, there are ample information resources available through public agencies and sufficient information can be gathered to develop a credible environmental characterization of virtually any site in the U.S. The key types of data that should be collected for prepurchase site evaluation are briefly described below.

Physiography

Information on the site soils, topography, and geology is required not only for environmental evaluation purposes, but also to determine the acceptability of a site for construction of heavy equipment. Data needs that should be fulfilled for the prepurchase site review are as follows:

- topography of the site, including delineating areas subject to flooding and identifying the flooding frequency, determining if subsidence is occurring;
- soil classifications; and
- subsurface geology including presence of active/inactive faults, depth to aquifer(s), ground water quality, location of water wells on the property and adjacent lands, location of petroleum and natural gas wells.

Climate, air quality and emission sources

Air quality and applicable air quality regulations are major factors in selecting a viable site for a new manufacturing plant. Sites located in nonattainment areas for one or more air pollutants may simply not be practical for construction of a greenfield plant that has major air emissions, even when emissions controlled to the maximum extent technically feasible. In order to assess the suitability of a site from the air quality perspective, the following data are needed:

- most recent air emissions inventory for the site and surrounding area;
- location of all major pollutant sources within a specified radius of the proposed site and identification of the pollutants and quantities emitted;
- existing air quality monitoring data;
- attainment status of the area;
- climatological data from the National Weather Service; and
- all Prevention of Significant Deterioration (PSD) permits granted or proposed in a specified radius of the plant site.

Water supply sources

Most manufacturing plants require significant quantities of water, for both cooling and process uses. Water supply availability including sources and prices is a significant consideration in site selection. The available ground water resources at a site are important both as a potential source of water supply and to determine the risk manufacturing operations pose to ground water contamination.

Receiving waters

The following data should be collected for all adjacent waters to the site that could become receiving waters for site discharges:

- existing water quality records;
- location of and loadings from existing municipal and industrial wastewater discharges;

- low flows and harmonic mean flows for streams and rivers; tidal amplitude and frequency for marine waters; surface areas for lakes;
- water quality standards and use designations for all segments; and
- any special use designations (for example, Outstanding National Resource Waters).

Biological resources

The terrestrial and aquatic resources of the site and adjacent areas must be defined for the prepurchase evaluation. Key information needs are as follows:

- vegetation assemblages on the property and adjacent lands;
- wildlife and habitat value;
- current land use(s);
- aquatic life and fisheries on the site and in adjacent waters;
- location of any sensitive terrestrial and aquatic habitat on the property or adjacent areas; and
- potential presence of protected species.

Socioeconomic factors

The human population and its infrastructure at the site location are important factors in evaluating the viability of a specific site for development. Key information that is needed to assess the potential effects of a project on the human environment include the following:

- population trends;
- current land use patterns and projections of land use;
- community facilities and services (schools, transportation, energy, water supply and sewage treatment, hospitals, fire protection);
- employment, wages, and income;
- housing; and
- archeological and historical sites.

Regulations governing site development

Texas Natural Resource Conservation Commission (TNRCC) rules, as well as local regulations, place some limitations on site development. For example, the TNRCC solid waste management regulations have specific siting criteria for new facilities that will manage and dispose of solid and hazardous waste (30 TAC 335, Subchapter G). Similarly, EPA and TNRCC air quality control

regulations indirectly regulate site selection (PSD increments, location in air quality nonattainment areas). All federal, state, and local environmental regulations that apply to development of a specific site must be identified and considered as a component of the environmental evaluation of the site.

Regulatory agency recommendations

Some companies looking for sites will discuss potential areas of plant location (not necessarily specific sites) with local and state regulatory agencies and EPA to identify attitudes toward project development. This is an effective approach for obtaining insight into how these agencies will respond to permit applications for a new plant. It also allows identification of problems, perceived or real, with development in a specific area.

Local attitudes

Contacts with local decision-makers and citizens groups to gauge attitudes towards development of a site may be of considerable value. Such contacts typically must involve a fairly specific identification of the exact location of the proposed plant, so some companies may not be prepared to make such contacts. However, typically there will be relatively few large tracts of land in an area that are suitable for development of a major manufacturing plant and identifying these as possible sites may not have much effect on the availability and cost of a site.

Evaluation of site environmental characteristics

The data and information on the planned manufacturing facility and the environmental attributes of each potential location are used to evaluate the suitability of each site. Each environmental component at each site — climate and air quality, water supply, surface waters, soils, geology, ground water, biological resources, socioeconomic factors — must be evaluated for its suitability for project development. No site will be optimal for every environmental factor, there are always constraints at each site.

At the prepurchase stage of project development there will be limited quantitative data to use in the evaluation of a site's environmental characteristics and suitability. Therefore, these evaluations are typically qualitative and relate primarily to the existing environment on and adjacent to the site with respect to compliance with regulations and standards and the sensitivity of ecosystems and human populations to disturbance. For example, it will rarely be possible to model the impact of the source on existing air quality because the sources will not be quantitatively well-defined at this stage of project development. However, it is possible to determine the attainment status of the site environs with respect to ambient air quality standards and to determine if allowable PSD

increments have been used up or are largely available. The major pollutants that will be emitted by the new facility can be compared with the air quality and existing emission sources of those pollutants to estimate the potential impact of the project on air quality and judge the difficulty in obtaining permits. The same type of qualitative analysis can be applied to wastewater discharges and surface water quality.

Availability of water supplies at a site, including on-site ground water, can also be assessed with the available data that is compiled for the prepurchase site evaluation. Similarly, the geologic data should be used to assess the vulnerability of ground water on the site, and any regionally-extensive ground water, to contamination due to the planned site activities.

Identifying sensitive ecosystems that could be impacted by plant operations is critical. For example, a site with extensive wetlands that would have to be disturbed for project development would be downrated as a potential plant site. The suitability of a site increases as the distance to sensitive ecosystems increases. The distance from a site where potential impacts of a proposed manufacturing plant on a sensitive ecosystem diminish to insignificance depends upon the potential pathways of such impacts. For example, a wetland immediately adjacent to a plant site might not present any constraint to site development if there is no site wastewater draining to the wetland and if air emissions have no potential for significant impacts on it. Conversely, a wetland at some distance from a plant could be potentially impacted if the plant's wastewater discharge ultimately reached the wetland and it contained sufficient amounts of pollutants to alter the ecosystem.

The environmental attributes of each site with respect to project development are evaluated and characterized qualitatively. Some evaluations use a numerical scoring approach to identify the relative suitability of a site for project development in each environmental area (air quality, water quality, biological resources, etc.). The scoring of a particular environmental factor should be performed by an experienced professional(s) in the appropriate environmental field (e.g., wildlife and aquatic biologists evaluate the biological resources suitability of a site). The score should also be accompanied by a narrative description of key site characteristics that resulted in the score. However, because scoring is subjective, it is also important for the entire site selection project team (including non-environmental project team members) to participate in the final assignment of scores for all environmental factors of a site. This interaction between disciplines is very helpful in solidifying agreement on the scoring of a site.

The most important objective of the environmental evaluation of a site is to identify all significant constraints on the proposed development. Examples of such constraints are:

- all of the allowed PSD increment for a major pollutant that would be emitted by a new plant is already consumed by existing facilities;
- the site is subject to significant flooding;

- the site cannot be developed without destruction of significant amounts of high-quality wetlands; or
- there is insufficient water supply available for the site.

While none of the identified constraints of a site may be so severe as to drop the site from consideration, they could be a strong deciding factor when multiple sites are compared for selection. Thus, the importance of conducting a sufficiently comprehensive prepurchase analysis to allow identification of significant constraints on project development is clear.

Business factors will constrain site selection. Transportation facilities for raw materials and products are a major business factor in site selection. A plant that can ship products or receive raw materials by barge or ship will want sites that have access to navigable waters. Chemicals and plastics plants will want to be near chemical pipelines and railroads and have reasonable assurance that right-of-way for new connecting pipelines and rail lines can be obtained. Typically, the sites selected for possible purchase and environmental review have already been selected with such business factors as criteria. However, all potential sites will not be equal from a business standpoint, although all may be acceptable. Therefore, business factors will always be balanced with environmental factors when the final site selection is made.

The output from this task is an environmental suitability characterization of a prospective project site for a particular type and size of manufacturing facility. When multiple sites are being evaluated, some form of qualitative or numerical scoring of site environmental suitability is generally helpful to compare the suitability of all sites on a rational basis. An example of one such approach to multiple site comparisons is described below.

Comparing multiple sites

When a company is planning a major manufacturing plant at a greenfield site it usually evaluates more than one site. When a formal environmental site selection process is used, each potential site will be evaluated and scored as described above. The most difficult part of the process is comparing and ranking sites in the context of potential environmental impacts and constraints. Usually, those responsible for final site selection, which will be the business managers and not the environmental personnel, will want the environmental evaluation of multiple sites to provide some form of overall environmental scoring so that the relative merits of each potential development site can be considered from the environmental standpoint.

One approach that can be used is to perform the comparison between sites on a strictly qualitative basis. The positive and negative aspects of each site, for each environmental factor, are described in narrative. With this approach, care must be exercised to make the narrative discussion of each

site's environmental advantages and disadvantages as similar to that of the other sites it is being compared to as possible. If this is not done, it will be difficult to compare the sites on an equal footing and the risk of providing too much weight to a single environmental attribute or constraint will be great. Because of this potential difficulty with a strictly narrative comparison, most business managers that must select one site from a group of multiple sites prefer a numerical ranking or scoring of the sites by the environmental professionals that performed the site evaluation.

There are many different approaches to a ranking or scoring system for comparing the environmental suitability of multiple sites for project development. All of these should involve the input of a multidisciplinary team of environmental professionals to assure that no single environmental factor is given undue weight in the overall site comparison. One example of such a ranking system was used in the selection of a Texas site that was purchased and developed into a major chemical manufacturing plant. The site selection process, which is described below, was conducted in 1977. The construction of the plant was begun in 1979 and completed in 1981.

An initial evaluation was performed by the company to determine the optimal geographic location for the new plant. The area selection was based on market availability for the company's products and projected construction and operating costs. Advantages and disadvantages of locating on the east coast, the west coast, the midwest, and the Gulf Coast were assessed based on the above factors. This decision on general location was made before any sites were selected for possible development. The results of the screening evaluation indicated that the Gulf Coast was the preferred location from a business standpoint.

Criteria were established by the company in order to select potential parcels of land for development of the new plant. These criteria were as follows:

(1) an available parcel of land, greater than 2,000 acres in size, with an elevation that was higher than the 100-year floodplain;
(2) proximity to potential product markets and feedstocks;
(3) access to rail, water, highway, and pipeline transportation; and
(4) availability and competitive costs of construction and operating labor.

Five prospective areas were selected for evaluation. These five sites were located along the Gulf Coast between Corpus Christi and the New Orleans-Baton Rouge corridor.

The ensuing evaluation of the five Gulf Coast sites consisted of the following concurrent analyses:

(1) a detailed comparison of the business economics of each site;
(2) an environmental comparison of the sites;

(3) discussion with area environmental groups;
(4) determination of whether specific sites could be purchased at reasonable prices and with clear title;
(5) interviews of people of the local communities to determine their receptiveness to the new plant; and
(6) detailed engineering evaluations of the suitability of each site for plant construction.

The business criteria were each assigned an economic value and the five sites were evaluated on a relative basis. The principal economic consideration was product distribution costs with the best site from these considerations being located at one of three locations in Texas.

An environmental consulting firm was selected to perform the environmental site selection process, in cooperation with the company's environmental staff. A panel composed of seven senior, multidisciplinary, environmental professionals from the consulting firm ranked the sites. This comparison was a numerical ranking of each site based on positive and negative features in each of nine environmental categories. In each category, from one to four specific factors (presented as questions) were developed to assess the environmental suitability of a site. The nine categories used as the basis for developing the site rankings were:

- water supply (quantity and quality);
- receiving water quality and mixing characteristics;
- air quality and meteorology;
- biological resources;
- soils and geology;
- land use;
- socio-economic factors;
- deep-well disposal feasibility; and
- solid waste disposal feasibility.

The data collection phase proceeded as described in this paper. The current environmental conditions at each site and relevant information on existing emissions and discharges were summarized in a report that was used by each panelist in developing the site rankings.

The ranking of each site was performed in three steps. First, each panel member compared and ranked each of the five sites using a score of one to five, with no score repeated, for each factor in each of the nine environmental categories. A score of five on a specific environmental factor indicated that a particular site was the best relative to the other four sites. The panel members then assigned a weight to each environmental factor within a category based on its perceived importance

and relevance in defining environmental quality within that category. The third step in the ranking required each panelist to weigh each of the nine categories relative to each other in terms of their perceived importance in the selection of a site based on environmental concerns. These scores and weighting factors were combined to result in an overall environmental suitability score to be computed for each site. The best possible score for a site was five, if it was the top-ranked site in every factor in each environmental category.

The purpose for this rather elaborate numerical scoring approach was to allow statistical analyses to be used to determine the significance of the differences in the final site rankings. It was expected before the ranking was done that the environmental discipline of each panelist would influence the relative importance that they assigned to each environmental category and each factor within a category (i.e., the air quality engineer might weigh the importance of air quality factors higher than the biologists). Because environmental ranking of a site is subjective, it was believed that information on the relative weights assigned by the panelists was an important consideration in the selection of the best site or sites. Also, the final site numerical scores could each have a confidence interval associated with them using the method applied in this study. This way, two or more sites with relatively close scores could be compared using their confidence intervals to interpret whether or not the differences in the rankings were statistically significant.

Using this approach, two Texas Gulf Coast sites had essentially equivalent scores. The final selection between these two sites was based on the availability and cost of barge transportation and interviews with the local communities which indicated their desire to have the new plant. The statistical analyses of the scoring indicated that there was remarkable unanimity in the weights assigned to environmental categories and factors by the seven panelists. The expected bias in weighting and scoring of environmental factors was not evident, which indicated that each of the panelists had similar overall perceptions of the significance of each environmental factor.

This example of environmental site selection is probably more rigorous than most companies would conduct, but was a consequence of a previous experience of the company in attempting to locate a major project at a greenfield site. The previously planned project, which was to be located on the west coast, was never constructed as a result of environmental constraints whose extent were not fully understood at the initiation of the project. The company had no intention of repeating that failure.

Conclusion

This paper presents a generic approach to evaluating greenfield sites for the development of major manufacturing facilities. There are other approaches that can be followed, but all must address the essential elements identified. Environmental factors can often be the ultimate determinant of whether or not a site can be developed for a particular type of manufacturing facility,

notwithstanding all of the economic factors that go into determining a suitable location. Many companies have found out the importance of environmental considerations the hard way.

The most important thing in a site selection environmental analysis is to be thorough. Every environmental category must be considered because with current environmental regulations and public concerns, any one of them could make a potential site unusable. Although there usually will not be sufficient data available on a planned project to conduct a specific analysis of emissions, discharges, and resulting impacts, existing environmental data are almost always sufficient to allow experienced environmental professionals to reliably assess the suitability of site and identify environmental constraints. When practical, field inspections of sites and discussions with regulatory agencies, local communities, and environmental groups to determine their concerns and desires are very helpful to the site selection process.

Mediation

"Resolving quarrels"

Bill Zeis

Leslie Limes

Mary Carter

Mary Sahs

Charles Thrash

LESLIE A. LIMES

Hearings Examiner IV with Texas Natural Resource Conservation Commission since November, 1987. Prior to working at TNRCC, was employed by Texas Employment Commission as an Appeals Referee

Graduated from University of Colorado at Boulder with a B.S. in Petroleum Land Management in May, 1983

Graduated from Tulane University School of Law in May, 1986

Licensed to practice law in both Louisiana and Texas

Completed 40-hour Mediator Training Course held by Austin Alternative Dispute Resolution Center in July, 1991

ALTERNATIVE DISPUTE RESOLUTION AND THE PERMITTING PROCESS AT THE TEXAS NATURAL RESOURCE CONSERVATION COMMISSION

MOTHER GOOSE REVISITED

Sixth Annual Environmental Superconference
August, 1994

Leslie A. Limes
Texas Natural Resource Conservation Commission
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ADR, like many 20th century ideas, is fairly new at the state level. The Texas Water Commission, predecessor to the current agency, set out in June, 1989 to develop a program that would allow a venue other than the hearing process for resolution of environmental matters.

WHY ADR?

The following are the primary reasons why the Commission has adopted the use of ADR in its contested administrative hearings.

a. The Commission has found that its contested hearings are getting longer. As the public has become increasingly aware of the importance of environmental protection over the last decade, the agency's contested environmental hearings, especially for hazardous waste facility applications, have become lengthier and costlier to litigate. As the public seeks greater involvement in the permitting process, more and more of the permit applications are being opposed and must be litigated in a hearing before an administrative law judge or hearing examiner. Citizen participation has increased so dramatically that it is not uncommon now for the Commission's larger, more complex hearings to include 100 to 200 or more parties. All are protestants except for the following statutory parties: the applicant, the agency's Executive Director, and the agency's Public Interest Counsel. It is also not unusual for these larger hearings to take from one to two years to try, including discovery and the actual hearing time. For example, two recent Commission cases, both had in excess of 60 days of witnesses' testimony.

b. As a result, Commission hearings are getting costlier for everyone involved, including the State. As the cost to participate in Commission hearings skyrockets, it becomes more difficult for the average citizen to participate and effectively be heard. Thus, in May 1991, the Commission became one of the first administrative agencies in the country to adopt ADR as a program for its contested

cases. In doing so, the Commission expects to shorten the time it takes to participate in an application process and to cut the participation costs for all the parties, including the State. If the matter is settled through mediation and negotiation by the affected parties, there may be no need to incur the expense of hiring expert witnesses and/or attorneys, or of conducting expensive discovery. If the dispute cannot be resolved through mediation, then the matter can still be tried before a hearing examiner in a public hearing.

ADVANTAGES OF ADR:

There are several advantages gained by applying ADR procedures in administrative agency disputes, including the following:

1. **Establishes Communications Between Neighbors.** ADR is a preferable method for settling disputes so that neighbors can still constructively communicate after the dispute is resolved.

2. **Cases are handled quickly.** Mediation has the effect of bringing settlement negotiations "to a head" much more quickly than if the matter were to proceed to hearing. Even if the parties do not settle, the truly contested issues can be isolated and the scope of the hearing narrowed through stipulations.

3. **Litigation expenses are less.** Mediation helps parties take every step possible to settle a matter as early as possible, resulting in substantial savings in discovery and hearing preparation costs.

4. **Cases are kept from expanding.** The longer a matter continues, the more likely it is that the matter will expand to include additional "marginal" issues or bad faith claims, or will unnecessarily fan emotions and include more protests that will only add to the time and expense involved in resolving the matter.

5. **Unreasonable claims or expectations are eliminated.** It is easy to take an unreasonable position in written letters, complaints, or answers. It is much more difficult to sustain an unreasonable position during a detailed, face-to-face analysis and discussion of the issues.

6. **Settlement options can be informally explored.** A party may discuss a settlement proposal with the mediator in a confidential caucus. The specific proposal is not necessarily be communicated to the other side. Rather, the mediator confidentially discusses settlement with the other side and looks for any "overlap." Thus, a party can test a settlement proposal without actually making a formal offer.

7. **Multiple party scenarios are easier to manage than a formal contested hearing.** One-on-one settlement negotiations are very difficult when there are numerous parties involved in a dispute. A mediation session brings everyone to the table earlier in the process, and the mediator can help facilitate settlement earlier in the process, so that the issues can be approached in an orderly manner prior to a formal hearing. It can also facilitate alignment of similar interests.

8. **Compliance is greater.** Parties are more likely to comply fully with the resolution of a dispute to which they contribute and agree.

9. **The ADR process is more flexible than contested hearings.** The mediation process is designed to be responsive to the needs of the parties. Thus, mediation sessions can be set up very quickly and held at convenient times and locations. The process is as creative as the parties and mediator wish it to be. It also serves to balance the power between represented and pro se parties.

ADR AT THE TNRCC:

The person who directs the mediation process is a third-party neutral called a mediator. The mediator has no opinion or interest in whether the permit is granted or denied. Although typically a Hearings Examiner, the mediator will have no contact with the case should it go to hearing. The mediator's role is to be impartial and to determine, through talking to the affected persons, what their true concerns are and to guide those persons to a settlement which addresses their concerns. The mediator does not come up with the solution. The final outcome is the responsibility of all the parties through negotiation. It is not the mediator's role to discourage protests, to pressure people into settling, or to talk people out of proceeding to hearing. The mediator's role is to try to get the affected persons to see things in a realistic light,

talk to one another and, if at all possible, settle the dispute without having to go to hearing.

The mediator serves as a facilitator of information and messages back and forth between the parties. In an effort to encourage people to negotiate in earnest and to talk to the mediator openly, the mediator is prohibited by regulation and by law from disclosing any information or statements given in confidence to the mediator by any party.

The primary ADR process which the Commission is using is mediation. However, the Commission may apply other ADR methods, such as arbitration or mini-trials, upon agreement of the parties. At this time, the Commission intends to use ADR procedures only in its environmental cases (i.e., water quality, underground injection well, and hazardous and solid waste cases) while the Commission evaluates the effectiveness of the program and the need for staff.

Negotiations which routinely occur in water utility cases will continue unchanged. An offshoot of the mediation process, had resulted in a Committee recommendation to use a type of mediator training for the people involved in rates negotiations, however it has yet to be implemented.

If, after using ADR procedures, a negotiated settlement of some or all issues cannot be reached, then the dispute is set for hearing where it is litigated before an examiner.

There are currently three trained mediators in the Office of Hearings Examiners, and two with the Public Interest Counsel. The program is not intended to be the exclusive property of lawyers, however, there has been a problem in getting other divisions to commit time and resources to the project. To remedy the shortage of agency mediators the agency is suggesting that the parties go to an outside mediator. This is possible if all parties feel comfortable with this suggestion, and the mediator is aware of TNRCC regulations.

All protests are reviewed by the ADR Director to determine whether mediation should be employed in the "routine" cases. For those routine cases in which ADR is to be attempted, the mediator is appointed who works with the potential parties to attempt a negotiated settlement. If no settlement is completed by the time the hearing examiner is appointed and the Notice of Hearing is issued, the mediator ceases participating in the application process, and the parties then must prepare for the hearing on the merits. The parties may continue negotiations on their own before and after the start of the hearing, but they must do so without the services of the mediator. Hearings Examiners are usually open to requests by the parties for additional time for negotiation.

Under no circumstances may the mediator discuss the case or the settlement negotiations with the examiner. Regardless of whether a negotiated settlement is achieved, no record of the ADR negotiations is prepared by the mediator for the agency's files, and no report is given to the examiner. The mediator may not communicate with the presiding examiner or any commissioner, directly or indirectly, on any aspect of ADR negotiations which are

deemed confidential by the rules.

The only document which may by forwarded or formally presented to the presiding examiner by the parties or the mediator is a list of stipulated issues which must be litigated.

HIGHLIGHTS OF COMMISSION ADR RULES:

In the Texas ADR Act, communications made in, and records relating to alternative dispute resolution procedures are confidential, are not subject to disclosure, and are inadmissible in any judicial or administrative proceeding. Thus, participants and neutral third parties may not be compelled to testify about matters relating to the dispute and are not subject to process requiring disclosure of confidential information.Further, the records of the participants and neutral third parties used in such procedures are deemed confidential.

There is an exception to the confidentiality rule. the ADR act written material or an oral communication used in or made a part of an ADR procedure is admissible or discoverable, if it is admissible or discoverable independent of the procedure.

The Commission has adopted identical provisions in Section 264.10 of its rules.

The Commission believes that it is unconscionable to ask the public to negotiate or compromise in those cases in which the applicant seems to have a history of violating prior permits or of polluting the environment. In such cases, therefore, as a matter of public policy, mediation is not attempted. In other cases, mediation ceases or is not applied whenever the applicant withdraws the application, or if it is determined that the case is not an actual contested case, such as when a permit has already been issued.

The early results of using ADR were encouraging. Generally, the public is intimidated by the legal system, whether in the courts or in a contested administrative hearing. Because of that intimidation by the legal system, the Commission has found that citizens are very enthusiastic about mediation. Mediation is a far less stressful and less expensive method in which citizens may participate in governmental functions.

For similar reasons, including cost effectiveness, the business community has also embraced the application of ADR in contested cases. The Commission has found that ADR has been good for public relations. Whenever the Commission has attempted ADR, even in cases which do not settle, the mediation participants have generally developed a positive, enthusiastic attitude about the mediation process. They generally perceive that all parties are on an equal level before the agency with no party having an unfair advantage. The program is currently coping with funding problems and a lack of personnel. Although it's use has been somewhat limited for these reasons, ADR continues to be a viable option for

Commission proceedings.

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MEDIATION OF DISPUTES BEFORE THE TNRCC: THE PUBLIC INTEREST COUNSEL'S PERSPECTIVE

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MEDIATION OF DISPUTES BEFORE THE TNRCC: THE PUBLIC INTEREST COUNSEL'S PERSPECTIVE

Carl Forrester has written a number of fine papers on the existing and potential uses of mediation in resolution of disputes arising out of matters which come before the Texas Natural Resource Conservation Commission. Leslie Limes' paper to which these comments are appended provides a good description of how this process works or should work. The comments offered here are an adjunct to Mr. Forrester's and Ms. Limes' work and are limited to the perspective of the Public Interest Counsel with regard to the applicability of mediation and the role of this office in the mediation process.

I.
THE PUBLIC INTEREST COUNSEL AT THE TNRCC

The Public Interest Counsel at the Texas Natural Resource Conservation Commission is a function created by law to ensure that the commission promotes the public interest and is responsive to environmental and citizens' concerns involving environmental quality and consumer protection. The Public Interest Counsel is a party to all proceedings before the commission.

II.
ROLE OF THE PUBLIC INTEREST COUNSEL IN MEDIATION

Because the Public Interest Counsel is a party to each proceeding before the TNRCC, including contested hearings, it is not in a position to act as a true mediator in disputes that arise out of contested case matters. Essential to the mediation process is a mediator who has absolutely no interest in the subject matter of the dispute and can, therefore, conduct the process without influencing the content of the negotiations or the outcome of the negotiations.

For that reason, the Public Interest Counsel should decide early on if the matter is one which appears to be appropriate for settlement. One important consideration is whether mediation will likely develop all of the major issues fully. For example, in the mediation process a party is not under oath and is not compelled to reveal potentially negative aspects of its case as it would be under cross-examination in a hearing; these matters adverse to the party's position may have environmental or consumer protection implications. A particular case may raise issues that are best resolved as part of important policy decisions that only the Commissioners should undertake to set. Similarly, the dispute may involve interpretations of law that should be addressed by appeal to the judicial system.

If it appears that mediation of a particular matter is

appropriate, the Public Interest Counsel should participate fully as any other party, although in most cases the applicant and protestants will be the primary negotiators. The Public Interest Counsel's objective is to assure that any agreement reached in the mediation is one which can be supported before the Commission and that is not violative of law, regulation or the policies of the Commission. To that end, if it appears to the Public Interest Counsel at any time during the mediation session, for any reason, that these objectives are not likely to be met, a request to terminate the mediation should be made.

Before mediation is attempted, there must be full opportunity for discovery among the parties. Mediation without a full understanding of all important facts, and in particular facts related to the nature and extent of environmental and human health risks posed by the proposed operation, or, in matters of consumer protection, facts related to costs of utility service supply and proper service quality levels, will either result in no agreement at all, or one that fails over the long term. Full discovery will also have the beneficial effect of narrowing the issues and focusing the parties on the essential disputes so that the mediation session can proceed faster. The Public Interest Counsel should complete written discovery and attend as many of the parties' depositions as practical before agreeing to a mediation session.

III.
MATTERS WITH GREATEST POTENTIAL FOR MEDIATION

Mediation is a new tool at the Texas Natural Resource Conservation Commission. It will take some time to develop its use and to find its limits. The most likely areas for its use are disputes between consumers and utilities over rates as well as between utilities and wholesale customers. In matters of environmental protection, cases involving domestic wastewater discharge permit renewals and air emission permits in attainment areas may offer the most opportunities for mediation. Mediation may prove to be best used to eliminate some issues of all types of permitting disputes. To think of it as an all or nothing undertaking will reduce its potential value. Enforcement actions pending before the Commission may also lend themselves to resolution by mediation, although these currently do not involve parties other than the permittee, Executive Director and Public Interest Counsel.

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Ms. Sahs was born April 3, 1951 in Fort Bragg, North Carolina. Admitted to bar 1985, Texas; 1987, Federal District Court for the Western District of Texas. Education: University of Texas at El Paso (B.A., High Honors, 1974); University of Texas School of Law (J.D. with Honors, 1985).

Honors: H. Smith and Z. Steakley Prize best administrative law research, 1985; John L. and Anne Crawford Endowed Presidential Scholarship, awarded by the Office of the President, University of Texas, 1984; Marian Boner Memorial Scholarship, awarded by the Travis County

Women Lawyer's Association, 1983; Appreciation for Services designation, awarded by the National Association of Environmental Law Societies, 1990. Additional Legal Employment: Regulatory Consultant for the Texas Department of Agriculture (1987-88); Legal Writing Lecturer at the University of Texas School of Law (1987-88). Member: State Bar of Texas (Executive Council, Environmental and Natural Resources Law Section, 1986-present; Treasurer, 1991-present; Law School Committee Chair, 1986-90; Co-editor of the Environmental Law Journal, 1986-88); National Association of Environmental Law Societies, 1988-91. Steering

Committee Member and speaker for various environmental law seminars including: the National Association of Environmental Law Societies "Alternative Dispute Resolution in Water Law" panel (1992); the Environmental and Natural Resources Law Section of the State Bar of Texas "Texas Environmental Super Conference" (1990 and 1992) and "Environmental Law Course: Managing the Environmental Horror Story" (1989); the University of Texas School of Law, CLE "Hazardous Substances Conference" (1989, 1991 and 1993); "Local Government and Environmental Law Conference" (1986); University of Texas School of Law, E.N.R.L.S. "Environmental and Natural Resources Law Under the Texas Administrative Procedure Act" (1984); State Bar of Texas Business Law Section, "What Every Business Lawyer Needs To Know About Environmental Law" (1993).

THE USE OF ALTERNATIVE DISPUTE RESOLUTION IN FEDERAL AND STATE ENVIRONMENTAL AGENCY PROCEEDINGS

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THE USE OF ALTERNATIVE DISPUTE RESOLUTION IN FEDERAL AND STATE ENVIRONMENTAL AGENCY PROCEEDINGS

Mary K. Sahs

Alternative dispute resolution (ADR) includes informal, consensual procedures that can be used instead of formal litigation to resolve a dispute. Alternative dispute resolution includes techniques such as mediation, arbitration, early neutral evaluation, and minitrials. Lawyers practicing in state or federal court may have experienced one or more of these techniques. According to statistics developed by the National Institute of Dispute Resolution (NIDR), a nonprofit organization that provides technical assistance and funding for new ADR programs, dispute resolution has become widespread. Between 1980 and 1990, the number of United States law schools offering dispute resolution courses increased from 25 to 140. During the same ten year period, the number of community justice centers helping settle disputes among neighbors, friends, and family members increased from 80 to more than 300. In 1980 there were court-related dispute resolution programs in 17 states; in 1990 all 50 states had them. Hickey, The Many Faces of ADR, The Washington Lawyer May/June 1992, at 28. See also S. Rep. No. 101-543, 101st Cong., 2d Sess. 2 (1990) [Administrative Dispute Resolution Act Report].

The use of ADR is not only increasing in court-related actions. It is also increasingly looked upon by state and federal regulatory agencies as a viable alternative to the traditional forms of contested rulemakings and evidentiary hearings. Of importance to attorneys practicing in the environmental law area is that the use of ADR techniques is becoming more frequent in federal and state environmental agencies. For this reason, the lawyer who finds herself representing a client in a Superfund remedial action, at an agency rulemaking, in an administrative enforcement action, or in a permit or license proceeding, must be familiar with the agencies' ADR programs and the techniques that are employed.

The purpose of this paper is to provide a broad overview of the programs and techniques currently being used at the Environmental Protection Agency (EPA) and the Texas Natural Resource Conservation Commission (TNRCC). Although, strictly speaking, ADR techniques uniformly involve the participation of a third party neutral, or impartial intervenor/facilitator, this article also discusses environmental agencies' use of negotiations without the use of a third party neutral. For ease of discussion, this technique has been included under the rubric of "ADR."

I. THE USE OF ADR AT THE EPA

According to David Batson, ADR Liaison for EPA, alternative dispute resolution techniques are actively used by the EPA in various proceedings: (1) enforcement, primarily Superfund cost recovery; (2) development of regulations; (3) policy development; (4) community relations regarding hazardous waste siting and cleanup; and (5) community relations and coordination with other agencies on wetland issues. Interview with David Batson, ADR Liaison for EPA (July 13, 1994). With

regard to EPA's use of ADR, this paper discusses only enforcement and development of regulations.

A. The Use of ADR in Administrative Enforcement Actions

Traditionally, EPA has used negotiations between its representatives and the respondents to settle its enforcement cases, obtaining a 95% success rate. Such negotiations, which do not utilize a third party neutral, will continue to be used in most of EPA's enforcement cases. The agency has concluded, however, that as it increases its enforcement actions, it must use all of the available tools to effectively resolve those actions and obtain sound environmental results. Considering ADR to be an important tool, EPA issued its Final Guidance on Use of Alternative Dispute Resolution Techniques in Enforcement Actions on August 14, 1987 (Enforcement ADR Guidance), which provided the first set of model procedures for the nomination of cases for and the use of ADR in enforcement disputes.

Nominations of cases by EPA Regional offices under the terms of the 1987 Enforcement ADR Guidance were slow in coming. Encouragement to step up the use of ADR in EPA's enforcement cases has come from several sources. In fiscal year 1988, Congress appropriated $500,000 to be used by EPA for ADR in Superfund cases. In a June 19, 1990 memorandum, EPA's Deputy Administrator endorsed ADR as a "standard component of the enforcement program." U.S. E.P.A., Memorandum: Policy Regarding Use of Alternative Dispute Resolutions in Enforcement Actions (June 19, 1990). On November 15, 1990, Congress passed the Administrative Dispute Resolution Act, Pub. L. No. 101-552 (1990), authorizing the use of ADR by all federal agencies. U.S. E.P.A., Superfund Enforcement Mediation: Regional Pilot Project Results (October 1991) at 2. "The purpose of the Administrative Dispute Resolution Act is to place government-wide emphasis on the use of innovative ADR procedures by agencies. . . [and] to send a clean [sic] message to agencies and private parties that the use of ADR to resolve disputes involving the federal government is an accepted practice and to provide support for agency efforts to develop and/or enhance individual ADR programs." S. Rep. No. 101-543 at 2.

The EPA continues to encourage the use of ADR in enforcement actions. See U.S. E.P.A., Memorandum: Policy Regarding Use of Alternative Dispute Resolution in Enforcement Actions (June 19, 1990). See also U.S. E.P.A., Memorandum: Use of Alternative Dispute Resolution in Enforcement Actions (November 6, 1990). One focus of the EPA's 1993 Superfund Administrative Improvements Initiative is the use of ADR techniques to support private allocation efforts. The initiative set a goal of identifying at least 20 cases this year in which EPA will actively support the use of ADR by Superfund potentially responsible parties (PRPs). Batson Interview. To date, the program established by EPA in its 1987 Enforcement ADR Guidance and discussed below, has been used primarily in Superfund cost allocation cases. Currently, Regions I and V have the most active ADR programs. Batson Interview. See also U.S. E.P.A., Superfund Enforcement

Mediation: Regional Pilot Project Results (October 1991) and Superfund Enforcement Mediation: Case Studies (April 1992).

The EPA's status report on the use of ADR in enforcement actions for 1991 - 1992 indicates that the use of ADR in EPA enforcement cases is still the exception rather than the rule. The status report indicates that for the period covered, Region VI, which includes Texas, did not use ADR in any of its enforcement cases, did not nominate any of those cases for the use of ADR, and did not add ADR provisions to consent decrees, orders, or agreements. See U.S. E.P.A., Status Report: Use of Alternative Dispute Resolution in Enforcement Actions (First Quarter FY 1991 Through First Quarter FY 1992). Since that period, however, Region VI has begun to add ADR provisions to consent decrees and other agreements, and has nominated three Superfund cost allocation matters for ADR. Region VI was the first Region in the nation to use ADR to attempt to settle a dispute arising in the context of a RCRA corrective action matter, albeit unsuccessfully. Region VI is also currently exploring the possibility of using ADR in air and water enforcement cases. Interview with Miles Schulze, ADR Co-ordinator for Region VI (July 13, 1994).

Despite its slow start, ADR is being used by EPA to resolve appropriate civil enforcement cases under the policy set by its 1987 Enforcement ADR Guidance. The guidance defines ADR methods, lists criteria to be used to choose cases suitable for ADR, explains how to nominate a case for ADR, explains how to select a third party neutral, describes ADR case management, and attaches various sample ADR forms. Enforcement ADR Guidance at 2 and Attachments A - F.

In the Enforcement ADR Guidance, the agency designated mediation as its preferred ADR technique. Id. at 16. Other ADR techniques that can be used include binding and non-binding arbitration, fact-finding, and minitrials. Id. at 2 - 4. The Enforcement ADR Guidance describes each of these methods and its application in the EPA enforcement context. Id. at 14 - 19.

The Enforcement ADR Guidance suggests that enforcement cases having certain characteristics are likely candidates for the use of ADR. An enforcement case in which EPA foresees an impasse developing because of personality conflicts among parties, multiple parties with conflicting interests, difficult technical issues, or political visibility concerns, or an enforcement case that is making slow progress in the courts, is a candidate for ADR. Id. at 5. If EPA determines that the case is such that it would be more cost effective to use ADR than to litigate, the case may be recommended for ADR. Id. at 5 - 6. An enforcement case in which non-parties may be necessary to a good settlement is also considered a good candidate for ADR. Id. at 6.

The Enforcement ADR Guidance suggests that, in general, an enforcement case should be recommended for ADR early, preferably before the matter has been referred to the Department of Justice (DOJ) for action. The use of ADR in matters that have already been referred to DOJ is not precluded, however. Id. at 4. Exec. Order No. 12,778, 56 Fed. Reg. 55,195 (1991) directs government attorneys to attempt to resolve

disputes by using settlement discussions before proceeding to trial. In the event such discussions are unsuccessful, appropriate ADR techniques may be used. Government litigation counsel should be trained in ADR techniques. See also Department of Justice, Guidance on the Use of Alternative Dispute Resolution for Litigation in Federal Courts (August 1992).

The Enforcement ADR Guidance establishes procedures for referring cases to ADR and for approval of such referrals. Id. at 6 - 8. It also establishes procedures for choosing and retaining a third party neutral, providing that the U.S. government will share in the ADR costs. Id. at 8 - 12. Finally, the Guidance states that "[u]nless otherwise discoverable, records and communications arising from ADR shall be confidential and cannot be used in litigation or disclosed to the opposing party without permission." Id. at 12.

Attorneys who represent respondents in EPA administrative enforcement actions will always be encouraged to settle the matter through informal settlement discussions with EPA representatives. These negotiations will be conducted by EPA legal and technical staff without the assistance of a third party neutral. In the event that such discussions are unsuccessful in settling the matter, counsel should be aware of the agency directive to use ADR in appropriate cases. If counsel believes the use of such techniques would benefit the client, she should suggest to government counsel that the matter be nominated for ADR according to the Enforcement ADR Guidance.

B. Negotiated Rulemaking

In the early 1980s, the Administrative Conference of the United States (ACUS) [fn: ACUS is responsible for promoting efficiency, adequacy, and fairness in federal administrative procedures. S. Rep. No. 101-543 at 3.] recommended the use of negotiated rulemaking by federal agencies. Negotiated rulemaking, which is used by EPA, is a process by which an agency forms an ad hoc committee to develop a consensus draft of a particular rule. The committee includes parties that will be affected by the rule and agency representatives. If consensus is reached, the draft becomes the basis for the proposed rule published by the agency for public comment. S. Rep. No. 101-543 at 3. The idea behind negotiated rulemaking, also called "reg neg," is to include affected parties in a nonadversarial setting to develop a rule that will be sound, realistic, and effective, and will stand a better chance of being accepted. Id.

Because of the positive experience using negotiated rulemaking at EPA and other federal agencies, Congress enacted the Negotiated Rulemaking Act of 1990, P.L. 101-648, 104 Stat. 4969 (1990). In summary, the Act provides criteria for determining when an agency should use reg neg, requires traditional notice and comment procedures, allows no judicial review of the reg neg process, and designates ACUS to provide funds and expertise to assist the process. It also provides for the selection of facilitators and sets out the rules governing committee procedures.

In general, the reg neg process can be used to develop

EPA rules when there is a need for the rules; there is a limited number of identified interests; it is likely that EPA can create a committee with balanced representation who can adequately represent identified interests and negotiate in good faith toward a consensus; there is likelihood of consensus within a reasonable time; the process will not unreasonably delay notice of the proposed rulemaking and issuance of the final rule; EPA can provide adequate resources and technical assistance to the committee; and EPA is committed to use the committee's recommendation to the extent legally possible. Negotiated Rulemaking Act of 1990.

If counsel is asked to represent a client's interest in an EPA rulemaking, she should determine whether the agency intends to use traditional methods of rulemaking or intends to use the reg neg procedure. The procedure to be used will determine the type and extent of public participation available.

II. THE USE OF ADR AT THE TNRCC

The use of ADR techniques at the TNRCC takes several forms. (1) In 1991, the Texas Water Commission (TWC), predecessor agency of the TNRCC, developed its ADR program, which is used for environmental permitting proceedings. In 1993, the Texas Air Control Board (TACB), also a predecessor agency of the TNRCC, enacted a similar ADR program. Under the TNRCC Consolidated Procedural Rules enacted July 15, 1994, the ADR programs have been combined. (2) The TNRCC legal staff consistently uses negotiation techniques in administrative enforcement actions. (3) In addition, the TNRCC has incorporated aspects of ADR into many of its more controversial rulemaking actions.

A. ADR and the Permitting/Licensing Process

In May 1991, the TWC became one of the first administrative agencies in the country to establish an ADR program to facilitate resolution of contested environmental permit applications. Carl Forrester, "Participation in Mediation to Resolve Texas Water Commission Hearings," June 2, 1992, p. 1. Under the TNRCC Consolidated Procedural Rules, the ADR program for the TNRCC is found at 30 T.A.C. Part 264. See 19 Tex. Reg. _____ (July 15, 1994).

Mediation is the technique used by the TNRCC in its ADR program. The rules, however, allow the use of any ADR technique authorized to be used in state district court. 30 T.A.C. § 264.4. Because state law authorizes the use in state district court of such ADR techniques as minitrials (Tex. Civ. Prac. & Rem. Code § 154.024) arbitration (Tex. Civ. Prac. & Rem. Code § 154.027) private judging (Tex. Civ. Prac. & Rem. Code §§ 151.005, 151.006, and 151.010), and moderated settlement conferences (Tex. Civ. Prac. & Rem. Code § 154.025), it is conceivable that the agency's program will eventually utilize one or more of these techniques as the program develops.

The program is limited to environmental permitting or licensing cases. Interview with C. Forrester, Director of Alternative Dispute Resolution at the Texas Water Commission (Jan. 22, 1993). Currently, due to staffing constraints, the program's main focus is on wastewater discharge permit matters. Interview with Kerry Sullivan, Assistant Chief

Hearings Examiner, TNRCC (July 13, 1994). The TNRCC rules specifically exclude enforcement cases from the ADR program. 30 T.A.C. § 264.3. The program provides for the appointment of an agency mediator or the selection of an outside mediator by agreement of the parties. 30 T.A.C. §§ 264.4 and 264.5. Minimal requirements for establishing an agency mediator pool are established. 30 T.A.C. § 264.6. The amount of time that can be used by parties for the ADR process is limited. 30 T.A.C. § 264.7. The TNRCC rules suggest that total settlement is the goal of ADR under the program, but that partial settlement is acceptable. All agreements, including stipulations in a partial settlement must be written. 30 T.A.C. §§ 264.8 and 264.9. The confidentiality of communications made during ADR is protected. 30 T.A.C. §264.10.

Referral to TNRCC's ADR program begins in contested environmental permit applications when the agency receives a protest letter or inquiry following published or mailed notice of application. Upon referral, the Director of ADR at the TNRCC contacts the author of the protest letter or inquiry and explains the ADR process. This contact is generally made by telephone, but in some cases a letter is required. If the potential protestant responds favorably to this first contact, a TNRCC mediator facilitates bringing together the applicant, agency staff, and the potential protesting party for conversations about the pending application. Because of the program's limited budget and staff, most contacts and sessions are done by telephone rather than in person. Occasionally the agency will provide a mediator for one or more actual mediation sessions when time and money permit and interest among the parties is high. Forrester Interview.

The latest statistics indicate that when the program is fully funded and staffed, it has significant success. Mr. Forrester reported in his presentation at the "Environmental Law: Regulation, Enforcement, and Litigation" seminar at South Texas College of Law in January 1992, that during the first several months of the program, mediators were appointed to 55 cases. Nine of those cases were found to be ineligible for ADR but 26 of the remaining 46 cases, or 56.5%, were settled through mediation. Mr. Forrester also reported that response from parties and potential protestants has been favorable. C. Forrester, Environmental Law: Regulation, Enforcement, and Litigation, South Texas College of Law (Jan. 1992), pp. C12-14. ADR has been particularly successful in resolving wastewater discharge permit renewals and amendments and has found an ardent supporter in Representative R. Jennell, who represented the City of San Angelo before the TWC in such an application.

The agency has experienced set backs, however. For example, when the parties negotiate a discovery schedule providing an extended discovery period, the hearings examiners are unlikely to adopt the schedule because of their responsibility to move their dockets quickly. Forrester Interview and Interview with Claire Arenson, Chief Hearings Examiner, TWC (Dec. 29, 1992).

The attorney who represents an applicant or protestant in a

environmental permit application matter will want to take full advantage of the services offered by the agency's ADR program. To the extent that her client is interested in possible settlement and the ADR program is unable to provide adequate assistance, a third party neutral or facilitator from outside the agency can be used.

Although not all permits are amenable to settlement, permit renewals and amendments are the most likely candidates for successful mediation. When negotiating a discovery schedule, with or without the help of an agency mediator, counsel should be aware of competing docket pressures that may force the Hearings Examiner to reject a negotiated schedule.

B. Negotiating and the State Administrative Enforcement Action

The TNRCC legal staff use negotiations in its administrative enforcement actions. The approach is directed by policy. In general, once a notice of violation is issued or an enforcement petition is filed, the respondent has the opportunity to contact agency legal staff and initiate settlement negotiations. The settlement negotiations are informal and involve meetings between agency legal staff, experts, and inspectors, and the respondent and its representatives. The negotiations may address issues of liability, as well as issues of penalty assessment and technical requirements. Such negotiations are very informal; no third party neutral participates. The agency legal staff generally chairs the discussions and makes the final decisions regarding scheduling, issues for discussion, and determining when an impasse has been reached. The goal of such negotiations is to reach an agreed order to be presented for approval to the Commission. If no settlement can be reached, the matter will be set for hearing before an agency hearings examiner.

In general, requesting informal settlement negotiations in an enforcement matter poses no drawbacks for the respondent. The attorney whose client receives notice of violation or an enforcement petition should take full advantage of the agency's traditional willingness to meet and discuss possible solutions to the action.

C. Rulemaking by Committee

In the past, the TWC and the TACB came under fire for drafting and proposing rules in what some considered to be a vacuum. Responding to such criticism, the TNRCC is increasingly utilizing the technique of task forces or advisory committees (collectively, "committee") to study specific controversial issues and to propose rules regarding those issues. The agency attempts to select committees from a wide spectrum of interests, with no one special interest being represented to the detriment of any other. In general, a chair is selected from among the membership and cannot be considered to be a third party neutral.

Frequently, the establishment of a task force or advisory committee is informal and not controlled by statute or agency regulation; therefore, their composition and the procedures they use vary widely. The agency establishing the task force generally will be represented on the committee, will determine which issues and

problems will be addressed, and will provide its viewpoint of the practical implications of any recommendations. Usually, the committee will collect data and conduct public hearings to solicit comments from the interested public. The committee will attempt to come to a consensus and formulate recommendations to the agency regarding the need for and content of rules regarding the specified controversial topics. The agency, of course, is not required to follow the recommendations of the committee, and the use made by the agency of these recommendations varies widely.

For the practitioner whose client desires to provide input into the rulemaking process at the TNRCC, ample opportunities abound. Appointment to an advisory committee or task force is probably the most effective and visible means available. If appointment is not an option, providing public comment to such informal rulemaking committees is appropriate. In the cases where no advisory committee has been created and the issue of interest is controversial, suggestions to the Chairman of the agency and to its executive directors to form an advisory committee may be considered favorably.

III. SUMMARY

Just as alternative dispute resolution is becoming an integral part of our federal and state court systems, its use is increasing at federal and state environmental agencies. Its appeal to the practitioner is the same in every setting: it is another method of resolving client's disputes. It is often more "user-friendly," less time consuming, and less expensive. To the extent that ADR is available, every practitioner representing a client before the EPA and TNRCC should consider its possible advantages to the client. As discussed, even in programs where ADR utilizing third party neutrals or facilitators is unavailable, agencies are attempting to resolve disputes through negotiation and consensus.

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BILL ZEIS

A 1984 graduate of the University of Texas Law School, Bill Zeis has practiced environmental law at the Texas Air Control Board and the Texas Natural Resources Conservation Commission since 1984. As a staff attorney representing the Executive Director he has worked on permit matters (contested case hearings, rulemaking), enforcement actions and program development.

THE TEXAS NATURAL RESOURCE CONSERVATION COMMISSION EXECUTIVE DIRECTOR'S ROLE IN SETTLING DISPUTES

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SIXTH ANNUAL TEXAS ENVIRONMENTAL SUPERCONFERENCE
AUGUST, 1994

THE TNRCC EXECUTIVE DIRECTOR'S ROLE IN SETTLING DISPUTES

The Executive Director's technical, legal and policy resources are a powerful asset which is available for efficient resolution of regulatory disputes. The Executive Director favors settlements because:

- Litigation of every dispute would require too much of Texas Natural Resource Conservation Commission's (TNRCC) limited resources.

- The "product" of a settlement, be it a negotiated permit, or rule, is typically of higher quality than a litigated "product."

- Settlements foster better long term relationships between the parties affected by TNRCC actions, and between those parties and TNRCC.

Accordingly, the Executive Director has aggressively initiated and participated in settlement discussions in several areas where disputes are common, including:

- Environmental permits;
- Regulations; and
- Enforcement actions

Settlements have been reached through several different procedures, including private negotiation between outside parties, informal public meetings (with many variations), task forces or advisory committees and Alternative Dispute Resolution (ADR) as specified in TNRCC rules at 30 T.A.C. Part 264.

The Executive Director's expertise and objectivity makes his position especially credible during settlement discussions, and his experience with countless previous settlements provides a "menu" of possible compromises. The Practice Tips section of this paper will discuss specific negotiation techniques to use, techniques to avoid and provide examples of previous settlements which could be used in most disputes.

I.
COMMON TYPES OF DISPUTES AND AVAILABLE SETTLEMENT PROCEDURES

PERMITTING

Executive Director's Role In Permitting

The Executive Director conducts a complete technical review of all permit applications, and in many cases the Executive Director will issue the permit if it is not challenged. If a contested case hearing is held the Executive Director will be a party, present a case and typically make a recommendation as to whether a permit should be issued. In most cases completion of the

technical review prior to the beginning of the hearing process results in the Executive Director taking the initial position that the permit application satisfies all criteria for issuance, and a draft permit supported by the Executive Director is usually prepared. Should additional information be developed through the hearing process the ED will change his position, if appropriate, during the hearing.

Private Negotiation

Concerned citizens frequently use the hearing request process to obtain basic information about a proposed facility, which shows that the permit applicant has not provided adequate information to the community. Many applicants work directly with community leaders, existing citizen groups or the public at large (through media or mailouts) as early as possible so that the community is not surprised by the public notice required by TNRCC. Early negotiations between the permit applicant and community representatives can eliminate potential hearing requests or result in softer, more focused opposition following public notice. Private negotiations can also address issues outside TNRCC's permitting jurisdiction.

Informal Communication/Public Meetings

The Executive Director's role in settlement usually begins with the TNRCC's receipt of a hearing request. Form letters are sent to hearing requestors (see Attachment 1 for one example) which advise them of ways to become familiar with the application and to discuss their concerns with appropriate staff and/or the applicant.

TNRCC Staff attorneys have been provided the following advice on how to facilitate settlement at this point:

"Attempts by a staff attorney to settle are NOT appropriate in all cases. For example, some cases are going to hearing because independent discussions between the applicant and its neighbors have already reached an impasse. The staff attorney must use considerable judgment in deciding whether settlement discussions are worth pursuing, and if so, how hard. Part of your initial evaluation of the case should be an effort to find out who the protestants are, what their goals are, and what discussions have already taken place.

(1) Provide information to the protestants, so they understand the thoroughness of the technical review TNRCC conducts and how TNRCC will continue to effectively regulate the plant after the permit is issued.

Possible Forums for providing information

- **Correspondence from the TNRCC attorney and/or technical staff.** Consider sending copies of the application or portions of it, copies of the staff's technical analysis, copies of the draft permit provisions. It is more persuasive if the documents are personalized. For example, if you talk to a protestant by phone

to identify their specific areas of concern and follow up with a transmittal letter saying "the enclosed demonstrates how TNRCC technical staff evaluated the issue we discussed and how we propose to deal with it in the permit provisions" you will be more effective than if you just do a mass mailing of some documents.

● **Telephone calls.** Consider having your technical staff call the protestants to discuss technical issues. You may wish to be on the line, depending on the circumstances. However, some opponents trust engineers more than lawyers (!), so your staying off the line can help. Always follow up to find out what was said. You should establish ground rules for such contacts with your technical staff right after the case is assigned to you, so they don't run amok.

● **Public Meetings.** They can be held as independent events or they can be held in conjunction with the preliminary hearing following issuance of the hearing notice. They can be very effective or they can be disasters at which public concern is heightened rather than diminished. The staff attorney should take an active role in informal public meetings.

If there will be a public meeting on a case you are trying to settle, you should ensure that all details are taken care of, including:

● Adequate Notice to all interested persons, which can include newspaper notice. In some programs meetings are required by statutes which prescribe notice procedures. If not, and you are dealing with a small group of interested persons, notice by letter can work. Watch out, because complaints about inadequate or untimely (last minute) notice can undermine your meeting.

● Adequate Facilities. Barbara Ferguson, of TNRCC's Pollution Cleanup Division, Public Meetings Unit, is available to assist with public meetings. She can provide services such as publicity, a room, microphones, etc.

● Attendance by appropriate staff. In general, try to bring your entire technical staff and someone from the region. All should be familiar with any specific issues which opponents have mentioned. The staff attorney can do his/her best work in identifying issues and preparing responses prior to the meeting. The best thing a staff attorney can do to increase chances of settlement is to cause the public to trust the TNRCC, and having concise, accurate answers to their questions is necessary to develop credibility.

● Format of the meeting. Ideally the staff attorney will moderate, and allow for brief presentations and ample Q/A. DO NOT let the applicant moderate the meeting, since it will give the impression that TNRCC is a

dog in the applicant's dog and pony show, undermining our credibility with the public.

(2) Identify opponent's concerns and, as appropriate, identify how those concerns can be addressed by the TNRCC permit process.

- Some common public concerns (aesthetic concerns, or noise or traffic issues in an air quality permit, for example) are not legally relevant so they cannot be dealt with directly in a permit hearing. The staff attorney should point this out, and emphasize that the opponents and applicant can address these types of issues in "side agreements" to which the TNRCC is not a party.

- Many public concerns can be satisfied by an additional technical review step prior to permit issuance. In air quality, for example, additional impact analysis of certain air contaminants or consideration of alternative production processes or emission control equipment may be desired.

- The most frequently used vehicle for resolution of public concerns is addition of special provisions to the permit requiring the permittee to take certain actions after permit issuance, such as using continuous emission monitors or conducting environmental audits. The Commissioners frequently recommend addition of similar special provisions to contested permits when they are considered at Agenda. Discussion of possible additional provisions early in the process can be beneficial even if the case doesn't settle, since the staff attorney can provide the Commissioners a provision upon request and be prepared to discuss the issue.

- A common, but possibly problematic, variation on this approach is incorporation of the deal into a side agreement, a contract between the opponents and the permittee. Where the subject agreed upon is within the jurisdiction of the TNRCC it is preferable to incorporate the subject into the permit, which will make it enforceable by the TNRCC. Obviously, this won't work if the side agreement pertains to a personal issue, such as the applicant's paving a driveway or buying an air conditioner for the opponent."

"Excerpt from TNRCC Legal Services Division Training, Settling Administrative Hearings," February, 1994.

Alternative Dispute Resolution

The Executive Director can refer a case to the TNRCC's ADR program for mediation, as described in the papers prepared by Leslie Limes and Mary Sahs, in lieu of or in addition to the

settlement procedures discussed above. The Executive Director, along with the office of Public Interest Council, will participate in the mediation.

REGULATION DEVELOPMENT

The Executive Director's contact point for informal participation in regulation development is usually in the affected program area rather than the Legal Services Division. Compared to permitting, there are more outside participants (trade associations rather than odd individual companies, statewide rather than local citizen groups) in a rulemaking proceeding. The TNRCC frequently refers matters to Task Force 21, a standing committee with a balance between industrial and citizen representatives, for analysis and development of a consensus proposed rule. There are other advisory organizations with issue specific charges which are also occasionally used in regulation development. This approach minimizes rule challenges and more clearly frames the competing points of view on issues for which consensus cannot be achieved. It is especially necessary for rulemaking proceedings which are subject to strict time constraints, such as a deadline imposed by statute or court order.

ENFORCEMENT

Settlement negotiations are frequently used by TNRCC to resolve both administrative and judicial enforcement actions. In both situations the Executive Director is represented by a staff attorney from the Legal Services Division. In administrative actions the staff attorney leads the negotiations and in the judicial actions the Attorney General's Office takes the lead. Traditional two-way (Plaintiff-Defendant) settlement techniques have been used. Recent developments have included a greater use of ADR procedures and more public/local government involvement in enforcement actions.

Public participation in enforcement settlements is formally sanctioned under Section 382.096 of the Texas Clean Air Act (TCAA), which requires Texas Register notice of proposed enforcement settlements and an opportunity for substantive public comment. As a result of this opportunity, negotiation in 1992 and 1993 of the Agreed Final Judgment in the case of TACB v. DynaGen became a multi-party negotiation involving the Texas Air Control Board (TACB), DynaGen, the Sierra Club, NAACP and state and local elected officials.

A pending TNRCC judicial enforcement action against Gibraltar Chemical Resources (GCR) illustrates the continued evolution of enforcement settlement negotiation. First, citizens group representatives participated in court-ordered mediation between GCR and TNRCC. Although the citizens groups have apparently not signed off on the tentative agreement between TNRCC and GCR, they can have additional input through the Section 382.096 public comment process. Second, a Supplemental Environmental Project (SEP) included in the tentative GCR settlement involves assistance to the local fire department. Specific statutory authority for SEP's was added to the TCAA (Section 382.088) and Texas Solid Waste Disposal Act (Section 361.251(u)) in 1993. Inclusion of SEP's that involve local governments in enforcement actions will give those governments (and their constituents) more direct input into the settlement process.

II.
PRACTICE TIPS

SETTLEMENT
TECHNIQUES THAT WORK

1) Identify participants early and establish communication.

2) Establish a comprehensive list of issues, desired solutions and prioritization of issues and solutions.

3) Consult with TNRCC staff to ascertain outcome of recent, similar disputes.

4) Exchange documents prior to meetings and teleconferences so that other participants know in advance where you are coming from.

5) Focus on issues, not personalities.

6) Listen to the other parties.

7) Be flexible and creative.

8) Clarify the issue of authority to settle/never make assumptions about another party's authority.

9) Negotiate through the attorney if other parties are represented by counsel.

TECHNIQUES THAT DON'T WORK

1) Laying behind the log. Springing new issues/information/proposals on the other parties late in the process will cause allegations of "bad faith," and focus attention on the parties' behavior rather than the issues.

2) Don't ask the Executive Director to overcommit. We can't assign an investigator full time to the facility in your backyard, and we can't commit to shut the facility down if there is one violation. Ask questions about what is typically done before making demands.

3) Don't negotiate in the media.

4) Don't do end runs, i.e. go over someone's head.

5) Don't demand money. A possible exception is a residential buyout where the permit applicant is interested in establishing a buffer zone.

MENU OF POSSIBLE AREAS FOR COMPROMISE

The following discussion of available compromises refers to attachments 2-11, which are examples of compromises which have worked. These examples are illustrative rather than comprehensive. They are drawn primarily from air quality matters; the concepts embodied in these examples can be easily adapted to other media.

1) **Further Study** - A permittee could agree to further study of an issue of concern to a protestant. For example, Special Provision 19 of the permit at Attachment 2 requires the permit holder to conduct an ongoing evaluation of possible use of less toxic materials, to communicate with TNRCC about the results and switch if something better becomes available. In the enforcement context defendants can commit to hire one, or even two, independent consultants to analyze technical problems (Attachment 3).

2) **Additional Monitoring** - Citizen's concerns about whether a permit applicant will comply with representations made during the permit process can be addressed through monitoring requirements. It is essential that TNRCC monitoring staff participate in development of any additional monitoring requirements; in one case a neighborhood group drafted a monitoring provision that would have resulted in useless data. Since they wanted the provision enforceable as a permit provision technical staff eventually got the opportunity to correct the provision. Examples of monitoring provisions are Attachment 4, which illustrates an ambient air/soil sampling plan to govern interim operations during a combination permit hearing/enforcement action. Attachment 5 is a permit provision requiring a computer data link between emission monitors at a facility and TNRCC's regional office.

3) **Specified Enforcement Consequences** - Expansion of facilities which have had past compliance problems often draws public opposition, especially where agency enforcement actions have not promptly resolved the compliance problems. Item G of the agreement at Attachment 6 specifies a corrective action plan that would be triggered by the Executive Director's determination that an ongoing nuisance is occurring. It includes the requirement that incoming feedstock cannot be accepted or processed, and an independent-consultant audit of the problem. Provision 2 of Attachment 7 conditions Phase II of a dairy on successful operation of Phase I. The standard for success is no nuisance odor complaints which are not satisfactorily resolved, as determined by the Executive Director.

4) **Citizens Advisory Boards** - Companies can establish standing oversight/liaison organizations composed of citizen and company representatives. Attachment 8 is an example of a provision (VIII(e)) in a TNRCC permit which requires the permit holder to establish and work with a Citizens Advisory Board.

5) **Hours of Operation** - A common citizen concern is a facility operating schedule that includes evening and weekend operation. Many facilities which do not need to operate continuously seek authorization to do so anyway, to maximize their flexibility and allow for possible growth. A permit provision can be drafted which allows the plant to operate late and on weekends if necessary, but limits the such occurrences to a frequency acceptable to neighbors.

6) **Win/Win** - The mediation case study provided by Mary Carter (Attachment 9) illustrates how opposing parties' needs can actually dovetail, so that the landfill's need for soil could be addressed in a way which satisfied its neighbors need for ponds.

7) **Corollary (Irrelevant) Issues** - Attachment 10 is a side agreement which was actively brokered by a TNRCC staff attorney to settle a permit hearing request. It addresses two issues, noise (item I) and traffic (item V) which are beyond the scope of an air permit hearing yet were important to those protesting the permit.

8) **"Above and Beyond" Commitments** - A permit applicant should consider commitment to pollution control equipment or procedures which exceed minimal regulatory requirements. Attachment 11 lists items which a standard exemption registrant agreed to in order to resolve a hearing request. The Executive Director's staff can be very useful in identifying possible additional equipment or procedures, and explaining to citizens why such measures exceed the minimum required to obtain a permit.

Many permit applicants have agreed to go "above and beyond" if a matter could settle, but said they will relevant the bare minimum if the matter goes to hearing. The Executive Director's staff can clarify to the protestants exactly what is at stake if the applicant takes this negotiation position.

*
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RE: Request for Contested Case Hearing
Air Permit Application No. *
* Company Name
City, County
Account No. *

Dear *:

We have received your letter dated *, in which you requested a contested case hearing on the above-referenced air quality permit application. Due to the number of hearing requests received by the staff of the Texas Natural Resource Conservation Commission (hereafter referred to as the TNRCC or the Commission), contested case hearings are not automatically scheduled upon receipt of a request. However, I wanted to take this opportunity to provide you with some information about your pending hearing request.

The Texas Clean Air Act provides that a person who may be affected by emissions from a proposed facility may request a contested case hearing. If it is determined that you are a potentially affected party, the agency may schedule such a hearing. A contested case hearing is a formal adjudicatory proceeding which is generally conducted like a trial in District Court. It is conducted pursuant to the Texas Clean Air Act and the Texas Administrative Act, and the Texas Rules of Civil Evidence, and the TNRCC Procedural Rules are applied. All persons admitted as parties to the proceeding have the right to present evidence, call witnesses, and cross-examine the witnesses of other parties. Although it is not required that you be represented by an attorney, it is generally helpful in any proceeding in which rules of procedure and evidence are applied.

If the agency makes a determination to call a contested case hearing on this application, the hearing date will be set by the Office of Hearings Examiners. You will receive a notice of the hearing which will establish the dates for the prehearing conference and the hearing on the merits, and will provide instructions on how to become a party to the hearing.

The hearing is conducted before a TNRCC hearings examiner, who then examines the evidentiary record to develop a proposal for decision which is submitted to the Commission which renders a final decision. After the hearing on the merits concludes, it may take several months for the Commission to act upon the hearing examiner's proposal for decision.

The TNRCC staff is available to help you access information and individuals at the agency which may aid you in your review of the permit application. The Office of Public Interest Counsel (PIC) is available to assist members of the public regarding permit applications and contested case hearings. The phone number for the PIC is (512) 239-6363. If you wish to engage in negotiations with the permit applicant, I will be happy to facilitate a dialogue between you, or you may initiate such communications yourself. Additionally, it may be possible to schedule a public "town hall" style meeting in your area, in which members of the TNRCC staff and possibly representatives of the company will be available to answer citizens' questions on the applicant's proposal.

I hope that this letter answers any questions you may have regarding your hearing request. If you have additional questions, please feel free to call me at (512) 239-*.

Yours truly,

*
Attorney, Legal Services Division

cc: *, Regional Director, Houston
*, Permits Engineer, New Source Review Program, Permitting Division, Office of Air Quality

17. The following are total raw material usage rate limitations for some of the processes at this facility:

Material	Usage Rate (lb/yr)
Pre-preg (Epoxy and Polyimide)	26,550
1,1,1-Trichloroethane (TCA) solution	3,400
Hand Applied VOC Cleaning and Layup Solvents: (excluding paint booth and 1,1,1 TCA solution)	1,820
Mold Release Coating	620

The holder of this permit is restricted to representations made in the permit file regarding quantity and character of emissions from the sources covered by this permit by TACB Rule 116.5.

18. The holder of this permit will characterize the emissions from its autoclave:

A. The holder of this permit will characterize the amount of methanol and acetone controlled by the "cold trap" and by the "cold water trap." Either the "cold trap" or the "cold water trap" will be considered an abatement device if either achieves a 10% minimum control efficiency.

B. The holder of this permit, with TACB's technical assistance, will attempt to analyze for other possible emissions from the autoclave process. This analysis to be done as soon as reasonably possible, given the need to coordinate efforts with TACB personnel and the possible need to contract analytical expertise. A tentative target date for completion is July 1, 1992.

19. The holder of this permit will continue its work on substitute chemicals (as outlined just below) and reduction of autoclave emissions and send a yearly report, beginning February 1, 1993, to TACB. the holder of this permit will submit reports earlier if a successful substitute is implemented.

A. Toward the goal of implementing substitute chemicals and processes for its San Marcos facility, the holder of this permit will conduct development work. To "perform developmental work" means to do any combination of the following:

1) conduct research;
2) perform experiments;
3) review technical literature;
4) work with process and chemical vendors;
5) participate in pollution prevention grant program;
6) or keep abreast of industry developments and federal and state regulations.

The holder of this permit will put special emphasis on developing substitute chemicals and processes for the degreasing operation, mold release operation, and for the flange load-spreader function.

B. A successful substitute will be a substitute that at least fully satisfies all business requirements. These business requirements include, but are not limited to, issues related to health, safety, or the environment; product quality; customer acceptance; economic feasibility; and uninterruptable availability of the substitute. Other aspects of successful substitutes are defined below (19.C.4-19.C.6).

C. This requirement will end when the holder of this permit has successfully developed and implemented substitutes for any three of the following:

1) methyl ethyl ketone (MEK);
2) acetone (as a cleaning solvent);
3) methanol (as a cleaning solvent);
4) 1,1,1-trichloroethane (TCA) as a vapor degreasing agent (any aqueous-based agent will be considered a successful substitute);
5) BR-34 (any asbestos-free compound will be considered a successful substitute);
6) Frekote-44 (any CFC-free compound or compound with a lower net ozone-depletion potential will be considered a successful substitute).

D. Tentative Implementation Plans

1) Substitute aqueous-based solution for 1,1,1-TCA by Year-End 1994.
2) Substitute BR-36 for BR-34 by mid-year 1993.

Revised 2/10/92

safety. Fina may petition the Court for relief from the order of the Executive Director; provided, however, that the Executive Director's order remains effective until it is either modified or cancelled by either the Executive Director or the Court.

3. Studies and reports. Fina shall perform the following tasks and submit responsive reports to the TACB Executive Director with a copy to the Regional Director:

(a) On or before August 1, 1991, a detailed account of the upsets of April 29, May 1, May 7, and May 26, 1991, and any other upset at the refinery that is reportable under TACB General Rule 101.6 and that occurs before July 15, 1991. For any incident associated with the SRU complex, the report shall include as a minimum for each incident:

(1) The operating status of each flare, each SRU, the SCOT unit, and the incinerator at the time of the incident. Status shall include operating rate and operating conditions.

(2) The operability of the blowers designed to serve each SRU, including the spare blowers.

(b) On or before August 15, 1991, a detailed description of each SRU including but not limited to the following:

(1) Updated flow diagrams and process descriptions. The detail of the flow diagram shall be sufficient to show all major equipment items including all control valves and instrumentation.

(2) A description of the instrumentation, process monitoring, and valving controlling each SRU, including system redundancies and how the controls work.

(3) Tail gas incinerator design specifications.

(4) A full description of the flare system serving the SRUs, how each SRU is connected to the flare system, under what conditions each flare is used to burn acid gas from one or both SRUs, the results of the most recent inspection of each flare tip, and an assessment of the capacity of each flare relative to its ability to combust the full acid gas load from either or both SRUs.

(5) A thorough description of the training program that has been conducted in the past for operations and maintenance personnel assigned to the sulfur complex. In particular, the description should emphasize any specific training regarding the principles of Claus plant operation, the hazards involved, priorities to be given to maintenance of critical spare components, and the potential danger of process upsets to the general public.

(c) On or before September 1, 1991, a detailed proposal and proposed schedule to modify the sulfur recovery system to obviate failures of the type that occurred April 29, May 1,

May 7, and May 26, 1991. The services of a consulting firm shall be obtained to participate in the system assessment and report preparation. Items to be included are:

(1) The proposal shall ensure the adequacy of the following systems or procedures to maintain proper operation when processing the maximum acid gas load from either or both sulfur plants:

(A) The flare system, including diverter valves.

(B) The tail gas incinerator, including such times when the SCOT unit is by-passed, such that stable incinerator operation is maintained.

(C) The instrumentation/valving accomplishing transfer of acid gas from one SRU to the other such that system upsets are avoided in the SRU receiving the gas.

(D) The amine and sour water stripper systems, including adequacy of the system to supply full acid gas loads with minimal inclusion of hydrocarbons.

(E) The SRU shutdown control systems.

(F) SRU system instrumentation such that sufficient parameters are recorded to provide a complete record of upsets.

(G) Operating and maintenance procedures that give maximum consideration to the prevention of sulfur recovery system upsets and maintaining the SRU system including spare equipment components.

(H) A comprehensive training program for all SRU complex personnel that encompasses, as a minimum, the following subjects:

(i) Amine unit operation,

(ii) sour water stripper operation,

(iii) SRU system operation, including the SCOT unit and tail gas incinerator,

(iv) flare system operation,

(v) process control and instrumentation operation,

(vi) system redundancies, installed spares,

(vii) maintenance procedures built on public health and safety as the first priority, and

(I) the SCOT unit.

(2) The proposal shall incorporate changes resulting from the HAZOP study addressed in the Fina letter to the TACB dated May 28, 1991 (a true copy of which letter is attached hereto as "ATTACHMENT 1").

(3) The proposal shall include an assessment of the installation and operation of an additional SCOT unit and an additional tail gas incinerator as a means of preventing further upsets related to the failure of one SCOT unit or a single tail gas incinerator.

(d) The TACB will review and respond to Fina's proposal and schedule pursuant to 3(c) above within a reasonable time. Upon delivery of the proposal to the TACB, Fina shall employ a second consulting firm, approvable within 7 days by the TACB's Beaumont Regional Director, to review the proposal. In its review of the proposal, the second consulting firm shall give particular attention to the following matters:

(1) the training procedures,

(2) the maintenance procedures with emphasis on consideration of public health and safety,

(3) the adequacy of each major component of the SRU system (specifically including each amine system, each sour water stripper, each Claus unit, each SCOT unit, each tail gas incinerator, and each flare) to prevent further incidents of material health effects offsite, and

(4) a description and the cost estimate of any other system improvements that could be accomplished and that would further minimize the possibility of emission excursions from the sulfur recovery system.

The TACB-approved second consultant shall, within 30 days of TACB approval, advise the TACB in writing of any modifications to the proposal that in its sole judgment are needed to ensure the adequacy of the proposal.

(e) Fina shall implement the proposal and schedule prepared pursuant to paragraph 3(c) above, upon approval by the TACB. The TACB-approved second consulting firm shall review implementation of the changes approved. During implementation of the TACB-approved changes, the second consulting firm shall give particular attention to the matters specified in paragraph 3(d) above and notify the TACB and Fina of any modifications to the approved changes that are needed to ensure the adequacy of the sulfur recovery system. Within 30 days of the implementation of the last change, the consultant shall prepare and submit to TACB a report certifying that Fina has completed the implementation of all changes approved by the TACB pursuant to paragraph 3(c) above.

II.

The State may petition the Court for any additional or amended relief it deems necessary or desirable. The State does not by this agreed order waive any remedy available to it under law. Neither is Fina, by its agreement to this order, relieved of compliance with any applicable law or regulation.

III.

This order shall remain in effect until judgment is final in this case or until this order is modified by further order of this Court.

ATTACHMENT 4

TEXAS AIR CONTROL BOARD

6330 HWY. 290 EAST, AUSTIN, TEXAS 78723, 512/451-5711

DICK WHITTINGTON, P.E.
CHAIRMAN

BOB G. BAILEY
VICE CHAIRMAN

STEVEN N. SPAW, P.E.
EXECUTIVE DIRECTOR

JOHN L. BLAIR
MARCUS M. KEY, M.D.
CALVIN B. PARNELL, JR., Ph.D., P.E.
WILLIAM H. QUORTRUP
C. H. RIVERS
WARREN H. ROBERTS
MARY ANNE WYATT

April 16, 1991

City of Farmers Branch
Attn: Mr. Richard L. Escalante
City Manager
P.O. Box 819010
Farmers Branch, Texas 75381-9010

via Telecopier
(214) 241-6305

Mr. Mike Roberts
Plant Manager, GNB, Incorporated
1880 Valley View Lane
Dallas, Texas 75234

via Telecopier
(214) 243-1011

Re: GNB Incorporated

Dear Messrs. Escalante and Roberts:

The TACB understands and agrees with GNB and the City of Farmers Branch that the following are the conditions for interim operations of the GNB lead/acid battery manufacturing plant located at 1880 Valley View Lane, Farmers Branch, Texas, pending further evaluation by the Texas Air Control Board on GNB's application to amend permit R-6656A. The period of operation from the date of this letter, through the date on which the TACB acts on GNB's permit amendment is referred to herein as the "interim period":

1. GNB agrees to conduct twenty-four (24) hour per day continuous monitoring for lead with air monitors installed at the northeast corner of Valley View Lane and Keenan Bridge Road at the site of the current TACB air monitor for a period of seven consecutive days during which the GNB Farmers Branch production facility was in operation (intervening weekend days would not be included in or as a part of the seven (7) day period). During that seven (7) day monitoring period, GNB would be authorized to produce a maximum of 4300 batteries per day, operating two shifts per day with one of its flash dry ovens continuously out of service.

2. Data would be gathered from the air monitors on a daily basis on each of the seven (7) days of operation, and maintenance performed on any filters in accordance with TACB protocols for such ambient air monitoring. TACB agrees to provide the protocols and initial technical assistance from TACB Regional staff to GNB. GNB agrees that all data would be collected and

maintenance performed in the presence of a designated representative of the City of Farmers Branch, Texas.

3. Monitor data and results will be analyzed by the TACB approved laboratory and, thereafter, reviewed by a TACB toxicologist.

4. The following ambient lead concentrations shall not be exceeded during the company's interim operation:

   (i) 0.473 micrograms per cubic meter (ug/m3) averaged over a 24 hour period at the monitoring location at the northeast corner of Valley View Lane and Keenan Bridge Road.

   (ii) 0.6 ug/m3 averaged over a 24 hour period at any other monitoring location in the Farmers Branch area.

   (iii) 0.09 ug/m3 averaged over a quarterly (3 month) period at the monitoring location located at the northeast corner of Valley View Lane and Keenan Bridge Road.

   (iv) 0.22 ug/m3 averaged over a quarterly (3 month) period at any other monitoring location in the Farmers Branch area.

5. During the interim period should GNB, TACB, or the City of Farmers Branch become aware of lead emissions in excess of the levels specified in paragraph 4 above, all parties will be notified and immediate action be taken by GNB to reduce lead emissions to the proposed levels with such action including, but not limited to, reducing the production levels and, additionally, GNB will reinstitute the continuous daily air monitoring program described in paragraph 1 above for the duration of the interim period.

6. During the interim period, prior to the issuance of GNB's amended permit, air monitoring under the following three conditions will be conducted:

   Condition one - Plant not operating, to establish baseline (monitoring should include at least one week day)(completed 4/12/91).

   Condition Two - Plant operating but not allow any transferring (truck delivery) of lead oxide.

   Condition Three - Plant operating normally (consistent with the above limits) including a rapid fill up of silos.

7. The City of Farmers Branch agrees not to operate its police firing range during the period of the monitoring program in the vicinity of the air monitor locationduring the seven (7) day monitoring period described in paragraph 1 above.

8. GNB agrees to confirm the start-up date and termination date of the seven (7) day monitoring program with the TACB and the City Manager, City of Farmers Branch.

9. Appropriate agencies should further investigate the level of lead contamination in soils adjacent to the GNB facility and develop an appropriate plan for remediation, if remediation is necessary, and submit the plan to the City of Farmers Branch for comments.

10. The TACB air monitoring station installed near the GNB site is in operation and daily air samples have been taken for three days including at least one weekday, prior to production start up, to establish a base level for the area. The results of this monitoring will be provided to both the City of Farmers Branch and GNB.

11. Air monitoring will be continued after production start up to verify conformance with concentration levels established by paragraph 4 of this letter during the interim period.

12. Continuous air pressure monitoring devices, with continuous recording capabilities, will be installed by GNB within thirty days of the date of this letter on all bag house areas and that each device have an audible alarm that will sound an alert in case of pressure failure. Until installation, the areas shall be under careful visual inspection with documentation of same.

13. TACB and GNB will provide the City of Farmers Branch with the analytical results of all environmental sampling related to or in the vicinity of GNB.

14. A long term air monitoring program be implemented by GNB with a sampling schedule to be negotiated by TACB, GNB and the City of Farmers Branch.

15. During the interim period the City and its consultants will be allowed access to the GNB facilities, as is necessary, to perform permit application evaluation.

16. Further investigation of soil lead levels in the area roughly 200 meters north of GNB is to be accomplished within thirty days by appropriate state agencies in coordination with TACB.

17. The parties hereto will establish a permanent air monitoring station to replace the current TACB air monitoring station in the vicinity of GNB in Farmers Branch. The current TACB air monitoring station is currently planned to be in operation for at least a one (1) year period. TACB agrees to continue analysis of samples taken at the permanent air monitoring station. The City of Farmers Branch and GNB agree to work together to collect the samples and submit them to the TACB for analysis.

18. A soil test plot will be established by the City of Farmers Branch at the point of projected maximum annual accumulation of lead emissions on the ground to investigate soil lead accumulation rates.

19. That a study be conducted by appropriate agencies into the potential occurence of contamination related to the transport of lead oxide from smelters to manufacturing facilities.

If each of the parties is agreeable to the terms and conditions set forth herein for the interim period of production and air monitoring at the GNB Incorporated Farmers Branch facility please indicate your agreement and acceptance to these terms by executing the signature block and the acknowledgment below. For the convenience of all the parties, I would request you return the letter to me via telecopy, The TACB fax number is (512) 451-5711 ext. 352. I will provide each of the parties a copy of the fully executed letter.

Sincerely,

TEXAS AIR CONTROL BOARD

JOAN OWEN

Its: STAFF ATTORNEY

AGREED AND ACCEPTED BY The City of Farmers Branch and GNB, Incorporated to be effective April 15, 1991 on the date shown on the signature block below:

CITY OF FARMERS BRANCH

Richard L. Escalante
City Manager
Date: May 8, 1991

TEXAS AIR CONTROL BOARD

Its: STAFF ATTORNEY
Date: MAY 1 1991

GNB INCORPORATED

by Richard Crowell, Attorney for GNB

Vice President in charge of
Corporate Development
Date: _____

CONTINUOUS COMPLIANCE MONITORING PLAN

At least 90 days prior to start-up of the Sweeny Environmental Complex Unit (SECU), the permittee shall submit a Proposal for Continuous Compliance Monitoring. The Proposal shall provide a plan of action to enable the TACB and TWC inspection staff to continuously monitor the normal operation and any upset conditions of the hazardous waste incinerator. This Program shall address, at a minimum, the following:

a) identification of parameters and equipment related to the SECU that can be continuously monitored via a continuous monitoring data-link system;

b) identification of each piece of computer and printing equipment necessary and appropriate for implementing a continuous monitoring data-link system in the regional offices of the TACB and TWC (or the region office of any successor agency);

c) funding and installation of all necessary computer and printing equipment, plus telephone transmittal lines with modems, to implement a continuous monitoring data-link system in the regional offices of the TACB and TWC (or the region office of any successor agency);

d) funding and implementation of a training program for all appropriate TACB and TWC staff who will access the continuous monitoring data-link system;

e) discussion of equipment compatibility; and

f) routine maintenance of and semi-annual testing of the SECU computer network system used to monitor the emission controls and parameters.

Following comment and approval of the Continuous Compliance Monitoring Proposal by TACB and TWC staff, the permittee shall implement the approved plan of action at least 30 days prior to start-up of the SECU.

AGREEMENT IN PRINCIPLE

ITEM A. Sweetening Unit Efficiency: LRA agrees to process all sour feedstock condensate in the sweetening unit such that the sweetened product will contain no more than 40 parts per million by weight (ppmw) mercaptans (as mercaptan sulfur) containing four or fewer carbon atoms. LRA shall shut down the sweetening unit immediately upon determining that the product contains greater than 40 ppmw mercaptans (as mercaptan sulfur) containing four or fewer carbon atoms until such time that corrective actions have taken place so that the unit produces condensate with less than 20 ppmw mercaptans (as mercaptan sulfur) containing four or fewer carbon atoms.

If the product contains less than 40 ppmw but more than 20 ppmw mercaptans (as mercaptan sulfur) containing four or fewer carbon atoms, LRA shall immediately investigate the operation of the sweetening unit to determine if there are any operational problems affecting the efficiency of converting mercaptans to sulfides and shall take appropriate steps to reduce the mercaptan concentration to below 20 ppmw.

ITEM B. Feedstock Limitation: All sour feedstock shall be stored only in pressurized bullet tanks. If emissions escape from the bullet tanks, then the emissions shall be routed to the flare.

B.1. Sampling Feedstock: Before unloading incoming trucks containing feedstock not intended for storage in pressurized bullet tanks and subsequent processing in the sweetening unit, LRA shall conduct smell tests on such feedstock. If smell tests indicate a sulfurous odor emanating from the feedstock, LRA shall refuse to accept any subsequent truck loads of feedstock from the same source until laboratory analysis results are obtained which indicate the feedstock is not sour and, therefore, not needing to be processed in the sweetening unit. Laboratory analysis results shall specify whether the material is sour. LRA shall provide the laboratory results to the TNRCC Air Manager upon request once the results become available.

If laboratory analysis results indicate that the feedstock in question is sour by the definition given above, LRA shall unload subsequent incoming trucks of feedstock from the same source only at Truck Bays No. 5 and 6 for storage of the feedstock in pressurized bullet tanks before routing the feedstock to the sweetening unit for processing.

B.2. Sampling Product. LRA will sample the product taken from the sweetening unit once per day by collecting one quart of condensate which is representative of the product.

It shall then composite the 7 daily samples into one weekly sample and preserve the sample in accordance with the quality assurance procedures set forth in the latest edition of the American Society for Testing and Materials [Use ASTM D No. 4057 or 4177, as appropriate].

The composited sample is to be sent to an independent laboratory approved by TNRCC for analysis of the mercaptan and hydrogen sulfide concentrations. Results of the lab analysis are to be sent simultaneously to the TNRCC and to LRA to verify that product of the sweetening unit will contain no more than 40 ppmw mercaptans (as mercaptan sulfur) containing four or fewer carbon atoms.

The sampling procedure specified in Section B.2. shall be in effect for the first thirty days after the initiation of receipt of sour condensate, after which LRA may conduct monthly sampling. In addition, LRA shall keep records of all laboratory analyses and a representative aliquot of each sample sent for analysis. Such records shall be kept on site for review by an inspector for a period of two years. The representative aliquots shall be stored in a secure, enclosed area for six months from the date collected.

B.3. At the request of TNRCC staff, LRA must immediately take a sample of the product to be taken from the sweetening unit and have it analyzed by an approved independent laboratory. This sample shall be requested without advanced notice to LRA of the date and time of collection. This independent sample shall be analyzed for the mercaptan concentration. The results of this independent sample analysis are to be sent simultaneously to the TNRCC and to LRA to verify that product of the sweetening unit will contain no more than 20 ppmw mercaptans (as mercaptan sulfur) containing four or fewer carbon atoms.

ITEM C. Contingency Plan: LRA will develop and submit a Contingency Plan for approval by the TNRCC Air Manager. The Contingency Plan shall reasonably assure adequate warning of local officials and a method to notify citizens in the immediate area in the event of a release/upset that may be potentially injurious to local citizens. The TNRCC Air Manager agrees to review the Contingency Plan within three (3) business days after submission. TNRCC will also agree to use all best efforts not to unnecessarily delay the start-up of the sour condensate operations based on the Contingency Plan. In other words, if the Contingency Plan substantially meets the requirements of this paragraph, LRA will not be unduly delayed in starting up the processing of sour condensate.

ITEM D. Emergency Storage Tanks: Prior to use of any of the emergency storage tanks, TNRCC Air Manager must verify that all tank seals and vapor recovery equipment have been properly installed or repaired. The TNRCC Air Manager agrees to complete inspection of the tank seals and vapor recovery equipment as soon as possible after LRA makes a request for the inspection, but in no event will TNRCC exceed three business days to complete its inspection.

ITEM E. Tank Seals: Prior to start-up of the plant, the TNRCC Air Manager must verify that all tank seals on new or existing storage tanks have been properly installed or repaired. The TNRCC Air Manager agrees to complete inspection of the tank seals on new or existing storage tanks as soon as possible after LRA makes a request for the inspection, but in no event will TNRCC exceed five (5) business days to complete this inspection.

ITEM F. Training: Prior to start-up of the plant, LRA shall develop and implement a training program to adequately train operating personnel and managers to operate units in full compliance with air quality rules and regulations.

ITEM G: Nuisance Conditions: In the event that the TNRCC staff determines that LRA is causing a nuisance condition and the condition cannot be corrected or is likely to continue for more than twenty-four (24) hours, then LRA upon written notice from the Executive Director of the TNRCC shall cease accepting and processing feedstock. LRA may not resume accepting and processing feedstock until:

1) LRA hires a third-party consultant to conduct an independent audit of the potential cause(s) of the nuisance condition;

2) the audit identifies all potential sources originating from the plant which are contributing to the nuisance condition, defines appropriate corrective actions to eliminate the nuisance condition, and also defines actions LRA should take to prevent recurrence of such nuisance condition;

3) the third-party consultant submits the findings of the audit as a plan to LRA, the TNRCC Executive Director and the TNRCC Air Regional Manager; and

4) the TNRCC Executive Director or TNRCC Air Regional Manager approve the plan and LRA completes the corrective actions necessary to eliminate the nuisance condition.

The third-party consultant must oversee the implementation of all the recommended actions and file a report with the TNRCC after the completion of each action, certifying that the action was successfully completed. The Executive Director many waive these requirements. Approval of the plan does not indemnify LRA from further legal actions or requirements by the TNRCC in its process of resolving the nuisance condition violation.

By my signature below, I pledge on behalf of Longview Refining Associates, Inc. to comply with all terms and conditions in this Agreement in Principle. I understand that the provisions of this Agreement in Principle shall apply to and be binding upon Longview Refining Associates, Inc., its successors, assigns and upon those persons in active concert or participation with them who receive actual notice of this Agreement in Priniciple by personal service or otherwise. Longview Refining Associates, Inc. agrees to give notice of this Agreement in Principle to any successor in interest prior to transfer of ownership of all or any part of its operation located at 601 Premier Road, Longview, Gregg County, Texas.

Original signed by D.E.W. — 12/15/93

Mr. David E. Wilder, President — Date

DRAFT SPECIAL PROVISIONS

Permit No. 20738

MAXIMUM CAPACITY

1. Subject to the limitations stated elsewhere in these Special Provisions, this permit allows for the construction of a dairy designed to house and feed a total of 2,000 head including 1,500 milking cows. Phase I of the dairy will be designed for 1,250 milking head and 250 dry cows. Phase II will be designed for 1,500 milking head and 500 dry head. These limitations shall apply to all adult cattle confined in pens as well as to adult cattle pastured on site. Calves and heifers younger than nine months and weighing less than 450 pounds shall not be counted toward these limitations.

2. The Texas Natural Resource Conservation Commission (TNRCC) Regional Office shall be notified within 30 days of commencement of operation under Phase I. As soon as practicable after one year following such commencement of operation, the staff shall convene a meeting including area residents and the applicant for evaluation of operations under Phase I. In the interim, area residents shall retain all rights under the public participation provisions of the Texas Clean Air Act and the Commission's rules regarding this application that were in effect on October 29, 1993. Approval to implement Phase II shall not be issued by the Executive Director until after such meeting is held, and in no event shall Phase II be authorized if nuisance odors are documented by the TNRCC Executive Director or his Designee and not resolved to the satisfaction of the TNRCC Executive Director or his Designee. Construction of Phase II shall commence no later than 18 months after such construction is approved by the Executive Director following Phase I. In the event that the 18 month period is exceeded, authorization for Phase II becomes void and construction shall not commence without obtaining an amended TNRCC construction permit or qualifying for an applicable standard exemption.

EMISSION LIMITATIONS

3. Total emissions from these facilities shall not exceed the values stated on the attached table entitled "Emission Sources - Maximum Allowable Emission Rates". Emission limits for feed receiving are based on a maximum hourly throughput of 50 tons and a maximum annual throughput of 9,170 tons of grain and dry feed commodities. Emission limits for feed mixing/handling are based on a maximum hourly throughput of 10 tons and

C. To the extent applicable to the activities authorized by this permit, the provisions and conditions of Title 31 TAC Chapter 330 are adopted by reference and are hereby made provisions and conditions of this permit.

VII. Incorporated Application Materials

The Site Development Plan submitted with the application dated May 27, 1992 and revised in June 1993 and August 1993 is adopted by reference and hereby made a provision and condition of this permit. The permittee shall maintain the Site Development Plan at the facility and make it available for inspection by regulatory personnel.

The Air Addendum submitted in the application for Permit No. MSW-2222 is hereby made a part of this permit as Attachment B.

VIII. Special Permit Conditions

A. In accordance with the procedures outlined within the Biological Indicator test, as described in Appendix C of the SDP, a test will be performed. Thereafter, in continuing operation of the autoclave, the Biological Indicator tests will be performed once a week in accordance with the Process Description section of the SDP.

B. Prior to operation, the applicant must have permit from the City of Conroe to begin disposal of contaminated water as identified in Provision No. III.B.1, Provision III.B.3, and Provision IV.C. at the City of Conroe wastewater treatment plant or have another defined permitted plan of wastewater treatment. A discharge permit with the City of Conroe or other permitted wastewater treatment facility shall be maintained and complied with. failure to do so shall be considered as grounds to halt, temporarily or permanently the operation of this facility.

C. The permittee shall calibrate radiation detection devices according to recommendations by the Texas Bureau of Radiation Control prior to accepting waste.

D. During construction of the facility, measures shall be taken to prevent erosion and sedimentation runoff from disturbed areas and sedimentation into wetlands. Runoff control measures shall remain functional and in place until disturbed areas are revegetated.

E. The Permittee shall establish a Citizen's Advisory Board (CAB) to work with the Permittee in addressing various issues and concerns raised by the citizens living near the facility site.

The CAB shall consist of the following persons: Steve Montgomery, 105 Summit Dr., Conroe, Tx. 77303, Stuart Morrison, 312 Oxford, Conroe, Tx. 77303, up to two other additional citizens, one from the Sunset Ridge subdivision, and the other from the Robinwood Subdivision in Montgomery County, Texas along with up to two BFI officials (permittee).

Upon completion of construction and prior to the beginning of facility operation, the CAB shall meet at the facility at a mutually agreeable time and be given a walking tour of the facility, followed by a question and answer session.

The CAB shall meet monthly at the facility thereafter for three (3) consecutive months on the 15th day of the month (or such other time as is mutually agreed upon) to address general questions and concerns. Thereafter, meeting of the CAB may, in the discretion of the CAB, be held upon the written request of any member of the CAB, however, meeting shall occur no more frequently than one every

thirty (30) days.

Citizens' Inspections (CI) of the facility shall be granted, upon reasonable notice to the permittee's district manager of the facility. Reasonable notice shall mean notice to the district manager of the facility no less than twenty-four (24) hours prior to the time sought for the inspection. The district manager shall use his/her best efforts to schedule the CI at a mutually agreeable time. Any CI of the facility shall occur in the physical presence of a BFI official, to ensure compliance with insurance and regulatory requirements. CI shall be conducted in a cooperative manner, to ensure no disruption to normal business operations.

CAB Unannounced Inspections may be conducted up to two times by a member of the CAB. Unannounced inspections shall be initiated and conducted by a member of the CAB, and may occur, in the discretion of the CAB member conducting the Unannounced Inspection, without prior notice to BFI. The CAB member conducting the Unannounced Inspection agrees that any unannounced inspection must take place in the physical presence of the district manager of the facility, or in his/her absence, the highest ranking manager at the facility at the time of the unannounced inspection. CAB members agree to conduct unannounced inspections in a cooperative manner, to ensure no disruption to normal business operations.

IX. TNRCC Air Quality Conditions

A. Within 10 days of installation of the boilers and condensation/carbon adsorption systems, file TNRCC Registration Form For Standard Exemptions (Form PI-7) with the TNRCC Regional Office.

B. At all times Emission Point Vapor Recovery Unit (VRU) shall vent through a condensation/carbon adsorption system. The carbon adsorption unit shall be sampled and recorded daily to determine breakthrough of volatile organic compounds (VOCs). The sampling shall be done at the canister outlet nozzle and during operating conditions. Prior to the condition of breakthrough, a new backup canister shall be emplaced. Breakthrough shall be defined as a measured hourly average VOC concentration of 108 ppmv total hydrocarbons reported as methane.

A WIN / WIN MEDIATION

The following situation is a mostly true story of a mediation that ended up being a win/win for both sides. Our client ("C") owned 35 acres on which he owned a house, lived and gardened. A small landfill next door was purchased by a larger company which made the landfill into a major facility ("L"). C became concerned about groundwater contamination and the possible contamination of his drinking water well and risks to his health. Although C's drinking water well tested free of contamination, there was contamination in monitor wells adjacent to C's property. In addition, C had some ponds on the back part of his property before L. C believed that the action of L, in pumping water from the facility, had led to the draining and subsequent filling in of C's ponds. C was also concerned about the devaluation of his property living next door to L. In addition, he felt that living next door to L was visually unacceptable. C filed a lawsuit, claiming nuisance and his other alleged concerns.

L wanted a permit amendment and wanted to obtain C's agreement that he would not oppose the permit amendment. C and L, and their attorneys, of course, were ordered by the Court to try to mediate their dispute. The mediation took place over two separate days and was mediated by a professional.

C had an appraisal that showed a significant decline in his property's value because of being next to L. C demonstrated that groundwater flowed from L to C's property. The monitor wells showing contamination indicated contamination was heading toward C's well.

L had an appraisal that showed no decline in C's property value. L demonstrated that groundwater flowed away from C's property. Nevertheless, L and C agreed that they were going to be neighbors for a long time and decided to compromise their dispute.

L agreed to erect a fence on the boundary line and to plant native trees along the fence to "cure" the visually unacceptable problem. In addition, L agreed to have a city water line brought in to C's house, thereby alleviating the potential problem of his drinking water. L also agreed to dig C's ponds and to provide bentonite liners for the ponds. L had a difficult time obtaining enough dirt to comply with their daily cover requirements. Therefore, the soil from C's ponds was purchased by L to use in their daily cover. C agreed to withdraw opposition to the permit amendment, and agreed to dismiss his litigation.

DRAFT AGREEMENT IN PRINCIPLE DRAFT

On behalf of Huntsman Chemical Corporation ("HCC") and concerned citizens of Seabrook, Texas ("Citizens"), we the undersigned voluntarily enter into this Agreement in Principle and agree to abide by its terms and conditions.

I. NOISE

HCC shall conduct baseline surveys of noise levels at its facility located at 12222 Port Road, Pasadena, Harris County, Texas. One noise survey shall be taken before and one after start-up of the polypropylene unit at the above facility. Each survey shall provide the frequency and decibel levels registered along HCC's southern property line. Within 60 days of completion of each survey, the results shall be provided to the Office of the Seabrook City Manager for distribution to the Citizens.

In the event that there is a statistically significant shift in noise level recorded after start-up of the polypropylene unit, then HCC shall retain the services of an independent noise abatement consultant. HCC shall submit the names and qualifications of three independent consultants to the Office of the Seabrook City Manager for coordination of approval by the Citizens. Once a noise consultant has been agreed upon, HCC shall retain the selected consultant to prepare recommendations for noise reductions. HCC shall implement economically reasonable recommendations or provide the Citizens with a justification for rejecting the recommendation as proposed by the independent consultant. Agreed-upon recommendations shall be implemented as soon as practicable.

II. FLARE

HCC shall properly design the flare for the polypropylene unit to burn process vent emissions and emergency relief emissions from the propylene storage tanks. HCC agrees to give the Office of the Seabrook City Manager special notification at the time of submittal of any permit amendment requests pertaining to the operation of the polypropylene plant flare.

III. RISK ASSESSMENT

HCC shall take all reasonable efforts to incorporate accident prevention measures at its plant, to minimize\prevent off-property impacts, and to enhance the safety and wellbeing of the Citizens. Accordingly, HCC agrees to do the following:

a. conduct safety reviews at various stages in the plant design; and

b. provide summaries of those reviews to the Office of the Seabrook City Manager.

HCC is not required to disclose trade secret information or information subject to disclosure restrictions of technology licensing agreements.

IV. LIABILITY COVERAGE

HCC will provide the Office of the Seabrook City Manager with specific information on the extent of its insurance liability coverage and the scope of its financial responsibility in case of an accident at its plant.

V. ROUTING OF TRUCKS

To minimize truck traffic in residential areas, HCC will request drivers of contract suppliers to use Highway 146 South to access Port Road and to avoid, if at all possible, the intersection of Old Highway I46 and Red Bluff. The City may consider passing an ordinance limiting truck load in the affected area.

VI. FUTURE EMPLOYEES

HCC will make a concerted effort to hire qualified employees for the polypropylene expansion project from the local Seabrook area. These efforts shall include, but not be limited to, advertising of professional, technical, and administrative positions in local newspapers and posting of positions at the Seabrook City Hall.

VII. EMERGENCY WARNING SYSTEM

HCC shall support and participate in the development of an area-wide Emergency Warning System for the City of Seabrook. HCC agrees to work with local companies and the City of Seabrook through the local Community Advisory Panel to develop and implement this warning system.

VIII. CONCLUSION

This Agreement in Principle is binding on Huntsman Chemical Corporation, its heirs, assigns, or any successor-in-interest and agree to provide advance written notice of this Agreement in Principle to any successor-in-interest.

Likewise, this Agreement is binding on the Citizens and their heirs, so long as the citizens reside within 5 miles of the plant. Should any of the citizens relocate to a permanent residence

outside a five-mile radius from the plant, all rights under this Agreement in Principle are waived and non-transferrable to any person. The Citizens agree that, in view of this Agreement in Principle, a public hearing on HCC's application for a polypropylene unit is unnecessary and hereby waive their rights to a hearing on this matter. However, the Citizens in no way waive their right to complain to any responsible regulatory authority regarding the operation of HCC's present or future facilities.

This Agreement shall terminate upon the fulfillment of all of the obligations under this Agreement or if HCC does not construct the polypropylene plant.

By our signatures below, we pledge to abide by all terms and conditions of this Agreement in Principle.

_____
for Huntsman Chemical Corporation

_____
Mr. Ron Wicker, for City of Seabrook

_____
Mr. Paul Boehm, Concerned Citizen

_____
Ms. Joeli Chavarria, Concerned Citizen

_____
Mr. Rudi Wallace, Concerned Citizen

_____
Ms. Kay Boteler, President Seascape Property Owners Association

ATTACHMENT 11
FEATHERLITE BUILDING PRODUCTS CORPORATION
CONCRETE BLOCK MANUFACTURING PLANT
STANDARD EXEMPTION REGISTRATION NO. 23792

TASK	DESCRIPTION	IMPLEMENTATION DATE
Storage Bunkering	1. Increase bunker height to 9ft. 2in. 2. Maintain stacks lower than bunker height	1. July 15, 1994 2. Continuing
Plant Paving	1. Pave additional identified plant areas (see Attachment A)	1. Completed July 15, 1994
Sweeping of Paved Areas	1. Sweep with frequency as necessary to limit particulate emissions	1. June 17, 1994 (then continuing)[1]
Road Sprinkling	1. Sprinkle roads with frequency as necessary to limit particulate emissions	1. Continuing
Plant Speed Limit	1. Speed limit reduction to 10mph applicable to all vehicles 2. Posting of signs 3. Continued monitoring and enforcement	1. Completed 2. Completed 3. Continuing
Training of Raw Material Handlers	1. Retrain handlers on material handling practices which limit particulate emissions.	1. Completed June 1, 1994

[1] New commercial sweeper purchased, anticipated arrival June 17, 1994.

Argument to the Commission

"Fighting tooth and nail"

David Frederick

Molly Cagle

Kerry Sullivan

MOLLY CAGLE

Molly Cagle is a partner in the Firm's Austin office. Her principal area of practice is Administrative and Environmental Law.

Molly counsels numerous clients on virtually all types of environmental compliance matters. She has represented clients in enforcement matters before state and federal agencies and has litigated and negotiated settlements under the Clean Water Act, the Clean Air Act, the Resource Conservation and Recovery Act, and their state analogs. Molly recently was lead council in negotiating a settlement with the Texas Water Commission in a case involving the largest fine ever sought by that regulatory agency. The matter concerned alleged water code and solid waste act violations and required coordination with multiple state agencies.

Molly also has participated in a number of Superfund cases, representing clients on remedy, as well as allocation and natural resource damage issues. In a Colorado case, Molly was lead defense counsel for the largest volume generator in litigation among potentially responsible parties over a $100 million remedy Superfund site. She served as the coordinating counsel for more than 20 technical and economic experts on behalf of a joint defense group. When the case was settled on the eve of trial, Molly was the chief negotiator for the defense group, with primary responsibility of document drafting. In addition, she has participated and led negotiating and lodging of consent decrees for site remediation.

She also has served as principal counsel to task groups on recovery for environmental claims based on PRP's insurance coverage. As lead attorney on behalf of another client, Molly evaluated and subsequently developed claims against multiple insurers to recover damages based on pollution coverage.

Permitting work before the Texas Natural Resource Conservation Commission (and its predecessor agencies, the Water Commission and Air Control Board) and the U.S. Environmental Protection Agency is Molly's other major practice area. She is Texas local counsel for one of the nation's largest commercial hazardous waste disposal companies. She handles all permitting work associated with this client's Texas incinerator, injection well(s) and landfill, and is lead counsel for it in the first contested case being tried under the Commission's new complex hearing rules. This action involves more than ten parties, including state and international elected officials opposing the issuance of a permit for a new hazardous waste management facility. Recently, on behalf of another client, Molly successfully renewed a controversial wastewater permit for a sludge management facility near Galveston, Texas.

Molly is a member of the ABA Sections of Natural Resources, Energy and Environmental Law and the State Bar of Texas Sections of Administrative & Public Law and Environmental and Natural Resources. At the request of the Texas Natural Resource Conservation Commission, Molly presently serves on Task Force 21, the State's lead regulatory negotiation committee for developing environment rules and policies in Texas. She has authored numerous environmental articles and frequently lectures at environmental courses. Additionally, Molly has testified before the Senate.

Molly was born in Bakersfield, California, on May 11, 1955. She attended the University of Southwestern Louisiana and graduated from Texas Tech, B.S. *magna cum laude* in Engineering Technology and Textile Chemistry in 1978 and from the University of Texas School of Law, J.D. with honors in 1981. She was admitted to practice in Texas in 1981.

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COMMUNICATIONS TECHNIQUES
PUBLIC SPEAKING, FORMAL PRESENTATIONS

• 1994 By Molly Cagle
Vinson & Elkins L.L.P.
Austin, Texas

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COMMUNICATIONS TECHNIQUES

Public Speaking, Formal Presentations

I. INTRODUCTION

Studies tell us that relatively little of the information we receive in communications from other people is from their actual words. A 1970 study, Body Politics, by Nancy Henley, concluded that only 7% of a message is conveyed by the verbal content; 38% is through the voice tone, 55% is non-verbal (gestures, posture, eye focus).

As a lawyer, I certainly can't believe that that means words are not important. What it does mean, though, is that when you are communicating in person, to get your message across -- to get people to listen to you, believe you, agree with you, be persuaded by you -- you must deliver the meaning of your words unequivocally, with your body as well as your mind.

I'm not here to give a course in basic oral advocacy. What I'd like to do is pass along ideas and techniques for effective communication. And to remind you, while you are preparing for oral argument or public speaking -- researching, drafting, redrafting, perfecting your argument outline -- not to forget to think about, and practice, how you are going deliver it so it gets heard and believed and acted on. Also, remember that the Commissioners of the Texas Natural Resource Conservation Commission are not the original captive audience. Unlike a jury, they can leave the agenda room for reasons other than death or disabling disease. Rotating attendance by the decision makers during your presentation can be embarrassing and humiliating; worse than that, though, you're certain not to send a clear message. You may not always be able to capture all three Commissioners, but you certainly should try to do so.

First, I'd like to discuss techniques for using your voice to best effect in speaking in public. Then I will talk about ways to reinforce your message physically: body language in public speaking.

II. VOICE

A. Verbal components of voice use

Certain verbal habits can undermine your audience's attention to and confidence in your message:

"I know you probably know this, but ..." ("You/he probably know more about this than I do." "I may be wrong but . . . .")
"In my opinion . .." (This is just my opinion, but . . .")
"I'm not sure I'll be able to do this."

Using "you know," "um," "uh."
Speaking too softly to be heard.
Speaking too quickly to be understood.

B. Nonverbal components of voice use

1. Production: Posture and breathing

   a. Stand erect, but at ease. This will give your voice its best, most pleasing quality.
   b. Breathe and speak from your diaphragm, not your nose.
   c. Avoid breathiness (too much air released through throat as you speak): results in childish-sounding voice lacking in power and authority.

2. Projection: Volume and resonance

   a. Speak loudly enough to be heard: appropriate volume depends on distance between you and speaker, size of the audience, background noise, room acoustics.
   b. Don't drop volume or fade out at the end of sentences.

3. Pitch: Inflection, vocal variety, and color.

   a. If your natural pitch is high, you may want to deliberately lower it a little.
   b. Speak in the lowest tones comfortably available in your voice range, and check yourself as you speak to maintain this range.
   c. Speaking from diaphragm will help give both power and resonance.
   d. Pitch can be used to underscore meaning or even change it.

4. Clarity: Enunciation, articulation.

   a. Don't mumble.
   b. Direct your voice at audience, not floor or ceiling.

5. Tempo: Speed of delivery
   a. Vary tempo, pace. Breaks monotony, prevents boredom.
   b. Speech rate should match importance of what is being said, used to add emphasis and variety.
   c. Use silence as part of speech.

6. Rhythm: Choppy, staccato or smooth.

7. Tone: Transmits energy, warmth, and urgency
   a. Sound like you care about what you are saying--gives it importance to others

III. BODY LANGUAGE

I do not believe that there is any universal translation key for what a particular gesture (such as crossed arms) means on every single person who displays it at any given time. However, there is no doubt that people are affected by the behavioral level of communication. So even if you think you've heard all you ever want to hear about body language, let me share some suggestions for what you can do physically to make your listeners receptive and attentive, and to get your message across. There are some basics you can learn for using your body to reinforce the message of your words, to avoid contradicting the message you're trying to convey, and to make that message more easily accepted by the minds of your listeners.

A. Posture

1. Posture should be erect, but at ease: makes you look confident, authoritative, believable.
2. More power when you're pulled up to full height, not sticking your head forward, with some tension in muscles, and feet 8 to 12 in. apart.
3. Vary stance for emphasis (lean across lectern to show deep involvement or interest; sit on the edge of a desk or table to shift to informal mood)

B. Position, Movement

1. If you have a choice, don't stand behind the lectern.
2. Turn or move as you speak to direct your comments to the entire room.
3. Move closer to audience or take a few steps left or right to add variety or emphasis.
4. Movements must be purposeful: don't fidget or pace. Don't move around or gesture when explaining complex material.

C. Gesture

1. Use your hands to project confidence. Place them on the table or lectern. Gesture firmly, don't fidget.
2. Important that gestures look natural.
3. Asymmetric gestures look more natural and relaxed.
4. Avoid repetitive gestures; use them to punctuate argument.

5. The more complicated the argument, the fewer gestures you should use -- the eye wins.

D. Facial expression.

1. Smile and try to keep your face muscles relaxed to project confidence. Many people seem unable or unwilling to smile in speaking situation -- if you can do it without forcing it, it will make you look more confident and relaxed.

E. Eye contact

1. Make eye contact as you move around the group.
2. Speak directly to the people in the room. Draw them into your comments by referring to them, or to what they have said.

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Offsite Disposal

"A waste is a terrible thing to mind"

Teresa Salamone

Roland Guerrero



Teresa B. Salamone

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Ms. Salamone is an attorney with ten years of experience in environmental law. Prior to joining Geraghty & Miller, her work experience included private practice as well as employment with regulatory agencies. Ms. Salamone monitors federal and state statutory and regulatory changes for Geraghty & Miller and provides internal and client training on these issues. She also participates in technical projects, assisting primarily in regulatory strategy. Ms. Salamone is the director of Geraghty & Miller's Corporate Regulatory Services. Currently, she is Vice Chair of the State Bar of Texas Environmental and Natural Resources Section Executive Committee, and Vice Chair of the Central Texas Chapter of the Air and Waste Management Association. She is also a member of the Government Affairs Committee of the National Ground Water Association, the Board of Directors of the Association of Ground Water Scientists & Engineers, Vice Chair of the ABA SONREEL State and Regional Coordination Committee, and assistant editor of the SONREEL NR & E.

HAZARDOUS WASTE GENERATION AND DISPOSAL:

STRATEGIC PLANNING FOR LONG-TERM COMPLIANCE

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INTRODUCTION

Proper waste management depends on careful attention to the details of environmental regulations. Compliance must include a day to day knowledge and understanding of the wastes generated at a facility, a system in place to classify and ensure that all wastes are managed properly, and a sensitivity to the range of potential liabilities that stem from improper waste management. The goal of this paper, using a fairly simple fact situation, is to highlight steps to follow to improve and maintain environmental compliance in the area of hazardous waste management.

SECTION I - OFF SITE DISPOSAL

Scenario: Simple Simon Corporation has been sending wastes off site to a municipal solid waste landfill. It has been recently revealed that the waste being sent to the municipal waste landfill should be classified as hazardous waste.

There are several issues raised by this scenario. Generally, the generator would want to consider:

1. Have I done anything wrong (illegal)?
2. If I have done something wrong, do I have a legal obligation to take any action?

3. If I do have to take action, what would it include? Notification? If yes, who gets notice? Remediation? If yes, to what extent?

4. Even if I do not have a legal obligation to take action, is there another reason for me to act?

To consider these questions, the paper is divided into three sections. The first, relating to off site disposal, identifies issues associated with historical mismanagement of wastes. This section provides some general guidance on assessing and managing potential liability. The second section addresses ongoing waste management and provides suggestions for proactive day-to-day compliance systems. The third section includes recommendations for the development of a long-term compliance strategy. References and Relevant Guidance documents are listed below and identified by a parenthetical reference (___) within the text. Some portions of the more important documents are attached.

Have I Done Anything Wrong?

When considering the first question, the issues can be loosely divided into environmental regulatory compliance issues and third party issues. The most significant environmental regulatory compliance issues include:

i. disposal at an unauthorized facility;
ii. shipment of hazardous waste by an unauthorized transporter;
iii. shipment of hazardous waste without required manifest;
iv. failure to comply with the Land Disposal Restrictions;
v. improper or inadequate recordkeeping and reporting of hazardous waste generation;
vi. improper waste classification; and
vii. potential improper on-site waste management.

The most significant third party issues include:

i. threat of harm or actual harm to human health or the environment;

ii. violation of terms of contract with the disposal/treatment facility; and
iii. violation of terms of contract with transporter.

To determine whether you did anything wrong, you must first consider the facts very carefully.

Before making any rash statements or taking any action, carefully re-evaluate the waste classification. Is the waste that has been shipped off site really hazardous? This may be a simple question to answer but it should be seriously considered before any other actions are taken. For example, if the waste is classified as a listed hazardous waste, are you sure that the process generating the waste meets the exact terms of the listing? In some cases, the answer will be clear. In other cases, upon closer analysis you may discover that the process generating the waste is not the process that the United States Environmental Protection Agency (EPA) intended to regulate. You may determine this by another careful reading of the hazardous waste listing set out in 30 Texas Administrative Code (TAC) 335.1 adopting by reference 40 Code of Federal Regulations (CFR) Part 261 Subpart D. In cases where there is still some question, it will also be important to refer to the Background Listing Document for the wastestream. This document, prepared by the EPA for each newly listed waste, sets out the exact scope of the listing and describes the facilities or processes that were intended to be included. These Background Listing Documents may be obtained by calling the Resource Conservation and Recovery Act (RCRA) Docket (202) 260-9327.

If instead of a listed waste, the waste is classified as a characteristically hazardous waste, it will be important to confirm the basis for that classification. For instance, was the classification based on generator knowledge or a laboratory analysis? If based on generator knowledge, what were the assumptions that formed the basis of the classification? Are they correct? Were they correct on the date that the waste in question was generated? You may have to review the Material Safety Data Sheets (MSDS) for the chemicals used in the process generating the waste to confirm these assumptions. Given the potential for variations in some common chemicals, make sure that the documents you review describe the chemicals used during all relevant time periods. If necessary, call the manufacturer for historical MSDS.

If the waste classification was based on laboratory analysis, review the analysis critically. Was the sample collected for purposes of the analysis representative of the waste stream

shipped off site? Were the methods used to collect the sample designed to result in a valid laboratory result? Did the laboratory use appropriate Quality Assurance/Quality Control methodology? Did the laboratory use the appropriate method for analyzing the waste? If there is any reason to believe that the sample is not representative of the waste stream or if there is some question of the laboratory's methodology, it may be necessary to re-sample to confirm the waste classification. Be sure that the waste stream you re-sample is identical to the waste stream shipped off site. The EPA has provided a checklist to assist the generator in making a hazardous waste determination (13a).

IMPORTANT: **The definition of solid and hazardous waste has changed over the years. When confirming the classification of the waste, consider the dates of shipment. Was the waste considered hazardous at the time of shipment?**

If after careful analysis of the facts you determine that the waste was hazardous at the time of shipment, it is likely that any agency interpretation of the regulations would find that you have shipped hazardous waste to an unauthorized facility. Moreover, as a generator of that waste, you might have had other obligations that were not met. If you decide that a violation could be alleged by an agency, what should be your response?

If I Have Done Something Wrong, Do I Have A Legal Obligation to Fix It?

Once you have convinced yourself that the action is wrong, the first step should be to immediately discontinue the action. Having done that, what other actions should you take? The next step in this analysis could be to determine whether you have any legal obligation to act. Is there a statute, ordinance, permit, order, or some other requirement that would impose a duty to act? (There may be business or other reasons to act, such as risk to human health or the environment, and these reasons are considered below.)

The answer to this question will depend on the agencies' implementation of the environmental laws. For example, under the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA), as a contributor to the site you would be jointly and severally liable for any future remediation under that program. However, if the site is never brought into the CERCLA program, you will never be called upon to respond to this obligation. Similarly, if you assume that this is illegal disposal of hazardous waste under

the RCRA, the question is whether there is an obligation under RCRA to exhume and re-dispose the waste. It may be that the agency would assess penalties for illegal disposal, but would not require remediation.

If I Do Have An Obligation to Act, What Should I Do?

Assuming that based on your facts you conclude that you do have an obligation to act, what actions should you take? The first consideration is notice. Is there a requirement for you to provide notice of the action? If yes, which agency or person is to receive that notice?

Look first at internal notice. It will be important to notify senior management. Exactly whom within the company should receive notice will vary from company to company but should not be delayed. The courts have begun to make very clear that ignorance is no protection for top level executives. The next step should be to coordinate activities with legal counsel. This may be in-house or external counsel. Given the risk of criminal, civil, and administrative penalties for waste mismanagement as well as the risk of a multi-million dollar toxic tort law suit, the advice of counsel will be critical. You should work with counsel to develop a strategic plan for managing the matter. This plan should set out the steps for assessing and collecting information, identify the limited number of people that should be involved in discussions, and set out the community relations plan.

In the area of notice, you should also consider what recordkeeping and reporting were conducted during the period of shipment. This might include annual hazardous waste generator reports, the notice of registration of wastes generated, and the Toxic Release Inventory (TRI). Whether to go back and revise annual hazardous waste generator forms is a question that must be answered on a case-by-case basis and may depend on your overall regulatory status or corporate philosophy. In some cases, the Texas Natural Resource Conservation Commission (TNRCC) has cited generators for improperly completed annual reports and required submission of revised reports. The agency inspector can easily identify this discrepancy by comparing the various years' reports and his or her knowledge of facility operations. If the report changes from one year to the next, but the operation doesn't, the agency will notice this. If the generator anticipates that the agency will identify violations and that the hazardous waste generation report discrepancy will be noted as one of the violations, the generator may decide to make the correction in advance.

The Notice of Registration is another important document that should be considered. This Notice must reflect current wastes and waste management activities. The generator has the obligation to keep this notice up-to-date. Even if there is some argument that the past waste classification was done in good faith, the generator will have an obligation to update this form upon receipt of information that changes the classification.

The final example relates to the TRI. This annual report reflects emissions from the facility, including hazardous waste shipped off site for disposal. These forms are also required to be accurate, arguably creating the obligation to revise and correct previously submitted reports that are inaccurate. Not all facilities are subject to TRI reporting, but those facilities that are should consider whether such a revision is necessary.

IMPORTANT: **In some states, an attorney is ethically obligated to report ongoing criminal activity that creates the risk of eminent and substantial endangerment. The attorney would be ethically bound NOT to disclose past actions revealed by a client. It would be up to your attorney to determine whether the knowledge of illegal off site disposal would be considered an ongoing action subject to this reporting requirement.**

Notice to a federal, state or local agency may also be required. This notification requirement will vary depending on the facts but should not be overlooked. The agencies and the courts have taken a dim view of failure to comply with reporting requirements and have assessed stiff penalties in recent cases. For example, the agencies may determine that this disposal constitutes a reportable quantity release reportable under CERCLA. State law must also be considered. TNRCC has policies and regulations relating to spill and release reporting and has currently draft historical release reporting requirements.

In addition to the decision to report the action you will also have to decide whether to take any kind of remedial action. This may include excavation, offers to cap a portion of the landfill, or activities related to groundwater monitoring or remediation. Before you agree to take any remedial action, however, you should collect and evaluate all of the facts surrounding the disposal activity.

The important facts to evaluate include:

1. When was the first shipment of waste sent to the facility?

2. What was the total volume of waste shipped?

3. What was the rate per month of generation of hazardous waste at the facility during the time of the shipments? Did the facility generate less than 100 kilograms of hazardous waste or less than 1 kg of acute hazardous waste during that time period to qualify for Conditionally Exempt Small Quantity Generator Status?

4. Did the composition of the waste change over the period of shipment?

5. How was the waste managed at the disposal facility? Any treatment prior to disposal? Does the landfill operator have a grid or record of the location of the waste within the landfill?

6. What protective measures are installed at the landfill? Groundwater monitoring? Liners and leachate collection system?

7. Does the agency have any records of environmental compliance for the landfill? Has there been any allegations of impacts from the landfill during the period of time that the wastes were shipped or since that time? Does the agency believe that the landfill is well managed and operated?

8. What are the pathways of exposure from the landfill? Is there local use of groundwater? What is the local land use in the area of the landfill?

9. How was the waste managed on-site prior to disposal?

The range of remediation options will depend on the answers to those questions. If the landfill cannot locate the waste within the landfill, making a surgical attempt to remove or contain your waste may be impossible. Even if you cannot identify the location of the waste, you may determine that some action is still required and you might consider improvements to or installation of a groundwater monitoring system or leachate collection system. Keep in mind that remedial actions are costly and typically are not done without the knowledge

of the agency. Therefore, any remedial options should be carefully considered. They would also have to be coordinated with the owner/operator of the landfill, potentially triggering other legal claims related to the disposal. In some cases where there appears to be no risk posed by the disposal, the generator may decide to take no action.

Even If I Don't Have a Legal Obligation To Act, Is There Another Reason Why I Would Want To?

Even if you determine that you do not have a legal obligation to act, you should consider what other implications that decision may have. For example, you may in the future be the subject of an unrelated environmental enforcement action. If the illegal waste disposal were unearthed during that investigation, inaction may be seen as an aggravating factor in that matter. Both the Justice Department guidance on mitigation of criminal penalties and the Draft Sentencing Guidelines for Criminal Penalties authorize harsher penalties in cases of aggravated or wilful misconduct. (1) (2) The TNRCC has also recently issued a penalty policy. (3)

You should also consider the risks of inaction on current and future business dealings. For example, the contract between your corporation, the waste transporter, and the landfill may incorporate a guarantee that the wastes are nonhazardous. If uncovered by the owner/operator of the landfill, a perceived breach of this clause may result in contract liability. You may also want to act to protect your reputation and business status in the industry. If you are perceived as untrustworthy, other owner/operators may believe the risk of dealing with you is too high or is worth a significant premium.

One last consideration for action without a legal obligation includes the risk of third party liability. This may include air emissions or groundwater contamination attributable to the landfill, and ultimately to you as a contributor to the landfill. This is another example where a decision not to act may result in increased liability in the unpredictable and emotional setting of a toxic tort lawsuit.

Conclusions?

The decisions that you make regarding action in this matter will be based on legal, ethical, and business factors. Seeking legal advice is critical in the early stages so that you may

design and implement a strategy that is protective of human health and the environment, and manages your risk of liability effectively. The decisions will vary from remediation, to recordkeeping and reporting, to existing contracts, and to the actual risk to third parties.

SECTION II - ON SITE WASTE MANAGEMENT

Scenario: You are the new Environmental Manager at Simple Simon Corporation. Based on your inspection of the facility and a review of facility files, you suspect that the current waste management practices are inadequate.

What Are Some of the Things That I Should Do Immediately to Move the Facility Toward Compliance?

The first step toward bringing the facility back to compliance would be to identify the waste streams that are generated and ensure that these wastes are being properly managed. Identification of the waste streams will involve a site inspection and interviews with site personnel. During this inspection, you should inspect the entire operation and identify each waste stream, its on-site waste management, and its off-site disposition. Armed with this information, you can return to the files and determine what, if any, improvements are necessary.

Begin by assessing the waste classification of each waste. How is it classified? Do you agree? Is there documentation in the file to support this classification? If the waste is not classified, or you do not agree with the classification, set out the steps that you will use to get it properly classified. This may include additional site interviews to allow you to use knowledge of process, it may include review of MSDS for the chemicals that generated the waste, or it may include laboratory analysis. Remember that in Texas, even nonhazardous waste is subject to self-classification and the TNRCC has provided very specific guidance on how this should occur. (7) (10) The sampling should be representative of the waste stream and the analysis should be appropriate to the waste classification process. The EPA has issued a comprehensive guidance document on this process of waste classification. (13)

After identifying the waste streams, you should review the facility documentation to determine what documents may need revision. This is particularly necessary for the Notice

of Waste Registration. As noted above, this document must reflect current facility operations. You should notify the TNRCC, on forms provided by that agency, of any additions, deletions or revisions to the information reflected on your current registration. (7) (8) As also mentioned above, you may have other paperwork that should be updated.

After revising existing records, you should turn your attention to the on site waste management practices. Are the wastes being managed in accordance with the appropriate waste classification? The TNRCC has very specific requirements for the management of hazardous waste set out in 30 TAC 335. You will also be required to make decisions relating to the management of this waste. Are you treating, storing or disposing hazardous waste on site? If yes, then you will need to obtain a permit for this activity from the TNRCC. If you choose not to apply for a permit, you may still manage hazardous waste on site for a certain period of time without a permit provided you comply with certain requirements. See 30 TAC 335.69. (11)

Finally, for wastes that are determined to be hazardous, you should consider where and how these wastes are being disposed and/or treated. Only authorized hazardous waste disposal and treatment facilities may accept this waste. The TNRCC has issued a list of these facilities for your reference. (5). These disposal facilities will require that you complete a hazardous waste profile for each waste stream, on which they will rely for future shipments. You should review existing waste profiles to ensure that the information provided is accurate an complete new forms for any new off site hazardous waste shipments. These forms are typically provided by the commercial facility but you may offer to supply your own. (13h). In addition, only registered hazardous waste transporters may haul hazardous waste. You should also check your transporters to make sure that they have registered with the TNRCC and EPA. (12).

Conclusions?

Most of the problems with current compliance will relate to improperly classified wastes. Upon clarification of this information, you should ensure that existing records are accurate. Once you have satisfied yourself that the paperwork is in order, you can turn your attention

to on-site and off-site waste management. The regulations provide very specific management requirements for all classes of facilities.

SECTION III - Risk Management Strategies

Scenario: The Environmental Manager has weathered the current crises with off site waste disposal, but would like to take steps to prevent such problems in the future.

What Can I Do to Minimize My Risks of Liability in the Future?

The critical element to future compliance will be the development of a long term strategy for compliance. This strategy must include an analysis of existing compliance, future activities that may impact existing compliance requirements, systems for compliance, and your compliance budget.

The first step in developing the strategy will be to create an accurate baseline understanding of conditions. You may have already done this in your efforts to understand existing conditions, or you may want to hire an outside consultant to evaluate your compliance status. The decision to conduct the self-evaluation must not be made lightly and you must be prepared to incorporate the findings of that evaluation into your long-term compliance strategy. One of the current concerns about conducting a thorough self-evaluation is the risk that the agency or a third party will obtain the document and use the results to prove noncompliance. The EPA has issued a policy that does not put these fears to rest, stating that in some cases these reports would be sought in an enforcement action. (14) In response, four states (Oregon, Indiana, Kentucky, and Colorado) have passed statutes that expressly protect audit reports from disclosure. The EPA has responded by asking other states to delay passing similar statutes until the agency has had the opportunity to review their earlier policy. EPA, in fact conducted public hearings on this issue July 27-28, 1994. (15).

Based on the information provided in the audit, you should consider the elements of your long term plan. This plan can include the following:

Regular on-site multi-media audits.(11) - These can be annual, and can address all or one regulatory program. These can be conducted by internal staff or by outside auditors.

The key to successful regular audits will be a clear, consistent scope of work and a qualified audit staff. (4) (11)

Employee training - The more training they receive, the more likely employees are likely to do the right thing. In addition, the more simple the system (e.g., only solvent rags in red buckets, only paint brushes in yellow buckets) the more likely it is that they will be able to do the right thing. Training and enforcement of a waste management program are critical to its success.

Waste minimization - The RCRA regulations have always required the generator to certify that the generator has a waste minimization program in place. There has been very little guidance in this area and the requirement has been sporadically enforced. In recent years some states have imposed mandatory waste minimization programs, or at a minimum, mandatory waste minimization planning. Waste minimization makes sense from a cost perspective, and in many cases, initial waste minimization can be implemented quickly and easily. The EPA has recently issued guidance on the scope of an appropriate waste minimization plan. (6) (9)

Contractor/subcontractor contracts that incorporate environmental controls on their activities - In some cases, it is the contractor or subcontractor that is responsible for an activity that generates a waste. The generator should place very stringent requirements on these contractors to control the nature of the waste streams generated and their on-site waste management practices.

Control of contractor/subcontractor participation in compliance activities - At many facilities, the environmental manager relies on information or advice from vendors or other contractors. In some cases, this reliance can lead to misclassified waste or other compliance issues. The generator is ultimately responsible for all waste management decisions and must not cede these decisions to contractors or consultants.

Long-term budgeting that includes consideration of environmental compliance costs - Environmental compliance costs money. This is money begrudgingly apportioned at some facilities where environmental is viewed by operations as a "black hole" of expense. Management must understand the importance of environmental compliance and the financial and personal risks of noncompliance and budget appropriately. It can not be more clear that

spending money to manage a waste properly can save thousands later in remediation costs for wastes that are mismanaged.

System for new waste stream identification and classification - To ensure continued compliance, there must be a system in place to identify new waste streams, preferably prior to its generation. This requires cooperation between operations staff and environmental staff. The cooperation can include environmental review of MSDS prior to the purchase of a new chemical, coordination of all process changes, and notification of facility expansions or reductions. Operations must be made to understand that changes to the process impact environmental compliance.

Periodic off-site treatment, storage and disposal facility audits - To ensure that off-site waste management facilities are handling waste properly, it is important to inspect those facilities. This inspection should occur prior to initial use, and at some frequency thereafter. The initial audit should include not only an inspection and tour of the facility, but should also include interviews with agency staff and a review of agency files to determine current compliance status.

Conclusions?

The strategic plan should be kept simple and easy to implement. As you develop on site systems, this plan will become more sophisticated and proactive.

REFERENCES AND RELEVANT GUIDANCE

1. Draft Sanctions for Environmental Criminal Violations, November 1993.

2. Factors in Decisions on Criminal Prosecutions for Environmental Violations in the context of Significant Voluntary Compliance or Disclosure Efforts by the Violator, United States Department of Justice, 1991.

3. Statement of Enforcement Philosophy of the Texas Natural Resource Conservation Commission, May 25, 1994.

4. Basic Inspector Training Course, Fundamentals of Environmental Compliance Inspections, Office of Enforcement and Compliance Monitoring U.S. Environmental Protection Agency, February 1989.

5. Commercial Hazardous and Solid Waste Management Facilities, Texas Natural Resource Conservation Commission, November 1993.

6. Guidance to Hazardous Waste Generators on the Elements of a Waste Minimization Program; Notice. 58 Fed. Reg. 31,114 (May 28, 1993).

7. Hazardous or Industrial Waste Stream Notification Form, TNRCC-0002A, September 1993.

8. Hazardous or Industrial Waste Management Units Form, TNRCC-0002B, September 1993.

9. Draft Hazardous Waste Minimization and Combustion Strategy - Announcement and Review of Past Activities, EPA 530-D-94-002, May 1994.

10. "Industrial and Hazardous Waste: Generator Self Classification Program. The Classification and Coding of Industrial & Hazardous Waste (30 TAC Chapter 335 Subchapter R) 1993." Prepared for the Environmental Trade Fair '93.

11. Revised RCRA Inspection Manual, 1993 Edition, OSWER Directive 9938.02b, October 1993.

12. Registered Hazardous Waste Transporters, Texas Natural Resource Conservation Commission, June 1993.

13. Waste Analysis at Facilities that Generate, Treat, Store, and Dispose of Hazardous Wastes - A Guidance Manual. PB94-963603, (OSWER 9938.4-03), April 1994.

13a. Checklist for Classifying Hazardous Waste, pp.3-1 - 3-4.

13b. Waste Analysis Data Flow Responsibilities, pp. C-1 - C-2.

13c. Hazardous Waste Identification Flow Chart, p. 1-5.

13d. Facility Type and Waste Analysis Responsibilities, p. 1-6.

13e. Reference Guide to Key Issues for consideration When Developing Waste Analysis Plans (WAP). pp. 2-2 - 2-3.

13f. Key elements in Waste Analysis, p. 2-4.

13g. Sampling Approach Overview, p. 2-21.

13h. Example Waste Profile Sheet, p. 2-50 - 2-54.

14. Environmental Auditing Policy Statement; Notice 51 Fed. Reg. 25,004 (July 9, 1986).

15. Public Meeting on Auditing; Notice 59 Fed. Reg. 31,914 (June 20, 1994).

SELECTED REFERENCES

AND

RELEVANT GUIDANCE

TEXAS NATURAL RESOURCE CONSERVATION COMMISSION

Commercial Hazardous and Solid Waste Management Facilities

The following list is for informational purposes only. This list contains commercial recycling facilities and facilities permitted or authorized (interim status) by the Texas Natural Resource Conservation Commission as of November 1993.

Please note that specific permits may prohibit certain types of waste from being accepted at the facilities listed. **Also, this list does not reflect the compliance status of any the companies listed herein.**

Hazardous Waste Division
Available in Records Services
Park 35 Complex
12118 N. I-35, Building D Room 190
Austin, Texas 78753
(512) 239-2920
Revised November 1993

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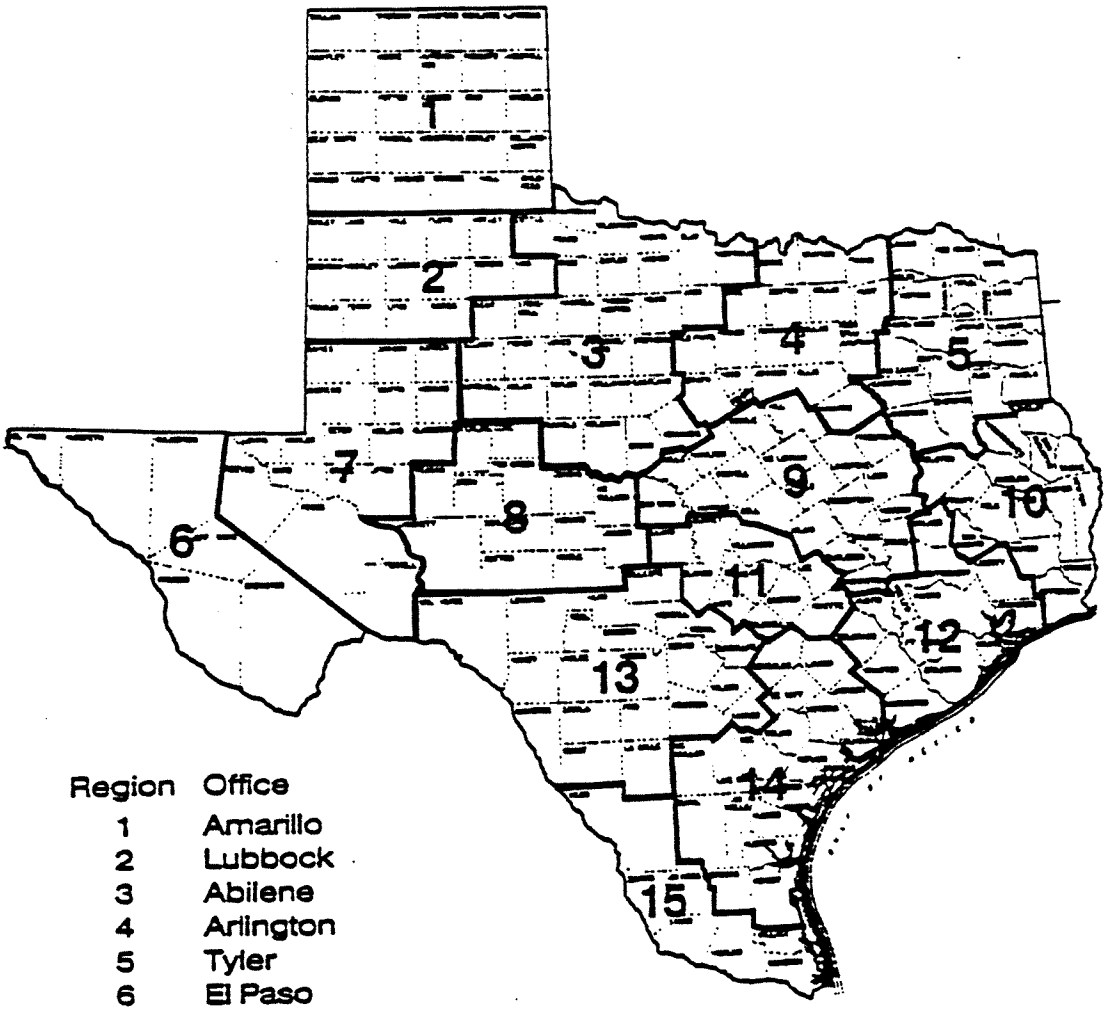
TNRCC REGIONS



Region	Office
1	Amarillo
2	Lubbock
3	Abilene
4	Arlington
5	Tyler
6	El Paso
7	Odessa
8	San Angelo
9	Waco
10	Beaumont
11	Austin
12	Houston
13	San Antonio
14	Corpus Christi
15	Harlingen

TEXAS NATURAL RESOURCE CONSERVATION COMMISSION

REGIONAL OFFICES

Most of the regions with separate air and water/waste offices will be consolidated by September 1, 1994.

TNRCC REGIONS	AIR PROGRAM	WATER/ WASTE PROGRAMS
1-Amarillo 3918 Canyon Drive, Amarillo, TX 79109-4996 806/353-9251 FAX: 806/358-9545 Regional Manager - Brad Jones		
2-Lubbock 4630 50th St., Suite 600, Lubbock, TX 79414-3509 806/796-7092 FAX: 806/796-7107 Regional Manager - Jim Estes	806/796-3494	806/796-7092
3-Abilene 209 South Danville, Suite B-200, Abilene, TX 79605 915/698-9674 FAX: 915/692-5869 Regional Manager - Winona Henry		
4-Arlington 817/732-5531 FAX: 817/732-0175 Regional Manager - Melvin Lewis	6421 Camp Bowie Blvd., Suite 312 Fort Worth, TX 76116 817/732-5531 FAX: 817/732-0175	1019 N. Duncanville Rd. Duncanville, TX 75116-2201 214/298-6171 FAX: 214/709-1181
5-Tyler 903/566-0476 FAX: 903/566-9216 Regional Manager - Leroy Biggers	1304 South Vine Ave. Tyler, TX 75701 903/595-2639 FAX: 903/595-1562	11406 Hwy. 64 East Rt. 14, Box 254, Tyler, TX 75707 903/566-0476 FAX: 903/566-9216
6-El Paso 915/778-9634 FAX: 915/778-4576 Regional Manager - Hector Villa	1200 Golden Key Circle, Suite 369 El Paso, TX 79925 915/591-6128 FAX: 915/592-3159	7500 Viscount Blvd., Suite 147 El Paso, TX 79925 915/778-9634 FAX: 903/778-4576
7-Odessa 915/362-6997 FAX: 915/362-4517 Regional Manager - Bill Lockey	1901 East 37th Street, Suite 101 Odessa, TX 79762 915/367-3871 FAX: 915/367-1862	2626 J.B. Shepperd Pkwy. Blvd. Bldg. B-101, Odessa, TX 79761 915/362-6997 FAX: 915/362-4517
8-San Angelo 301 W. Beauregard Ave., Suite 202, San Angelo, TX 76903 915/655-9479 FAX: 915/658-5431 Regional Manager - John Haagensen		
9-Waco 817/772-9240 FAX: 817/772-2188 Regional Manager - Gene Fulton	500 Lake Air Drive, Suite 1 Waco, TX 76710 817/772-9240 FAX: 817/772-9241	6801 Sanger Ave., Suite 2500 Waco, TX 76710-7807 817/751-0335 FAX: 817/772-2188
10-Beaumont 409/898-3838 FAX: 409/892-2119 Regional Manager - Vic Fair	3870 Eastex Fwy., Suite 110 Beaumont, TX 77703 409/898-3838 FAX: 409/892-2119	4820 Ward Dr. Beaumont, TX 77705-0328 409/842-9413 FAX: 409/842-9432
11-Austin 1700 S. Lamar Blvd., Bldg. 1, No. 101, Austin, TX 78704-3360 512/463-7803 FAX: 512/447-8528 Regional Manager - Larry Smith		
12-Houston 713/457-5191 FAX: 713/457-6017 Regional Manager - Allen Parker, Asst. Manager - Jody Hanneka	5555 West Loop, Suite 300 Bellaire, TX 77401 713/666-4964 FAX: 713/666-4978	5144 E. Sam Houston Pkwy. N. Houston, TX 77015 713/457-5191 FAX: 713/457-6107
13-San Antonio 140 Heimer Rd., Suite 360, San Antonio, TX 78232-5042 210/490-3096 FAX: 210/545-4329 Regional Manager - Richard Garcia		
14-Corpus Christi 512/851-8484 FAX: 512/851-2666 Regional Manager - Carlton Stanley	1231 Agnes St., Suite 103 Corpus Christi, TX 78401 512/882-5828 FAX: 512/882-7364	4410 Dillon Ln., Suite 47 Corpus Christi, TX 78415-5328 512/851-8484 FAX: 512/851-2666
15-Harlingen 210/968-3165 FAX: 210/969-1315 Regional Manager - Tony Franco	Matz Bldg., Room 204 513 East Jackson Harlingen, TX 78550 210/425-6010 FAX: 210/425-6010	813 East Pike Blvd. Weslaco, TX 78596-4936 210/968-3165 FAX: 210/969-1315

REGISTRATION NUMBERS EPA ID	PERMIT NUMBER(S)	Company Name and Address	Comments
		REGION 1	
61018 TXD000747410	50252	SAFETY-KLEEN CORP. 3811 I-40 EAST AMARILLO, TX 79104 POTTER COUNTY 806-376-4396	CLASS I HAZARDOUS WASTE SOLVENT RECYCLING, STORAGE AND TRANSFER
		REGION 2	
62018 TXD000747436	50224	SAFETY-KLEEN CORP. 1.1 MILE E.OF US 62 & LOOP 289 LUBBOCK, TX 79408 LUBBOCK COUNTY 806-763-1752	CLASS I HAZARDOUS WASTE SOLVENT RECYCLING, STORAGE AND TRANSFER
		REGION 3	
64041 TXD000747428	50232	SAFETY-KLEEN CORP. 1606 MISSILE RD WICHITA FALLS, TX 76306 WICHITA COUNTY 817-855-6471	CLASS I HAZARDOUS WASTE SOLVENT RECYCLING, STORAGE AND TRANSFER
64042 TXD062287883	50237	SAFETY-KLEEN CORP. 4234 OIL BELT LN. ABILENE, TX 79605 TAYLOR COUNTY 915-692-7589	CLASS I HAZARDOUS WASTE SOLVENT RECYCLING, STORAGE AND TRANSFER
		REGION 4	
32371 TXD980745095	50007	ASHLAND CHEMICAL CO., INC. 3101 WOOD DRIVE GARLAND, TX 75041 DALLAS COUNTY 214-840-0206	CLASS I HAZARDOUS WASTE STORAGE AND TRANSFER
32277 TXD046844700	50084	CHEMICAL RECLAMATION SERVICES 405 POWELL ST. AVALON, TX 76623 ELLIS COUNTY 214-627-3243	CLASS I HAZARDOUS WASTE, CLASS I AND II NON-HAZARDOUS WASTE STORAGE & PROCESSING
33533 TXD980626154	50021	DETREX CORPORATION 322 INTERNATIONAL PKWY. ARLINGTON, TX 76011 DALLAS COUNTY 817-640-6017	CLASS I HAZARDOUS WASTE RECLAMATION, STORAGE AND PROCESSING
39061	39061	EFFLUENT TREATMENT SERVICES P.O. BOX 181076 FORT WORTH, TX 76118 TARRANT COUNTY 817-429-4039 ** OILS & OILY WASTEWATER ONLY **	CLASS I NON-HAZARDOUS WASTE STORAGE, PROCESSING AND TRANSFER
30680 TXD047823265	50277	ENTECH RECOVERY, INC. 1000 N FIRST ST GARLAND, TX 75040 DALLAS COUNTY 214-272-4528	HAZARDOUS, CLASS I AND II WASTE RECYCLING
30516 TXD006451090	50206	GNB INC. 7471 S. FIFTH ST. FRISCO, TX 75034 COLLIN COUNTY 214-377-2121	CLASS I HAZARDOUS WASTE BATTERY RECYCLING

REGISTRATION NUMBERS EPA ID	PERMIT NUMBER(S)	Company Name and Address	Comments
		REGION 4 CONTINUED	
30440 TXD980624035	50029	H.E.A.T., INC. 4460 SINGLETON BLVD. DALLAS, TX 75212 DALLAS COUNTY 214-637-6434	CLASS I HAZARDOUS WASTE RECLAMATION, STORAGE & PROCESSING
32941 TXD007926496		NORTH TEXAS CEMENT COMPANY 900 GIFCO RD MIDLOTHIAN, TX 76065 ELLIS COUNTY 214-299-5337	HAZARDOUS WASTE INDUSTRIAL FURNACE
55194 TXD981052061	50218	SAFETY-KLEEN CORP. 2130A EAST GRAUWYLER RD IRVING, TX 50123 DALLAS COUNTY 214-438-4080	CLASS I HAZARDOUS WASTE SOLVENT RECYCLING, STORAGE AND TRANSFER
55195 TXD981053416	50228	SAFETY-KLEEN CORP. 6529 MIDWAY RD HALTOM CITY, TX TARRANT COUNTY 817-838-6966	CLASS I HAZARDOUS WASTE SOLVENT RECYCLING, STORAGE AND TRANSFER
65124 TXD077603371	50163	SAFETY-KLEEN CORP. 1722 COOPER RD DENTON, TX 76201 DENTON COUNTY 817-383-2611	CLASS I HAZARDOUS WASTE SOLVENT RECYCLING, STORAGE AND TRANSFER
33918 TXD007349327		TXI INC. 245 WARD RD DALLAS, TX 75247 ELLIS COUNTY 214-647-6748	HAZARDOUS WASTE INDUSTRIAL FURNACE
		REGION 5	
37531 TXD981514383	50203	ALPHA OMEGA RECYCLING, INC. 315 WHATLEY RD LONGVIEW, TX 75604 GREGG COUNTY 214-297-7272	HAZARDOUS MATERIALS RECYCLING
32123 TXD000742304	WDW186	GIBRALTAR CHEMICAL RESOURCES 11 MI. N.E. OF TYLER ON 155 WINONA, TX 75662 SMITH COUNTY 903-984-0270	CLASS I HAZARDOUS WASTE DISPOSAL WELL, FUEL BLENDING AND SOLVENT RECYCLING
67028 TXD000747378	50223	SAFETY-KLEEN CORP. 202 MICHAEL PLACE LONGVIEW, TX 75602 GREGG COUNTY 214-757-9187	CLASS I HAZARDOUS WASTE SOLVENT RECYCLING, STORAGE AND TRANSFER
		REGION 6	
63019 TXD000747394	50247	SAFETY-KLEEN CORP. 900 A HAWKINS BLVD. EL PASO, TX 79905 EL PASO COUNTY 915-778-8773	CLASS I HAZARDOUS WASTE SOLVENT RECYCLING, STORAGE AND TRANSFER

REGISTRATION NUMBER EPA ID	PERMIT NUMBER(S)	Company Name and Address	Comments
		REGION 7	
52085 TXD988077640	50352	RECOVERY & RECLAMATION 2001 WESTERN AVE. PECOS, TX 79772 REEVES COUNTY 800-999-9549	CLASS I HAZARDOUS WASTE STORAGE, BATTERY RECYCLING
72078 TXD981056690	50215	SAFETY-KLEEN CORP. 10043 COUNTY ROAD 125 MIDLAND, TX 79711 MIDLAND COUNTY 915-563-2305	CLASS I HAZARDOUS WASTE SOLVENT RECYCLING, STORAGE AND TRANSFER
		REGION 9	
66171 TXD980876015	50238	SAFETY-KLEEN CORP. 22006 WOODWAY DRIVE WACO, TX 76712 MCLENNAN COUNTY 817-772-4419	CLASS I HAZARDOUS WASTE SOLVENT RECYCLING, STORAGE AND TRANSFER
		REGION 10	
33905 TXD000838896	50212 WDW160	CHEMICAL WASTE MANAGEMENT, INC HWY 73, 3 MI. W. OF TAYLOR BAYOU PORT ARTHUR, TX 77643 JEFFERSON COUNTY 409-736-2821	CLASS I HAZARDOUS WASTE, CLASS I,II & III NON-HAZARDOUS WASTE LANDFILL, INCINERATION AND DISPOSAL WELLS
30795 TXD008097487	50167	OLIN CORP. 1400 OLIN RD. BEAUMONT, TX 77704 JEFFERSON COUNTY 409-835-6641	CLASS I IGNITABLE WASTE RECEIPT
70026 TXD061290276	50257	SAFETY-KLEEN CORP. 3304 WOMACK RD ORANGE, TX 77630 ORANGE COUNTY 409-886-8365	CLASS I HAZARDOUS WASTE SOLVENT RECYCLING, STORAGE AND TRANSFER
39059	39059	SOUTHERN STATES SPECIALTY, INC 209 SOUTH BOLIVAR SAN AUGUSTINE, TX 75972 SAN AUGUSTINE COUNTY 409-275-2363	CLASS I WASTE TRANSFER STATION, CONTAMINATED PCB WASTE AND ASSOCIATED ELECTRICAL COMPONENT MATERIALS
		REGION 12	
34814 TXD981053770		BIRD ENVIRONMENTAL GULF COAST 2700 AVE S SAN LEON, TX 77539 GALVESTON COUNTY 713-339-1352	CLASS I HAZARDOUS WASTE FUEL BLENDING AND RECYCLING
39039 TXD980864078	39039	BROWNING-FERRIS, INC. COUNTY RD BETWEEN I-10 & SH 65 ANAHUAC, TX 77514 CHAMBERS COUNTY 409-267-6666	CLASS II AND III LANDFILL

REGISTRATION NUMBER EPA ID	PERMIT NUMBER(S)	Company Name and Address	Comments
		REGION 12 CONTINUED	
32299 TXD000719518	50058 WDW169	DISPOSAL SYSTEMS, INC. 2525 BATTLEGROUND RD DEER PARK, TX 77536 HARRIS COUNTY 713-930-2525	CLASS I HAZARDOUS WASTE STORAGE, PROCESSING AND DISPOSAL WELL
30271 TXD074196338	39028	ELTEX CHEMICAL & SUPPLY CO. 4050 HOMESTEAD RD HOUSTON, TX 77028 HARRIS COUNTY 713-795-5607	CLASS I HAZARDOUS WASTE TRANSFER STATION
30567 TXD097673149	50025 WDW157	EMPAK INC. 2759 BATTLEGROUND RD DEER PARK, TX 77027 HARRIS COUNTY 713-623-0000	CLASS I HAZARDOUS WASTE STORAGE, PROCESSING AND DISPOSAL WELL
33969 TXD074165986	39040	FORCE, INCORPORATED 7025 LAWNDALE HOUSTON, TX 77023 HARRIS COUNTY 713-928-2737	NON-HAZARDOUS RECYCLING
34323 TXD980628028		GALVESTON ENVIRONMENTAL HWY 517 & 146 SAN LEON, TX 77215 GALVESTON COUNTY 713-953-7086	CLASS I HAZARDOUS WASTE FUEL BLENDING AND STABILIZATION
30586 TXD060718269	39063	GENERAL ELECTRIC CO. 8800 WALLISVILLE RD HOUSTON, 77029 HARRIS COUNTY 713-672-3500 ** RECEIVES CONTAMINATED PCB WASTE ONLY **	CLASS I NON-HAZARDOUS STORAGE AND PROCESSING
30952 TXD074195678	50204	GULF CHEMICAL AND METALLURGICAL 302 MIDWAY RD FREEPORT, TX 77541 BRAZORIA COUNTY 409-233-7882	CLASS I HAZARDOUS WASTE STORAGE, METALS RECOVERY FROM REFINERY CATALYSTS
38024 TXD982290140	50225	LAIDLAW ENVIRONMENTAL SERVICES 500 BATTLEGROUND RD LAPORTE, TX 77571 HARRIS COUNTY 713-476-0645	CLASS I HAZARDOUS, CLASS I NON-HAZARDOUS MUNICIPAL SOLID WASTE STORAGE
34410 TXD027147115	50043 WDW073 WDW138	MALONE SERVICE COMPANY 5300 CAMPBELL BAYOU RD. TEXAS CITY, TX 77592 GALVESTON COUNTY 409-945-3301	CLASS I HAZARDOUS WASTE RECLAMATION, STORAGE, PROCESSING, FUEL BLENDING AND DISPOSAL WELL
30595 TXD008106999	WDW147	MERICHEM COMPANY 1914 HADEN HOUSTON, TX 77015 HARRIS COUNTY 713-455-1311 ** RECEIVES REFINERY WASTE - CAUSTIC ONLY **	CLASS I HAZARDOUS WASTE RECYCLING, TREATMENT & DISPOSAL

REGISTRATION NUMBER EPA ID	PERMIT NUMBERS(S)	Company Name and Address	Comments
		REGION 12 CONTINUED	
33579 TXD000807982	50030	PAKTANK CORPORATION 2759 BATTLEGROUND RD DEER PARK, TX 77027 HARRIS COUNTY 713-623-0000	CLASS I HAZARDOUS WASTE STORAGE AND PROCESSING
37436 TXD008105959	50210	PARKANS INTERNATIONAL 5521 ARMOUR HOUSTON, TX 77220 HARRIS COUNTY 713-675-9141	CLASS I HAZARDOUS WASTE INCINERATION
31019 TXD008099079	50095	RHONE-POULENC 8615 MANCHESTER RD HOUSTON, TX 77012 HARRIS COUNTY 713-928-3411	CLASS I HAZARDOUS WASTE STORAGE, PROCESSING AND INCINERATION
37328 TXD055141378	50089	ROLLINS ENVIRONMENTAL SERVICES INC 2027 BATTLEGROUND RD DEER PARK, TX 77536 HARRIS COUNTY 713-930-2420	CLASS I HAZARDOUS WASTE LANDFILL AND INCINERATION
71143 TXD000747386	50260	SAFETY-KLEEN CORP. 3333 FEDERAL RD PASADENA, TX 77504 HARRIS COUNTY 708-697-8460	CLASS I HAZARDOUS WASTE SOLVENT RECYCLING, STORAGE AND TRANSFER
71144 TXD010803203	50236	SAFETY-KLEEN CORP. 1580 INDUSTRIAL RD MISSOURI CITY , TX 77459 FORT BEND COUNTY 713-499-9626	CLASS I HAZARDOUS WASTE SOLVENT RECYCLING, STORAGE AND TRANSFER
75717 TXD987995818	50339	SAFETY-KLEEN CORP. 16TH STREET AT M ST LA PORTE, TX HARRIS COUNTY 708-697-8460	CLASS I HAZARDOUS WASTE SOLVENT RECYCLING, STORAGE AND TRANSFER
71003 TXD055135388	50267	TREATMENT ONE 5738 CHESWOOD HOUSTON, TX 77087 HARRIS COUNTY 713-944-9464	CLASS I HAZARDOUS WASTE STORAGE AND PROCESSING
39001	39001	WESTERN WASTE INDUSTRY OF TEXAS 4 1/2 MI E.OF I-45 ON LOOP 336 CONROE, TX 77301 MONTGOMERY COUNTY 409-760-3685	CLASS I NON-HAZARDOUS LANDFILL
		REGION 13	
69048 TXD000729400	50246	SAFETY-KLEEN CORP 5243 SINCLAIR RD SAN ANTONIO, TX 78222 BEXAR COUNTY 210-648-0744	CLASS I HAZARDOUS WASTE SOLVENT RECYCLING, STORAGE AND TRANSFER
31905 TXD052649027	50294	USPCI 4303 PROFIT DRIVE SAN ANTONIO, TX 78219 BEXAR COUNTY 210-333-4011	CLASS I HAZARDOUS AND CLASS I, II, III NON-HAZARDOUS WASTE SOLVENT RECYCLING AND STORAGE

REGISTRATION NUMBER EPA ID	PERMIT NUMBER(S)	Company Name and Address	Comments
		REGION 14	
32325 TXD000761254	WDW070	CHEMICAL WASTE MANAGEMENT, INC 6901 GREENWOOD RD. CORPUS CHRISTI, TX 78417 NUECES COUNTY 512-852-8284	CLASS I HAZARDOUS WASTE STORAGE, PROCESSING AND DISPOSAL WELL
30003 TXD008117186	50221	ENCYCLE/TEXAS, INC. 5500 UPRIVER RD CORPUS CHRISTI, TX 78469 NUECES COUNTY 512-289-0300	CLASS I HAZARDOUS AND NON-HAZARDOUS WASTE STORAGE AND RECYCLING
68053 TXD000747402	50233	SAFETY-KLEEN CORP. 3820 BRATTON ROAD CORPUS CHRISTI, TX 78415 NUECES COUNTY 512-854-9471	CLASS I HAZARDOUS WASTE SOLVENT RECYCLING, STORAGE AND TRANSFER
39023 TXD069452340	50052	TEXAS ECOLOGISTS, INC. 3 1/2 MILES S. ON PETRONILLA RD. ROBSTOWN, TX 78380 NUECES COUNTY 512-387-3518	CLASS I HAZARDOUS WASTE LANDFILL
		REGION 15	
68062 TXD083145656	50234	SAFETY-KLEEN CORP. 1311 EAST TAMARACK McALLEN, TX 78501 HIDALGO COUNTY 210-682-1951	CLASS I HAZARDOUS WASTE SOLVENT RECYCLING, STORAGE AND TRANSFER

THIS FORM IS FOR WASTE STREAMS ONLY



TEXAS NATURAL RESOURCE CONSERVATION COMMISSION
Industrial & Hazardous Waste Division
Waste Evaluation Section
P.O. Box 13087
Austin, Texas 78711-3087

HAZARDOUS OR INDUSTRIAL WASTE STREAM NOTIFICATION FORM

INTRODUCTION

The Texas Solid Waste Disposal Act authorizes the Texas Natural Resource Conservation Commission (TNRCC), formerly the Texas Water Commission (TWC), to regulate hazardous and industrial solid waste activities in Texas. This form should be completed and returned to the address given above. Please complete all applicable pages and sign.

Please note: For wastes generated on a one-time basis, you may elect to notify the TNRCC under the One Time Shipper program. A One Time Shipment waste code is issued by the TNRCC and is not added to your NOR. Contact the TNRCC at (512) 908-6832 for a One Time Shipment form (Form TNRCC-0757).

HAZARDOUS OR INDUSTRIAL WASTE STREAM NOTIFICATION FORM

The Texas Solid Waste Disposal Act authorizes the Texas Natural Resource Conservation Commission (TNRCC) to regulate all industrial waste and municipal hazardous waste activities in Texas. Use this form to notify the TNRCC of generation of a new waste or to re-code an existing waste stream from a 6-digit to an 8-character Texas waste code. This information will be added to your site's Notice of Registration (NOR). Do NOT use this form to notify the TNRCC of changes to 8-digit waste codes already on your NOR.

All information is required for a complete notification, unless otherwise indicated.

Refer to the instructions accompanying this form before you begin filling out the form.

TNRCC ID: _ _ _ _ _ _ EPA ID: _ _ _ _ _ _ _ _ _ _ _ _ _

COMPANY NAME: _____

GENERATING SITE LOCATION: _____

1. **6-Digit Texas Waste Code.** Skip this question and go on to Question 2, if this waste does not have a 6-digit Texas waste code.

   If this waste has a 6-digit Texas waste code, previously assigned by TNRCC, enter the code below.

   _ _ _ _ _ _ _

   Now go on to Question 2 and provide a complete notification to assign a Texas waste code.

2. **Sequence Number.** _ _ _ _ _

3. **Form Code.** B _ _ _

4. **Classification.** _

   If this is a Class 3 waste, all supporting information, documentation, and rationale must be attached to this notification.

5. **Description of Waste/Generating Process/Date of Initial Generation.**

   _____

   _____

   _____

   _____

   _____

   (Continue on separate pages if necessary.)

TNRCC SOLID WASTE REGISTRATION NUMBER: _ _ _ _ _

COMPANY NAME: _____

6. **Origin Codes.** Primary Origin Code: _
Other Applicable Origin Codes: _, _

1 Onsite	2 Spill cleanup	3 From nonhazardous waste management	4 From hazardous waste management
5 Received/no recycling or treatment	6 Publicly funded cleanup	7 Corrective action or closure	8 Reserved (Do not use this number.)

5, 6, and 7 can only be identified as Primary Origin Codes. If you selected 5, 6, or 7 as the Primary Origin Code, do not list any other origin codes.

7. **New Chemical Substance.** (Answer for Class 2 or Class 3 wastes only) Is this a Class 2 or Class 3 waste generated from the production of a new chemical substance?
☐ Yes ☐ No

If YES, all supporting information, documentation and rationale must be submitted with this notification.

8. **Company Waste ID.** (Optional) _____

9. **Waste Management Location.**

Answer both questions:
a. Is this waste shipped or managed off-site? ☐ Yes ☐ No
b. Is this waste stored or otherwise managed on-site? ☐ Yes ☐ No

Notice of Registration (NOR) Unit Sequence Numbers if unit is already on NOR. If unit is new, include waste code on unit form TNRCC-002B:

_ _ _, _ _ _, _ _ _, _ _ _, _ _ _

_ _ _, _ _ _, _ _ _, _ _ _, _ _ _

_ _ _, _ _ _, _ _ _, _ _ _, _ _ _

_ _ _, _ _ _, _ _ _, _ _ _, _ _ _

(Continue on separate pages.)

IF NOTIFYING OF A NONHAZARDOUS WASTE, PROCEED TO PAGE 3 AND SIGN AND DATE THE NOTIFICATION. IF THE WASTE IS HAZARDOUS, COMPLETE THE REST OF THE FORM.

TNRCC SOLID WASTE REGISTRATION NUMBER: _ _ _ _ _

COMPANY NAME: _____

10. **EPA Hazardous Waste Numbers.**

_ _

_ _

_ _

_ _

(Continue on a separate page if necessary.)

11. **SIC Codes.** (See attached list & instructions.)

Primary SIC Code _ _ _ _

Other Applicable Codes _ _ _ _ , _ _ _ _ , _ _ _ _

(Continue on separate page if necessary)

12. **Source Codes.** (See attached list & instructions.)

Primary Source Code A _ _

Other Applicable Codes A _ _ , A _ _ , A _ _

A _ _ , A _ _ , A _ _

(Continue on separate page if necessary)

13. **Mixed Radioactive Waste.** ☐ Yes ☐ No

14. **Measurement Points for determining the quantity of the waste to be reported on the annual report.**

Primary Measurement Point Code _

Other Applicable Codes _ , _

15. **System Types.** (See attached list & instructions.) Skip this, unless you selected #4 as the Primary Origin Code in response to Question 6.

Primary System Type M _ _ _

Other Applicable Codes M _ _ _ , M _ _ _ , M _ _ _

Sign each form submitted or you may submit a cover letter with an original signature.

Signature: _____ Date: _____

Telepone number: _____

Return this form to:

TNRCC
Industrial and Hazardous Waste Division
Waste Evaluation Section
P.O. Box 13087
Austin, Texas 78711-3087

INSTRUCTIONS FOR COMPLETING THE HAZARDOUS OR INDUSTRIAL WASTE STREAM NOTIFICATION FORM

Use the attached form (TNRCC-0002A) to notify the Texas Natural Resource Conservation Commission (TNRCC) of an industrial or hazardous waste stream generated at this site.

First read the section below on "WHAT IS A WASTE STREAM?" and then continue reading to assign a waste code and provide a complete notification. If you have questions on completing this form, please contact the TNRCC, Industrial and Hazardous Waste Division, Waste Evaluation Section at (512) 908-6832.

WHAT IS A WASTE STREAM?

A waste stream can be described as a particular TYPE of waste generated from a particular TYPE of process. In addition, one waste stream CANNOT have more than one FORM CODE and it CANNOT have more than one CLASSIFICATION.

Different TYPES of waste from the same TYPE of process are different waste streams. For example, a sludge removed from an electroplating vat is not the same waste stream as liquids removed from an electroplating vat.

Similar TYPES of wastes from different TYPES of processes are different waste streams. For example, mineral spirits utilized in degreasing auto parts is not the same waste stream as mineral spirits removed from a transformer.

Similar TYPES of wastes from similar types of processes may be considered one waste stream even if the wastes are generated in different parts of the generating site. For example, a site may have several paint booths which perform the same activities with the same materials and each produces drop cloth waste. These drop cloth wastes, from the various locations at this site, could be considered one waste stream as long as they were all classified the same.

If a waste stream is treated (including processing, neutralization, dewatering, stabilization....) the characteristics of the waste have been altered such that a new waste stream has been generated.

Any time a waste stream's physical state has been altered, a new waste stream has been generated.

Any time the composition of a particular waste stream changes, it is potentially a new waste stream. (The waste stream is always a new waste stream if the composition change results in a change in waste classification.) In certain waste generation processes, the composition of waste streams may vary due to a variety of reasons. The TNRCC acknowledges this fact and notes that slight changes in composition, unless these impact the waste's classification or form code, do not require notification of an additional waste stream. For example, a generator whose paint waste sludge varies in its toluene and acetone concentration may not need to provide more than one notification on the sludge, unless its classification changes or the information submitted in the original notification changes. In many instances, this variance in composition can be addressed in the original notification submittal or subsequent notifications on the same waste stream by noting the potential concentration ranges. The TNRCC also notes that significant compositional changes in a waste stream might not impact the waste's classification or form code; however, due to the significant change in composition, notification of a new waste stream may be warranted.

For specific guidance on specific waste streams, it is suggested that the generator contact the TNRCC.

INSTRUCTIONS FOR COMPLETING THE FORM.

1. **6-Digit Texas Waste Code.** First determine if this waste stream was assigned a 6-digit Texas waste code by the TNRCC prior to January 1, 1993. If this waste does not have a 6-digit Texas waste code, go to Question 2 and begin to assign your 8-character Texas waste code.

If this waste has a 6-digit Texas waste code, enter the six digits in the boxes provided. Now continue on to assign an 8-character Texas waste code to this waste and provide a complete notification. Please note:

- All information is required except where indicated, even if you have already notified the TNRCC of generation of this waste.
- It is not required that you re-code your 6-digit Texas waste codes into the 8-character format and provide a complete notification until July 1, 1994. **However, once you begin using your newly assigned 8-character Texas waste code for shipping, manifesting or record keeping, you may not go back to using the 6-digit Texas waste code.**
- You may find as you go through the process of assigning an 8-character Texas waste code that one 6-digit Texas waste code now equals several 8-character Texas waste codes. This will happen if different waste streams were previously combined under a single 6-digit Texas waste code.

HOW TO ASSIGN A TEXAS WASTE CODE TO THIS WASTE STREAM.

The 8-character Texas waste code is to be assigned by generators of industrial or hazardous waste in Texas. The Texas waste code is used to identify the waste stream for all reporting, manifesting, and record keeping purposes. Here is how you develop an 8-character Texas waste code for this waste stream.

The 8-character Texas waste code consists of a waste sequence number, a form code and classification code, in that order.

2. **Sequence Number.** The first step in assigning an 8-character waste code to this waste stream is to assign a waste sequence number. The waste sequence number consists of four digits which will uniquely identify this waste stream on your NOR. These digits range from 0001 to 9999. No alpha characters are allowed for permanent waste codes. Here are some guidelines to follow in assigning a waste sequence number to a waste stream.

If this is the first waste stream for which you are submitting a notification for this site, the TNRCC recommends that you use 0001 for the first sequence number, followed by 0002, 0003, 0004, etc., for later waste stream notifications. However, you may use any 4-digit combination you prefer, as long as the number is not already assigned to another waste stream. Do NOT use any letters (A, B, etc.) in the sequence number for waste streams on your NOR.

If you already have waste streams on your NOR with an 8-character Texas waste code, then this new waste stream should be given an UNASSIGNED waste sequence number. For example, if you have waste streams with sequence numbers 0001 through 0010 on your current NOR, then you may assign this waste stream a waste sequence number of 0011 or higher. **NEVER ASSIGN THE SAME SEQUENCE NUMBER TO TWO WASTE STREAMS ON YOUR NOR.** If your site's NOR does not include all waste streams for which you have provided notification to the Commission, please reserve the necessary sequence numbers and do not assign them again.

For example, your NOR shows wastes 0001 through 0010 and your company has submitted a notification to the TNRCC for waste stream 0011. Even though you have not received an updated NOR showing waste stream 0011, when you assign a sequence number to this waste stream, do NOT use 0011 again. You can tell the waste sequence number of waste streams with an eight-character Texas waste code by looking at the first four characters of the Texas waste code, as it appears on the NOR. Also, for your convenience, the NEXT UNASSIGNED WASTE SEQUENCE NUMBER, at the time of printing, is printed on the first page of your NOR.

If all of the waste streams on your NOR are identified by the 6-digit Texas waste code (issued before January 1, 1993), then you may start with the sequence number 0001 for this waste stream. The 6-digit waste codes can remain in use until January 1, 1995. Note that the 3-digit waste numbers for waste streams on NORs printed before January 1, 1993 do not have to be taken into consideration when reserving waste sequence numbers under this 8-character waste coding system.

3. **Form Code.** Select the form code which best describes this waste stream from the list entitled "FORM CODES." The form code is always three digits and is preceded by the letter "B." The "B" is not part of the form code, but is printed in order to ensure that you have referenced the correct code list. Write the three digits in the blanks provided.

4. **Classification.** What is the classification of this waste stream?

Write an H, 1, 2, or 3 in the blank to indicate the appropriate waste classification. The "H" should always be written as a capital letter. Definitions for hazardous and nonhazardous wastes are found in 30 Texas Administrative Code (TAC) Chapter 335 Subchapter R.

If you have classified this waste as Class 3, then you are required to attach all supporting information, documentation and rationale utilized in assigning the Class 3 classification.

Industrial Wastes

All industrial wastes are classified as one of the following: Hazardous (designated by an "H"); Class 1 nonhazardous, (designated by a "1"); Class 2 nonhazardous (designated by a "2"); or Class 3 nonhazardous, (designated by a "3").

Nonindustrial Wastes

Wastes from nonindustrial generators normally are classified as Hazardous (designated by an "H"). Please note that **notification of the generation of nonhazardous wastes from nonindustrial generators is not required** by the TNRCC regulatory program for hazardous and industrial waste. However, a Class 1 nonhazardous waste code may be assigned to a nonindustrial, nonhazardous waste when the generator of that waste wishes to ship the waste to a facility authorized or permitted under the industrial and hazardous waste regulatory program and a waste code is required by the receiving facility. **(Assigning an industrial waste code to a nonindustrial or municipal waste may hamper the disposal of that waste at a municipal facility.)**

Assign a Texas Waste Code. Based on the above information, you are now ready to assign the Texas waste code for this waste stream as it will appear on your site's NOR. This **8-character Texas waste code** will be used to identify the waste stream on this site's NOR and on all annual waste summaries, shipper and receiver reports, manifests, and other records pertaining to the waste stream. See example below:

Sequence Number	+ Form Code	+ Hazard Class	= Texas Waste Code
0001	+201	+ H	0001201H

5. **Description of Waste/Generating Process/Date of Initial Generation.** Provide a description of the waste stream, including type, source, process by which the waste is generated, general chemical name or primary constituents, and date of initial generation. Example following:

Spent solvent from degreasing operation in tool production. Ignitable. Steel blocks are machined to a specific shape then rinsed with the solvent prior to painting. Waste is a mixture of mineral spirits and metal shavings. First generated Nov. 1, 1992.

Note: The first 10 characters (for example, "Spent solv") of the waste description will be used for cross-referencing information on your NOR. Thus, the first 10 characters of the description should be as specific as possible. The complete description of the waste will also appear on your NOR, however.

6. **Origin Codes.** Review the origin codes below and select the code that best indicates the process or type of activity that generates this waste stream and identify it as the primary origin code. This code should be written in the space for "Primary Origin Code." In the space for "Other Applicable Origin Codes, you may list any other applicable origin codes. **However, if you select response 5, 6, or 7, then NO OTHER ORIGIN CODES should apply to this waste stream.** You may use any combination of the origin codes 1, 2, 3, or 4, however.

If you find that origin codes 5, 6 or 7 are needed in combination with other origin codes to describe this waste, then you should refer back to the section "What is a Waste Stream?" Using origin codes 5, 6 or 7 in combination with other origin codes indicates that you have defined your waste stream too broadly.

1. The waste was generated on-site from a product process or service activity.
2. The waste was the result of a spill clean-up, equipment decommissioning, or emergency removal by company.
3. The waste was derived from the on-site management of a nonhazardous waste.
4. The waste was a residual from the on-site treatment, disposal or recycling of previously existing hazardous waste.
5. The waste was received from off-site and was not recycled or treated on-site.
6. The waste was from a state, federal, or locally funded cleanup.
7. The waste was from a corrective action or closure.
8. Reserved.

7. **New Chemical Substance.** If this is a Class 2 or 3 waste, indicate whether the waste was generated as the result of the production of a new chemical substance as defined under the federal Toxic Substances Control Act. 15 United States Code, Section 2602(9). Check the appropriate box. Skip this question if this waste stream is a Class 1 or Hazardous waste.

If you answered yes to question 8, you are required to attach all supporting information, documentation, and rational utilized for the assignment of this Class 2 or Class 3 classification.

8. **Company Waste ID** (Optional). If your company has another method of identifying this waste stream for internal tracking or other purposes, this space on the form may be used to record this information. This information will be displayed on your NOR and may be useful to you for cross-referencing your waste streams.

9. **Waste Management Location.**

a. Is this waste stream shipped or managed off-site? Check the appropriate box on the form under Question 10. Continue on to the next question.

b. Is this waste stored or otherwise managed on-site? Check the appropriate box on the form under Question 10. If you answered YES, then indicate the Unit Sequence Numbers of all units managing this waste on site, if the units are on your NOR. Each on-site waste management unit is identified by a three digit Unit Sequence Number on your NOR. On NORs printed before January 1, 1993, these sequence numbers are called Facility Numbers. An example of a unit is a container storage area, a boiler burning waste, or a landfill. If the unit in which this waste will be managed is not on your NOR at this time, it must be added to your NOR using a separate notification form for units. All units in which wastes are managed must be shown on your NOR.

FOR HAZARDOUS WASTE STREAMS ONLY

The following questions pertain ONLY to waste streams that are hazardous (i.e., the last character of the 8-digit waste code is an "H"). This information is not needed for waste streams with a waste code ending in a "1", "2", or "3". Your notification is not complete until you have provided the following information.

10. **EPA Hazardous Waste Numbers.** Enter the EPA Hazardous Waste Number(s) that applies to this waste stream. If you have more than 24 waste numbers, please continue on a separate page. See 40 Code of Federal Regulations (CFR) Part 261 for the list of EPA Hazardous Waste Numbers. EPA Hazardous Waste Numbers are always four characters long and will begin with a "D", "F", "P", "K", or "U". (Note: Sometimes these numbers are referred to as EPA Hazardous Waste Codes.)

11. **SIC Codes.** Enter at least one four digit Standard Industrial Classification (SIC) Code for the product or service associated with the generation of this waste. The SIC code which best describes the product or service associated with the generation of this waste should be selected as the Primary SIC code. List other SIC codes as necessary as Other Applicable Codes.

12. **Source Codes.** Select the source code that best describes the production, service or waste management process associated with the generation of this waste and enter this source code as the Primary Source Code. List as many additional source codes as applicable to this waste stream in the blanks provided under Other Applicable Codes.

All source codes consist of two digits preceded by the letter "A". The "A" is not part of the source code, but is printed in order to ensure you have referenced the correct code list.

13. **Mixed Radioactive Waste.** Is this waste a hazardous waste that is mixed with nuclear source, special nuclear, or nuclear by-product material? Check the correct box on the form.

14. **Measurement Points.** Select the code that best describes the point at which this waste stream is measured or estimated for reporting on your annual report and write the corresponding number on the form as the Primary Measurement Point Code. [Note that the measurement code pertains to the point at which waste quantity or volume is estimated for annual reporting and does not necessarily pertain to the point at which wastes are generated or characterized.] If additional codes apply, indicate these in the Other Applicable Codes field:

1. Before any mixing of hazardous waste streams, or mixing of hazardous and nonhazardous waste streams.

2. After mixing of hazardous waste streams.

3. After mixing with nonhazardous waste streams.

4. After mixing of multiple hazardous waste streams, and with nonhazardous waste streams.

15. **System Types.** (If you selected response 4 as the Primary Origin code under Question 6, answer the following question. Otherwise skip this question and proceed to the bottom of the page.)

Indicate the system type that best describes the operation from which the waste is derived. A System Type code consists of three digits preceded by an "M". The "M" is not part of the code, but is printed in order to ensure you are referencing the correct list. If additional System Type Codes apply, indicate these as Other Applicable Codes.

Make sure your TNRCC Solid Waste Registration Number is at the top of the form. Also sign and date the bottom of the form, or attach the form to a letter with an original signature.

Please retain these instructions and attachments for future use.

FORM CODES

Code	Waste description

LAB PACKS

LAB PACKS - Lab packs of mixed wastes, chemicals, lab wastes

B001 Lab packs of old chemicals only
B002 Lab packs of debris only
B003 Mixed lab packs
B004 Lab packs containing acute hazardous wastes
B009 Other lab packs (Specify in Comments)

LIQUIDS

INORGANIC LIQUIDS - Waste that is primarily inorganic and highly fluid (e.g., aqueous), with low suspended inorganic solids and low organic content

B101 Aqueous waste with low solvents
B102 Aqueous waste with low other toxic organics
B103 Spent acid with metals
B104 Spent acid without metals
B105 Acidic aqueous waste
B106 Caustic solution with metals but no cyanides
B107 Caustic solution with metals and cyanides
B108 Caustic solution with cyanides but no metals
B109 Spent caustic
B110 Caustic aqueous waste
B111 Aqueous waste with reactive sulfides
B112 Aqueous waste with other reactives (e.g., explosives)
B113 Other aqueous waste with high dissolved solids
B114 Other aqueous waste with low dissolved solids
B115 Scrubber water
B116 Leachate
B117 Waste liquid mercury
B119 Other inorganic liquids (Specify in Comments)
B198 Nonhazardous photographic chemical wastes (inorganic)
B199 Brine solution that could also bear the form code B113

ORGANIC LIQUIDS - Waste that is primarily organic and is highly fluid, with low inorganic solids content and low-to-moderate water content

B201 Concentrated solvent-water solution
B202 Halogenated (e.g., chlorinated) solvent
B203 Non-halogenated solvent
B204 Halogenated/non-halogenated solvent mixture
B205 Oil-water emulsion or mixture
B206 Waste oil
B207 Concentrated aqueous solution of other organics
B208 Concentrated phenolics
B209 Organic paint, ink, lacquer, or varnish
B210 Adhesives or epoxies
B211 Paint thinner or petroleum distillates
B212 Reactive or polymerizable organic liquids
B219 Other organic liquids (Specify in Comments)
B296 Ethylene glycol based antifreeze

FORM CODES

Code	Waste description

ORGANIC LIQUIDS (continued)

B297 Nonhazardous liquids containing greater than or equal to (≥) 50 and less than (<) 500 ppm PCBs
B298 Nonhazardous liquids containing greater than or equal to (≥) 500 ppm PCBs
B299 Nonhazardous photographic chemical waste (organic)

SOLIDS

INORGANIC SOLIDS - Waste that is primarily inorganic and solid, with low organic content and low-to-moderate water content; not pumpable

B301 Soil Contaminated with organics
B302 Soil contaminated with inorganics only
B303 Ash, slag, or other residue from incineration of wastes
B304 Other "dry" ash, slag, or thermal residue
B305 "Dry" lime or metal hydroxide solids chemically "fixed"
B306 "Dry" lime or metal hydroxide solids not "fixed"
B307 Metal scale, filings, or scrap
B308 Empty or crushed metal drums or containers
B309 Batteries or battery parts, casings, cores
B310 Spent solid filters or adsorbents
B311 Asbestos solids and debris
B312 Metal-cyanide salts/chemicals
B313 Reactive cyanide salts/chemicals
B314 Reactive sulfide salts/chemicals
B315 Other reactive salts/chemicals
B316 Other metal salts/chemicals
B319 Other waste inorganic solids (Specify in Comments)
B388 Empty or crushed glass containers
B389 Nonhazardous sandblasting waste
B390 Nonhazardous concrete/cement/construction debris
B391 Nonhazardous dewatered wastewater treatment sludge
B392 Nonhazardous dewatered air pollution control device sludge
B393 Catalyst waste
B394 Nonhazardous solids containing greater than or equal to (≥) 50 ppm and less than (<) 500 ppm PCBs
B395 Nonhazardous solids containing greater than or equal to (≥) 500 ppm PCBs
B396 Nonhazardous electrical equipment/devices containing greater than or equal to (≥) 50 ppm and less than (<) 500 ppm PCBs.
B397 Nonhazardous electrical equipment/devices containing greater than or equal to (≥) 500 ppm PCBs
B398 Nonhazardous soils containing greater than or equal to (≥) 50 ppm and less than (<) 500 ppm PCBs
B399 Nonhazardous soils containing greater than or equal to (≥) 500 ppm PCBs

ORGANIC SOLIDS - waste that is primarily organic and solid, with low-to-moderate inorganic content and water content; not pumpable

B401 Halogenated pesticide solid
B402 Non-halogenated pesticide solid
B403 Solids resins or polymerized organics
B404 Spent carbon
B405 Reactive organic solid
B406 Empty fiber or plastic containers
B407 Other halogenated organic solids (Specify in Comments)
B409 Other non-halogenated organic solids (Specify in Comments)

FORM CODES

Code	Waste description

ORGANIC SOLIDS (continued)

B488 Wood debris
B489 Petroleum contaminated solids
B490 Sand blasting waste
B491 Dewatered biological treatment sludge
B492 Dewatered sewage or other untreated biological sludge
B493 Catalyst waste
B494 Solids containing greater than or equal to (≥) 50 ppm and less than (<) 500 ppm PCBs
B495 Solids containing greater than or equal to (≥) 500 ppm PCBs
B496 Electrical equipment/devices containing greater than or equal to (≥) 50 ppm and less than (<) 500 ppm PCBs.
B497 Electrical equipment/devices containing greater than or equal to (≥) 500 ppm PCBs
B498 Soils containing greater than or equal to (≥) 50 ppm and less than (<) 500 ppm PCBs
B499 Soils containing greater than or equal to (≥) 500 ppm PCBs

SLUDGES

INORGANIC SLUDGES - waste that is primarily inorganic, with moderate-to-high water content and low organic content, and pumpable

B501 Lime sludge without metals
B502 Lime sludge with metals/metal hydroxide sludge
B503 Wastewater treatment sludge with toxic organics
B504 Other wastewater treatment sludge
B505 Untreated plating sludge without cyanides
B506 Untreated plating sludge with cyanides
B507 Other sludge with cyanides
B508 Sludge with reactive sulfides
B509 Sludge with other reactives
B510 Degreasing sludge with metal scale or filings
B511 Air pollution control device sludge (e.g., fly ash, wet scrubber sludge)
B512 Sediment or lagoon dragout contaminated with organics
B513 Sediment or lagoon dragout contaminated with inorganics only
B514 Drilling mud
B515 Asbestos slurry or sludge
B516 Chloride or other brine sludge
B519 Other inorganic sludges (Specify in Comments)
B597 Catalyst waste
B598 Nonhazardous sludges containing greater than or equal to (≥) 50 ppm and less than (<) 500 ppm PCBs
B599 Nonhazardous sludges containing greater than or equal to (≥) 500 ppm PCBs

ORGANIC SLUDGES - waste that is primarily organic with low-to-moderate inorganic solids content and water content, and pumpable

B601 Still bottoms of halogenated (e.g., chlorinated) solvents or other organic liquids
B602 Still bottoms of non-halogenated solvents or other organic liquids
B603 Oily sludge
B604 Organic paint or ink sludge
B605 Reactive or polymerizable organics
B606 Resins, tars, or tarry sludge
B607 Biological treatment sludge

Code	Waste description

ORGANIC SLUDGES (continued)

B608 Sewage or other untreated biological sludge
B609 Other organic sludges (Specify in Comments)
B695 Petroleum contaminated sludges other than still bottoms and oily sludges
B696 Grease
B697 Catalyst waste
B698 Nonhazardous sludges containing greater than or equal to (≥) 50 ppm and less than (<) 500 ppm PCBs
B699 Nonhazardous sludges containing greater than or equal to (≥) 500 ppm PCBs

GASES

INORGANIC GASES - waste that is primarily inorganic with a low organic content and is a gas at atmospheric pressure

B701 Inorganic gases

ORGANIC GASES - waste that is primarily organic with low-to-moderate inorganic content and is a gas at atmospheric pressure

B801 Organic gases

PLANT TRASH

B901 Plant Production Refuse: Class 2 paper, cardboard, linings, wrappings, paper packaging materials, food wastes, glass, aluminum foil, plastics, styrofoam and food packaging, that are produced as a result of plant production, manufacturing or laboratory operations --please note that this definition does not include such things as metal parts, floor sweepings, and scrap materials.

B902 Supplemental Plant Production Refuse: Class 2 waste from production, manufacturing, or laboratory operations as long as the total amount of the supplemental plant production refuse does not exceed twenty percent of the total plant production refuse volume or weight, whichever is less -- this could include, but is not limited to, such things as metal parts, floor sweepings, and scrap materials.

B903 Plant Office Refuse: Class 2 paper, cardboard, linings, wrappings, paper or wood packaging materials, food wastes, glass, aluminum foil, plastics, styrofoam and food packaging, that come from general office, cafeteria, or food service operations -- this could include such things as soda cans, empty shipping cartons, and binders.

SYSTEM TYPE CODES

CODE	SYSTEM TYPE
METALS RECOVERY (FOR REUSE)	
M011	High temperature metals recovery
M012	Retorting
M013	Secondary smelting
M014	Other metals recovery for reuse: e.g., ion exchange, reverse osmosis, acid leaching, etc.
M019	Metals recovery - type unknown
SOLVENTS RECOVERY	
M021	Fractionation/distillation
M022	Thin film evaporation
M023	Solvent extraction
M024	Other solvent recovery
M029	Solvents recovery - type unknown
OTHER RECOVERY	
M031	Acid regeneration
M032	Other recovery: e.g., waste oil recovery, nonsolvent organics recovery, etc.
M039	Other recovery - type unknown
INCINERATION	
M041	Incineration - liquids
M042	Incineration - sludges
M043	Incineration - solids
M044	Incineration - gases
M049	Incineration - type unknown
ENERGY RECOVERY (REUSE AS FUEL)	
M051	Energy recovery - liquids
M052	Energy recovery - sludges
M053	Energy recovery - solids
M059	Energy recovery - type unknown
FUEL BLENDING	
M061	Fuel blending
AQUEOUS INORGANIC TREATMENT	
M071	Chrome reduction followed by chemical precipitation
M072	Cyanide destruction followed by chemical precipitation
M073	Cyanide destruction only
M074	Chemical oxidation followed by chemical precipitation
M075	Chemical oxidation only
M076	Wet air oxidation
M077	Chemical precipitation
M078	Other aqueous inorganic treatment: e.g., ion exchange, reverse osmosis, etc.
M079	Aqueous inorganic treatment - type unknown
AQUEOUS ORGANIC TREATMENT	
M081	Biological treatment
M082	Carbon adsorption
M083	Air/steam stripping
M084	Wet air oxidation
M085	Other aqueous organic treatment
M089	Aqueous organic treatment - type unknown
AQUEOUS ORGANIC AND INORGANIC TREATMENT	
M091	Chemical precipitation in combination with biological treatment
M092	Chemical precipitation in combination with carbon adsorption
M093	Wet air oxidation
M094	Other organic/inorganic treatment
M099	Aqueous organic and inorganic treatment - type unknown
SLUDGE TREATMENT	
M101	Sludge dewatering
M102	Addition of excess lime
M103	Absorption/adsorption
M104	Solvent extraction
M109	Sludge treatment - type unknown
STABILIZATION	
M111	Stabilization/chemical fixation using cementitious and/or pozzolanic materials
M112	Other stabilization
M119	Stabilization - type unknown
OTHER TREATMENT	
M121	Neutralization only
M122	Evaporation only
M123	Settling/clarification only
M124	Phase separation (e.g., emulsion breaking, filtration) only
M125	Other treatment
M129	Other treatment - type unknown
DISPOSAL	
M131	Land treatment/application/farming
M132	Landfill
M133	Surface impoundment (to be closed as a landfill)
M134	Deepwell/underground injection
M135	Direct discharge to sewer/POTW (no prior treatment)
M136	Direct discharge to surface water under NPDES (no prior treatment)
M137	Other disposal
STORAGE	
M141	Storage

SOURCE CODES

Code	Waste source

CLEANING AND DEGREASING

A01	Stripping
A02	Acid cleaning
A03	Caustic (Alkali) cleaning
A04	Flush rinsing
A05	Dip rinsing
A06	Spray rinsing
A07	Vapor degreasing
A08	Physical scraping and removal
A09	Clean out process equipment
A19	Other cleaning and degreasing

SURFACE PREPARATION AND FINISHING

A21	Painting
A22	Electroplating
A23	Electroless plating
A24	Phosphating
A25	Heat treating
A26	Pickling
A27	Etching
A29	Other surface coating/preparation (Specify in Comments)

PROCESSES OTHER THAN SURFACE PREPARATION

A31	Product rinsing
A32	Product filtering
A33	Product distillation
A34	Product solvent extraction
A35	By-product processing
A36	Spent catalyst removal
A37	Spent process liquids removal
A38	Tank sludge removal
A39	Slag removal
A40	Metal forming
A41	Plastics forming
A49	Other processes other than surface preparation (Specify in Comments)

PRODUCTION OR SERVICE DERIVED ONE-TIME AND INTERMITTENT PROCESSES

A51	Leak collection
A53	Cleanup of spill residues
A54	Oil changes
A55	Filter/Battery replacement
A56	Discontinue use of process equipment
A57	Discarding off-spec material
A58	Discarding out-of-date products or chemicals
A59	Other production-derived one-time and intermittent processes
A60	Sludge removal

REMEDIATION DERIVED WASTE

A61	Superfund Remedial Action
A62	Superfund Emergency Response
A63	RCRA Corrective Action at solid waste management unit
A64	RCRA closure of hazardous waste management unit
A65	Underground storage tank cleanup
A69	Other remediation

POLLUTION CONTROL OR WASTE TREATMENT PROCESSES

A71	Filtering/screening
A72	Metals recovery
A73	Solvents recovery
A74	Incineration/Thermal treatment
A75	Wastewater treatment
A76	Sludge dewatering
A77	Stabilization
A78	Air pollution control devices
A79	Leachate collection
A89	Other pollution control or waste treatment

OTHER PROCESSES

A91	Clothing and personal protective equipment
A92	Routine cleanup wastes (e.g., floor sweepings)
A93	Closure of management unit(s) or equipment other than by remediation specified in codes A61 - A69
A94	Laboratory wastes
A99	Other

SIC CODES

SIC CODE	INDUSTRY	SIC CODE	INDUSTRY	SIC CODE	INDUSTRY

PUBLIC ADMINISTRATION

EXECUTIVE, LEGISLATIVE, AND GENERAL
9111 Executive offices
9121 Legislative bodies
9131 Executive and legislative combined
9199 General government, nec

JUSTICE, PUBLIC ORDER, AND SAFETY
9211 Courts
9221 Police protection
9222 Legal counsel and prosecution
9223 Correctional institutions
9224 Fire protection
9229 Public order and safety, nec

FINANCE, TAXATION, AND MONETARY POLICY
9311 Finance, taxation, and monetary policy

ADMINISTRATION OF HUMAN RESOURCES
9411 Administration of educational programs
9431 Administration of public health programs
9441 Administration of social and manpower programs
9451 Administration of veterans' affairs

ENVIRONMENTAL QUALITY, AND HOUSING
9511 Air, water, and solid waste management
9512 Land, mineral, wildlife conservation
9531 Housing programs
9532 Urban and community development

ADMINISTRATION OF ECONOMIC PROGRAMS
9611 Admin. of general economic programs
9621 Regulation, admin. of transportation
9631 Regulation, administration of utilities
9641 Regulation of agricultural marketing
9651 Regulation of misc. commercial sectors
9661 Space research and technology

NATIONAL SECURITY AND INTERNATIONAL AFFAIRS
9711 National security
9721 International affairs

NONCLASSIFIABLE ESTABLISHMENTS

9999 Nonclassifiable establishments

Note: nec = not elsewhere classified.

SIC CODES

SIC CODE	INDUSTRY
	SECURITY AND COMMODITY BROKERS
6211	Security brokers and dealers
6221	Commodity contracts brokers, dealers
6231	Security and commodity exchanges
6282	Investment advice
6289	Security and commodity services, nec
	INSURANCE CARRIERS
6311	Life insurance
6321	Accident and health insurance
6324	Hospital and medical service plans
6331	Fire, marine, and casualty insurance
6351	Surety insurance
6361	Title insurance
6371	Pension, health, and welfare funds
6399	Insurance carriers, nec
	INSURANCE AGENTS, BROKERS, AND SERVICE
6411	Insurance agents, brokers, and service
	REAL ESTATE
6512	Nonresidential building operators
6513	Apartment building operators
6514	Dwelling operators, except apartments
6515	Mobile home site operators
6517	Railroad property lessors
6519	Real property lessors,nec
6531	Real estate agents and managers
6541	Title abstract offices
6552	Subdividers and developers, nec
6553	Cemetery subdividers and developers
	HOLDING AND OTHER INVESTMENT OFFICES
6712	Bank holding companies
6719	Holding companies, nec
6722	Management investment, open-end
6726	Investment offices, nec
6732	Educational, religious, etc. trusts
6733	Trusts, nec
6792	Oil royalty traders
6794	Patent owners and lessors
6798	Real estate investment trusts
6799	Investors, nec

SERVICES

	HOTELS AND OTHER LODGING PLACES
7011	Hotels and motels
7021	Rooming and boarding houses
7032	Sporting and recreational camps
7033	Trailer parks and campsites
7041	Membership-basis organization hotels
	PERSONAL SERVICES
7211	Power laundries, family and commercial
7212	Garment pressing and cleaners' agents
7213	Linen supply
7215	Coin-operated laundries and cleaning
7216	Dry cleaning plants, except rug
7217	Carpet and upholstery cleaning
7218	Industrial launderers
7219	Laundry and garment services, nec
7221	Photographic studios, portrait
7231	Beauty shops
7241	Barber shops
7251	Shoe repair and shoeshine shops
7261	Funeral service and crematories
7291	Tax return preparation services
7299	Miscellaneous personal services, nec
	BUSINESS SERVICES
7311	Advertising agencies
7312	Outdoor advertising services
7313	Radio, TV, publisher representatives
7319	Advertising, nec
7322	Adjustment and collection services
7323	Credit reporting services
7331	Direct mail advertising services
7334	Photocopying and duplicating services
7335	Commercial photography
7336	Commercial art and graphic design
7338	Secretarial and court reporting
7342	Disinfecting and pest control services
7349	Building maintenance services, nec
7352	Medical equipment rental
7353	Heavy construction equipment rental
7359	Equipment rental and leasing, nec
7361	Employment agencies
7363	Help supply services
7371	Computer programming services
7372	Prepackaged software
7373	Computer integrated systems design
7374	Data processing services
7375	Information retrieval services
7376	Computer facilities management
7377	Computer rental and leasing
7378	Computer maintenance and repair
7379	Computer related services, nec
7381	Detective and armored car services
7382	Security systems services
7383	News syndicates
7384	Photofinishing laboratories
7389	Business services, nec
	AUTOMOTIVE REPAIR, SERVICES, AND PARKING
7513	Truck rental and leasing, no drivers
7514	Passenger car rental
7515	Passenger car leasing
7519	Utility trailer rental
7521	Automobile parking
7532	Top and body repair and paint shops
7533	Auto exhaust system repair shops
7534	Tire retreading and repair shops
7536	Automotive glass replacement shops
7537	Automotive transmission repair shops
7538	General automotive repair shops
7539	Automotive repair shops, nec
7542	Car washes
7549	Automotive services, nec
	MISCELLANEOUS REPAIR SERVICES
7622	Radio and television repair
7623	Refrigeration service and repair
7629	Electrical repair shops, nec
7631	Watch, clock, and jewelry repair
7641	Reupholstery and furniture repair
7692	Welding repair
7694	Armature rewinding shops
7699	Repair services, nec
	MOTION PICTURES
7812	Motion picture and video production
7819	Services allied to motion pictures
7822	Motion picture and tape distribution
7829	Motion picture distribution services
7832	Motion picture theaters except drive-in
7833	Drive-in motion picture theaters
7841	Video tape rental
	AMUSEMENT AND RECREATION SERVICES
7911	Dance studios, schools, and halls
7922	Theatrical producers and services
7929	Entertainers and entertainment groups
7933	Bowling centers
7941	Sports clubs, managers, and promoters
7948	Racing, including track operation
7991	Physical fitness facilities
7992	Public golf courses
7993	Coin-operated amusement devices
7996	Amusement parks
7997	Membership sports and recreation clubs
7999	Amusement and recreation, nec
	HEALTH SERVICES
8011	Offices and clinics of medical doctors
8021	Offices and clinics of dentists
8031	Offices of osteopathic physicians
8041	Offices and clinics of chiropractors
8042	Offices and clinics of optometrists
8043	Offices and clinics of podiatrists
8049	Offices of health practitioners, nec
8051	Skilled nursing care facilities
8052	Intermediate care facilities
8059	Nursing and personal care, nec
8062	General medical and surgical hospitals
8063	Psychiatric hospitals
8069	Specialty hospitals, except psychiatric
8071	Medical laboratories
8072	Dental laboratories
8082	Home health care services
8092	Kidney dialysis centers
8093	Specialty outpatient clinics, nec
8099	Health and allied services, nec
	LEGAL SERVICES
8111	Legal services
	EDUCATIONAL SERVICES
8211	Elementary and secondary schools
8221	Colleges and universities
8222	Junior colleges
8231	Libraries
8243	Data processing schools
8244	Business and secretarial schools
8249	Vocational schools, nec
8299	Schools and educational services, nec
	SOCIAL SERVICES
8322	Individual and family services
8331	Job training and related services
8351	Child day care services
8361	Residential care
8399	Social services, nec
	MUSEUMS, BOTANICAL, ZOOLOGICAL GARDENS
8412	Museums and art galleries
8422	Botanical and zoological gardens
	MEMBERSHIP ORGANIZATIONS
8611	Business associations
8621	Professional organizations
8631	Labor organizations
8641	Civic and social associations
8651	Political organizations
8661	Religious organizations
8699	Membership organizations, nec
	ENGINEERING AND MANAGEMENT SERVICES
8711	Engineering services
8712	Architectural services
8713	Surveying services
8721	Accounting, auditing, and bookkeeping
8731	Commercial physical research
8732	Commercial nonphysical research
8733	Noncommercial research organizations
8734	Testing laboratories
8741	Management services
8742	Management consulting services
8743	Public relations services
8744	Facilities support services
8748	Business consulting, nec
	PRIVATE HOUSEHOLDS
8811	Private households
	SERVICES, NEC
8999	Services, nec

Note: nec = not elsewhere classified.

SIC CODES

SIC CODE	INDUSTRY
	TRANSPORTATION BY AIR
4512	Air transportation, scheduled
4513	Air courier services
4522	Air transportation, nonscheduled
4581	Airports, flying fields, and services
	PIPELINES,EXCEPT NATURAL GAS
4612	Crude petroleum pipelines
4613	Refined petroleum pipelines
4619	Pipelines, nec
	TRANSPORTATION SERVICES
4724	Travel agencies
4725	Tour operators
4729	Passenger transportation arrangement, nec
4731	Freight transportation arrangement
4741	Rental of railroad cars
4783	Packing and crating
4785	Inspection and fixed facilities
4789	Transportation services, nec
	COMMUNICATIONS
4812	Radiotelephone communications
4813	Telephone communications, except radio
4822	Telegraph and other communications
4832	Radio broadcasting stations
4833	Television broadcasting stations
4841	Cable and other pay TV services
4899	Communication services, nec
	ELECTRIC, GAS, AND SANITARY SERVICES
4911	Electric services
4922	Natural gas transmission
4923	Gas transmission and distribution
4924	Natural gas distribution
4925	Gas Production and/or distribution
4931	Electric and other services combined
4932	Gas and other services combined
4939	Combination utilities, nec
4941	Water supply
4952	Sewerage systems
4953	Refuse systems
4959	Sanitary services, nec
4961	Steam and air conditioning supply
4971	Irrigation systems

WHOLESALE TRADE

	WHOLESALE TRADE, DURABLE GOODS
5012	Automobiles and other motor vehicles
5013	Motor vehicle supplies and new parts
5014	Tires and tubes
5015	Motor vehicle parts, used
5021	Furniture
5023	Home furnishings
5031	Lumber, plywood and millwork
5032	Brick, stone, and related materials
5033	Roofing, siding, and insulation
5039	Construction materials, nec
5043	Photographic equipment and supplies
5044	Office equipment
5045	Computers, peripherals, and software
5046	Commercial equipment, nec
5047	Medical and hospital equipment
5048	Opthalmic goods
5049	Professional equipment, nec
5051	Metals service centers and offices
5052	Coal and other minerals and ores
5063	Electrical apparatus and equipment
5064	Electrical appliances,TV and radios
5065	Electronic parts and equipment
5072	Hardware
5074	Plumbing and hydronic heating supplies
5075	Warm air heating and air conditioning
5078	Refrigeration equipment and supplies
5082	Construction and mining machinery
5083	Farm and garden machinery
5084	Industrial machinery and equipment
5085	Industrial supplies
5087	Service establishment equipment
5088	Transportation equipment and supplies
5091	Sporting and recreational goods
5092	Toys and hobby goods and supplies
5093	Scrap and waste materials
5094	Jewelry and precious stones
5099	Durable goods, nec
	WHOLESALE TRADE, NONDURABLE GOODS
5111	Printing and writing paper
5112	Stationery and office supplies
5113	Industrial and personal service paper
5122	Drugs,proprietaries, and sundries
5131	Piece goods and notions
5136	Men's and boys' clothing
5137	Women's and children's clothing
5139	Footwear
5141	Groceries, general line
5142	Packaged frozen foods
5143	Dairy products, except dried or canned
5144	Poultry and poultry products
5145	Confectionary
5146	Fish and seafoods
5147	Meats and meat products
5148	Fresh fruits and vegetables
5149	Groceries and related products, nec
5153	Grain and field beans
5154	Livestock
5159	Farm-product raw materials, nec
5162	Plastics materials and basic shapes
5169	Chemicals and allied products, nec
5171	Petroleum bulk stations and terminals
5172	Petroleum products, nec
5181	Beer and ale
5182	Wines and distilled beverages
5191	Farm supplies
5192	Books, periodicals, and newspapers
5193	Flowers and florists' supplies
5194	Tobacco and tobacco products
5198	Paints, varnishes, and supplies
5199	Nondurable goods, nec

RETAIL TRADE

	BUILDING MATERIALS AND GARDEN SUPPLY
5211	Lumber and other building material
5231	Paint,glass, and wallpaper stores
5251	Hardware stores
5261	Retail nurseries and gardens
5271	Mobile home dealers
	GENERAL MERCHANDISE STORES
5311	Department stores
5331	Variety stores
5399	Miscellaneous general merchandise stores
	FOOD STORES
5411	Grocery stores
5421	Meat and fish markets
5431	Fruit and vegetable markets
5441	Candy,nut, and confectionary stores
5451	Dairy products stores
5461	Retail bakers
5499	Miscellaneous food stores
	AUTOMOTIVE DEALERS AND SERVICE STATIONS
5511	New and used car dealers
5521	Used car dealers
5531	Auto and home supply stores
5541	Gasoline service stations
5551	Boat dealers
5561	Recreational vehicle dealers
5571	Motorcycle dealers
5599	Automotive dealers, nec
	APPAREL AND ACCESSORY STORES
5611	Men's and boys' clothing stores
5621	Women's clothing stores
5632	Women's accessory and specialty stores
5641	Children's and infants' wear stores
5651	Family clothing stores
5661	Shoe stores
5699	Misc. apparel and accessory stores
	FURNITURE AND HOME FURNISHING STORES
5712	Furniture stores
5713	Floor covering stores
5714	Drapery and upholstery stores
5719	Miscellaneous home furnishings stores
5722	Household appliance stores
5731	Radio, TV, and electronic stores
5734	Computer and software stores
5735	Record and prerecorded tape stores
5736	Musical instruments stores
	EATING AND DRINKING PLACES
5812	Eating places
5813	Drinking places
	MISCELLANEOUS RETAIL
5812	Drugstores and proprietary stores
5921	Liquor stores
5932	Used merchandise stores
5941	Sporting goods and bicycle shopes
5942	Bookstores
5943	Stationary stores
5944	Jewelry stores
5945	Hobby, toy, & game shops
5946	Camera and photographic supply stores
5947	Gift, novelty, and souvenir shops
5948	Luggage and leather goods stores
5949	Sewing, needlework, and piece goods
5961	Catalog and mail order houses
5962	Merchandising machine operators
5963	Direct selling organizations
5983	Fuel oil dealers
5984	Liquified petroleum gas dealers
5989	Fuel dealers, nec
5992	Florists
5993	Cigar stores and stands
5994	News dealers and newsstands
5995	Optical goods stores
5999	Miscellaneous retail stores, nec

FINANCE,INSURANCE AND REAL ESTATE

	DEPOSITORY INSTITUTIONS
6011	Federal Reserve banks
6019	Central reserve depository, nec
6021	National commercial banks
6022	State commercial banks
6029	Commercial banks, nec
6035	Federal savings institutions
6036	Savings institutions, except federal
6061	Federal credit unions
6062	State credit unions
6081	Foreign banks and branches and agencies
6082	Foreign trade and international banks
6091	Nondeposit trust facilities
6099	Functions related to deposit banking
	NONDEPOSITORY INSTITUTIONS
6111	Federal and federally-sponsored credit
6141	Personal credit institutions
6153	Short-term business credit
6159	Miscellaneous business credit institutions
6162	Mortgage bankers and correspondents
6163	Loan brokers

Note: nec = not elsewhere classified.

SIC CODES

SIC CODE	INDUSTRY
3429	Hardware, nec
3431	Metal sanitary ware
3432	Plumbing fixture fittings and trim
3433	Heating equipment, except electric
3441	Fabricated structural metal
3442	Metal doors, sash, and trim
3443	Fabricated plate work (boiler shops)
3444	Sheet metal work
3446	Architectural metal work
3448	Prefabricated metal buildings
3449	Miscellaneous metal work
3451	Screw machine products
3452	Bolts, nuts, rivets, and washers
3462	Iron and steel forgings
3463	Nonferrous forgings
3465	Automotive stampings
3466	Crowns and closures
3469	Metal stampings, nec
3471	Plating and polishing
3479	Metal coating and allied services
3482	Small arms ammunition
3483	Ammunition, except for small arms, nec
3484	Small arms
3489	Ordnance and accessories, nec
3491	Industrial valves
3492	Fluid power valves and hose fittings
3493	Steel springs, except wire
3494	Valves and pipe fittings, nec
3495	Wire springs
3496	Miscellaneous fabricated wire products
3497	Metal foil and leaf
3498	Fabricated pipe and fittings
3499	Fabricated metal products, nec
	INDUSTRIAL MACHINERY AND EQUIPMENT
3511	Turbines and turbine generator sets
3519	Internal combustion engines, nec
3523	Farm machinery and equipment
3524	Lawn and garden equipment
3531	Construction machinery
3532	Mining machinery
3533	Oil and gas field machinery
3534	Elevators and moving stairways
3535	Conveyors and conveying equipment
3536	Hoists, cranes and monorails
3537	Industrial trucks and tractors
3541	Machine tools, metal cutting types
3542	Machine tools, metal forming types
3543	Industrial patterns
3544	Special dies, tools, jigs, and fixture
3545	Machine tool accessories
3546	Power driven hand tools
3547	Rolling mill machinery
3548	Welding apparatus
3549	Metalworking machinery, nec
3552	Textile machinery
3553	Woodworking machinery
3554	Paper industries machinery
3555	Printing trades machinery
3556	Food products machinery
3559	Special industry machinery, nec
3561	Pumps and pumping equipment
3562	Ball and roller bearings
3563	Air and gas compressors
3564	Blowers and fans
3565	Packaging machinery
3566	Speed changers, drives, and gears
3567	Industrial furnaces and ovens
3568	Power transmission equipment, nec
3569	General industrial machinery, nec
3571	Electronic computers
3572	Computer storage devices
3575	Computer terminals
3577	Computer peripheral equipment, nec
3578	Calculating and accounting equipment
3579	Office machines, nec
3581	Automatic vending machines
3582	Commercial laundry equipment
3585	Refrigeration and heating equipment
3586	Measuring and dispensing pumps
3589	Service industry machinery, nec
3592	Carburetors, pistons, rings, valves
3593	Fluid power cylinders and actuators
3594	Fluid power pumps and motors
3596	Scales and balances, except laboratory
3599	Industrial machinery, nec
	ELECTRONIC AND OTHER ELECTRIC EQUIPMENT
3612	Transformers, except electronic
3613	Switchgear and switchboard apparatus
3621	Motors and generators
3624	Carbon and graphite products
3625	Relays and industrial controls
3629	Electrical industrial apparatus, nec
3631	Household cooking equipment
3632	Household refrigerators and freezers
3633	Household laundry equipment
3634	Electric housewares and fans
3635	Household vacuum cleaners
3639	Household appliances, nec
3641	Electric lamps
3643	Current-carrying wiring devices
3644	Noncurrent-carrying wiring devices
3645	Residential lighting fixtures
3646	Commercial lighting fixtures
3647	Vehicular lighting equipment
3648	Lighting equipment, nec
3651	Household audio and video equipment
3652	Prerecorded records and tapes
3661	Telephone and telegraph apparatus
3663	Radio and TV communication equipment
3669	Communications equipment, nec
3671	Electron tubes
3672	Printed circuit boards
3674	Semiconductors and related devices
3675	Electronic capacitors
3676	Electronic resistors
3677	Electronic coils and transformers
3678	Electronic connectors
3679	Electronic components, nec
3691	Storage batteries
3692	Primary batteries, dry and wet
3694	Engine electrical equipment
3695	Magnetic and optical recording media
3699	Electrical equipment and supplies, nec
	TRANSPORTATION EQUIPMENT
3711	Motor vehicles and car bodies
3713	Truck and bus bodies
3714	Motor vehicle parts and accessories
3715	Truck trailers
3716	Motor homes
3721	Aircraft
3724	Aircraft engines and engine parts
3728	Aircraft parts and equipment, nec
3731	Ship building and repairing
3732	Boat building and repairing
3743	Railroad equipment
3751	Motorcycle, bicycles, and parts
3761	Guided missiles and space vehicles
3764	Space propulsion units and parts
3769	Space vehicle equipment, nec
3792	Travel trailers and campers
3795	Tanks and tank components
3799	Transportation equipment, nec
	INSTRUMENTS AND RELATED PRODUCTS
3812	Search and navigation equipment
3821	Laboratory apparatus and furniture
3822	Environmental controls
3823	Process control instruments
3824	Fluid meters and counting devices
3825	Instruments to measure electricity
3826	Analytical instruments
3827	Optical instruments and lenses
3829	Measuring and controlling devices, nec
3841	Surgical and medical instruments
3842	Surgical appliances and supplies
3843	Dental equipment and supplies
3844	X-ray apparatus and tubes
3845	Electromedical equipment
3851	Ophthalmic goods
3861	Photographic equipment and supplies
3873	Watches, clocks, watchcases, and parts
	MISCELLANEOUS MANUFACTURING INDUSTRIES
3911	Jewelry, precious metal
3914	Silverware and plated ware
3915	Jewelers' materials lapidary work
3931	Musical instruments
3942	Dolls and stuffed toys
3944	Games, toys, and childrens' vehicles
3949	Sporting and athletic goods, nec
3951	Pens and mechanical pencils
3952	Lead pencils and art goods
3953	Marking devices
3955	Carbon paper and inked ribbons
3961	Costume jewelry
3965	Fasteners, buttons, needles, and pins
3991	Brooms and brushes
3993	Signs and advertising specialties
3995	Burial caskets
3996	Hard surface floor coverings, nec
3999	Manufacturing industries, nec

TRANSPORTATION AND UTILITIES

	RAILROAD TRANSPORTATION
4011	Railroads, line-haul operating
4013	Switching & terminal devices
	LOCAL AND INTERURBAN PASSENGER TRANSIT
4111	Local and suburban transit
4119	Local passenger transportation, nec
4121	Taxicabs
4131	Intercity and rural bus transportation
4141	Local bus charter service
4142	Bus charter service, except local
4151	School buses
4173	Bus terminal and service facilities
	TRUCKING AND WAREHOUSING
4212	Local trucking, without storage
4213	Trucking, except local
4214	Local trucking with storage
4215	Courier services, except by air
4221	Farm product warehousing and storage
4222	Refrigerated warehousing and storage
4225	General warehousing and storage
4226	Special warehousing and storage, nec
4231	Trucking terminal facilities
	US POSTAL SERVICE
4311	US Postal Services
	WATER TRANSPORTATION
4412	Deep sea foreign transportation of freight
4424	Deep sea domestic transportation of freight
4432	Freight transportation, on the Great Lakes
4449	Water transportation of freight, nec
4481	Deep sea passenger transportation except ferry
4482	Ferries
4489	Water passenger transportation, nec
4491	Marine cargo handling
4492	Towing and tugboat service
4493	Marinas
4499	Water transportation services, nec

Note: nec = not elsewhere classified.

SIC CODES

SIC CODE	INDUSTRY
	APPAREL AND OTHER TEXTILE PRODUCTS
2311	Men's and boys' suits and coats
2321	Men's and boys' shirts
2322	Men's and boys' underwear and nightwear
2323	Men's and boys' neckwear
2325	Men's and boys' trousers and slacks
2326	Men's and boys' work clothing
2329	Men's and boys' clothing, nec
2331	Women's and misses' blouses and shirts
2335	Women's, juniors' and misses' dresses
2337	Women's and misses' suits and coats
2339	Women's and misses' outerwear, nec
2341	Women's and children's underwear
2342	Bras, girdles, and allied garments
2353	Hats, caps,and millinery
2361	Girls' and children's dresses, blouses
2369	Girls' and children's outerwear, nec
2371	Fur goods
2381	Fabric dress and work gloves
2384	Robes & dressing gowns
2385	Waterproof outerwear
2386	Leather and sheep lined clothing
2387	Apparel belts
2389	Apparel and accessories, nec
2391	Curtains and draperies
2392	House furnishings, nec
2393	Textile bags
2394	Canvas & related products
2395	Pleating and stitching
2396	Automotive and apparel trimmings
2397	Schiffli machine embroideries
2399	Fabricated textile products, nec
	LUMBER AND WOOD PRODUCTS
2411	Logging
2421	Sawmills and planing mills, general
2426	Hardwood dimension and flooring mills
2429	Special product sawmills, nec
2431	Millwork
2434	Wood kitchen cabinets
2435	Hardwood veneer and plywood
2436	Softwood veneer and plywood
2439	Structural wood members, nec
2441	Nailed wood boxes and shook
2448	Wood pallets and skids
2449	Wood containers, nec
2451	Mobile homes
2452	Prefabricated wood buildings
2491	Wood preserving
2493	Reconstituted wood products
2499	Wood products, nec
	FURNITURE AND FIXTURES
2511	Wood household furniture
2512	Upholstered household furniture
2514	Metal household furniture
2515	Mattresses and bedsprings
2517	Wood TV and radio cabinets
2519	Household furniture, nec
2521	Wood office furniture
2522	Office furniture, except wood
2531	Public building and related furniture
2541	Wood partitions and fixtures
2542	Partitions and fixtures, except wood
2591	Drapery hardware and blinds and shades
2599	Furniture & fixtures, nec
	PAPER AND ALLIED PRODUCTS
2611	Pulp mills
2621	Paper mills
2631	Paperboard mills
2652	Set-up paperboard boxes
2653	Corrugated and solid fiber boxes
2655	Fiber cans,drums,and similar products
2656	Sanitary food containers
2657	Folding paperboard boxes
2671	Paper coated and laminated, packaging
2672	Paper coated and laminated, nec
2673	Bags-plastics,laminated and coated
2674	Bags-uncoated paper and multiwall
2675	Die-cut paper and board
2676	Sanitary paper products
2677	Envelopes
2678	Stationery products
2679	Converted paper products, nec
	PRINTING AND PUBLISHING
2711	Newspapers
2721	Periodicals
2731	Book publishing
2732	Book printing
2741	Miscellaneous publishing
2752	Commercial printing, lithographic
2754	Commercial printing, gravure
2759	Commercial printing, nec
2761	Manifold business forms
2771	Greeting cards
2782	Blankbooks and looseleaf binders
2789	Bookbinding and related work
2791	Typesetting
2796	Plate making services
	CHEMICALS AND ALLIED PRODUCTS
2812	Alkalies and chlorine
2813	Industrial gases
2816	Inorganic pigments
2819	Industrial inorganic chemicals, nec
2821	Plastics materials and resins
2822	Synthetic rubber
2823	Cellulosic man-made fibers
2824	Organic fibers, noncellulosic
2833	Medicinals and botanicals
2834	Pharmaceutical preparations
2835	Diagnostic substances
2836	Biological products, except diagnostic
2841	Soap and other detergents
2842	Polishes and sanitation goods
2843	Surface active agents
2844	Toilet preparations
2851	Paints and allied products
2861	Gum and wood chemicals
2865	Cyclic crudes and intermediates
2869	Industrial organic chemicals, nec
2873	Nitrogenous fertilizers
2874	Phosphatic fertilizers
2875	Fertilizers, mixing only
2879	Agricultural chemicals, nec
2891	Adhesives and sealants
2892	Explosives
2893	Printing ink
2895	Carbon black
2899	Chemical preparations,nec
	PETROLEUM AND COAL PRODUCTS
2911	Petroleum refining
2951	Asphalt paving mixtures and blocks
2952	Asphalt felts and coatings
2992	Lubricating oils and greases
2999	Petroleum and coal products, nec
	RUBBER AND MISCELLANEOUS PLASTIC PRODUCTS
3011	Tires and inner tubes
3021	Rubber and plastics footwear
3052	Rubber and plastics hose and belting
3053	Gaskets,packing and sealing devices
3061	Mechanical rubber goods
3069	Fabricated rubber products, nec
3081	Unsupported plastics,film and sheet
3082	Unsupported plastics, profile shapes
3083	Laminated plastics,plate and sheet
3084	Plastics, pipe
3085	Plastics, bottles
3086	Plastics, foam products
3087	Custom compound purchased resins
3088	Plastics plumbing fixtures
3089	Plastic products, nec
	LEATHER AND LEATHER PRODUCTS
3111	Leather tanning and finishing
3131	Footwear cut stock
3142	House slippers
3143	Men's footwear, except athletic
3144	Women's footwear, except athletic
3149	Footwear except rubber, nec
3151	Leather gloves and mittens
3161	Luggage
3171	Women's handbags and purses
3172	Personal leather goods, nec
3199	Leather goods, nec
	STONE, CLAY, AND GLASS PRODUCTS
3211	Flat glass
3221	Glass containers
3229	Pressed and blown glass,nec
3231	Products of purchased glass
3241	Cement, hydraulic
3251	Brick and structural clay tile
3253	Ceramic wall and floor tile
3255	Clay refractories
3259	Structural clay products, nec
3261	Vitreous plumbing fixtures
3262	Vitreous china table and kitchenware
3263	Semivitreous table and kitchenware
3264	Porcelain electrical supplies
3269	Pottery products, nec
3271	Concrete block and brick
3272	Concrete products, nec
3273	Ready-mixed concrete
3274	Lime
3275	Gypsum products
3281	Cut stone and stone products
3291	Abrasive products
3292	Asbestos products
3296	Minerals, ground or treated
3296	Mineral wool
3297	Nonclay refractories
3299	Nonmetallic mineral products, nec
	PRIMARY METAL INDUSTRIES
3312	Blast furnaces and steel mills
3313	Electrometallurgical products
3315	Steel wire and related products
3316	Cold finishing of steel shapes
3317	Steel pipe and tubes
3321	Gray and ductile iron foundries
3322	Malleable iron foundries
3324	Steel investment foundries
3325	Steel foundries, nec
3331	Primary copper
3334	Primary aluminum
3339	Primary nonferrous metals, nec
3341	Secondary nonferrous metals
3351	Copper rolling & drawing
3353	Aluminum sheet,plate, and foil
3354	Aluminum extruded products
3355	Aluminum rolling and drawing, nec
3356	Nonferrous rolling and drawing, nec
3357	Nonferrous wire drawing and insulating
3363	Aluminum die-castings
3364	Nonferrous die-castings, except aluminum
3365	Aluminum foundries
3366	Copper foundries
3369	Nonferrous foundries, nec
3398	Metal heat treating
3399	Primary metal products, nec
	FABRICATED METAL PRODUCTS
3411	Metal cans
3412	Metal barrels,drums, and pails
3421	Cutlery
3423	Hand and edge tools, nec
3425	Saw blades and handsaws

Note: nec = not elsewhere classified.

SIC CODES

SIC CODE	INDUSTRY

AGRICULTURE

AGRICULTURAL PRODUCTION-CROPS

0111 Wheat
0112 Rice
0115 Corn
0116 Soybeans
0119 Cash grains, nec
0131 Cotton
0132 Tobacco
0133 Sugar cane and sugar beets
0134 Irish potatoes
0139 Field crops, except cash grains, nec
0161 Vegetables and melons
0171 Berry crops
0172 Grapes
0173 Tree nuts
0174 Citrus fruits
0175 Deciduous tree fruits
0179 Fruits and tree nuts, nec
0181 Ornamental nursery products
0182 Food crops grown under cover
0191 General farms, primarily crops

AGRICULTURAL PRODUCTION- LIVESTOCK

0211 Beef cattle feedlots
0212 Beef cattle, except feedlots
0213 Hogs
0214 Sheep and goats
0219 General livestock, nec
0241 Dairy farms
0251 Broiler, fryer, and roaster chickens
0252 Chicken eggs
0253 Turkey and turkey eggs
0254 Poultry hatcheries
0259 Poultry and eggs, nec
0271 Fur-bearing animals and rabbits
0272 Horses and other equines
0273 Animal aquaculture
0279 Animal specialties, nec
0291 General farms, primarily animal

AGRICULTURAL SERVICES

0711 Soil preparation services
0721 Crop planting and protecting
0722 Crop harvesting
0723 Crop preparation services for market
0724 Cotton ginning
0741 Veterinary services, for livestock
0742 Veterinary services, specialties
0751 Livestock services, except veterinary
0752 Animal specialty services
0761 Farm labor contractors
0762 Farm management services
0781 Landscape counseling and planning
0782 Lawn and garden services
0783 Ornamental shrub and tree services

FORESTRY

0811 Timber tracts
0831 Forest products
0851 Forestry services

FISHING, HUNTING, AND TRAPPING

0912 Finfish
0913 Shellfish
0919 Miscellaneous marine products
0921 Fish hatcheries and preserves
0971 Hunting,trapping, game propagation

MINING

METAL MINING

1011 Iron ores
1021 Copper ores
1031 Lead and zinc ores
1041 Gold ores
1044 Silver ores
1061 Ferroalloy ores,except vanadium
1081 Metal mining services
1094 Uranium, radium, vanadium ores
1099 Metal ores, nec

COAL MINING

1221 Bituminous coal and lignite - surface
1222 Bituminous coal-underground
1231 Anthracite mining
1241 Coal mining services

OIL AND GAS EXTRACTION

1311 Crude petroleum and natural gas
1321 Natural gas liquids
1381 Drilling oil and gas wells
1382 Oil and gas exploration services
1389 Oil and gas field services, nec

NONMETALLIC MINERALS, EXCEPT FUELS

1411 Dimension stone
1422 Crushed and broken limestone
1423 Crushed and broken granite
1429 Crushed and broken stone, nec
1442 Construction sand and gravel
1446 Industrial sand
1455 Kaolin and ball clay
1459 Clay and related minerals, nec
1474 Potash, soda and borate minerals
1475 Phosphate rock
1479 Chemical and fertilizer mining, nec
1481 Nonmetallic minerals services
1499 Miscellaneous nonmetallic minerals, nec

CONSTRUCTION

GENERAL BUILDING CONTRACTORS

1521 Single-family housing construction
1522 Residential construction, nec
1531 Operative builders
1541 Industrial buildings and warehouses
1542 Nonresidential construction, nec

HEAVY CONSTRUCTION, EXCLUDING BUILDINGS

1611 Highway and street construction
1622 Bridge, tunnel, and elevated highway
1623 Water, sewer, and utility lines
1629 Heavy construction, nec

SPECIAL TRADE CONTRACTORS

1711 Plumbing, heating, air conditioning
1721 Painting and paper hanging
1731 Electrical work
1741 Masonry and other stonework
1742 Plastering, drywall, and insulation
1743 Terrazzo, tile, marble, mosaic work
1751 Carpentry work
1752 Floor laying & floor work, nec
1761 Roofing, siding, and sheet metal work
1771 Concrete work
1781 Water well drilling
1791 Structural steel erection
1793 Glass and glazing work
1794 Excavation work
1795 Wrecking & demolition work
1796 Installing building equipment, nec
1799 Special trade contractors, nec

MANUFACTURING

FOOD AND KINDRED PRODUCTS

2011 Meat packing plants
2013 Sausages and other prepared meats
2015 Poultry slaughtering and processing
2021 Creamery butter
2022 Cheese, natural and processed
2023 Dry, condensed, evaporated products
2024 Ice cream and frozen desserts
2026 Fluid milk
2032 Canned specialties
2033 Canned fruits and vegetables
2034 Dehydrated fruits, vegetables, soups
2035 Pickles, sauces, and salad dressings
2037 Frozen fruits and vegetables
2038 Frozen specialties, nec
2041 Flour and other grain mill products
2043 Cereal breakfast foods
2044 Rice milling
2045 Prepared flour mixes and doughs
2046 Wet corn milling
2047 Dog and cat food
2048 Prepared feeds, nec
2051 Bread, cake, and related products
2052 Cookies and crackers
2053 Frozen bakery products, except bread
2061 Raw cane sugar
2062 Cane sugar refining
2063 Beet sugar
2064 Candy and other confectionery products
2066 Chocolate and cocoa products
2067 Chewing gum
2068 Salted and roasted nuts and seeds
2074 Cottonseed oil mills
2075 Soybean oil mills
2076 Vegetable oil mills, nec
2077 Animal and marine fats and oils
2079 Edible fats and oils, nec
2082 Malt beverages
2083 Malt
2084 Wines, brandy, and brandy spirits
2085 Distilled and blended liquors
2086 Bottled and canned soft drinks
2087 Flavoring extracts and syrups, nec
2091 Canned and cured fish and seafood
2092 Fresh or frozen prepared fish
2095 Roasted Coffee
2097 Manufactured ice
2098 Macaroni and spaghetti
2099 Food preparations, nec

TOBACCO PRODUCTS

2111 Cigarettes
2121 Cigars
2131 Chewing and smoking tobacco
2141 Tobacco stemming and redrying

TEXTILE MILL PRODUCTS

2211 Broadwoven fabric mills, cotton
2221 Broadwoven fabric mills, man-made
2231 Broadwoven fabric mills, wool
2241 Narrow fabric mills
2251 Women s hosiery,except socks
2252 Hosiery, nec
2253 Knit outerwear mills
2254 Knit underwear mills
2257 Weft knit fabric mills
2258 Lace and warp knit fabric mills
2259 Knitting mills, nec
2261 Finishing plants, cotton
2262 Finishing plants, man-made
2269 Finishing plants, nec
2273 Carpets and rugs
2281 Yarn spinning mills
2282 Throwing and winding mills
2284 Thread mills
2295 Coated fabrics,not rubberized
2296 Tire cord and fabrics
2297 Nonwoven fabrics
2298 Cordage and twine
2299 Textile goods, nec

Note: nec = not elsewhere classified.

(512) 239 6832 - TNRCC Class. + Notif / DATA CONTROL

THIS FORM IS FOR WASTE MANAGEMENT UNITS ONLY

TEXAS NATURAL RESOURCE CONSERVATION COMMISSION
Industrial & Hazardous Waste Division
Waste Evaluation Section
P.O. Box 13087
Austin, Texas 78711-3087

HAZARDOUS OR INDUSTRIAL WASTE MANAGEMENT UNITS FORM

INTRODUCTION

The Texas Solid Waste Disposal Act authorizes the Texas Natural Resource Conservation Commission (TNRCC), formerly the Texas Water Commission (TWC), to regulate hazardous and industrial solid waste activities in Texas. This form should be completed and returned to the address given above. Please complete all applicable pages and sign.

TNRCC ID: _ _ _ _ _ _ EPA ID _ _ _ _ _ _ _ _ _ _ _ _ _ _

COMPANY NAME: _____

GENERATING SITE LOCATION: _____

FORM FOR NEW WASTE MANAGEMENT UNITS

1. **Unit Sequence Number.** _ _ _

2. **Unit Type.** _ _

3. **Capacity.** (required for RCRA permitted or interim status units) _____

4. **Unit Description.** _____

_____

_____

5. **Permit Number for this Unit.** Go on to Question 6 if this unit is not currently permitted.

   a. **Unit Number on Hazardous or Industrial Waste Permit.** _ _ _ _ _ _

   b. **Unit Number on Underground Injection Control Permit.** _ _ _ _ _ _

6. **Unit Regulatory Status.** Check ONE box.

- ☐ 1. RCRA Permitted: ☐ active ☐ inactive ☐ not yet built ☐ under construction
- ☐ 2. RCRA Interim Status Unit: ☐ active ☐ inactive ☐ not yet built ☐ under construction
- ☐ 3. RCRA Permit Exempt--Accumulation Time
- ☐ 4. UIC Permitted
- ☐ 5. Nonhazardous industrial waste management only
- ☐ 6. Other
- ☐ 7. Unknown
- ☐ 8. RCRA Permit Exempt--Waste water treatment unit
- ☐ 9. RCRA Permit Exempt--Totally enclosed treatment
- ☐ 10. RCRA Permit Exempt--Other
- ☐ 11.. RCRA Permit Exempt--Recycling Unit per 30 TAC 335.24

7. **Classification of Waste from Off Site Managed in Unit.**
   Does this unit manage waste from off site? ☐ Yes ☐ No If you answered NO, then go on to Question 8. If you answered YES, then check as many as apply from the list below.

- ☐ Hazardous
- ☐ Class 1 Nonhazardous Industrial
- ☐ Class 2 Nonhazardous Industrial
- ☐ Class 3 Nonhazardous Industrial
- ☐ Non-industrial or Municipal Solid Waste from nonindustrial sources

TNRCC SOLID WASTE REGISTRATION NUMBER _ _ _ _ _ _

COMPANY NAME: _____

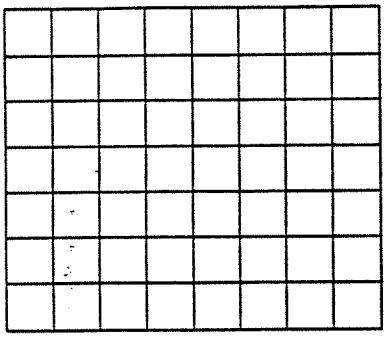
8. **System Type of Unit.**

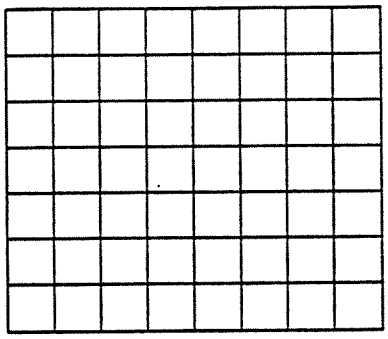
M _ _ _ _ M _ _ _ _ M _ _ _ _ M _ _ _ _

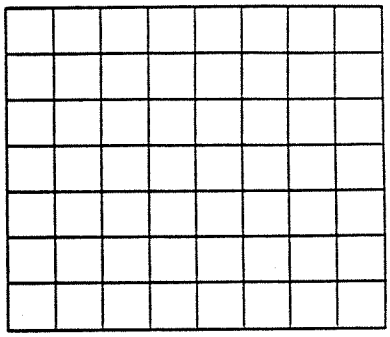
9. **Wastes Generated On site and Managed in Unit.**
List the 6-digit or 8-character Texas waste codes for applicable on site waste streams. Always start writing the waste code in the left most box. For 6-digit waste codes, the LAST two boxes will be left blank.

Example:

9	1	1	9	8	9		







Signature _____ Date _____

Telephone number: _____

Return this form to:

TNRCC
Industrial and Hazardous Waste Division
Waste Evaluation Section
P.O. Box 13087
Austin, Texas 78711-3087

NOTIFICATION INSTRUCTIONS FOR NEW UNITS

Use the attached form (TNRCC-0002B) to notify the TNRCC of all hazardous or industrial solid waste management units at your site.

Waste management units are used to store, treat, recycle, or dispose of waste. Fill out one form for each waste management unit at this site. If a site has four container storage areas and one distillation unit, then the site is required to provide notification for five separate units. Copy the attached form as needed.

All information is required, unless specified otherwise, in order to complete your notification to the TNRCC under 30 Texas Administrative Code (TAC) §335.6.

Enter your site's Solid Waste Registration Number and the page number at the top of each form submitted. Sign and date each form or submit a cover letter with an original signature. The form should be returned to the following address: TNRCC, Industrial and Hazardous Waste Division, Waste Evaluation Section, P.O. Box 13087, Austin, Texas, 78711-3087.

1. **Unit Sequence Number.** Assign the next unassigned Unit Sequence Number to this unit. A Unit Sequence Number consists of three digits which uniquely identifies this unit on your NOR. **Never assign the same Unit Sequence Number to two different units.**

The next unassigned Unit Sequence Number is found on page 1 of your NOR if the NOR was printed after January 1, 1993. Beginning January 1, 1993, Unit Sequence Numbers must be three characters.

If this site does not have any units on its NOR or if this is the initial notification for industrial or hazardous waste management activities, then number your units sequentially, starting with 001, 002, etc. Print the three digit Unit Sequence Number in the correct box and GO ON TO QUESTION 2.

If this site is registered and has notified the TNRCC of waste management units (or facilities as they are sometimes called) prior to January 1, 1993, read the following information:

- If your site had units on an NOR printed before January 1, 1993, the units were identified by two digits called "FAC. NO." For NORs printed after January 1, 1993, this two digit FAC. NO. will appear as a three digit "Unit Sequence Number". The three digit "Unit Sequence Number was created automatically by placing a "0" in front of the existing two digit "FAC NO." For example, if you had a landfill with the FAC NO. 01 on your NOR printed before January 1, 1993, then this landfill will automatically appear as Unit Sequence Number 001 on your NOR printed after January 1, 1993.

- This three digit Unit Sequence Number shall be used for identifying the unit for waste management reporting, beginning with the 1993 Annual Waste Summary which is due in January 1994.

- If this site's NOR lists units (facilities) identified by the two digit FAC NO., then you can continue numbering your units in sequence, but you must add a "0" to the front of the next FAC NO. you would have used. For example, if the last unit for which you submitted notification to the TNRCC was FAC NO. 03, then this unit will be Unit Sequence Number 004. Remember, if your NOR is out of date and does not list all units for which you have made notification to the TNRCC, then skip the FAC NOs that have previously been assigned by you. For example, the last unit on your NOR is FAC NO. 04 but you have submitted notification for units with FAC NO. 05 and 06. This new unit will be Unit Sequence Number 007.

2. **Unit Type.** Select the correct unit type and write the code onto the form.

Code	Description
01	Surface impoundment
02	Sump
03	Waste pile
04	Incinerator
05	Open Controlled Incineration Area
06	Boiler
07	Industrial Furnace (Energy Producing)
08	Thermal Processing Unit, other than Incinerator
09	Landfill
10	Land Treatment Unit
11	Injection Well
12	Reserved (DO NOT USE THIS NUMBER)
13	Tank
14	Container Storage Area
15	Reserved (DO NOT USE THIS NUMBER)
16	Distillation/Solvent Recovery Unit
17	Waste Water Treatment Plant
18	Tank (Surface)
19	Tank (Sub-surface)
20	Reserved (DO NOT USE THIS NUMBER)
21	Reserved (DO NOT USE THIS NUMBER)
22	Miscellaneous Storage Containers
23	Containment Building

3. This is required for all RCRA permitted or interim status units.

4. **Unit Description.** Describe this unit. Include any items, such as type, purpose, or physical location, which may be helpful in identifying this unit at this site. An example of a Unit Description follows:

Storage tank. South of yellow building.

5. **Permit Number for this Unit.** If this is not a permitted unit, go to Question 6. If the unit is permitted under the industrial or hazardous waste or underground injection control program, enter the number of this unit exactly as it appears on the permit.

4a. **Unit Number on Hazardous or Industrial Waste Permit.** Enter the number of this unit as it appears on this site's hazardous or industrial waste permit.

4b. **Unit Number on Underground Injection Control Permit.** Enter the number of this unit as it appears on this site's underground injection control permit.

6. **Unit Regulatory Status.** Select the correct regulatory status code for the unit at this time and check the correct box on the form. Refer to 40 CFR or 30 TAC Chapter 335.69 for an explanation of these terms.

1 RCRA Permitted
2 RCRA Interim Status Unit
3 RCRA Permit Exempt--accumulation time: 90 days or less for Large Quantity Generators; 180 or 270 days or less for Small Quantity Generators. See 30 TAC Chapter 335.69.

4 UIC Permitted
5 Nonhazardous waste management only
6 Other
7 Unknown
8 RCRA Permit Exempt--Waste water treatment unit
9 RCRA Permit Exempt--Totally enclosed treatment
10 RCRA Permit Exempt--Other
11 RCRA Permit Exempt--Recycling Unit per 30 TAC 335.24. See 335.6 for additional notifiction requirements.

7. **Classification of Waste from Off Site Managed in Unit.**
Does this unit manage waste from off-site? Check the correct box on the form. If you answered NO, then go on to Question 8 if this unit does not manage waste from off-site.

If you answered yes, then select all waste classifications that apply to the waste received from off-site for management in this unit. Refer to 30 TAC Chapter 335 Subchapter R for definitions of the waste classifications.

Hazardous Waste
Class 1 Nonhazardous Industrial Waste
Class 2 Nonhazardous Industrial Waste
Class 3 Nonhazardous Industrial Waste
Non-industrial or Municipal Solid Waste from Non-industrial sources

8. **System Type of Unit.**
Select the appropriate System Type codes which describe how this unit manages industrial or hazardous wastes from the list "System Type Code." A System Type code consists of three digits preceded by an "M". The "M" is not part of the code, but is printed in order to ensure you are referencing the correct list. Write the codes in the boxes provided.

The System Type codes are the same codes you will use on your 1993 Annual Waste Summary when reporting management activities in this unit.

9. **Wastes Generated On site and Managed in Unit.**
Identify the industrial or hazardous wastes which are generated on site and managed in this unit. Management includes storage, treatment, recycling, or disposal. Identify your wastes by their six OR eight digit Texas waste code. (If a waste has both a six digit and eight digit Texas waste code, then you only need to provide the code now being used for reporting, tracking and documenting waste management activities.) The Texas waste codes for your site's wastes can be found on your NOR. If you have not notified TNRCC of the generation of these wastes, use form TNRCC-0002A to add the waste to your NOR and submit it at the same time you submit this form.

Sign and date the form or attach a cover letter with an original signature.

Please retain these instructions and attachment for future use.

SYSTEM TYPE CODES

CODE	SYSTEM TYPE

METALS RECOVERY (FOR REUSE)

M011 High temperature metals recovery
M012 Retorting
M013 Secondary smelting
M014 Other metals recovery for reuse: e.g., ion exchange, reverse osmosis, acid leaching, etc.
M019 Metals recovery - type unknown

SOLVENTS RECOVERY

M021 Fractionation/distillation
M022 Thin film evaporation
M023 Solvent extraction
M024 Other solvent recovery
M029 Solvents recovery - type unknown

OTHER RECOVERY

M031 Acid regeneration
M032 Other recovery: e.g., waste oil recovery, nonsolvent organics recovery, etc.
M039 Other recovery - type unknown

INCINERATION

M041 Incineration - liquids
M042 Incineration - sludges
M043 Incineration - solids
M044 Incineration - gases
M049 Incineration - type unknown

ENERGY RECOVERY (REUSE AS FUEL)

M051 Energy recovery - liquids
M052 Energy recovery - sludges
M053 Energy recovery - solids
M059 Energy recovery - type unknown

FUEL BLENDING

M061 Fuel blending

AQUEOUS INORGANIC TREATMENT

M071 Chrome reduction followed by chemical precipitation
M072 Cyanide destruction followed by chemical precipitation
M073 Cyanide destruction only
M074 Chemical oxidation followed by chemical precipitation
M075 Chemical oxidation only
M076 Wet air oxidation
M077 Chemical precipitation
M078 Other aqueous inorganic treatment: e.g., ion exchange, reverse osmosis, etc.
M079 Aqueous inorganic treatment - type unknown

CODE	SYSTEM TYPE

AQUEOUS ORGANIC TREATMENT

M081 Biological treatment
M082 Carbon adsorption
M083 Air/steam stripping
M084 Wet air oxidation
M085 Other aqueous organic treatment
M089 Aqueous organic treatment - type unknown

AQUEOUS ORGANIC AND INORGANIC TREATMENT

M091 Chemical precipitation in combination with biological treatment
M092 Chemical precipitation in combination with carbon adsorption
M093 Wet air oxidation
M094 Other organic/inorganic treatment
M099 Aqueous organic and inorganic treatment - type unknown

SLUDGE TREATMENT

M101 Sludge dewatering
M102 Addition of excess lime
M103 Absorption/adsorption
M104 Solvent extraction
M109 Sludge treatment - type unknown

STABILIZATION

M111 Stabilization/chemical fixation using cementitious and/or pozzolanic materials
M112 Other stabilization
M119 Stabilization - type unknown

OTHER TREATMENT

M121 Neutralization only
M122 Evaporation only
M123 Settling/clarification only
M124 Phase separation (e.g., emulsion breaking, filtration) only
M125 Other treatment
M129 Other treatment - type unknown

DISPOSAL

M131 Land treatment/application/farming
M132 Landfill
M133 Surface impoundment (to be closed as a landfill)
M134 Deepwell/underground injection
M135 Direct discharge to sewer/POTW (no prior treatment)
M136 Direct discharge to surface water under NPDES (no prior treatment)
M137 Other disposal

STORAGE

M141 Storage



ENVIRONMENTAL
INDUSTRIAL AND HAZARDOUS WASTE:

Generator Self-Classification Program

Classification and Coding of Industrial & Hazardous Waste

(31 Texas Administrative Code Chapter 335 Subchapter R)

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CLASS 1 NONHAZARDOUS GUIDELINES

1. CLASS 1 TOXICS
   LEACHES EQUAL TO OR GREATER THAN MAXIMUM CONCENTRATION LIMITS OF ANY CONSTITUENT IN TABLE 1, APPENDIX I BY TCLP OR EQUIVALENT METHOD.

2. CLASS 1 LISTED WASTE PER §335.508:

   A. INDUSTRIAL SOLID WASTE CONTAINING ASBESTOS MATERIAL IDENTIFIED AS REGULATED ASBESTOS CONTAINING MATERIAL (RACM) AS DEFINED IN 40 CFR PART 61.

   B. EMPTY CONTAINERS THAT ARE A SOLID WASTE AS PER §335.1 THAT HELD A HAZARDOUS SUBSTANCE AS DEFINED IN 40 CFR PART 302, OR A HAZARDOUS OR CLASS 1 WASTE OR, A MATERIAL WHICH COULD BE CLASSIFIED AS A HAZARDOUS OR CLASS 1 WASTE AND IS EMPTY PER §335.41(f)(2).

   C. ANY MEDIA CONTAMINATED BY MATERIAL CONTAINING ≥50 PPM OR MORE TOTAL PCB's AND WASTE CONTAINING ≥50 PPM PCB's.

   D. WASTE CONTAINING TPH CONCENTRATIONS OF ≥1500 PPM. WASTES REGULATED BY 31 TAC §334 SUBCHAPTER K ARE EXEMPT FROM THIS RULE.

   E. NONHAZARDOUS INDUSTRIAL WASTE GENERATED AS A RESULT OF COMMERCIAL PRODUCTION OF A "NEW CHEMICAL SUBSTANCE". ONCE APPROPRIATE ANALYTICAL DATA AND/OR PROCESS KNOWLEDGE DEMONSTRATES THAT THE WASTE IS NOT CLASS 1, THE WASTE CAN BE HANDLED AS A CLASS 2 OR CLASS 3 APPROPRIATELY.

   F. ALL OUT-OF-STATE NONHAZARDOUS SOLID WASTE TRANSPORTED INTO OR THROUGH TEXAS FOR PROCESSING, STORAGE AND/OR DISPOSAL UNTIL APPROVAL FROM THE COMMISSION.

CLASS 1 NONHAZARDOUS GUIDELINES

(CONTINUED)

3. **CLASS 1 IGNITABLES:**

   A. LIQUIDS WITH A FLASH POINT LESS THAN 65.6C (150°F), OR

   B. A PHYSICAL SOLID OR SEMI-SOLID UNDER WHICH CONDITIONS NORMALLY INCIDENT TO STORAGE, TRANSPORTATION, AND DISPOSAL IS LIABLE TO CAUSE FIRES THROUGH FRICTION, RETAINED HEAT FROM MANUFACTURING OR PROCESSING, OR WHICH CAN BE IGNITED READILY AND WHEN IGNITED BURNS SO VIGOROUSLY AND PERSISTENTLY AS TO CREATE SERIOUS HAZARD. ALSO INCLUDED ARE SPONTANEOUS COMBUSTIBLES AND WATER REACTIVE MATERIALS. SOME ARE LISTED IN APPENDIX 1, TABLE II.

4. **CLASS 1 CORROSIVES:**
   ARE PHYSICALLY SOLID OR SEMI-SOLID AND WHEN MIXED WITH AN EQUIVALENT WEIGHT OF ASTM CLASS II LABORATORY GRADE WATER PRODUCES A SOLUTION HAVING A pH OF $\leq$ 2.0 OR $\geq$ 12.5. SOLIDIFIED, STABILIZED, ENCAPSULATED OR OTHERWISE CHEMICALLY BOUND WASTE ARE EXEMPT AS LONG AS THEY EXHIBIT NO FREE LIQUIDS.

5. IF THERE IS LACK OF ANALYTICAL DATA AND/OR PROCESS KNOWLEDGE TO CLASSIFY THE NONHAZARDOUS SOLID WASTE AS CLASS 2 OR CLASS 3.

6. IF THE GENERATOR CLASSIFIES THE NONHAZARDOUS SOLID WASTE AS CLASS 1.

CLASS 2 NONHAZARDOUS GUIDELINES

1. EMPTY CONTAINERS ARE CLASS 2 WASTE IF THEY HAVE A CAPACITY OF:

   A. LESS THAN 5 GALLONS AND CONTAINED NONHAZARDOUS WASTE.

   B. GREATER THANY 5 GALLONS, AND:

      1. THE RESIDUE HAS BEEN COMPLETELY REMOVED BY TRIPLE RINSING WITH AN APPROPRIATE SOLVENT ABLE TO REMOVE ALL WASTE OR ANY OTHER MEANS TO ADEQUATELY REMOVE THE RESIDUE (i.e. HYDROBLASTING); AND,

      2. THE CONTAINER HAS BEEN RENDERED UNUSABLE.

   C. A CONTAINER THAT HAS HELD A CLASS 2 WASTE.

   D. AEROSOL CANS THAT HAVE BEEN DEPLETED OF THEIR CONTENTS SUCH THAT THEIR INNER PRESSURE IS EQUAL TO ATMOSPHERIC PRESSURE AND MINIMAL RESIDUES REMAIN.

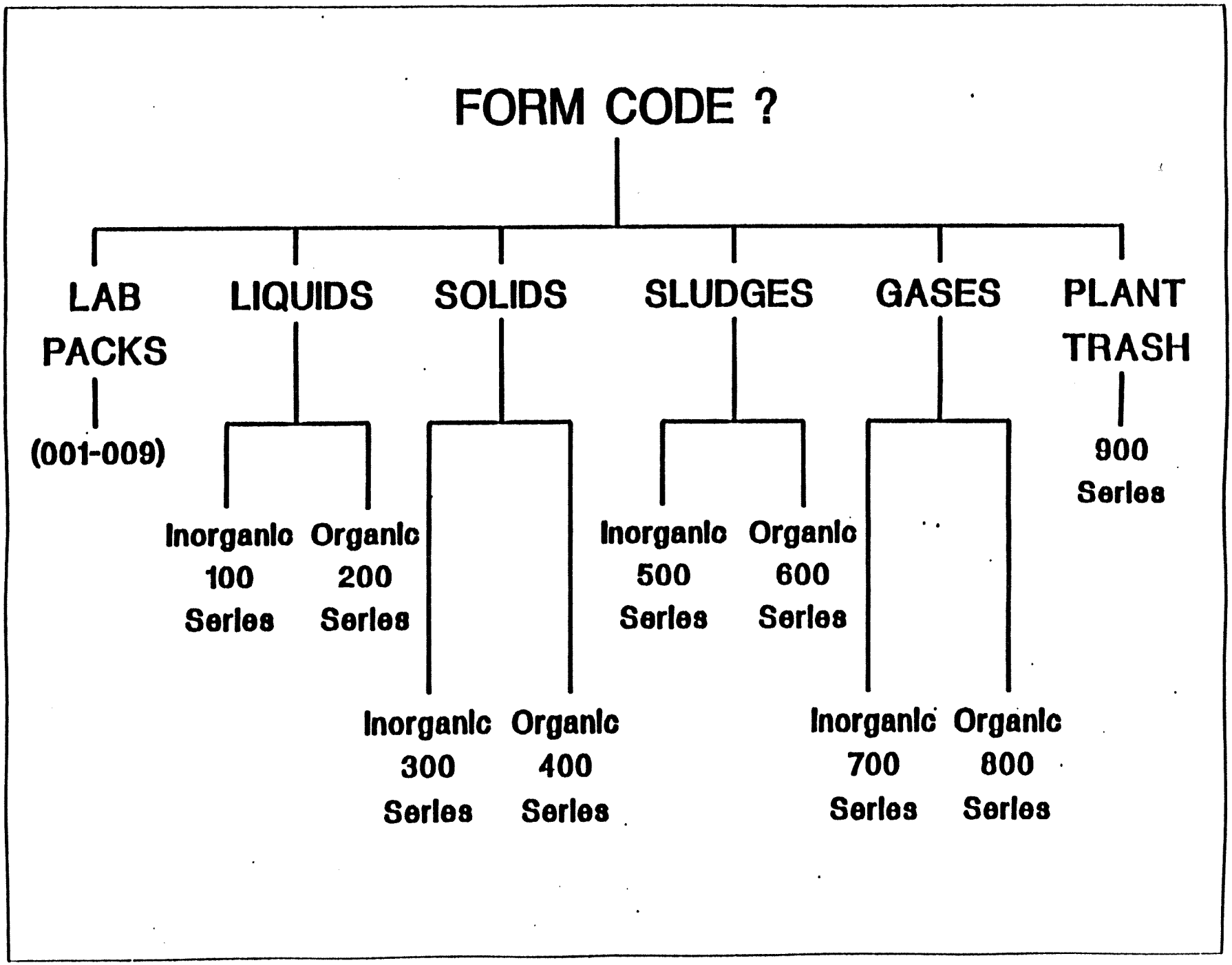
   [PAPER OR CARDBOARD CONTAINERS AND LININGS CAN BE CLASSIFIED AS EMPTY CONTAINERS BUT DO NOT HAVE TO BE.]

2. ANY WASTE ASSOCIATED WITH FIRST AID STATIONS, MEDICAL EMERGENCIES, OR OTHER NON-SURGICAL MEDICAL TREATMENT AND ARE SUBJECT TO 31 TAC §330.1004-1009 ARE CLASS 2 WASTES.

3. IF THE GENERATOR WANTS TO CLASSIFY A CLASS 3 WASTE AS A CLASS 2.

TEXAS WASTE CODE

Sequence Number	+	Form Code	+	Classification Code
(4-digits)		(3-digits)		(1-digit)


FORM CODE ?
LAB PACKS
(001-009)
LIQUIDS
Inorganic 100 Series
Organic 200 Series
SOLIDS
Inorganic 300 Series
Organic 400 Series
SLUDGES
Inorganic 500 Series
Organic 600 Series
GASES
Inorganic 700 Series
Organic 800 Series
PLANT TRASH
900 Series

CODING REQUIRED

SEQUENCE NUMBER	+	FORM CODE	+	CLASSIFICATION CODE
4 digit • 0001 to 9999 • Alpha Numeric • OUTS • CESQ • TSDF		3 digit Refer to Appendix 3		1 digit H, 1, 2, 3

TEXAS WASTE CODE

EXAMPLE:

0022 + 109 + H =

0022109H

(Hazardous Spent Caustic, Inorganic Liquid)

NOTIFICATION DOCUMENTATION

This must include:

1. **Waste description;**
2. **Initial generation date;**
3. **Process description;**
4. **Hazardous waste determination;**
5. **Waste code;**
6. **Supporting documentation for:**
    - **A. All Class 3 wastes;**
    - **B. "New Chemical Substances" Class 2 wastes;**
    - **C. All Out-of-State Class 2 wastes.**

SUPPORTING DOCUMENTATION FOR CLASS 3

A. Sampling documentation:

i. Sampling dates;

ii. Site or unit description;

iii. Sampling locations;

iv. Sampling methods;

v. Sample containerization and preservation;

vi. Sample's Chain of Custody.

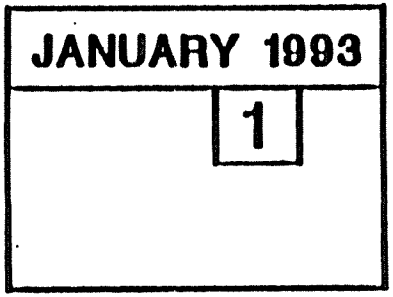
B. All Waste Classification documentation:

i. Process Knowledge;

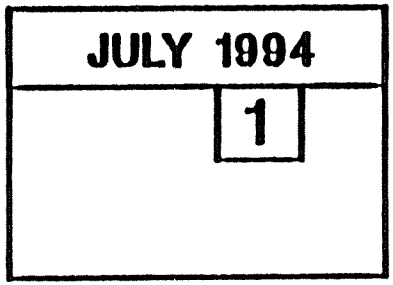
ii. Analytical Data;

iii. Quality Control Data.

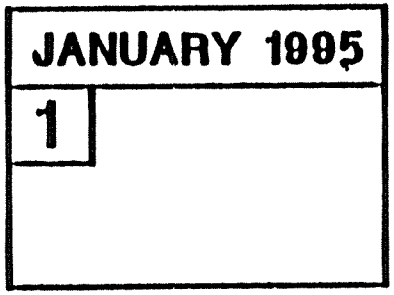
CONVERSION TO THE NEW SYSTEM



January 1, 1993
- All New Waste Streams



July 1, 1994
- Renotification Of All Waste Streams Classified Prior to January 1, 1993



January 1, 1995
- All Wastes

WASTE CLASSIFICATION CHECKLIST

(Hazardous Waste & Industrial Waste)

DRAFT

This checklist is to be used as a guideline in classifying municipal hazardous waste and industrial waste. Generators must refer to 31 Texas Administrative Code Chapter 335 Subchapter R for a more detailed explanation of waste determination.

I. HAZARDOUS WASTE DETERMINATION

_____ Is the waste a listed hazardous waste, mixed with a listed hazardous waste, or derived from a listed hazardous waste? (Descriptions of listed waste are found in 40 Code of Federal Regulations (CFR) Section (§) 261.31 through §261.33.)

_____ Is the waste ignitable per 40 CFR §261.21?

_____ Is the waste corrosive per 40 CFR §261.22?

_____ Is the waste reactive per 40 CFR §261.23?

_____ Is the waste toxic per 40 CFR §261.24?
A waste is toxic for any constituent which it leaches greater than the regulatory level set by EPA.

If the answer to any of the preceding questions is yes, then the waste is hazardous. If the answer is no to all of the preceding questions and the waste is an industrial waste, then proceed to section B.

(Please note that 40 CFR §261.3 excludes certain types of wastes, under certain conditions, from being considered hazardous wastes. Generators may wish to review these exclusions when determining whether or not their wastes are hazardous.)

II. CLASS 1 & Class 2 WASTE DETERMINATIONS - applicable to nonhazardous, industrial waste only

_____ Is the waste a container, less than 5 gallons in holding capacity, which has held a hazardous waste?

_____ Are any of the answers to questions (1), (2), and (3) below "NO".

If the waste is a container, greater than or equal to 5 gallons in holding capacity, which has held a Hazardous Substance (as defined in 40 CFR Part 302), a hazardous waste, a Class 1 waste, and/or a material which would be classified as a hazardous or Class 1 waste if disposed, answer questions (1), (2) and (3). If not, proceed to the next non-numbered question.

(1) Is the container empty per 31 TAC §335.41(f)(2)?
_____

(2) Has the container had all its residues removed?
_____

(3) Has the container been rendered unusable? _____

Classification Checklist
February 1993
DRAFT (2-93)

_____ Does the waste contain asbestos material identified as Regulated Asbestos Containing Material (RACM -- as defined in 40 CFR Part 61)?

_____ Is the waste contaminated by a material which originally contained greater than or equal to 50 parts per million total polychlorinated biphenyls (PCBs)?

_____ Does the waste contain greater than or equal to 50 ppm PCBs?

_____ Does the waste contain greater than 1500 ppm total petroleum hydrocarbons (TPH). (Note: Wastes resulting from the cleanup of leaking underground storage tanks (USTs) which are regulated under 31 TAC §334 Subchapter K (relating to Petroleum Substance Waste) are not subject to classification under 31 TAC Chapter 335 Subchapter R.)

_____ Is the waste a liquid and does it have a flash point of less than 65.6 degrees C (150 degrees F)?

_____ Is the waste a solid or semi-solid which, under conditions normally incident to storage, transportation, and disposal, is liable to cause fires through friction, retained heat from manufacturing or processing, or which can be ignited readily, and when ignited burns so vigorously and persistently as to create a serious hazard?

_____ Is the waste a semi-solid or solid which, when mixed with an equivalent weight of ASTM Type II laboratory distilled or deionized water, produces a solution having a pH less than or equal to 2 or greater than or equal to 12.5 (Note: An exception for solidified, stabilized, encapsulated, or otherwise chemically-bound wastes is provided for in 31 TAC §335.505(3))?

_____ Does the waste leach constituents at or above the levels listed in Table 1, Appendix 1 of 31 TAC Chapter 335 Subchapter R (TCLP)?

_____ Does insufficient information exist to demonstrate that the waste is some other nonhazardous classification?

_____ Has the generator chosen to classify his non-hazardous waste as a Class 1 waste?

If the answer to any of the preceding non-numbered questions is yes, then the non-hazardous, industrial waste is a Class 1 waste. If all the answers to the preceding non-numbered questions are no, then the industrial waste can be considered a Class 2 waste.

III. <u>CLASS 3 WASTE DETERMINATION</u> - applicable to nonhazardous, industrial waste which do not meet the definition of a Class 1 waste

A.

_____ Is the waste an empty container?

_____ Is the waste associated with first aid stations, medical emergencies, or other non-surgical medical treatment?

_____ When using the test methods specified in Appendix 4 (7-Day Distilled Water Leachate Test), does the waste leach constituents at or above the Maximum Contaminant Levels listed in Table 3, Appendix 1 of Subchapter R?

_____ When using the test methods described in 40 CFR Part 261, Appendix II (TCLP), or equivalent methods approved by the executive director, does the waste leach constituents listed in Table 1 of Appendix 1 of Subchapter R at or above their detection levels?

_____ Does the waste exhibit detectable levels of total petroleum hydrocarbons (TPH) (totals analysis)?

_____ Does the waste exhibit detectable levels of polychlorinated biphenyls (PCB's) (totals analysis)?

_____ Is the waste decomposable?

If the answer to any of the preceding questions (III A) is "YES", then the non-hazardous, industrial waste can <u>not</u> be considered a Class 3 waste. If all the answers to the preceding questions (III A) are "NO", and all the answers to the following questions (III B) are "YES", then the non-hazardous industrial waste can be considered a Class 3 waste.

B.

_____ Is the waste inert? (Inertness refers to chemical inactivity of an element, compound, or a waste.)

_____ Is the waste essentially insoluble?

If the answer to any question under section III A is yes OR if the answer to any question under section III B is "NO", then the non-hazardous, industrial waste can <u>not</u> be considered a Class 3 waste. If all the answers to the questions in III A are "NO", and all the answers to the questions in III B are "YES", then the non-hazardous industrial waste can be considered a Class 3 waste.

IV. <u>SPECIAL CLASSIFICATION CONSIDERATIONS</u>

<u>New Chemical Substances Wastes</u>: If a nonhazardous industrial waste is generated as a result of the commercial production of a "new chemical substance" as defined by the federal Toxic Substances Control Act, 15 U.S.C.A § 2602(9), the generator shall notify the Commission prior to the processing or disposal of the waste and shall submit documentation requested under 31 TAC §335.513 (b) and (c) (relating to Documentation Required) for Commission review. The waste shall be managed as a Class 1 waste, unless the generator can provide appropriate analytical data and/or process knowledge which demonstrates that the waste is Class 2 or Class 3, and the Commission concurs. If the generator has not received concurrence from the Commission within 120 days from the date of the request for review, the generator may manage the waste according to the requested

classification, but not prior to giving 10 working days written notice to the Commission.

Wastes Generated Out-Of-State: All nonhazardous industrial waste generated outside the state of Texas and transported into or through Texas for processing, storage, or disposal shall be classified as Class 1 unless the waste satisfies the Class 2 or Class 3 criteria as defined in 31 TAC §335.506, §335.507 or §335.508; a request for Class 2 or Class 3 waste determination is submitted to the Commission and accompanied by all supporting process knowledge and analytical data; and the Commission approves the classification.

Petroleum Hydrocarbon Containing Wastes: Wastes resulting from the cleanup of leaking underground storage tanks (USTs) which are regulated under 31 TAC §334 Subchapter K (relating to Petroleum Substance Waste) are not subject to classification under 31 TAC Chapter 335 Subchapter R.

Mechanical Shredding Wastes: Wastes generated by the mechanical shredding of automobiles, appliances, or other items of scrap, used or obsolete metals shall be handled according to the provisions set forth in Texas Solid Waste Disposal Act, Health and Safety Code, §361.019 (Vernon Pamphlet 1992), until the Commission develops specific standards for the classification of this waste and assures adequate disposal capacity.

TABLE 1.

MAXIMUM CONCENTRATION OF CONTAMINANTS FOR THE TOXICITY CHARACTERISTIC

EPA HW No.[1]	Contaminant	CAS No.[2]	Regulatory Level (mg/L)
D004	Arsenic	7440-38-2	5.0
D005	Barium	7440-39-3	100.0
D018	Benzene	71-43-2	0.5
D006	Cadmium	7440-43-9	1.0
D019	Carbon tetrachloride	56-23-5	0.5
D020	Chlordane	57-74-9	0.03
D021	Chlorobenzene	108-90-7	100.0
D022	Chloroform	67-66-3	6.0
D007	Chromium	7440-47-3	5.0
D023	o-Cresol	95-48-7	[4] 200.0
D024	m-Cresol	108-39-4	[4] 200.0
D025	p-Cresol	106-44-5	[4] 200.0
D026	Cresol		[4] 200.0
D016	2,4-D	94-75-7	10.0
D027	1,4-Dichlorobenzene	106-46-7	7.5
D028	1,2-Dichloroethane	107-06-2	0.5
D029	1,1-Dichloroethylene	75-35-4	0.7
D030	2,4-Dinitrotoluene	121-14-2	[3] 0.13
D012	Endrin	72-20-8	0.02
D031	Heptachlor (and its epoxide).	76-44-8	0.008
D032	Hexachlorobenzene	118-74-1	[3] 0.13
D033	Hexachlorobutadiene	87-68-3	0.5
D034	Hexachloroethane	67-72-1	3.0
D008	Lead	7439-92-1	5.0
D013	Lindane	58-89-9	0.4
D009	Mercury	7439-97-6	0.2
D014	Methoxychlor	72-43-5	10.0
D035	Methyl ethyl ketone	78-93-3	200.0
D036	Nitrobenzene	98-95-3	2.0
D037	Pentrachlorophenol	87-86-5	100.0
D038	Pyridine	110-86-1	[3] 5.0
D010	Selenium	7782-49-2	1.0
D011	Silver	7440-22-4	5.0
D039	Tetrachloroethylene	127-18-4	0.7
D015	Toxaphene	8001-35-2	0.5
D040	Trichloroethylene	79-01-6	0.5
D041	2,4,5-Trichlorophenol	95-95-4	400.0
D042	2,4,6-Trichlorophenol	88-06-2	2.0
D017	2,4,5-TP (Silvex)	93-72-1	1.0
D043	Vinyl chloride	75-01-4	0.2

[1] Hazardous waste number.

[2] Chemical abstracts service number.

[3] Quantitation limit is greater than the calculated regulatory level. The quantitation limit therefore becomes the regulatory level.

[4] If o-, m-, and p-Cresol concentrations cannot be differentiated, the total cresol (D026) concentration is used. The regulatory level of total cresol is 200 mg/L.

CLASS 1 TOXICS

(Appendix 1, Table 1)

Concentrations of Concern and Their Maximum Leachate Concentrations.

Values are based on information contained in Federal Registers Vol. 55 / Friday, July 27, 1990; Vol. 56 / June 7, 1991; and Integrated Risk Information Systems, Environmental Protection Agency, and 40 CFR 264 Appendix 9.

Compound	CAS No.	Concentration (mg/l)
Acetone	67-64-1	400
Acetonitrile	75-05-8	20
Acetophenone	98-86-2	400
Acrylamide	79-06-1	0.08
Acrylonitrile	107-13-1	0.6
Aniline	62-53-3	60
Antimony	7440-36-0	1
Arsenic	7440-38-2	1.5
Barium	7440-39-3	100.0
Benzene	71-43-2	0.50
Benzidine	92-87-5	0.002
Beryllium	7440-41-7	0.08
Bis(2-chloroethyl)ether	111-44-4	0.3
Bis(2-ethylhexyl) phthalate	117-81-7	30
Bromodichloromethane	75-27-4	0.3
Bromoform	74-83-9	5
Butylbenzyl phthalate	85-68-7	700
Cadmium	7440-43-9	0.5
Carbon disulfide	75-15-0	400
Carbon tetrachloride	56-23-5	0.50
Chlordane	57-74-9	0.03
Chlorobenzene	108-90-7	70
Chloroform	67-66-3	6.0
2-Chlorophenol	95-57-8	20
Chromium	7440-47-3	5.0
m-Cresol	108-39-4	200.0*
o-Cresol	95-48-7	200.0*
p-Cresol	106-44-5	200.0*
Cyanide	57-12-5	70
DDD	72-54-8	1
DDE	72-55-9	1
DDT	50-29-3	1
Dibutyl phthalate	84-74-2	400
1,4-Dichlorobenzene	106-46-7	7.5
3,3-Dichlorobenzidine	91-94-1	0.8
1,2-Dichloroethane	107-06-2	0.50
Dichlorodifluoromethane	75-71-8	700
1,1-Dichloroethylene	75-35-4	0.6
1,3-Dichloropropene	542-75-6	1
2,4-Dichlorophenol	120-83-2	10
2,4-Dichlorophenoxy-acetic acid (2,4-D)	94-75-7	10.0
Dieldrin	60-57-1	0.02
Diethyl phthalate	84-66-2	3000
Dimethoate	60-51-5	70
m-Dinitrobenzene	99-65-0	0.4
2,4-Dinitrophenol	51-28-5	7
2,4 -Dinitrotoluene (and 2,6-, mixture)	602-01-7	0.13
1,4-Dioxane	123-91-1	30
Dioxins (Poly chlorinated dibenzo-p-dioxins)		
2,3,7,8-TCDD	1746-01-6	0.005
1,2,3,7,8-PeCDD	40321-76-4	0.010
1,2,3,4,7,8-HxCDD	57653-85-7	0.050
1,2,3,6,7,8-HxCDD	34465-46-8	0.050
1,2,3,7,8,9-HxCDD		0.050
Diphenylamine	122-39-4	90
1,2-Diphenylhydrazine	122-66-7	0.4
Disulfoton	298-04-4	0.1
Endosulfan	959-98-8	0.2
Endrin	72-20-8	.02
Epichlorohydrin	106-89-8	40
Ethylbenzene	100-41-4	400
Ethylene dibromide	106-93-4	0.004
Furans (Polychlorinated dibenzo furans)		
2,3,7,8-TCDF	51207-31-9	0.050
1,2,3,7,8-PeCDF		0.100
2,3,4,7,8-PeCDF		0.010
1,2,3,4,7,8-HxCDF		0.050
1,2,3,6,7,8-HxCDF		0.050
1,2,3,7,8,9-HxCDF		0.050
Heptachlor	76-44-8	0.008
(and its hydroxide)	—	—
Heptachlor epoxide	1024-57-3	0.04
Hexachlorobenzene	118-74-1	0.13
Hexachloro-1,3-butadiene	87-68-3	0.4
Hexachlorocyclopentadiene	77-47-4	20
Hexachloroethane	67-72-1	3.0
Hexachlorophene	70-30-4	1
Isobutyl alcohol	78-83-1	1000
Isophorone	78-59-1	90
Lead	7439-92-1	1.5
Lindane	58-89-9	0.3
Mercury	7439-97-6	0.2
Methacrylonitrile	126-98-7	0.4
Methomyl	16752-77-5	90
Methoxychlor	72-43-5	10.0
Methyl ethyl ketone	78-93-3	200.0
Methyl isobutyl ketone	108-10-1	200
Methylene chloride	75-09-2	50
Methyl parathion	298-00-0	0.9
Nickel	7440-02-0	70
Nitrobenzene	98-95-3	2.0
N-Nitroso-di-n-butylamine	924-16-3	0.06
N-Nitrosodiphenylamine	86-30-6	70
N-Nitrosomethylethylamine	10595-95-6	0.02
N-Nitroso-n-propylamine	621-64-7	0.05
N-Nitrosopyrrolidine	930-55-2	0.2
p-Phenylene diamine	106-50-3	20
Parathion	56-38-2	20
Pentachlorobenzene	608-93-5	3
Pentachloronitrobenzene	82-68-8	10
Pentachlorophenol	87-86-5	100.0
Phenol	108-95-2	2000
Pronamide	23950-58-5	300
Pyridine	110-86-1	4
Selenium	7782-49-2	1.0
Silver	7440-22-4	5.0
Styrene	100-42-5	700
1,1,1,2-Tetrachloroethane	630-20-6	10
1,1,2,2-Tetrachloroethane	79-34-5	2
Tetrachloroethylene	127-18-4	0.7
2,3,4,6-Tetrachlorophenol	58-90-2	100
Thiocarbamide	79-19-6	20

Compound	CAS No.	Concentration (mg/l)
Toluene	108-88-3	1000
Toxaphene	8001-35-2	0.3
trans-1,3-Dichloropropene	542-75-6	1
Tribromomethane (Bromoform)	75-25-2	70
1,2,4-Trichlorobenzene	120-82-1	70
1,1,1-Trichloroethane	71-55-6	300
Trichloroethylene	79-01-6	0.5
1,1,2-Trichloroethane	79-00-5	6
Trichlorofluoromethane	75-69-4	1000
2,4,5-Trichlorophenoxypropionic acid (2,4,5 TP or Silvex)	93-72-1	1.0
1,2,3-Trichloropropane	96-18-4	20
2,4,5-Trichlorophenol	95-95-4	400.0
2,4,6-Trichlorophenol	88-06-2	2
Vanadium Pentoxide	1314-62-1	30
Vinyl chloride	75-01-4	0.2
Xylenes (all isomers)	1330-82-1	7000

* If o-, m-, and p-Cresol concentrations cannot be differentiated, the total cresol concentration is used. The Maximum Concentration for total cresol is 200.0 mg/L

CLASS 1 IGNITABLES

(Appendix 1, Table 2)
Flammable Solids

Constituents listed from Department of Transportation Regulations, 49 CFR Part 173 Subpart E, October 1, 1990. [Note: The presence of a constituent on this table in a non-aqueous waste does not automatically classify that waste as a Class 1 ignitable waste. The constituents on this table are examples of materials which could be considered Class 1 ignitable waste. The physical characteristics of the waste will be the determining factor as to whether or not a waste is ignitable.]

Compound or Material	
Aluminum, metallic, powder	Zirconium hydride, powdered
Aluminum hydride	Zirconium picramate
Ammonium picrate	
Calcium, metallic	
Calcium carbide	
Calcium chlorite	
Calcium hypochlorite	
Calcium silicon powder	
Calcium phosphide	
Cesium metal	
Chromic acid or chromic acid mixture, dry	
Decaborane	
Lithium acetylide-ethylene diamine complex	
Lithium aluminum hydride	
Lithium amide, powdered	
Lithium borohydride	
Lithium ferro silicon	
Lithium hydride	
Lithium metal	
Lithium silicon	
Magnesium granules	
Mono-(trichloro)tetra-(monopotassium dichloro)- penta-s-triazinetrione	
N-methyl-N'-nitro-Nitrosoguanidine	
Peratic acid	
Phosphorous, amorphous, red	
Phosphorous, white or yellow	
Phosphoric anhydride	
Phosphorous pentachloride	
Picric acid	
Potassium, metallic	
Potassium dichloro-s-triazine-trione	
Rubidium metal	
Sodium, metallic	
Sodium aluminum hydride	
Sodium amide	
Sodium chlorite	
Sodium dichloro-s-triazine-trione	
Sodium hydride	
Sodium hydrosulfite	
Sodium nitrite and mixtures	
Sodium picramate, wet	
Sodium potassium alloys	
Titanium metal powder	
Trichloroisocyanuric acid	
Trichloro-s-triazinetrione	
Zinc ammonium nitrite	

CLASS 3 MAXIMUM CONTAMINANT LEVELS (MCL)
(APPENDIX 1, Table 3)

Values obtained from 40 Code of Federal Regulations Part 141, Subparts B and G, Maximum Contaminant Levels and 40 Code of Federal Regulations Part 143, Total Dissolved Solids.

Constituent	MCL (mg/l)
Arsenic	0.05
Barium	1
Benzene	0.005
Cadmium	0.005
Carbon tetrachloride	0.005
Chlordane	0.002
Chlorobenzene	0.1
Chromium	0.1
2,4-D	0.07
Dibromochloropropane	0.0002
ortho-Dichlorobenzene	0.6
para-Dichlorobenzene	0.075
1,2-Dichloroethane	0.005
1,1-Dichloroethylene	0.007
trans-1,2-Dichloroethylene	0.1
1,2-Dichloropropane	0.005
Ethylbenzene	0.7
Heptachlor	0.0004
Heptachlor epoxide	0.0002
Lead	0.05
Mercury	0.002
Methoxychlor	0.04
Pentachlorophenol	0.001
Polychlorinated biphenyls (PCBs)	0.0005
Selenium	0.05
Silver	0.05
Styrene	0.1
Tetrachloroethylene	0.005
1,1,1-Trichloroethane	0.20
Trichloroethylene	0.005
Toluene	1
Toxaphene	0.003
2,4,5-TP (Silvex)	0.05
Vinyl chloride	0.002
Xylenes (total)	10
Total Dissolved Solids	500

Appendix 3
FORM CODES

Code	Waste description

LAB PACKS

LAB PACKS - Lab packs of mixed wastes, chemicals, lab wastes

001	Lab packs of old chemicals only
002	Lab packs of debris only
003	Mixed lab packs
004	Lab packs containing some hazardous wastes
009	Other lab packs (Specify in Comments)

LIQUIDS

INORGANIC LIQUIDS - Waste that is primarily inorganic and highly fluid (e.g., aqueous), with low suspended inorganic solids and low organic content

101	Aqueous waste with low solvents
102	Aqueous waste with low other toxic organics
103	Spent acid with metals
104	Spent acid without metals
105	Acidic aqueous waste
106	Caustic solution with metals but no cyanides
107	Caustic solution with metals and cyanides
108	Caustic solution with cyanides but no metals
109	Spent caustic
110	Caustic aqueous waste
111	Aqueous waste with reactive sulfides
112	Aqueous waste with other reactives (e.g., explosives)
113	Other aqueous waste with high dissolved solids
114	Other aqueous waste with low dissolved solids
115	Scrubber water
116	Leachate
117	Waste liquid mercury
119	Other inorganic liquids (Specify in Comments)
198	Nonhazardous photographic chemical wastes (inorganic)
199	Brine solution that could also bear the form code 113

ORGANIC LIQUIDS - Waste that is primarily organic and is highly fluid, with low inorganic solids content and low-to-moderate water content

201	Concentrated solvent-water solution
202	Halogenated (e.g., chlorinated) solvent
203	Non-halogenated solvent
204	Halogenated/non-halogenated solvent mixture
205	Oil-water emulsion or mixture
206	Waste oil
207	Concentrated aqueous solution of other organics
208	Concentrated phenolics
209	Organic paint, ink, lacquer, or varnish
210	Adhesives or epoxies
211	Paint thinner or petroleum distillates
212	Reactive or polymerizable organic liquids
219	Other organic liquids (Specify in Comments)
296	Ethylene glycol based anti/freeze
297	Nonhazardous liquids containing greater than or equal to (≥) 50 and less than (<) 500 ppm PCBs
298	Nonhazardous liquids containing greater than or equal to (≥) 500 ppm PCBs
299	Nonhazardous photographic chemical waste (organic)

SOLIDS

INORGANIC SOLIDS – Waste that is primarily inorganic and solid, with low organic content and low-to-moderate water content; not flammable

301 Soil Contaminated with organics
302 Soil contaminated with inorganics only
303 Ash, slag, or other residue from incineration of wastes
304 Other "dry" ash, slag, or thermal residue
305 "Dry" lime or metal hydroxide solids chemically "fixed"
306 "Dry" lime or metal hydroxide solids not "fixed"
307 Metal scale, filings, or scrap
308 Empty or crushed metal drums or containers
309 Batteries or battery parts, casings, cores
310 Spent solid filters or adsorbents
311 Asbestos solids and debris
312 Metal-cyanide salts/chemicals
313 Reactive cyanide salts/chemicals
314 Reactive sulfide salts/chemicals
315 Other reactive salts/chemicals
316 Other metal salts/chemicals
319 Other waste inorganic solids (Specify in Comments)
388 Empty or crushed glass containers
389 Nonhazardous sandblasting waste
390 Nonhazardous concrete/cement/construction debris
391 Nonhazardous dewatered wastewater treatment sludge
392 Nonhazardous dewatered air pollution control device sludge
393 Catalyst waste
394 Nonhazardous solids containing greater than or equal to (≥) 50 ppm and less than (<) 500 ppm PCBs
395 Nonhazardous solids containing greater than or equal to (≥) 500 ppm PCBs
396 Nonhazardous electrical equipment/devices containing greater than or equal to (≥) 50 ppm and less than (<) 500 ppm PCBs.
397 Nonhazardous electrical equipment/devices containing greater than or equal to (≥) 500 ppm PCBs
398 Nonhazardous soils containing greater than or equal to (≥) 50 ppm and less than (<) 500 ppm PCBs
399 Nonhazardous soils containing greater than or equal to (≥) 500 ppm PCBs

ORGANIC SOLIDS – Waste that is primarily organic and solid, with low-to-moderate inorganic content and water content; not flammable

401 Halogenated pesticide solid
402 Non-halogenated pesticide solid
403 Solids resins or polymerized organics
404 Spent carbon
405 Reactive organic solid
406 Empty fiber or plastic containers
407 Other halogenated organic solids (Specify in Comments)
409 Other non-halogenated organic solids (Specify in Comments)
488 Wood debris
489 Petroleum contaminated solids
490 Sand blasting waste
491 Dewatered biological treatment sludge
492 Dewatered sewage or other untreated biological sludge
493 Catalyst waste
494 Solids containing greater than or equal to (≥) 50 ppm and less than (<) 500 ppm PCBs
495 Solids containing greater than or equal to (≥) 500 ppm PCBs
496 Electrical equipment/devices containing greater than or equal to (≥) 50 ppm and less than (<) 500 ppm PCBs.
497 Electrical equipment/devices containing greater than or equal to (≥) 500 ppm PCBs
498 Soils containing greater than or equal to (≥) 50 ppm and less than (<) 500 ppm PCBs
499 Soils containing greater than or equal to (≥) 500 ppm PCBs

SLUDGES

INORGANIC SLUDGES – Waste that is primarily inorganic, with moderate-to-high water content and low organic content, and nonreactive

501 Lime sludge without metals
502 Lime sludge with metals/metal hydroxide sludge
503 Wastewater treatment sludge with toxic organics
504 Other wastewater treatment sludge
505 Untreated plating sludge without cyanides
506 Untreated plating sludge with cyanides
507 Other sludge with cyanides

508 Sludge with reactive sulfides
509 Sludge with other reactives
510 Degreasing sludge with metal scale or filings
511 Air pollution control device sludge (e.g., fly ash, wet scrubber sludge)
512 Sediment or lagoon dragout contaminated with organics
513 Sediment or lagoon dragout contaminated with inorganics only
514 Drilling mud
515 Asbestos slurry or sludge
516 Chloride or other brine sludge
519 Other inorganic sludges (Specify in Comments)
597 Catalyst waste
598 Nonhazardous sludges containing greater than or equal to (≥) 50 ppm and less than (<) 500 ppm PCBs
599 Nonhazardous sludges containing greater than or equal to (≥) 500 ppm PCBs

ORGANIC SLUDGES - Waste that is primarily organic with low-to-moderate inorganic solids content and water content, and pumpable

601 Still bottoms of halogenated (e.g., chlorinated) solvents or other organic liquids
602 Still bottoms of non-halogenated solvents or other organic liquids
603 Oily sludge
604 Organic paint or ink sludge
605 Reactive or polymerizable organics
606 Resins, tars, or tarry sludge
607 Biological treatment sludge
608 Sewage or other untreated biological sludge
609 Other organic sludges (Specify in Comments)
695 Petroleum contaminated sludges other than still bottoms and oily sludges
696 Grease
697 Catalyst waste
698 Nonhazardous sludges containing greater than or equal to (≥) 50 ppm and less than (<) 500 ppm PCBs
699 Nonhazardous sludges containing greater than or equal to (≥) 500 ppm PCBs

GASES

INORGANIC GASES - Waste that is primarily inorganic with a low organic content and is a gas at atmospheric pressure

701 Inorganic gases

ORGANIC GASES - Waste that is primarily organic with low-to-moderate inorganic content and is a gas at atmospheric pressure

801 Organic gases

PLANT TRASH

901 Plant production refuse
902 Supplemental plant production refuse
903 Plant office refuse

EXAMPLE 1

Description: ABCD Manufactures has a graphics department which produces a fixer waste. During operations, fixer chemicals were improperly mixed and must now be disposed. The fixer is an aqueous based reagent (liquid).

Waste Classification Information Determination:

Process Knowledge:
- no listed wastes involved
- no TC organics involved
- only TC metal involved is silver
- may be corrosive
- waste is not ignitable or reactive
- no Appendix 1, Table 1 (Class 1, Toxics) constituents involved other than silver
- no petroleum hydrocarbons, asbestos, or PCBs involved

Testing Results:
- pH = 5.21
- silver concentration = 0.8 mg/L (total)

Sequence Number Assigned by ABCD: 0018

Classification: _____

Form Code: _____

Waste Code:

Sequence Number + Form Code + Classification =

_____

EXAMPLE 2

Description: Murray Industries is a manufacturer of nylon thread used in the stuffed animal industry. During any given month, they periodically dispose of several hundred light ballasts. Murray Industries knows that their light ballasts contain PCBs. Murray did not know how much PCB's were contained within the ballasts so they called the manufacturer and were told that each ballast contained 2500 ppm PCB's. (HINT) The ballasts are considered as containers holding liquid PCB's, so the form code will be in the liquid sections.

Waste Classification Information Determination:

Process Knowledge: no listed wastes involved
no TC organics or metals involved
waste is not ignitable, corrosive or reactive
waste contains greater than 50 ppm PCBs

Testing Results: none

Sequence Number Assigned by Murray Industries: 0648

Classification: _____

Form Code: _____

Waste Code:

Sequence Number + Form Code + Classification =

_____

EXAMPLE 3

Description: Annie's Machine Shop (AMS) shapes various types of metal blocks into parts for automobiles. During this process metal turnings, contaminated with a petroleum based lubricating oil, are generated as waste. The waste is mostly solid turnings contaminated with some oil.

Waste Classification Information Determination:

Process Knowledge:
- no listed wastes involved
- TC metals could be involved depending upon the type of metal being worked
- no TC pesticides are involved
- other TC organics may be involved (information received from the manufacturer of the lubricating oil is rather vague on this issue)
- waste is not ignitable, corrosive or reactive
- Appendix 1, Table 1 (Class 1, Toxics) constituents may be involved
- no asbestos, or PCBs involved
- Petroleum hydrocarbons could be present

Testing Results:
- TC metals and organics = less than the RCRA regulatory limit for each type of metal block worked
- TPH = 1700 ppm

Sequence Number Assigned by AMS: 0101

Classification: _____

Form Code: _____

Waste Code:

Sequence Number + Form Code + Classification =

_____

EXAMPLE 4

Description: XYZ Refinery refines crude oil into various intermediate petroleum products. These intermediate products are washed with a caustic rinse in order to remove impurities. The rinsate is aqueous.

Waste Classification Information Determination:

Process Knowledge:
- no listed wastes involved
- TC metals and/or organics (other than pesticides) could be involved
- waste is not ignitable or reactive
- waste could be corrosive
- Appendix 1, Table 1 (Class 1, Toxics) constituents may be involved
- petroleum hydrocarbons may be present
- no asbestos or PCBs involved

Testing Results:
- TC metals and organics = all less than the RCRA regulatory limit except for benzene (benzene = 15 ppm)
- pH = 12.8

Sequence Number Assigned by XYZ Refinery: 0029

Classification: _____

Form Code: _____

Waste Code:

Sequence Number + Form Code + Classification =

_____

EXAMPLE 5

Description: Jay's Bookend Manufactures (Jay's) is in the process of replacing a concrete sidewalk that leads from its main office to its picnic area. The sidewalk is mainly utilized by facility personnel during their break periods. The sidewalk does not lead to other areas of the facility. Jay knows that the concrete was made with an incinerator ash of unknown composition.

Waste Classification Information Determination:

Process Knowledge:
- listed wastes may be involved
- organics and metals may be involved
- waste is not ignitable, corrosive or reactive
- no petroleum hydrocarbons, asbestos, or PCBs involved
- no other contamination expected

Testing Results:
- Appendix I, Table 1 (Class 1, Toxics) = all constituents leach less than detection limits (TCLP)
- TC metals = all leach less than detection limits (TCLP)
- Appendix 1, Table 3 = all constituents leach less than their Maximum Contaminant Level (7-Day Distilled Water Leachate)

Sequence Number Assigned by Jay's: 9999

Classification: _____

Form Code: _____

Waste Code:

Sequence Number + Form Code + Classification =

_____

EXAMPLE 6

Description: Mike's Industrial Park has an agreement with its facilities that MIP will do all the outdoor preventative maintenance of all pipelines. This includes stripping and repainting of pipes(e.g., paint, thinner, and stripper). The waste is a combination of solid paint, stripper and thinner.

Waste Classification Information Determination:

Process Knowledge: no Lead in Paint
Thinner has a flash point of 88°F
may be TC organics in waste

Testing results: Flash point = 96°F
TC not needed for waste classification but would possibly be needed for manifesting

Sequence Number Assigned by Mike's: 6921

Classification: _____

Form Code: _____

Waste Code:

Sequence Number + Form Code + Classification =

_____

EXAMPLE 7

Description: James' Storage Facility routinely abrasive blasts their tanks to allow them to store various wastes in the same tanks at different times. The tanks mainly holds various types of petroleum and organic wastes. The abrasive used is organic.

Waste Classification Information Determination:

Process Knowledge:	no listed wastes no reactive or corrosive waste waste might have TC organics and/or metals waste might be ignitable no PCB's or asbestos possible petroleum hydrocarbons Table I, Appendix 1 (Class 1, Toxics) constituents may be involved
Testing Results:	Flash Point 186°F TC metals and organics are below RCRA regulatory limits Table I, Appendix 1 (Class 1, Toxics) constituents leach below their Maximum Concentration Levels but are detected TPH = 1259 mg\kg

Sequence Number Assigned by James': 0064

Classification: _____

Form Code: _____

Waste Code:

Sequence Number + Form Code + Classification =

_____

EXAMPLE 8

Description: Clare Conglomerates Inc. manufactures ceramic souvenirs for tourist shops and flea markets throughout South Texas. Occasionally some of these souvenirs get broken prior to shipment. (HINT) This waste stream can use one of two types of form codes depending on how the generator wants to list it.

Waste Classification Information Determination:

Process Knowledge:
- no listed wastes
- not reactive, corrosive, or ignitable
- no TC constituents
- no Appendix I, Table 1 (Class 1, Toxics) constituents
- not sure of Class 1 corrosive
- no petroleum hydrocarbons, asbestos, or PCB's involved

Testing Results:
- pH of waste and DI water = 8.01
- TWC 7-Day Distilled Water Leachate = all constituents leach less than their Maximum Contaminant Levels except TDS = 1700 mg/L

Sequence Number Assigned by Clare's: 1000

Classification: _____

Form Code: _____

Waste Code:

Sequence Number + Form Code + Classification =

_____

EXAMPLE 9

Description: Caroline Pharmaceuticals (CP) produces generic equivalents to many antibiotics and pain relievers. Occasionally a batch is off specifications. These wastes have to be disposed of since they cannot be recycled in any way. CP has just had a back pain reliever batch come out as being off specifications and needs proper classification.

Waste Classification Information Determination:

Process Knowledge:	no listed wastes not reactive, corrosive, or ignitable no TC constituents no Appendix I, Table 1 (Class 1, Toxics) constituents no Class 1 ignitables or corrosives sure that the TDS would be greater than 500 ppm
Test Results:	none needed

Sequence Number Assigned by Caroline's: 0757

Classification: _____

Form Code: _____

Waste Code:

Sequence Number + Form Code + Classification =

_____

EXAMPLE 10

Description: Joe Fred incinerator has some refractory brick. This brick is from renovations of the facilities. The facility is used to incinerate medical waste.

Waste Classification Information Determination:

Process Knowledge:
- no listed wastes involved
- no TC organics due to high temp and nature of the waste.
- no TC metals involved
- waste is not ignitable, corrosive, or reactive
- no Appendix 1, Table 1 (Class 1, Toxics) constituents
- no petroleum hydrocarbons, PCB's, or asbestos

Testing Results:
- pH of water mixture = 6.58
- Appendix I, Table 3 = all constituents leach less than their Maximum Contaminant Level (7-Day Distilled Water Leachate)
- TDS = 87 mg/L

Sequence Number Assigned by Joe Fred's: 0007

Classification: _____

Form Code: _____

Waste Code:

Sequence Number + Form Code + Classification =

_____

Waste Evaluation Section
Industrial and Hazardous Waste Division
Texas Water Commission

P.O. Box 13087
Austin, Texas 78711-3087
(512) 463-8175

Waste Analysis Team - Classification Issues

Data Control Team - One-time Shipments/ NORs/Renotifications

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

OFFICE OF
SOLID WASTE AND EMERGENCY
RESPONSE

The 1993 RCRA Inspection Manual

I am very proud to present the newly revised 1993 RCRA Inspection Manual. The RCRA Enforcement Division (RED) undertook a detailed revision of the 1988 version based on the requests and comments received from the States and Regions. The new version is more user-friendly, comprehensive, and detailed than the 1988 version. It also includes a number of new features not present in the 1988 version:

- Keeping Up with Current RCRA Regulatory Concerns (Appendix I) is a brief summary of the major rules and policies developed in recent years. It includes information on resources available to keep RCRA enforcement personnel abreast of current events in RCRA.

- Additional Resources (Appendix V) lists a wealth of other documents pertaining to different issues in RCRA along with ordering information.

- Significant Recent RCRA Federal Register Entries (Appendix VI) list FR entries affecting RCRA regulations from the past three years.

RED is distributing the manual in 3-hole punch version to facilitate easy removal and replacement of the pages. It has also been distributed without binders in hopes that you will recycle the 1988 binders. RED intends to keep the RCRA Inspection Manual a "living document" from this point on. As needed, you will receive updates to the manual consisting of additional or replacement pages for all those effected by recent changes in RCRA regulations. The updates will be sent via the mailing list for the RCRA Inspector News.

Within a few months, the manual will also be available in electronic form (as a WordPerfect® file) through RED's electronic bulletin board, the REDboard. We encourage you to download it in order to have electronic versions of the checklists for easier use and customizing.

Keep in mind that the manual is designed as a tool to make the job of RCRA

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inspector easier. It in no way limits or alters any statutory or regulatory requirements. The issues and items outlined in the manual cannot encompass every facility you inspect. I encourage you to expand every inspection beyond the base outline of this manual based on the specific circumstances of the site being inspected.

I hope that you find the revised manual an effective tool for training new inspectors and assisting experienced inspectors. If you have any questions or comments on the RCRA Inspection Manual, call Jeff Kelly at 202-260-2809.

Sincerely,

Susan Bromm

Susan Bromm, Director
RCRA Enforcement Division

OSWER Directive 9938.02b
October 1993

REVISED RCRA INSPECTION MANUAL

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Office of Waste Programs Enforcement
RCRA Enforcement Division

FOR USE BY EPA INSPECTION PERSONNEL ONLY. This manual is intended solely for guidance. No statutory or regulatory requirements are in any way altered by any statement(s) contained herein.

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Foreword

The RCRA Inspection Manual was originally developed and issued by the RCRA Enforcement Division of U.S. EPA's Office of Waste Programs Enforcement in 1988. The Manual was intended for the exclusive use of inspection personnel in conducting field inspections of RCRA-regulated facilities under U.S. EPA or State program authorities. Since 1988, significant regulatory developments have occurred and the need to provide a more useful tool for inspectors has grown.

The overall goal of this Manual, then, is to provide useful procedural and technical information to determine facility compliance with RCRA standards. Specific objectives are as follows:

- To provide a detailed overview of the elements of RCRA Compliance Evaluation Inspections (CEIs)
- To describe the scope of inspector authorities and responsibilities
- To provide detailed standard procedures for performing RCRA inspections
- To provide general inspection information that is comprehensive in scope and complements more detailed guidance on inspecting particular types of hazardous waste facilities
- To provide a basis for general training of new inspection personnel in RCRA inspection procedures
- To make essential regulatory information readily accessible to inspectors.

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BASIC INSPECTOR TRAINING COURSE
FUNDAMENTALS OF ENVIRONMENTAL COMPLIANCE INSPECTIONS

- LEGAL
- TECHNICAL
- ADMINISTRATION
- COMMUNICATIONS

Office of Enforcement and Compliance Monitoring
U.S. Environmental Protection Agency

FUNDAMENTALS OF ENVIRONMENTAL COMPLIANCE INSPECTIONS
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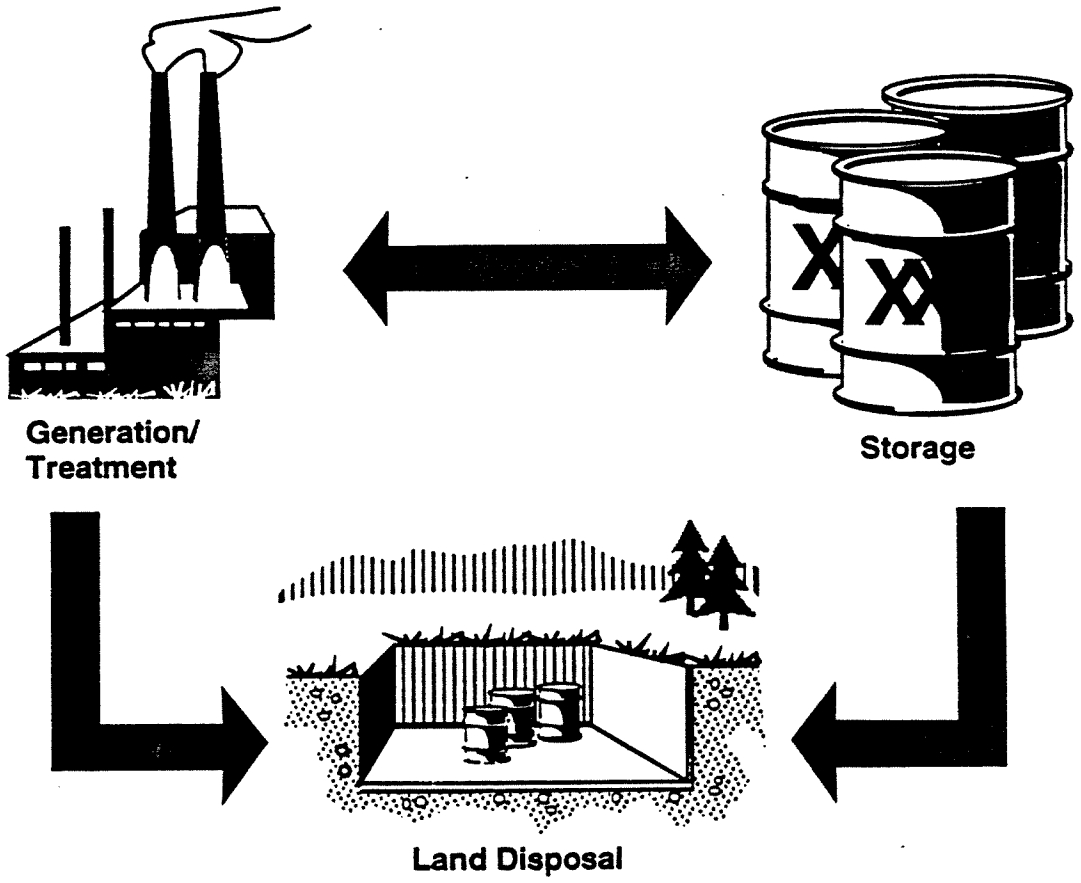
United States
Environmental Protection
Agency

Solid Waste And
Emergency Response
(OS-520)

EPA

Waste Analysis At Facilities That Generate, Treat, Store, And Dispose Of Hazardous Wastes

A Guidance Manual



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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

APR 2 6 1994

PB94-963603
OFFICE OF
SOLID WASTE AND EMERGENCY RESPONSE

MEMORANDUM

SUBJECT: Transmittal of Waste Analysis Plan Guidance Manual (OSWER Directive Number 9938.4-03)

FROM: Bruce M. Diamond, Director
Office of Waste Programs Enforcement

TO: Addressees

Attached is the revised waste analysis guidance manual. The manual will provide guidance to the regulated community, permit writers and enforcement officials in establishing the criteria to properly evaluate and prepare RCRA waste analysis plans (WAP).

The guidance manual updates the Agency's 1984 manual and incorporates the many changes to the hazardous waste regulations including the Land Disposal Restrictions (LDR). The manual is divided into the following four parts;

- **Part One** - provides guidance on determining individual waste analysis responsibilities and how to meet these responsibilities.

- **Part Two** - provides facility-specific procedures for conducting waste analysis and developing a waste analysis plan. Some important components include:

  - Content and organization of a WAP
  - Waste analysis parameters
  - Sampling procedures
  - Laboratory testing and analytical methods
  - Waste re-evaluation frequencies.

- **Part Three** - provides a checklist to ensure that all relevant waste analysis responsibilities at individual facilities have been addressed.

- **Part Four** - provides facility-specific (i.e., generator, disposal, and on and off-site treatment facilities) model WAPs. These should be used as guides when developing site-specific WAPs.

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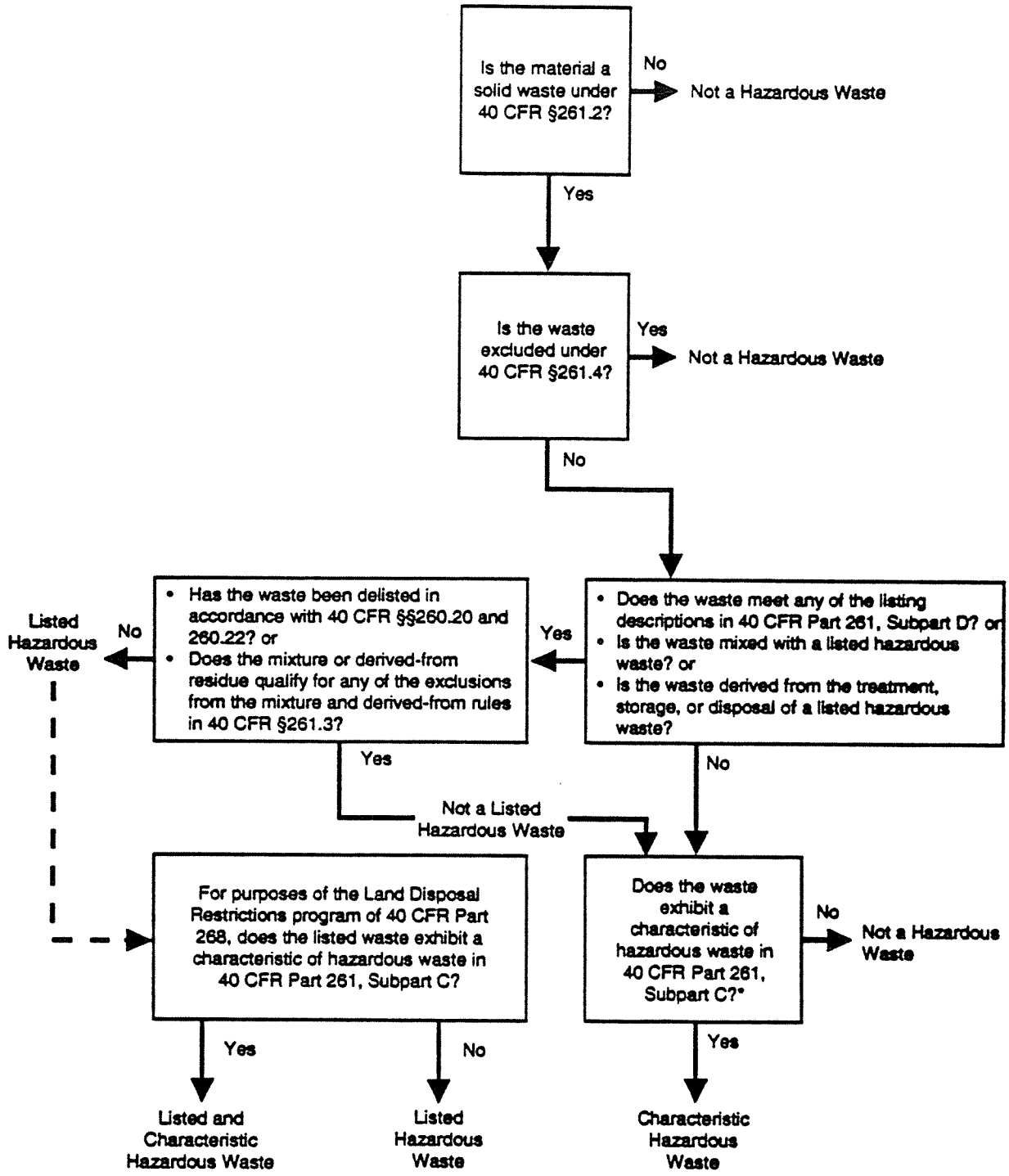
We hope that you will find the guidance manual useful in developing and evaluating waste analysis plans. If you have any questions regarding the manual, please feel free to contact Jim Thompson of my staff at (202) 260-2265.

Attachment

Addressees

Waste Management Division Directors, Region I-X
LDR Regional Contacts, Region I-X
RCRA Enforcement Branch chiefs, Regions I-X

FIGURE 1-1
Hazardous Waste Identification



* Note exception for mixtures of characteristic wastes and mining/mineral processing wastes in 40 CFR §261.3(a)(2)(i).

TABLE 1-1
Facility Type And Waste Analysis Responsibilities

YOU ARE A ...	If the Following Activities Occur at Your Facility:	Is a RCRA Permit Necessary?	Is Hazardous Waste Identification Required?*	Waste Analysis Activities	Waste Analysis Plan Activities
Generator	You generate a hazardous waste at your facility and you do not treat prohibited hazardous waste in tanks, containers, or containment buildings to meet LDR treatment standards.	No	Yes	Make hazardous waste determination and conduct analysis.	None
	You treat a prohibited hazardous waste* in tanks, containers, or containment buildings.	No			• Keep plan on site. • Follow the plan at your site. • Notify EPA when new wastes are managed. • Follow the waste analysis requirements for your specific treatment, storage, or disposal unit.
Storage Facility	You generate hazardous waste in volumes >1000 kg per month and accumulate the waste on site for longer than 90 days. You generate hazardous waste in volumes between 100 and 1000 kg per month and accumulate the waste on-site for longer than 180** days. You receive hazardous waste from off-site locations and store the waste in units such as: • containers • tanks • surface impoundments • waste piles • containment buildings	Yes			
Recycling Facility	You store recyclable materials on site prior to entering the recycling process. *[Note: The recycling process itself is exempt from regulation except as provided in 40 CFR §261.6(d), and storage of the recyclable materials listed in 40 CFR §§261.6(a)(2) and (a)(3) is not subject to the permitting requirements.]*				
Treatment Facility ***	You treat hazardous waste by any number of processes, which are designed to change the physical, chemical, or biological character or composition of the waste so as to render the waste non-hazardous, less hazardous, safer to transport, safer to store, safer to dispose of, or reduced in volume. Examples of these processes and their possible associated treatment units include: Example Process → Example Treatment Unit Thermal Destruction → Incinerator Stabilization/Solidification → Stabilization Unit Cyanide Destruction → Tanks, containers Neutralization → Tanks, containers, surface impoundments				
Disposal Facility	You dispose of a hazardous waste* by means of depositing, injecting, dumping, spilling, leaking or placing these wastes into or on any land or water so that the waste or any of its constituents may enter the air or waters (including groundwater).				
Transporter/ Transfer Facility	You keep hazardous waste* on site 10 days or less for transfer to another location but you do not alter the waste in any way other than bulking.	No. (A DOT Transportation License is necessary.)		None	None

* TSDFs may accept the generator's certification and any waste analysis data. Transporters and transfer facilities generally use the manifest to satisfy waste identification needs.

** Generators of between 100 and 1000 kg of hazardous waste per month may accumulate waste on site for up to 270 days if the off-site receiving facility is at a distance of 200 miles or more (40 CFR §262.34(e)).

*** Certain activities that meet the definition of treatment do not require RCRA permits as listed in 40 CFR §264.1(g).

Table 2-1
Reference Guide To Key Issues For Consideration When Developing WAPs

Generators

Generator Only

1. What is the description of the facility where wastes are generated and/or managed? (Section 2.1)
2. What processes result in hazardous waste generation? (Section 2.1)
3. What is the description of the hazardous wastes that are generated? What are the waste classifications, EPA waste codes, and treatability groups, of the hazardous wastes generated? (Section 2.1)
4. What waste parameters will be identified for testing, analysis, and/or monitoring, and what is the rationale for selecting these parameters? (Section 2.2.)
5. What sampling procedures (collection strategies, equipment, sample preservation methods, and QA/QC procedures) will be used? (Section 2.3)
6. How will a laboratory be selected? (Section 2.4)
7. What testing and analytical methods will be used? (Section 2.4)
8. What frequency for re-evaluating the waste will be established? (Section 2.5)
9. Are additional provisions for meeting LDR regulations required? (Section 2.6)

Treat in tanks, containers, or containment buildings

Address all Generator Only information, from items 1 through 9 in column one. In addition, answer the following:

Before Treatment

10. What are the applicable treatment standards with respect to the LDR regulations? (Sections 2.1 and 2.6)

After Treatment

11. Have all the LDR treatment standards been met? (Section 2.6)

Treatment Facilities

On-Site Only

Address all Generator Only information, from items 1 through 9 in column one. In addition, answer the following:

Before Treatment

10. What are the treatment or process design limitations for optimal safe use of equipment and materials? (Sections 2.1 and 2.2)
11. What are the other operational acceptance limits applicable to permit and technological considerations? (Sections 2.1 and 2.2)
12. What are the applicable treatment standards with respect to the LDR regulations? (Section 2.6)

After Treatment

13. Did the treatment achieve LDR standards or is additional sampling and analysis necessary to make this determination? (Sections 2.1, 2.2, 2.3, 2.5, and 2.6)
14. What new wastes, waste codes, and treatability groups were generated? (Section 2.1)
15. Are there any additional applicable treatment standards with respect to LDR regulations? (Section 2.1 and 2.6)

Off-Site Only

Address all Generator Only information, from items 1 through 9 in column one. In addition, answer the following:

Before Acceptance

10. How will the identification of wastes from off site be verified? (Sections 2.2, 2.5 and 2.6)
11. Will corroborative testing be conducted using full-scale analysis, fingerprinting, or other process such as acceptable knowledge? (Sections 2.2, 2.4, 2.5 and 2.6)
12. How will wastes be screened for contaminants that are incompatible with the treatment process? (Section 2.2)

Before Treatment

13. What are the treatment or process design limitations for optimum safe use of equipment and materials? (Sections 2.1 and 2.2)
14. What are the other operational acceptance limits applicable to permit and technological considerations? (Sections 2.1 and 2.2)
15. What are the applicable treatment standards with respect to LDR regulations? (Section 2.6)

Storage Facilities

On-Site Only

Address all Generator Only information, from items 1 through 9 in column one. In addition, answer the following:

10. Will managing wastes (e.g., mixed bulk chemicals) change the chemical properties, such that issues 13-16 must be addressed? (Section 2.1)
11. How will the initial waste characterization change? (Section 2.2)
12. What additional sampling and analysis are required at the storage facility? (Sections 2.2 and 2.3)
13. Will a new waste identification be required and how will it be verified? (Section 2.5)
14. What are the applicable treatment standards with respect to LDR regulations as a result of any blending or mixing that may have occurred? (Section 2.1, 2.5, and 2.6)

Off-Site Only

Address all Generator Only information, from items 1 through 9 in column one. In addition, answer the following:

Before Acceptance

10. How will the identification of wastes from off site be verified? (Sections 2.5 and 2.6)
11. Will corroborative testing be conducted using full-scale analysis, fingerprinting or other process such as acceptable knowledge? (Sections 2.2, 2.4, 2.5 and 2.6)
12. How will wastes be screened for contaminants that are incompatible with the storage process? (Section 2.2)

After Acceptance

13. Will managing wastes (e.g., mixed bulk chemicals) change the chemical properties, such that issues 16-19 below must be addressed? (Section 2.1)
14. How will the initial waste characterization change? (Section 2.2)
15. What additional sampling and analysis is required at the storage facility? (Sections 2.2 and 2.3)
16. Will new waste identification be required and how will it be verified? (Section 2.5)

Disposal Facilities

On-Site Only

Address all Generator Only information, from items 1 through 9 in column one. In addition, answer the following:

10. Have all wastes designated for land disposal met applicable LDR treatment standards? (Sections 2.1 and 2.6)
11. Is it necessary to conduct additional (corroborative) testing? (Sections 2.5 and 2.6)

Off-Site Only

Address all Generator Only information, from items 1 through 9 in column one. In addition, answer the following:

Before Acceptance

10. How will the identification of wastes from off site be verified? (Sections 2.2, 2.5 and 2.6)
11. How will wastes be screened for contaminants that are incompatible with the disposal process? (Section 2.2)

After Acceptance

12. What type of corroborative testing will be conducted, such as full-scale testing and analysis, fingerprinting, or other process such as acceptable knowledge? (Sections 2.4, 2.5, and 2.6)
13. Have all wastes received on site for disposal met applicable LDR treatment standards? (Sections 2.1 and 2.6)
14. Are additional procedural requirements applicable for wastes from off site? (Sections 2.6)

Table 2-1
Reference Guide To Key Issues For Consideration When Developing WAPs

Generators

Generator Only

Treat in tanks, containers, or containment buildings

Treatment Facilities

On-Site Only

After Treatment (cont'd)

16. What additional parameters of the treated materials (residues) will need to be monitored, and why? (Section 2.2)
17. How will the treated wastes be sampled? (Sections 2.3 and 2.4)
18. What testing/ analytical methods will be used to analyze the waste? (Section 2.4)

Off-Site Only

After Treatment (cont'd)

16. Did the treatment achieve LDR standards or is additional sampling and analysis necessary to make this determination? (Sections 2.1, 2.2, 2.3, 2.5, and 2.6)
17. What new wastes/waste codes and treatability groups were generated? (Section 2.1)
18. Are there any additional applicable treatment standards with respect to LDR regulations? (Section 2.1 and 2.6)
19. What additional parameters of the treated materials (residues) will need to be monitored, and why? (Section 2.2)
20. How will the treated wastes be sampled? (Section 2.3 and 2.4)
21. What testing/ analytical methods will be used to analyze the waste? (Section 2.4)

Storage Facilities

On-Site Only

Off-Site Only

17. What are the applicable treatment standards with respect to LDR as a result of any blending or mixing that may have occurred? (Sections 2.1, 2.5, and 2.6)

Disposal Facilities

On-Site Only

Off-Site Only

TABLE 2-2
Key Elements In Waste Analysis

KEY ELEMENT OF A WAP	SECTION OF THIS MANUAL	SECTION INCLUDES GUIDANCE ON:
Facility Description	Section 2.1	Describing important facility-specific processes and activities.
Selecting Waste Analysis Parameters	Section 2.2	Identifying and selecting the individual waste parameters for each waste that will be sampled and analyzed, as well as the rationale for the selection. [1]
Selecting Sampling Procedures	Section 2.3	Selecting the appropriate sampling procedures for effective waste characterization. [2]
Selecting a Laboratory and Testing and Analytical Methods	Section 2.4	Selecting the appropriate laboratory testing or analytical methods. [3]
Selecting Waste Re-evaluation Frequencies	Section 2.5	Determining when it is necessary to re-evaluate the adequacy of the waste analysis. [4]
Special Procedural Requirements	Section 2.6	Identifying any special procedures that will need to be followed when: • Receiving wastes generated off site [5] • Ensuring safe management of ignitable, reactive, and incompatible wastes [6] • Demonstrating compliance with the LDR treatment standards. [7]

[1] 40 CFR §§264/265.13(b)(1)
[2] 40 CFR §§264/265.13(b)(3)
[3] 40 CFR §§264/265.13(b)(2)
[4] 40 CFR §§264/265.13(b)(4)
[5] 40 CFR §§264/265.13(c)
[6] 40 CFR §§264/265.13(b)(6)
[7] 40 CFR §§264/265.13(b)(6)

TABLE 2-6
Sampling Approach Overview

SAMPLING STRATEGY	DEFINITION	APPLICABILITY	ADVANTAGES/DISADVANTAGES
Authoritative	Technique where sample locations are selected based on detailed knowledge of the wastestream without regard to randomization.	Wastestreams of known physical/chemical properties and concentrations.	Requires in-depth knowledge of properties and constituents of wastestreams. Rationale for sample selection must be well documented and defensible.
Random (simple, stratified, systematic)	Techniques where sample selection and location are determined through the application of statistical methods.	Used to collect representative samples where data is insufficient to justify authoritative sampling (e.g., wastestreams of unknown or variable concentration).	See discussions below for each respective random sampling technique.
• **Simple Random**	All locations/points in a waste or unit from which a sample can be attained are identified, and a suitable number of samples are randomly selected.	Used to collect representative samples of wastes that are heterogeneous throughout the entire wastestream or unit (e.g., multiple drums of unknown origin).	Advantages: Most appropriate where little or no information is available concerning the distribution of chemical contaminants. Disadvantages: May misrepresent wastestreams with areas of high concentration or stratification.
• **Stratified Random**	Areas of nonuniform properties or concentrations are identified and stratified (segregated). Subsequently, simple random samples are collected from each stratum of the waste or unit.	Used to collect representative samples from waste or units that are known to have areas of nonuniform properties (strata) or concentration (hot spots) (e.g., surface impoundment with multiple waste layers).	Advantages: Provides for increased accuracy of wastestream representation if strata or a typically high or low concentration area is present. Disadvantages: Requires greater knowledge of wastestream than for simple random sampling and may require sophisticated statistical applications.
• **Systematic Random**	The first sampling point is randomly selected but all subsequent samples are collected at fixed space intervals (e.g., along a transect or time intervals).	An alternate procedure used to collect representative samples from modestly heterogeneous wastestreams that provides for simplified sample identification.	Advantages: Provides for easier sample identification and collection than other techniques. Disadvantages: May misrepresent wastestreams with unknown areas of high concentration or stratification.

TABLE 2-11
Example Waste Profile Sheet *

1. WASTE PROFILE #: _____

EPA Facility ID #: _____

DO NOT LEAVE BLANK SPACES. PLEASE SUBMIT THIS FORM TYPE-WRITTEN.

I. GENERATOR INFORMATION

2. Generator Name: _____ 3. EPA ID #: _____

4. Mailing Address: _____

5. Plant Address: _____

6. Business Contact: _____ Phone #: _____

7. Technical Contact: _____ Phone #: _____

The following information is required to comply with RCRA 40 CFR §§264/265.13 (O.A.C. 3745-65-13) General Waste Analysis.

II. GENERAL WASTE INFORMATION

8. Waste Material Name: _____ 9. Generator Code: _____ (Optional)

10. Describe process that generates waste: _____ 11. SIC Code: _____

12. Is your company the original generator of the waste? ☐ No ☐ Yes If not, provide the name of the original generator:

_____

13. If this waste is a still bottom, are you the original generator of the feed stock? ☐ No ☐ Yes

14. Rate of Generation: _____ Current accumulation: Drums _____ Bulk _____ (Gal.)

15. Check all types of containerization for which you request quotation.

_____ 55-Gallon Steel Drum (SC)
_____ 30-Gallon Steel Drum
_____ 85-Gallon Steel Drum (Without inside container)
_____ 85-Gallon Salvage Drum (With fiber or steel drums inside)
_____ Palletized small containers
_____ 55-Gallon Fiber Drum
_____ 5-Gallon Pail
_____ Bulk (For bulk shipments, waste viscosity must be < 5000 cps)
_____ Other (Specify)

Overall dimensions of material on pallet: _____ x _____ x _____ (High)
Dimensions of pallet only: _____ x _____ x _____ (High)
What are the small containers on the pallet? _____ (1 qt. Bottles, 8 oz. Aerosol Cans, etc.)

III. WASTE STREAM CHEMICAL COMPOSITION**

16. COMPONENTS INCLUDING 40 CFR 261 APPENDIX VII HAZARDOUS CONSTITUENTS	CONCENTRATION RANGE (UNITS)	AVERAGE % MUST TOTAL 100%	TLV (IF PUBLISHED) ACGIH	TLV (IF PUBLISHED) OSHA
	_____ to _____			
	_____ to _____			
	_____ to _____			
	_____ to _____			
	_____ to _____			
	_____ to _____			
	_____ to _____			

* If applicable, this Waste Profile Sheet is a new revision of a previously submitted Waste Profile Sheet dated _____.

** Attach to this Form any additional information which must be known to treat, store, or dispose of the waste in accordance with RCRA §§264/265.13, including but not limited to data developed under RCRA Part 261, Laboratory Analysis Technical Publications or Material Safety Data Sheets. 40 CFR 261 Appendix VIII constituents should be identified for combustion facilities, even if not present in high enough concentrations to significantly contribute to the 100% composition.

WASTE PROFILE #:_____

IV. SPECIFIC ANALYSIS OF WASTE

17. Method used to obtain a representative sample of the analyzed waste (i.e., grab, composite, etc.) Sampling methods are described in RCRA 40 CFR 261 Appendix 1.

Generator's Knowledge & MSDS

In completing the next two items, do not leave blanks. If the specific element is not present, indicate "None".

18. Organic Bound

	CONCENTRATION RANGE	AVERAGE
Sulfur	_____ to _____	_____
Chlorine	_____ to _____	_____
Fluorine	_____ to _____	_____
Bromine	_____ to _____	_____
Iodine	_____ to _____	_____
Nitrogen	_____ to _____	_____
Phosphorus	_____ to _____	_____

(Base % WT on Molecular Structure)

19. Metals (Actual Content)

Arsenic	_____ ppm	Mercury	_____ ppm
Barium	_____ ppm	Nickel	_____ ppm
Cadmium	_____ ppm	Selenium	_____ ppm
Chromium	_____ ppm	Silver	_____ ppm
Lead	_____ ppm	Thallium	_____ ppm
Aluminum	_____ %	Silicon	_____ %
Magnesium	_____ %	Sodium	_____ %

20. Does this waste contain PCBs?
☐ No ☐ Yes. If yes, give the concentration regardless of amount and attach supporting documentation:
_____ ppm

21. Does this waste contain insecticides, pesticides, herbicides, or rodenticides?
☐ No ☐ Yes. If yes, identify each in the space below and the concentrations:
_____ ppm
_____ ppm
(Include Safety Data Sheets for each)

22. Does this waste contain Dioxin? ☐ No ☐ Yes

23. Does this waste contain free cyanide> 250 ppm?
☐ No ☐ Yes

24. Does this waste contain free sulfide > 250 ppm?
☐ No ☐ Yes

V. TOXICITY

25. Check Applicable Data

_____	Eye	Explain _____
_____	Inhalation	Explain _____
_____	Dermal	Explain _____
_____	Ingestion	Explain _____
_____	Other	Explain _____
_____	Carcinogen (suspected or known) Explain	

_____
_____

VI. PHYSICAL PROPERTIES

26. Physical state at 70° F (Circle)

Liquid Semisolid Solid
Slurry Sludge Gas

Viscosity at 70° F _____ CPS

27. Is material pumpable? ☐ No ☐ Yes
Varies (Explain): _____

28. Is waste multi-layered? ☐ No ☐ Yes
If yes, please describe and quantify each layer:
1. (Top) _____ %
2. _____ %
3. _____ %

29. Dissolved Solids: _____ % WT
30. Suspended Solids: _____ % WT
31. BTU Value/lbs: _____
32. Ash Content (% by WT): _____
33. Flash Point: _____ °F
34. Vapor Pressure at 70° F: _____
35. Specific Gravity: _____
36. pH: _____
37. Corrosivity: _____ mpy
38. Color: _____

VII. REACTIVITY AND STABILITY

39. What is the Reactivity Group Number(s) for this waste?
_____

In accordance with **"Design and Development of Hazardous Waste Reactivity Testing Protocol,"** EPA Document No. EPA-600/2-84-057, February 1984.

40. Is this material stable? ☐ No ☐ Yes
If no, explain: _____
_____
_____
_____
_____

41. Is this material shock sensitive? ☐ No ☐ Yes
If yes, explain: _____
_____
_____
_____
_____

WASTE PROFILE #:_____

VIII. EPA INFORMATION

42. Is this waste hazardous as defined by RCRA 40 CFR Part 261? ☐ No ☐ Yes

If yes, list the applicable EPA Hazardous Waste Number(s) and explain why you have assigned the number(s). For example, if you assign D001, the reason for selection is that the flash point is less than 140° F. If you assign F002, the reason for selection may be that the waste is the still bottom from the recovery of methylene chloride:

EPA Hazardous Waste Number(s)	Reason for Selection

43. If the answer to #42 is yes, list CERCLA reportable quantities, found in 40 CFR §302.4:

_____
_____
_____
_____
_____
_____
_____
_____
_____
_____

44. If the waste is not hazardous as defined by federal regulations but is hazardous as defined by state regulations in which the waste was generated, please provide the state hazardous waste number(s). Also provide any state hazardous numbers that are not included in the federal regulations:

State Hazardous Waste Number(s)	Reason for Selection

IX. SAMPLING INFORMATION

45. Sample source (e.g., drum, lagoon, pond, tank, vat, etc.): _____

Date Sampled: _____ Sampler's Name/Company: _____

46. Generator's Agent Supervising Sampling: _____ 47. ☐ No sample required (Provide rationale)

X. LAND DISPOSAL RESTRICTIONS INFORMATION

48. Identify ALL characteristic and listed EPA hazardous waste numbers that apply (as defined by 40 CFR 261). For each waste number, identify the subcategory (as applicable, check none, or write in the description from 40 CFR 268.41, 268.42, and 268.43).

REF #	A. EPA HAZARDOUS WASTE CODE(S)	B. SUBCATEGORY ENTER THE SUBCATEGORY DESCRIPTION IF NOT APPLICABLE CHECK NONE		C. APPLICABLE TREATMENT STANDARDS			D. HOW MUST THE WASTE BE MANAGED? ENTER THE APPROPRIATE LETTER (A-O) FROM BELOW
				PERFORMANCE-BASED (CHECK AS APPLICABLE)		SPECIFIED TECHNOLOGY IF APPLICABLE ENTER THE CFR 268.42 TABLE 1 TREATMENT CODE(S)	
		DESCRIPTION	NONE	268.41(a)	268.43(a)	268.42	
1							
2							
3							
4							
5							
6							

WASTE PROFILE #:_____

To list additional EPA waste numbers and categories, use additional page and check here: _____

Management under the land disposal restrictions:

A. RESTRICTED WASTE REQUIRES TREATMENT? ☐ No ☐ Yes

B.1. RESTRICTED WASTE TREATED TO PERFORMANCE STANDARDS? ☐ NO ☐ Yes Method _____

B.2. RESTRICTED WASTES FOR WHICH THE TREATMENT STANDARD IS EXPRESSED AS A SPECIFIED TECHNOLOGY (AND THE WASTE HAS BEEN TREATED BY THAT TECHNOLOGY) ☐ NO ☐ Yes Method ____

B.3. GOOD FAITH ANALYTICAL CERTIFICATION FOR INCINERATED ORGANICS? ☐ NO ☐ Yes Method _____

C. RESTRICTED WASTE SUBJECT TO A VARIANCE? ☐ No ☐ Yes Date/Type _____

D. RESTRICTED WASTE CAN BE LAND DISPOSED WITHOUT FURTHER TREATMENT? ☐ No ☐ Yes

XI. DOT INFORMATION

In accordance with the Department of Transportation 49 CFR Parts 171 through 177, complete the following:

49. DOT Proper Shipping Name: _____

50. DOT Hazard Class: _____

51. DOT UN or NA Number: _____

52. Container Label(s): _____

(For containers of 110 gallons or less)

Additional Description _____

53. Placards: _____

Generator's hazardous waste shipments must also comply with the labeling requirements of RCRA 40 CFR Part 262.

54. Is this waste a soil and/or debris? No: ___ Yes, Soil: ___ Yes, Debris: ___ Yes, Both: ___

55. COMPLETE ONLY FOR WASTES INTENDED FOR FUELS OR INCINERATION

	TOTAL	
Antimony as Sb	_____	ppm
Beryllium as Be	_____	ppm
Potassium as K	_____	ppm
Sodium as Na	_____	ppm
Bromine as Br	_____	*ppm/%
Chlorine as Cl	_____	*ppm/%
Fluorine as F	_____	*ppm/%
Sulfur as S	_____	*ppm/%

* Indicate ppm or %.

56. RECLAMATION, FUELS OR INCINERATION PARAMETERS (Provide if information is available)

RANGE

A. Heat Value (BTU/lb.) _____ _____

B. Water: _____

C. Viscosity (cps): _____ @ _____°F ____100°F _____150°F

D. Ash: _____%

E. Settleable solids: _____%

F. Vapor Pressure @ STP (mm/Hg): _____

G. Is this waste a pumpable liquid? ☐ No ☐ Yes

H. Can this waste be heated to improve flow? ☐ No ☐ Yes

I. Is this waste soluble in water? ☐ No ☐ Yes

J. Particle size: Will the solid portion of this waste pass through a 1/8-inch screen: ☐ No ☐ Yes

57. Special Handling Information _____

WASTE PROFILE #:_____

ACCOUNTABILITY STATEMENT

58. I hereby certify that all information submitted in this and all attached documents contains true and accurate descriptions of this waste. Any sample submitted is representative as defined in 40 CFR 261 Appendix I or by using an equivalent method. All relevant information regarding known or suspected hazards in the possession of the generator has been disclosed. I authorize (_____) to obtain a sample from any waste shipment for purposes of recertification.

Authorized Signature	Printed (or typed) Name and Title	Date

Proceed to Part Three

PART THREE: CHECKLIST

	Yes	No	Comments
1. Facility Description			
a. Are all processes that generate hazardous waste identified?			
b. Is sufficient information provided for each process to confirm that all hazardous wastes are identified?			
c. Have all hazardous waste management units been identified?			
d. Are descriptions of all hazardous waste management units provided?			
e. Have all hazardous and solid wastes been identified for each unit?			
f. Have the methods of waste management (e.g., stabilization) been described for each unit?			
g. Are process design limitations defined for each hazardous waste management unit?			
h. Have operational acceptance limits been established for each hazardous waste management unit?			
i. Are procedures in place to determine whether wastes are outside of their respective acceptance ranges?			
j. Do operational acceptance limits include applicable regulatory restrictions?			
2. Selecting Waste Parameters			
a. Are parameters for waste analysis identified (and, if applicable, included in the WAP)?			
b. Does the WAP identify a rationale for the selection of each waste analysis parameter?			
c. Does the WAP include parameters for the special waste analysis requirements in 40 CFR §§264/265.17, 264/265.314, 264/265.341, 264/265.1034(d), and 266.102(b), if applicable?			

Part Three (continued)
Checklist

	Yes	No	Comments
d. Have operational acceptance limits been defined as they relate to waste properties and process?			
e. Do operational acceptance limits include regulatory restrictions?			
f. Do waste analysis parameters address applicable operational acceptance limits?			
3. Selecting Sampling Procedures			
a. Has the number of sampling locations been identified?			
b. Are sampling procedures for each waste type identified?			
c. Are descriptions and justifications provided for any modified or non-standard procedures, as approved by EPA?			
d. Have decontamination procedures for sampling equipment been developed?			
e. Have sampling strategy techniques (e.g., grab, composite) been specified?			
f. Are procedures for sampling multi-phase wastes (if applicable) addressed?			
g. Has all sampling equipment been identified?			
h. Have the number and types of sampling containers been specified?			
i. Have sample preservation techniques been specified?			
j. Are sampling quality assurance and quality control procedures identified?			
k. Are proper packing and shipping procedures documented?			
l. Have procedures for the maintenance of all sampling equipment been documented?			
m. Are the precision and accuracy of sampling equipment stipulated?			
n. Are health and safety procedures for the protection of sampling personnel specified?			

Part Three (continued)
Checklist

	Yes	No	Comments
4. Selecting A Laboratory And Laboratory Testing And Analytical Methods			
a. Are laboratory and analytical methods specified for each waste managed at the facility? If not, is other information (i.e., acceptable knowledge) used to demonstrate waste analysis?			
b. Has a rationale been specified for each analytical and test method?			
c. Do the selected analytical methods meet all regulatory requirements for the identification of each hazardous waste (e.g., each hazardous waste characteristic)?			
d. Are descriptions and justifications provided for any modified or non-standard methods, as approved by EPA?			
e. Have chain-of-custody procedures for samples been specified (if necessary)?			
f. Does the laboratory have an adequate QA/QC program?			
g. Have QA/QC procedures for each analytical procedure been identified?			
5. Selecting Waste Re-Evaluation Frequencies			
a. Have site-specific criteria for waste re-evaluations been specified?			
b. Is re-evaluation accomplished with adequate frequency?			
c. Are mechanisms in place for re-evaluating the sampling program each time the waste-generating processes change?			
d. Do the re-evaluation procedures specify criteria for the acceptance of wastes received from off-site generators?			
e. Do you notify off-site facilities (i.e., treatment, storage, and/or disposal facilities) of changes in waste characterizations due to process changes or other factors?			

Part Three (continued)
Checklist

	Yes	No	Comments
6. Special Procedural Requirements, Where Applicable			
a. Are procedures in place to verify the sources of the information provided from off-site generators or TSDFs (if applicable)?			
b. Have criteria been established for the preacceptance procedures of wastes based on information from off-site generators or TSDFs?			
c. Are procedures for waste inspections in place?			
d. Have fingerprint analysis parameters been developed?			
e. Have criteria been established for the acceptance of wastes based on the results of fingerprint analysis?			
f. Is there a methodology for identifying ignitable, incompatible, or reactive wastes?			
g. Are procedures in place to conduct testing to determine whether wastes are incompatible with each hazardous waste management unit on site?			
h. Have all wastes restricted under the LDRs been identified?			
i. Are procedures in place to ensure that wastes meet applicable LDR treatment standards prior to land disposal?			

Proceed to Part Four

Appendix C
Table C-1
Waste Analysis Data Flow Responsibilities

Scenario	Notification[1]			Certification[2]	
	Notifies Whom?	How Often?	Summary of Notification Responsibilities	Certifies to Whom?	How Often?
Generator manages a restricted waste that does not meet the treatment standards/prohibition levels; sends it off site for storage or treatment (40 CFR §268.7(a)(1))	Treatment, storage, or recycling facility	With each shipment	• EPA hazardous waste code(s) • Corresponding concentration-based or technology-based treatment standards, or prohibition level • Manifest number • Waste analysis data	N/A[3]	N/A
Generator manages a restricted waste, and determines that the waste can be land disposed without further treatment (40 CFR §268.7(a)(2))	Storage, recycling, or disposal facility	With each shipment	• EPA hazardous waste code(s) • Corresponding concentration-based or technology-based treatment standards, or prohibition level • Manifest number • Waste analysis data	TSD facility	With each shipment
Generator's waste is subject to a case-by-case extension under §268.5, exemption under §268.6, or a nationwide variance under (40 CFR §268.7(a)(3))	Facility receiving waste (MTR unit)	With each shipment	• EPA hazardous waste code(s) • Corresponding concentration-based or technology-based treatment standards, or prohibition level • Manifest number • Waste analysis data • The date the waste is subject to the prohibitions • Statement that waste is not prohibited from land disposal	N/A	N/A
Small quantity generator (100-1,000 kg/month) subject to tolling agreement pursuant to 40 CFR §262.20(e), (40 CFR §268.7(a)(10)	Recycling facility	With initial shipment	• EPA hazardous waste code(s) • Corresponding concentration-based or technology-based treatment standards, or prohibition level • Manifest number • Waste analysis data	N/A	N/A

[1] A full description of the notification responsibilities is documented in 40 CFR §268.7

[2] Certifications requirements are presented in 40 CFR §268.7

[3] N/A denotes not applicable

Appendix C
Table C-1
Waste Analysis Data Flow Responsibilities (continued)

Scenario	Notification[1] Notifies Whom?	Notification[1] How Often?	Summary of Notification Responsibilities	Certification[2] Certifies to Whom?	Certification[2] How Often?
Generator sending lab pack containing restricted wastes, and is applying alternate lab pack standard in 40 CFR §268.42, Appendix IV or V (40 CFR §268.7(a)(8) and (a)(9))	Treatment or storage facility	With each shipment	• All EPA hazardous waste codes • Five letter technology code: INCIN • Manifest number • Waste analysis data	Treatment or storage facility	With each shipment
TSD facilities sending restricted waste off-site for additional treatment or storage (40 CFR §268.7(b)(6))	Must meet same notification and certification requirements applicable to generators				
Treatment facilities sending restricted wastes off site to land disposal facilities (LDFs) (40 CFR §268.7(b)(4))	Land disposal facility	With each shipment	• EPA hazardous waste code(s) • Corresponding concentration-based or technology-based treatment standards, or prohibition level • Manifest number • Waste analysis data	Land disposal facility	With each shipment
Generator or TSD facility sending characteristic waste that has been rendered non-hazardous to a subtitle D land disposal facility (40 CFR §268.9)	Regional Administrator or authorized State	One time[4]	• Name and address of subtitle D facility • Description of waste, as generated • Concentration-based or technology-based treatment standards or prohibition level applicable to waste at time of generation	Regional Administrator or authorized State	One time[4]

[1] A full description of the notification responsibilities is documented in 40 CFR §268.7

[2] Certifications requirements are presented in 40 CFR §268.7

[3] N/A denotes not applicable

[4] This requirement reflects changes in the LDR Phase I Rule (57 FR 37271, August 18, 1992)

Historical Spill Scenario

"Putting the pieces together"

Steve Morton

Gail Woodside

Davis Ford

Marianne Baker

R. STEVEN MORTON

Mr. Morton, a Partner in Brown McCarroll & Oaks Hartline's Environmental Law Section, represents clients on a broad range of environmental issues before the Texas Natural Resource Conservation Commission, the Texas Railroad Commission, and the United States Environmental Protection Agency. Mr. Morton's practice includes advising clients on environmental compliance issues, obtaining necessary environmental permits, defending against government or third-party private claims before administrative agencies and courts, and assisting clients on regulatory and statutory developments before administrative agencies and the Texas Legislature. Mr. Morton's experience includes work on issues involving industrial and oil and gas waste management, including remediation, Superfund, underground storage tanks, underground injection disposal wells, water quality, wetlands, and air quality. Mr. Morton also serves as General Counsel to the Industry Council on the Environment, a trade association of corporations in the transportation, communications, petroleum refining/marketing and utility industries. Mr. Morton received his Doctor of Jurisprudence at Vanderbilt University School of Law and his Bachelor of Science in Environmental Studies at Allegheny College. He has also completed graduate course work towards a Masters Degree in Hydrogeology at the University of Texas at Austin. Most recently, Mr. Morton served as editor for the ABA publication "What To Do When the Environmental Client Calls."

RECENT DEVELOPMENTS IN GROUNDWATER REMEDIATION REQUIREMENTS: TNRCC RISK REDUCTION RULES AND EPA GUIDANCE ON TECHNICAL IMPRACTICABILITY

Presented at the
Sixth Annual Texas Environmental Superconference
August 4-5, 1994
by Steve Morton
Brown McCarroll & Oaks Hartline

At the National Groundwater Protection Association annual meeting held in Denver, Colorado several months ago, some interesting statistics concerning the cost of groundwater remediation and the rate at which it is occurring in this country were presented. Currently in the United States there are an estimated 400,000 sites that have impacted groundwater. It is estimated that between one-half to three trillion dollars will need to be spent to remediate all of these sites to currently applicable remediation goals. At Superfund sites, where groundwater restoration is often the cleanup goal imposed, the estimated cost of removal of contaminants from groundwater is $22,000 per pound of contaminants. As a result of these sobering statistics, Congress is being challenged in the current legislative session to reauthorize the Superfund law in a manner that will result in cleanup activity that more efficiently achieves reasonably protective cleanup goals, instead of technically unattainable goals.

Industry, the public and importantly, Congress, now have the benefit of over 20 years of significant experience with groundwater remediation techniques. In the last five years, a growing number of groundwater scientists, as well as many regulated entities and environmental agency staff, have recognized that many groundwater contamination sites may simply not be physically capable of being restored in reasonable time frames, no matter how extensive or expensive the remedy selected. Until recently, however, there has been little guidance from the Environmental Protection Agency (EPA) defining when resources no longer need to be spent attempting to fully restore groundwater at sites where such a goal is technically impracticable.

In October of 1993, EPA published a guidance document entitled "Guidance for Evaluating the Technical Impracticability of Groundwater Restoration." (OSWER Directive 9234.2-25) ("Guidance Document") This document sets out criteria that EPA will use to judge whether a remedy must completely remove contaminants from an impacted aquifer or whether, due to technical infeasibility, the remedy may consist of alternative activities, such as containment and monitoring. A copy is attached to this paper as Attachment A.

A. Applicability of the Guidance Document

This Guidance Document applies to Superfund sites and RCRA corrective action sites. However, EPA indicates that this document is not applicable to remediation of groundwater contaminated by releases from "regulated" hazardous waste units (i.e., those that received hazardous waste after June of 1982). See Guidance Document, page 1. Although dense non-aqueous phase liquids (DNAPLs) are an excellent example of contaminants that are difficult to remove from groundwater aquifers due to their physical characteristics, EPA makes it clear that this memorandum does not apply solely to DNAPLs. See Guidance Document, page 6.

B. Regulatory Basis for a Technical Impracticability (TI) Waiver Under RCRA

Perhaps the most common usage of this Guidance Document will be in the RCRA corrective action context. EPA published proposed RCRA corrective action rules in 1990. ("Proposed Rules") These Proposed Rules, which are being used as guidance by the EPA, currently specify health-based cleanup goals for air, soil and groundwater. In addition, the Proposed Rules provide a waiver from these cleanup levels where remediation of releases to the designated media cleanup standards is "technically impracticable." Under the Proposed Rules, a finding of technical impracticability is based on a showing by the owner or operator that no groundwater restoration technologies exist to achieve designated media cleanup standards in a manner that is feasible or reliable from an engineering perspective. In addition, technical impracticability can be found where remediation may be "technically possible but the scale of the operations required might be of such a magnitude and complexity that the alternative would be impracticable." See 55 Fed. Reg. 30830, July 27, 1990.

C. Criteria

EPA's Guidance Document provides additional explanations of the procedures and criteria that EPA will follow and evaluate in granting such a waiver. EPA (or the State agency if it has been delegated this function) will make a technical impracticability determination based on information supplied by the owner or operator. This determination will be made based on site-specific characterization data and, where appropriate, remedy performance data. The owner/operator is required to collect, analyze and present data so that the engineering feasibility and reliability of groundwater restoration are fully addressed in a concise and logical manner. This information must include the following:

1. Specific media cleanup standards for which TI determinations are sought.

2. The spatial area over which the TI decision will apply.

3. A conceptual model that describes site geology, hydrology, groundwater contamination sources, transport and fate.

4. An evaluation of the restoration potential of the site, including data and analyses that support any assertion that attainment of media cleanup standards is technically impracticable from an engineering perspective. At a minimum, this should generally include:

a. A demonstration that contamination sources have been identified and have been or will be removed and contained to the extent practicable.

b. An analysis of the performance of any ongoing or completed remedial actions.

c. Predictive analyses of the time frames to attain required cleanup levels using available technologies.

5. Demonstration that no other remedial technologies (conventional or innovative) could reliably, logically, or feasibly attain the cleanup levels at the site within a reasonable time frame.

6. Estimates of the cost of the existing or proposed remedy options, including construction, operation and maintenance.

D. Alternative Remedial Strategies

In the event that EPA or an authorized State agency determines that groundwater restoration is technically impracticable, the agency will specify alternative remedial strategies that are technically practicable, protective of human health and the environment, and that satisfy the statutory and regulatory requirements of applicable programs. EPA recommends in the Guidance Document that owners and operators supply EPA with alternative remedies as part of this technical impracticability demonstration.

Alternative remedial strategies will generally be required to address three factors:

1. Exposure control

2. Source control

3. Aqueous plume remediation (including containment and/or remediation if practicable)

Importantly, the Guidance Document indicates that EPA may choose "natural attenuation" as a component of the remedy for the aqueous plume, particularly where affected groundwater is not a current or reasonably expected future source of drinking water and the groundwater discharge does not significantly impact surface water or ecological resources.

E. Administrative Issues

States authorized for HSWA corrective action authority (as in Texas) are authorized to utilize the Guidance Document. See Guidance Document, page 24. At RCRA permitted facilities, implementation of a technical impracticability determination will generally require a Class III permit modification for the purpose of specifying alternative corrective measures. Id. The Guidance Document states that the technical impracticability waiver can be determined either when a final site decision document is being developed or after remedy implementation and monitoring have occurred for a period of time. In the event that an owner/operator wishes to make this demonstration prior to remedy selection, EPA stresses that full site characterization will be required, including the nature and extent of contamination sources and aquifer characteristics (including heterogeneity and fracturing).

F. TNRCC Considerations

Prior to the adoption of its Risk Reduction Rules, the TNRCC's general policy was to require cleanup of soil and groundwater to non-detect or background concentrations. With the advent of the Risk Reduction Rules, the TNRCC has recognized that in certain circumstances, achievement of less stringent cleanup goals can also be protective of human health and the environment. Although the TNRCC's Risk Reduction Rules were promulgated prior to the publication of EPA's Guidance Document, the TNRCC's rules make allowances for technical impracticability.

Under TNRCC's Risk Reduction Rules, three different levels of cleanup standards can be achieved with varying degrees of post-closure care involved. Under Standard 1, cleanup to non-detect or background levels alleviates any ongoing obligation to conduct post-closure care activities, including deed recordation. Under Standard 2, cleanup to conservative, TNRCC approved, health-based levels allows the responsible party to avoid all post-closure care requirements, except recording the existence of contamination in the deed records for the facility. Under Standard 3, cleanup to less restrictive site specific levels shown to be protective of human health and the environment requires the responsible person to institute and maintain ongoing engineering or institutional controls over the residual contamination and requires deed recordation.

Under the provisions of Standard 3, owners or operators of facilities may demonstrate to the Executive Director that restoration of the groundwater to maximum contaminant levels or other health-based levels is technically impracticable. See 30 Tex. Admin. Code § 335.563(h)(3)(B). Consistent with EPA's technical impracticability Guidance Document, the TNRCC's Risk Reduction Rules provide that if a determination is made that restoration is technically impracticable, the Executive Director

may require any alternative measures or cleanup levels that are necessary to protect human health and the environment. 30 Tex. Admin. Code § 335.563(h)(4). This same provision specifically addresses NAPLs: "At a minimum, for all cases described in this subsection, phase separated non-aqueous liquids shall be removed from groundwater zones to the extent practicable." Id.

Under Risk Reduction Standard No. 2, the TNRCC distinguishes between residential and nonresidential groundwater. In residential scenarios, no allowance is provided for technical impracticability. Even phase separated non-aqueous liquids must be removed or decontaminated. See 30 Tex. Admin. Code § 335.559(d)(1). For nonresidential scenarios, some allowance is given for phase separated non-aqueous liquids, but not other types of contaminants. Phase separated non-aqueous liquids must be removed or decontaminated only "to the extent practicable." See 30 Tex. Admin. Code § 335.559(d)(2).

The TNRCC has appointed an internal committee (the Risk Reduction Policy Committee) to further identify criteria for defining technical impracticability. This committee is chaired by Dan Eden and John Young and is divided into several work groups on the following topics:

1. Risk assessment
2. Risk management
3. Sampling
4. Modelling
5. Training
6. Ecological concerns

Each of these subgroups has been meeting and are scheduled to return suggestions to the committee. Until criteria are defined (probably not until after October of this year), the TNRCC will evaluate technical impracticability on a case-by-case basis.

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ATTACHMENT A

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

OCT 4 1993

OFFICE OF
SOLID WASTE AND EMERGENCY
RESPONSE

MEMORANDUM

SUBJECT: Transmittal of OSWER Directive 9234.2-25: "Guidance for Evaluating the Technical Impracticability of Ground-Water Restoration"

FROM: Richard J. Guimond
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PURPOSE

The purpose of this memorandum is to transmit the OSWER Directive on evaluating the technical impracticability of ground-water restoration. This guidance will apply to both the RCRA Corrective Action and Superfund programs.

BACKGROUND

Restoration of contaminated ground water is one of the primary objectives of both the Superfund and RCRA Corrective Action programs, as ground water contamination is present at over 85% of Superfund National Priorities List (NPL) sites and a large number of RCRA facilities. While both programs have had a great deal of success reducing the immediate threats posed by contaminated ground water, experience over the past decade has shown that achieving the required final cleanup standards may not be practicable at some sites due to the limitations of remediation technology. The Technical Impracticability (TI) Workgroup was formed to address the issue of how to determine whether ground-water cleanup goals are technically achievable at

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a particular site, and how to establish an alternative, protective cleanup strategy where restoration is determined to be technically impracticable.

The technical challenges to remediating contaminated ground water include many complex factors related to site hydrogeology and chemistry. One of the most difficult of these challenges is the problem presented by DNAPL (dense, nonaqueous phase liquid) contamination. DNAPLs include such diverse organic compounds as chlorinated solvents, PCBs, creosote, and certain pesticides. These compounds, which a recent EPA study indicates may be present as DNAPLs at up to 60% of NPL sites, are often very difficult to locate and remove from the subsurface environment and may continue to contaminate ground water for many hundreds of years despite best efforts to remediate them. The prevalence and intractability of DNAPL contamination are among the principal reasons this guidance was developed by EPA.

OBJECTIVE

Use of this guidance will provide the basis for EPA to determine whether ground-water restoration is technically impracticable, as well as for establishing alternative remedial strategies at such sites. As this guidance applies to both RCRA and Superfund, it will also promote consistency between the two programs. Specifically, the guidance provides:

- Clarification of the regulatory basis for TI determinations;
- A recommended approach for the management and remediation of sites contaminated by DNAPLs;
- Recommendations for the data and analyses necessary for TI evaluations;
- Expectations and recommendations for establishing alternative remedial strategies where ground-water restoration is technically impracticable; and
- A discussion of the TI evaluation and decision process, and of other administrative issues.

You will notice several important messages as you review the guidance that are worth highlighting here:

This guidance does not signify a scaling back of EPA's efforts to restore contaminated ground water. Rather it promotes a careful, technically sound approach to determine if critical limitations to ground-water restoration exist at a particular facility. Where ground-water restoration is technically impracticable EPA will select an alternative remedial strategy

that will ensure protection of human health and the environment.

EPA may make TI decisions either after a full-scale remedy has been implemented and operated for a period of time, or, in what is anticipated to be a smaller number of cases, before a final remedy decision document has been signed. Where the decision is made during the operation of a remedy, EPA expects the existing remedy to have been rigorously monitored, and modified or enhanced where appropriate to demonstrate that best efforts have been made to achieve the required cleanup levels. Where EPA is evaluating TI prior to remedy implementation, site characterization efforts must be especially thorough and must clearly and convincingly demonstrate that the attainment of cleanup levels is not practicable.

The guidance promotes the use of a phased approach to site remediation, particularly where a moderate to high level of uncertainty exists regarding the potential outcome of restoration efforts. Early actions to control plume migration and remove contaminant sources are encouraged as part of this strategy. Such actions, where properly designed and monitored, can not only reduce risks posed by contaminated ground water, but also provide information useful in evaluating the restoration potential of the site.

Use of language in final remedy decision documents which addresses the uncertainty in achieving required cleanup levels is appropriate in certain cases. However, language that identifies a TI decision (e.g., an ARAR waiver) as a future contingency of the remedy is discouraged. Such language (e.g., a contingency for an ARAR waiver) is not necessary, as a TI evaluation may be performed (and a decision made) by EPA at any site regardless of whether such a contingency is provided in the decision document.

It is important to note that where such contingency language has been used in an existing decision document, the demonstration required to justify a TI decision should be consistent with that recommended in this guidance.

As sites with extensive DNAPL contamination are more likely to involve an evaluation of TI, the guidance also provides a brief discussion of DNAPL contamination, as well as strategies for characterizing and remediating such sites. The approach recommended includes locating and removing subsurface DNAPL sources where practicable and in general, where significant reduction of current or future risk will result. DNAPL sources that cannot practicably be removed generally should be contained to limit further contamination of ground water. In such cases, remediation goals in the aqueous contaminant plume (as opposed to the DNAPL source areas) will depend on the effectiveness of source area containment and the particular circumstances of the site. Where practicable, EPA expects to restore those portions

of the aqueous plume which lie outside of DNAPL containment areas to required cleanup levels.

IMPLEMENTATION

This guidance should be carefully considered by all staff involved in the management of Superfund sites or RCRA facilities with ground-water contamination; its content is relevant to all phases of ground-water cleanup.

Further, copies of the guidance should be forwarded by Regional management to the appropriate personnel in State agencies. EPA should involve the appropriate State agencies as early in the TI evaluation and decision process as possible, since State ground-water resource management considerations (e.g., aquifer classification and wellhead protection areas) may heighten concern about TI decisions and the long-term management strategy chosen at sites where restoration is technically impracticable.

TI evaluations will generally require specialized expert analysis of technical data. Thus, Regional decision makers are encouraged to involve technical personnel as part of a site review team as early as possible in the TI decision process. Technical assistance should be sought first from Regional staff hydrogeologists and engineers. However, Regional resources may be augmented through the Technical Support Project, by which scientists from the Office of Research and Development laboratories provide assistance for site-specific technical evaluations. Requests for support may be routed through a Regional ORD scientist (where available), or through the Technical Support Project manager in the appropriate laboratory.

Additional support for site-specific reviews may also be obtained from Headquarters staff. Regional personnel with such requests or questions on the attached guidance should contact Peter Feldman at (703) 603-8768 (Superfund), or Guy Tomassoni at (703) 308-8622 (RCRA).

Attachment

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Directive 9234.2-25
September 1993

Guidance for Evaluating the Technical Impracticability of Ground-Water Restoration

Interim Final

Office of Solid Waste and Emergency Response
U.S. Environmental Protection Agency
Washington, DC 20460

Notice

The policies set out in this document are intended solely as guidance to U.S. Environmental Protection Agency (EPA) personnel; they are not final EPA actions and do not constitute rulemaking. These policies are not intended, nor can they be relied upon, to create any rights enforceable by any party in litigation with the United States. EPA officials may decide to follow the guidance provided in this document, or to act at variance with the guidance, based on an analysis of specific site circumstances. EPA also reserves the right to change this guidance at any time without public notice.

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1.0 Introduction

1.1 Background

Restoration[1] of contaminated ground waters is one of the primary objectives of both the Superfund and RCRA Corrective Action programs. Ground-water contamination problems are pervasive in both programs; over 85 percent of Superfund National Priorities List (NPL) sites and a substantial portion of RCRA facilities have some degree of ground-water contamination. The Superfund and RCRA Corrective Action programs share the common purposes of protecting human health and the environment from contaminated ground waters and restoring those waters to a quality consistent with their current, or reasonably expected future, uses.

The National Contingency Plan (NCP), which provides the regulatory framework for the Superfund program, states that:

> "EPA expects to return usable ground waters to their beneficial uses wherever practicable, within a timeframe that is reasonable given the particular circumstances of the site" (NCP §300.430(a)(1)(iii)(F)).

Generally, restoration cleanup levels in the Superfund program are established by applicable or relevant and appropriate requirements (ARARs), such as the use of Federal or State standards for drinking water quality. Cleanup levels protective of human health and the environment are identified by EPA where no ARARs for particular contaminants exist (see Section 4.1.1).

The RCRA Corrective Action program for releases from solid waste management facilities (see 40 CFR 264.101)[2] requires a facility owner/operator to:

> "...institute corrective action as necessary to protect human health and the environment for all releases of hazardous waste or constituents from any solid waste management unit..."

The goal of protectiveness is further clarified in the Preamble to the Proposed Subpart S to 40 CFR 264:

> "Potentially drinkable ground water would be cleaned up to levels safe for drinking throughout the contaminated plume, regardless of whether the water was in fact being consumed... Alternative levels protective of the environment and safe for other uses could be established for ground water that is not an actual or reasonably expected source of drinking water."[3]

While both programs have had a great deal of success reducing the immediate threats posed by contaminated ground waters, experience over the past decade has shown that restoration to drinking water quality (or more stringent levels where required) may not always be achievable due to the limitations of available remediation technologies (EPA 1989b, 1992d). EPA, therefore, must evaluate whether ground-water restoration at Superfund and RCRA ground-water cleanup sites is attainable from an engineering perspective. **This document outlines EPA's approach to evaluating the technical impracticability of attaining required ground-water cleanup levels and establishing alternative, protective remedial strategies where restoration is determined to be technically impracticable.**

Many factors can inhibit ground-water restoration. These factors may be grouped under three general categories:

- Hydrogeologic factors;
- Contaminant-related factors; and
- Remediation system design inadequacies.

Hydrogeologic limitations to aquifer remediation include conditions such as complex sedimentary deposits; aquifers of very low permeability; certain types of

1 For this guidance, "restoration" refers to the reduction of contaminant concentrations to levels required under the Superfund or RCRA Corrective Action programs. For ground water currently or potentially used for drinking water purposes, these levels may be Maximum Contaminant Levels (MCLs) or non-zero Maximum Contaminant Levels Goals (MCLGs) established under the Safe Drinking Water Act; State MCLs or other cleanup requirements; or risk-based levels for compounds not covered by specific State or Federal MCLs or MCLGs. Other cleanup levels may be appropriate for ground waters used for non-drinking water purposes.

2 At this time, this guidance is not applicable to corrective actions for releases from Subpart F regulated units that are subject to corrective actions under 40 CFR 264.91-264.100.

3 "Corrective Action for Solid Waste Management Units (SWMUs) at Hazardous Waste Management Facilities," 55 FR 30798-30884, July 27, 1990, Proposed Rules, is currently used as guidance in the RCRA Corrective Action program. When final regulations under Subpart S are promulgated, certain aspects of this guidance pertaining to the RCRA program may need to be revised to reflect new regulatory requirements.

fractured bedrock; and other conditions that presently make extraction or *in situ* treatment of contaminated ground water extremely difficult (Figure 1).

Contaminant-related factors, while not independent of hydrogeologic constraints, are more directly related to contaminant properties that may limit the success of an extraction or *in situ* treatment process. These properties include a contaminant's potential to become either sorbed onto, or lodged within, the soil or rock comprising the aquifer. Nonaqueous phase liquids (NAPLs) are examples of contaminants that may pose such technical limitations to aquifer restoration efforts. NAPLs that are denser than water (DNAPLs) often are particularly difficult to locate and remove from the subsurface; their ability to sink through the water table and penetrate deeper portions of aquifers is one of the properties that makes them very difficult to remediate (Figure 1).

The widespread use of DNAPLs in manufacturing and many other sectors of the economy prior to the advent of safe waste-management practices has led to their similarly widespread occurrence at ground-water contamination sites. Most of the sites where EPA already has determined that ground-water restoration is technically impracticable have DNAPLs present. The potential impact of DNAPL contamination on attainment of remediation goals is so significant that EPA is developing specific recommendations for DNAPL site management; the key elements of this strategy are presented in Section 3.0 below.

The third factor that may limit ground-water restoration is inadequate remediation system design and implementation. Examples of design inadequacies in a ground-water extraction system include an insufficient number of extraction points (e.g., ground water or vapor extraction wells) or wells whose locations, screened intervals, or pumping rates lead to an inability to capture the plume. Design inadequacies may result from incomplete site characterization, such as inaccurate measurement of hydraulic conductivity of the affected aquifer or not considering the presence of NAPL contamination. Poor remediation system operation, such as excessive downtime or failure to modify or enhance the system to improve performance, also may limit the effectiveness of restoration efforts. **Failure to achieve desired cleanup standards resulting from inadequate system design or operation is not considered by EPA to be a sufficient justification for a determination of technical impracticability of ground-water cleanup.**

1.2 Purpose of the Guidance

This guidance clarifies how EPA will det ne whether ground-water restoration is techr. ly practicable and what alternative measures ac must be undertaken to ensure that the fin m s protective of human health and the envir er Topics covered include the types of tec l and analyses needed to support EPA's ev atio a particular site and the criteria used to m a determination. As technical impracticability decisio are part of the process of site investigati emedy selection, remedial action, and evaluation remedy performance, the guidance also briefly discusses the overall framework for decision making during these phases of site cleanup.

This guidance does not signal a scaling back of EPA's efforts to restore contaminated ground waters at Superfund sites and RCRA facilities. Rather, EPA is promoting the careful and realistic assessment of the technical capabilities at hand to manage risks posed by ground-water contamination. This guidance provides consistent guidelines for evaluating technical impracticability and for maintaining protectiveness at sites where ground water cannot be restored within a reasonable timeframe. EPA will continue to conduct, fund, and encourage research and development in the fields of subsurface assessment, remediation, and pollution prevention so that an ever decreasing number of sites will require the analysis described in this document.

2.0 Ground-Water Remedy Decision Framework

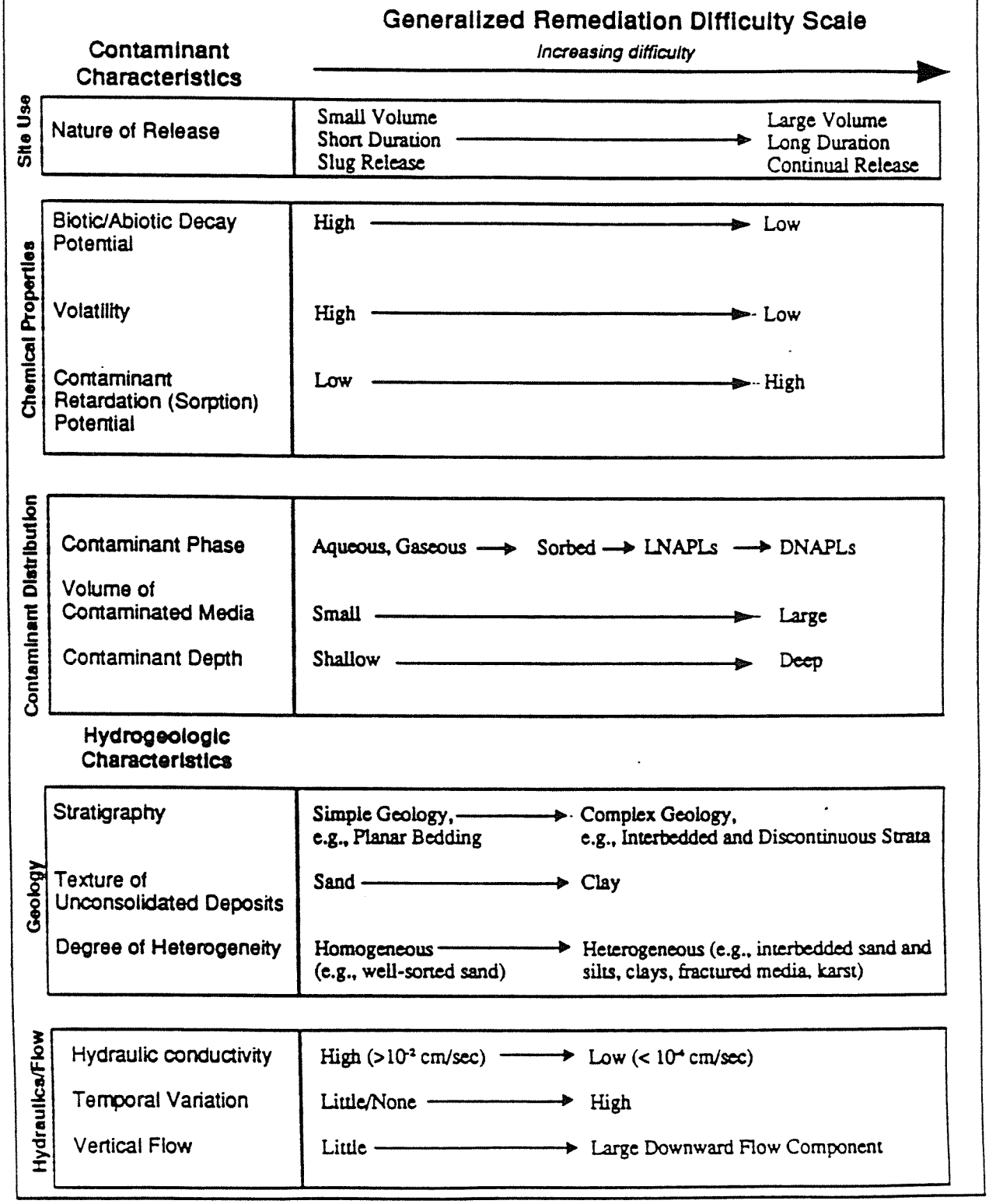
2.1 Use of the Phased Approach

At sites with very complex ground-water contamination problems, it may be difficult to determine whether required cleanup levels are achievable at the time a remedy selection decision must be made. This is especially true when such decisions must be based on site data collected prior to implementation and monitoring of pilot or full-scale remediation systems. EPA recognizes this limitation and has recommended several approaches to reduce uncertainty during the site characterization, remedy selection, and remedy implementation processes (EPA 1989a, 1992a).

Determining the restoration potential of a site may be aided by employing a **phased approach** to site characterization and remediation. Each phase of site

Figure 1. Examples of Factors Affecting Ground-Water Restoration

Certain site characteristics may limit the effectiveness of subsurface remediation. The examples listed below are highly generalized. The particular factor or combination of factors that may critically limit restoration potential will be site specific.



characterization should be designed to provide information necessary for the next phase of characterization. Likewise, site remediation activities can be conducted in phases to achieve interim goals at the outset, while developing a more accurate understanding of the restoration potential of the contaminated aquifer. An example of how this approach might be applied at a site is provided below in Section 4.4.3.

The timing of phased cleanup actions (early, interim, final) should reflect the relative urgency of the action and the degree to which the site has been characterized. Early actions should focus on reducing the risk posed by site contamination (e.g., removal of contamination sources) and may be carried out before detailed site characterization studies have been completed. Interim remedial actions may abate the spread of contamination or limit exposure but do not fully address the final cleanup levels for the site. Interim actions generally will require a greater degree of site characterization than early actions. However, implementation of interim actions still may be appropriate prior to completion of site characterization studies, such as the Remedial Investigation/Feasibility Study (RI/FS) or RCRA Facility Investigation (RFI) and Corrective Measures Study (CMS). Final remedial actions must address the cleanup levels and other remediation requirements for the site and, therefore, must be based on completed characterization reports. Information from early and interim actions also should be factored into these reports and final remedy decisions.

Phasing of activities generally should not delay or prolong site characterization or remediation. In fact, such an approach may accelerate the implementation of interim risk reduction actions and lead more quickly to the development of achievable final remediation levels and strategies. A phased approach should be considered when there is uncertainty regarding the ultimate restoration potential of the site but also a need to quickly control risk of exposure to, or limit further migration of, the contamination.

It is critical that the performance of phased remedial actions (e.g., control of plume migration) be monitored carefully as part of the ongoing effort to characterize the site and assess its restoration potential. Data collection activities during such actions not only should be designed to evaluate performance with respect to the action's specific objectives but also contribute to the overall understanding of the site. In this manner, actions implemented early in the site remediation process can achieve significant risk reduction and lead to development of technically sound, final remedy decisions.

2.2 Documenting Ground-Water Remedy Decisions Under CERCLA

The phased approach to site characterization and remediation can be employed using the existing decision document options within the Superfund program.

2.2.1 Removal Actions

Removal authority can be used for early actions as part of a phased approach to ground-water cleanup and decision making and should be considered where early response to ground-water contamination is advantageous or necessary. Within the context of ground-water actions, removals are appropriate where contamination poses an actual or potential threat to drinking water supplies or threatens sensitive ecosystems. Examples of actions that might qualify for use of removal authority include removal of surface sources (e.g., drums or highly contaminated soils), removal of subsurface sources (e.g., NAPL accumulations, highly contaminated soils, or other buried waste), and containment of migrating ground-water contamination "hot spots" (zones of high contaminant concentration) or plumes to protect current or potential drinking water supplies.

Removals of subsurface sources most likely will be non-time-critical actions, although time-critical actions may be appropriate for removal of NAPL accumulations or other sources, depending on the urgency of the threat. Documentation requirements for removal actions include a Removal Action Memorandum and, for non-time critical actions, an Engineering Evaluation/Cost Analysis report.[4]

Removal actions must attain ARARs to the extent practicable, considering the exigencies of the situation. The urgency of the situation and the scope of the removal action may be considered when determining the practicability of attaining ARARs (NCP §300.415(i)). Standards or regulations typically used to establish ground-water cleanup levels for final actions (e.g., MCLs/MCLGs) may not be ARARs, depending on the scope of the removal. Further

4 See "Guidance on Conducting Non-Time Critical Removal Actions under CERCLA," OSWER Publication 9360.0-32, August 1993 (EPA 1993b).

information on removal actions may be found in other EPA guidances (EPA 1990b, 1991d).

2.2.2 Interim RODs

Interim RODs may be appropriate where there is a moderate to high degree of uncertainty regarding attainment of ARARs or other protective cleanup levels. As mentioned before, an interim action may be used to minimize further contaminant migration and reduce the risk of exposure to contaminated ground water. Interim actions include containment of the leading edge of a plume to prevent further contamination of unaffected portions of an aquifer, removal of source material, remediation of ground-water hot spots, and in some cases, installation of physical barriers or caps to contain releases from source materials. Interim actions should be monitored carefully to collect detailed information regarding aquifer response to remediation, which should be used to augment and update previous site characterization efforts. This information then can be used at a later date to develop final remediation goals and cleanup levels that more accurately reflect the particular conditions of the site.

It is important to note that for interim actions, ARARs must be attained only if they are within the scope of that action. For example, where an interim action will manage or contain migration of an aqueous contaminant plume, MCLs and MCLGs would not be ARARs, since the objective of the action is containment, not cleanup (although requirements such as those related to discharge of the treated water still would be ARARs, since they address the disposition of treated waste).

Furthermore, a requirement that is an ARAR for an interim action may be waived under certain circumstances. An "interim action" ARAR waiver may be invoked where an interim action that does not attain an ARAR is part of, or will be followed by, a final action that does (NCP §300.430(f)(1)(ii)(C)). For example, where an interim action seeks to reduce contamination levels in a ground-water hot spot, MCLs/MCLGs may be ARARs since the action is cleaning up a portion of the contaminated ground water. If, however, this interim action is expected to be followed by a final, ARAR-compliant action that addresses the entire contaminated ground-water zone, an interim action ARAR waiver may be invoked.

2.2.3 Final RODs

Where site characterization is very thorough and there is a moderate to high degree of certainty that cleanup levels can be achieved, a final decision document should be developed that adopts those levels. Conversely, in cases where there is a high degree of certainty that cleanup levels cannot be achieved, a final ROD that invokes a TI ARAR waiver and establishes an alternative remedial strategy may be the most appropriate option.[5] Note that for ROD-stage waivers, site characterization generally should be sufficiently detailed to address the data and analysis requirements for TI determinations set forth in this guidance.

2.2.4 ROD Contingency Remedies and Contingency Language

Where a moderate degree of uncertainty exists regarding the ability to achieve cleanup levels, a final ARAR-compliant ROD generally still is appropriate. However, the ROD may include contingency language that addresses actions to be taken in the event the selected remedy is unable to achieve the required cleanup levels (EPA 1990a, 1991a). The contingency language may include requirements to enhance or augment the planned remediation system as well as an alternative remedial technology to be employed if modifications to the planned system fail to significantly improve its performance. Use of language in final remedy decision documents that addresses the uncertainty in achieving required cleanup levels also is appropriate in certain cases. **However, language that identifies a TI decision (e.g., an ARAR waiver) as a future contingency of the remedy should be avoided.** Such language is not necessary, as a TI evaluation may be performed (and a decision made) by EPA at any site regardless of whether such a contingency is provided in the decision document.

Note that in cases of existing RODs that already include a contingency for invoking a TI ARAR waiver, the conditions under which the ARAR may be waived should be consistent with, and as stringent as, those presented in this guidance or a future update.

Furthermore, the fact that such contingency language has been included in an existing ROD does not alter the need to enhance or augment a remedy to improve its ability to attain ARARs before concluding that a waiver can be granted. It also

5 At sites where a TI ARAR waiver is invoked in the ROD, preparation of the pre-referral negotiation package ("mini-lit" package) must include analysis of the model Consent Degree language to ensure that appropriate consideration of the waiver's impact is incorporated.

should be noted that remediation must be conducted for a sufficient period of time before its ability to restore contaminated ground water can be evaluated. This minimum time period will be determined by EPA on a site-specific basis.

2.3 Documenting Ground-Water Remedy Decisions under RCRA

The instruments used for implementing the RCRA Corrective Action program (permits and orders) also are amenable to a phased approach to remedy selection and facility remediation. The RCRA program can use permits or orders to compel both interim measures and final remedies.

2.3.1. Permits/Orders Addressing Stabilization

RCRA permits or orders can require the stabilization of releases from solid waste management units (SWMUs) at the facility. The Stabilization Initiative focuses on taking interim actions to prevent the further spread of existing contamination and reduce risks. Examples of measures used for stabilization include capping, excavation, and plume containment. Since the long-term or final cleanup of the facility is not the objective of stabilization (although stabilization should be consistent with the final remedy), TI decisions are not applicable at this early stage. Information gained during stabilization should be used to help determine the restoration potential of the facility and the objectives of the final remedy.

2.3.2. Permits/Orders Addressing Final Remedies

Where achieving ground-water cleanup standards is determined by EPA to be technically impracticable, the permit or order addressing final remedies should include practicable and protective alternative remedial measures. EPA's decision to make a TI determination will be based on clear and convincing information provided by the owner/operator. EPA generally will seek public comment on TI determinations prior to implementation. EPA's preliminary TI determinations and justification for these determinations should be documented in a Statement of Basis. As discussed above, uncertainty in the ability to restore an aquifer should be reduced through phased characterization and the use of interim remedial measures, where appropriate.

Permits and orders that address "final" remedies should specify the remediation cleanup levels selected by the implementing Agency. Such permits and orders, however, generally should not incorporate contingency TI language. The permit or order will need to be modified to document the TI determination and to specify, as appropriate, alternative cleanup levels and alternative remedial measures that have been determined to be technically practicable and protective of human health and the environment.

3.0 Remedial Strategy for DNAPL Sites

Many of the subsurface contaminants present at Superfund sites and RCRA facilities are organic compounds that are either lighter-than-water NAPLs (LNAPLs) or DNAPLs. As mentioned in Section 1.1, the presence of NAPL contamination, and in particular DNAPL contamination, may have a significant impact on site investigations and the ability to restore contaminated portions of the subsurface to required cleanup levels. Furthermore, DNAPL contamination may be a relatively widespread problem. A recent EPA study (EPA 1993a) concluded that up to 60 percent of National Priorities List (NPL) sites may have DNAPL contamination in the subsurface; a significant percentage of RCRA Corrective Action facilities also are thought to be affected by DNAPLs. As proven technologies for the removal of certain types of DNAPL contamination do not exist yet, DNAPL sites are more likely to require TI evaluations than sites with other types of contamination. Although this guidance pertains to TI evaluations at all site types, EPA believes the significance of the DNAPL contamination problem warrants the following brief discussion of DNAPL contamination and recommended site management strategies.

DNAPLs comprise a broad class of compounds, including creosote and coal tars, polychlorinated biphenyls (PCBs), certain pesticides, and chlorinated organic solvents such as trichloroethylene (TCE) and tetrachloroethylene (PCE). The term "DNAPL" refers only to liquids immiscible in, and denser than, water and not to chemicals that are dissolved in water that originally may have been derived from a DNAPL source. DNAPLs may occur as "free-phase" or "residual" contamination. Free-phase DNAPL is an immiscible liquid in the subsurface that is under positive pressure; that is, the DNAPL is capable of flowing into a well or migrating laterally or vertically through an aquifer. Where vertically migrating free-phase DNAPL encounters a rock or soil layer of relatively low permeability (e.g., clay or other fine-grained layer), a DNAPL accumulation or "pool" may form. Residual DNAPL is immiscible liquid held by capillary forces

within the pores or fractures in soil or rock layers; residual DNAPL, therefore, generally is not capable of migrating or being displaced by normal ground-water flow. Both free-phase and residual DNAPL, however, can slowly dissolve in ground water and produce "plumes" of aqueous-phase contamination. DNAPLs also can produce subsurface vapors capable of migrating through the unsaturated zone and contaminating ground water (EPA 1992c). Figure 2 depicts the various types of contamination that may be encountered at a DNAPL site.

The three areas that should be delineated at a DNAPL site are the DNAPL entry location, the DNAPL zone, and the aqueous contaminant plume. The **entry locations** are those areas where DNAPL was released and likely is present in the subsurface. Entry locations include waste disposal lagoons, drum burial sites, or any other area where DNAPL was allowed to infiltrate into the subsurface. The **DNAPL zone** is defined by that portion of the subsurface containing free-phase or residual DNAPL. Thus, the DNAPL zone includes all portions of the subsurface where the immiscible-phase contamination has come to be located. The DNAPL zone may occur within both the saturated zone (below the water table) and the unsaturated zone (above the water table). The DNAPL zone also may contain vapor and aqueous-phase contamination derived from the DNAPL. The DNAPL zone may include areas at relatively great depths and lateral distances from the entry locations, depending on the subsurface geology and the volume of DNAPL released. The **aqueous contaminant plume** contains organic chemicals in the dissolved phase. The plume originates from the DNAPL zone and may extend hundreds or thousands of feet downgradient (in the direction of ground-water flow). Figure 3 illustrates the various components of a DNAPL site.

Since each DNAPL site component may require a different remediation strategy, it is important to characterize these components to the extent practicable. Thus, the properties and behavior of DNAPL contamination require consideration when planning and conducting both site investigation and remediation. The potential for DNAPL occurrence at the site should be evaluated as early as possible in the site investigation. Recent publications such as "Estimating Potential for DNAPL Occurrence at Superfund Sites" (EPA 1992c) and "DNAPL Site Evaluation" (Cohen and Mercer, 1993) provide detailed guidance on these topics. At sites where DNAPL disposal is known or suspected to have occurred, likely DNAPL entry locations should be identified from available historical waste-management information and subsurface chemistry data. This information can assist in the delineation of the DNAPL zone.

Characterization and delineation of the DNAPL zone is critical for remedy design and evaluation of the restoration potential of the site. At many sites, a subsurface investigation strategy that begins outside of the suspected DNAPL zone may be appropriate ("outside-in" strategy), in part to minimize the possibility of inadvertent mobilization of DNAPLs to

Figure 2. Types of Contamination and Contaminant Zones at DNAPL Sites (Cross-sectional view)

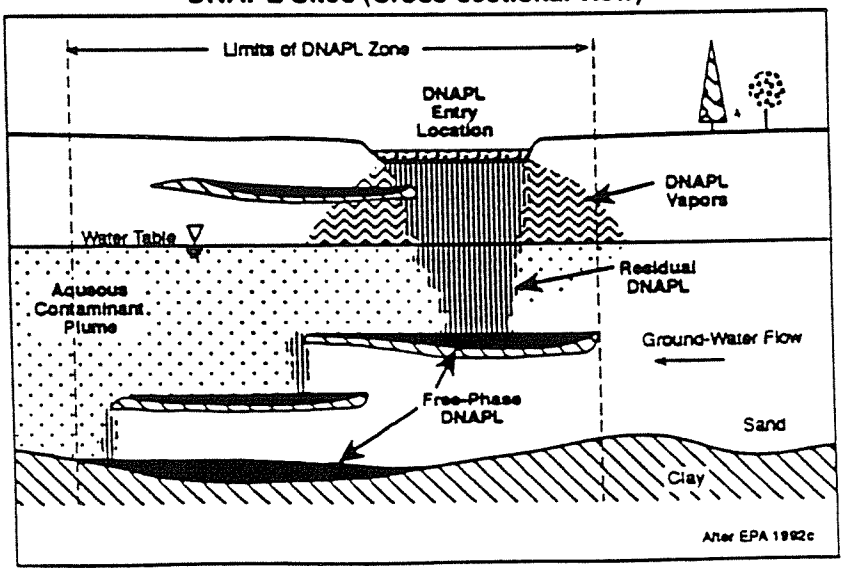
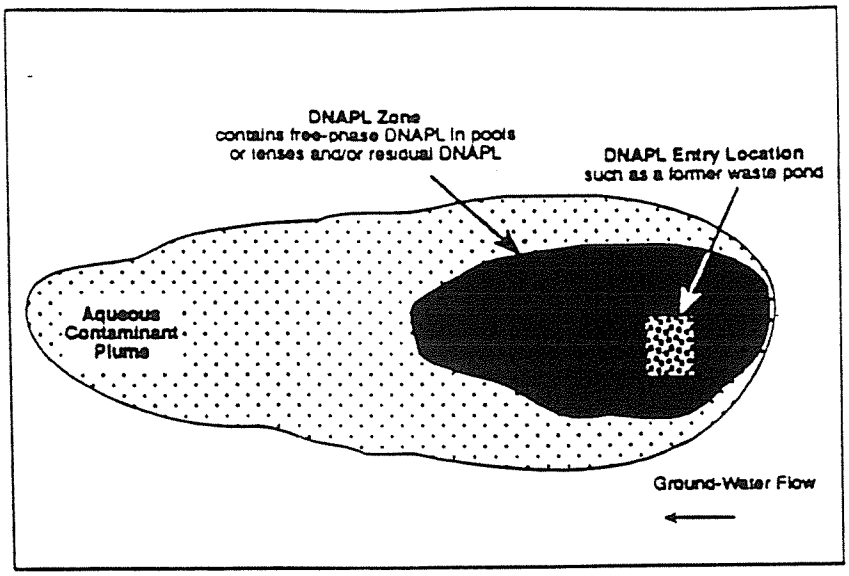


Figure 3. Components of DNAPL Sites



lower aquifers. Delineation of the extent of the DNAPL zone may be difficult at certain sites due to complex geology or waste disposal practices. In such cases, the extent of the DNAPL zone may need to be inferred from geologic information (e.g., thickness, extent, structure, and permeability of soil or rock units) or from interpretation of the aqueous concentration of contaminants derived from DNAPL sources. At some sites, however, geologic complexity and inadequate information on waste disposal may make the delineation of the DNAPL zone difficult.

A phased approach, as discussed in Section 2.1, is recommended for DNAPL sites; such an approach may facilitate identification of appropriate short- and long-term site remediation objectives. Note also that technical approaches appropriate for the DNAPL zone (e.g., free-phase DNAPL removal, vapor extraction, excavation, and slurry walls aided by limited pump-and-treat) may differ significantly from those appropriate for the aqueous contaminant plume (typically pump-and-treat).

Short-term remediation objectives generally should include prevention of exposure to contaminated ground water and containment of the aqueous contaminant plume. Where sufficient information is available, early removal of DNAPL sources also is recommended. Information gathered during these actions should be used to help characterize the site and identify practicable options for further remediation.

The long-term remediation objectives for a DNAPL zone should be to remove the free-phase, residual, and vapor phase DNAPL to the extent practicable and contain DNAPL sources that cannot be removed. EPA recognizes that it may be difficult to locate and remove all of the subsurface DNAPL within a DNAPL zone. Removal of DNAPL mass should be pursued wherever practicable and, in general, where significant reduction of current or future risk will result.[6] Where it is technically impracticable to remove subsurface DNAPLs, EPA expects to contain the DNAPL zone to minimize further release of contaminants to the surrounding ground water, wherever practicable.[7]

Where it is technically practicable to contain the long-term sources of contamination, such as the DNAPL zone, EPA expects to restore the aqueous contaminant plume outside the DNAPL zone to required cleanup levels. Effective containment of the DNAPL zone generally will be required to achieve this long-term objective because ground-water extraction remedies (e.g., pump-and-treat) or *in situ* treatment technologies are effective for plume restoration only where source areas have been contained or removed.

6 DNAPL mass removal also must satisfy the Superfund or RCRA Corrective Action remedy selection criteria, as appropriate.

7 As DNAPLs may be remobilized during drilling or ground-water pumping, caution should be exercised where such activities are proposed for DNAPL zone characterization, remediation, or containment.

Monitoring and assessing the performance of DNAPL zone containment and aquifer restoration systems, therefore, are critical to maintaining remedy protectiveness and evaluating the need for remedy enhancements or application of new technologies.

EPA recognizes, however, that there are technical limitations to ground-water remediation technologies unrelated to the presence of a DNAPL source zone. These limitations, which include contaminant-related factors (e.g., slow desorption of contaminants from aquifer materials) and hydrogeologic factors (e.g., heterogeneity of soil or rock properties), should be considered when evaluating the technical practicability of restoring the aqueous plume.

EPA encourages consideration of innovative technologies at DNAPL sites, particularly where containment of a DNAPL zone may require costly periodic maintenance (and perhaps replacement). Innovative technologies, therefore, should be considered where DNAPL zone containment could be enhanced or where such a technology could clean up the DNAPL zone.

4.0 TI Decisions and Supporting Information

4.1 Regulatory Framework for TI Decisions

The bases for TI decisions discussed in this guidance are provided in CERCLA and the NCP for the Superfund program and in the Proposed Subpart S rule for the RCRA program. While the processes the two programs use to establish cleanup levels differ (e.g., the ARAR concept is not used in RCRA), the primary considerations for determining the technical impracticability of achieving those levels are identical:

- **Engineering feasibility; and**
- **Reliability.**

A brief summary of the regulatory basis for establishing cleanup levels and making TI determinations at Superfund and RCRA sites is provided below.

4.1.1 Superfund

Remedial alternatives at Superfund sites must satisfy two "threshold" criteria specified in the NCP to be eligible for selection: 1) the remedy must be protective of human health and the environment; and 2) the remedy must meet (or provide the basis for waiving) the ARARs identified for the action.[8] There generally are several different types of ARARs associated with ground-water remedies at Superfund sites, such as requirements for discharge of treated water to surface water bodies or other receptors, limitations on reinjection of treated water into the subsurface, and cleanup levels for contaminants in the ground water. ARARs used to establish cleanup levels for current or potentially drinkable ground water typically are MCLs or non-zero MCLGs established under the Federal Safe Drinking Water Act, or in some cases, more stringent State requirements. For compounds for which there are no ARARs, cleanup levels generally are chosen to protect users or receptors from unacceptable cancer and non-cancer health risks or adverse environmental effects. Such levels generally are established to fall within the range of 10^{-4} to 10^{-6} lifetime cancer risk or below a hazard index of one for non-carcinogens, as appropriate.

ARARs may be waived by EPA for any of the six reasons specified by CERCLA and the NCP (Highlight 1), including **technical impracticability from an engineering perspective.** TI waivers generally will be applicable only for ARARs that are used to establish cleanup performance standards or levels, such as chemical-specific MCLs or State ground-water quality criteria.

Highlight 1.
CERCLA ARAR Waivers

The six ARAR waivers provided by CERCLA §121(d)(4) are:

1. Interim Action Waiver;
2. Equivalent Standard of Performance Waiver;
3. Greater Risk to Health and the Environment Waiver;
4. Technical Impracticability Waiver;
5. Inconsistent Application of State Standard Waiver; and
6. Fund Balancing Waiver.

8 NCP §300.430(f)(1)(i). For a detailed discussion of the Superfund remedy selection process, see also EPA 1988a and 1988b.

Use of the term "engineering perspective" implies that a TI determination should primarily focus on the technical capability of achieving the cleanup level, with cost playing a subordinate role. The NCP Preamble states that TI determinations should be based on:

> "...engineering feasibility and reliability, with cost generally not a major factor unless compliance would be inordinately costly."[9]

4.1.2 RCRA

The Proposed Subpart S rule specifies that the corrective action for contaminated ground water include attainment of "media cleanup standards," which generally are Federal or State MCLs, contaminant levels within the range of 10^{-4} to 10^{-6} lifetime cancer risk, or hazard index of less than one for non-carcinogens, as appropriate. The proposed rule also specifies three conditions under which attainment of media cleanup standards may not be required: 1) remediation of the release would provide no significant reduction in risks to actual or potential receptors; 2) the release does not occur in, or threaten, ground waters that are current or potential sources of drinking water; and 3) **remediation of the release to media cleanup standards is technically impracticable.**[10]

Further clarification of TI determinations is provided in the preamble to the proposed rule. The determination involves a consideration of the **"engineering feasibility and reliability"** of attaining media cleanup standards, as well as situations where remediation may be "technically possible," but the "scale of the operations required might be of such a **magnitude and complexity** that the alternative would be impracticable" (emphasis added).[11]

The basis for a RCRA Subpart S TI decision (engineering feasibility, reliability, and the magnitude and complexity of the action) therefore is consistent with that provided for the Superfund program in the NCP. In the context of remedy selection, both programs consider the notion of technical feasibility along with reliability and economic considerations; however, **the role of cost (or scale) of the action is subordinate to the goal of remedy protectiveness.**

4.2 Timing of TI Decisions

TI decisions may be made either when a final site decision document is being developed (e.g., RCRA Statement of Basis and Response to Comments or Superfund ROD) or after the remedy has been implemented and monitored for a period of time. EPA believes that, in many cases, TI decisions should be made only after interim or full-scale aquifer remediation systems are implemented because often it is difficult to predict the effectiveness of remedies based on limited site characterization data alone. However, in some cases, TI decisions may be made prior to remedy implementation. These pre-implementation or "front-end" TI decisions must be supported adequately by detailed site characterization and data analysis. Front-end TI evaluations should focus on those data and analyses that define the most critical limitations to ground-water restoration.

Data and analysis requirements for front-end decisions should be considered carefully. Generally, information regarding the nature and extent of contamination sources is more critical to assessing restoration potential than are other types of characterization data. This often is the case, as currently available technologies generally are more effective for remediating and restoring contaminated aquifers affected only by dissolved, or aqueous, contamination. However, certain types of source contamination are resistant to extraction by these technologies and can continue to dissolve slowly into ground water for indefinite periods of time. Examples of this type of source constraint include certain occurrences of NAPLs, such as where the quantity, distribution, or properties of the NAPL render its removal from, or destruction within, the subsurface infeasible or inordinately costly (See Section 3.0).

Geologic constraints, such as aquifer heterogeneity (e.g., interlayering of coarse and fine-grained strata), also may critically limit the ability to restore an aquifer. However, it generally is more difficult to accurately determine the impact of such constraints prior to implementation and monitoring of partial or full-scale aquifer remediation efforts. Some geologic constraints, however, may be defined sufficiently during site characterization so that their impacts on restoration potential are known with a relatively high degree of certainty. An example of this type of constraint includes complex fracturing of bedrock aquifers, which makes recovery of contaminated ground water or DNAPLs extremely difficult.

It should be noted, however, that the presence of known remediation constraints, such as DNAPL,

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9 See NCP Preamble, 55 FR 8748, March 8, 1990.

10 Technical impracticability is discussed in Sections 264.525(d)(2) and 264.531 of the Proposed Subpart S rule.

11 Proposed Subpart S; 55 FR 30830, July 27, 1990.

fractured bedrock, or other condition, are not by themselves sufficient to justify a TI determination. Adequate site characterization data must be presented to demonstrate, not only that the constraint exists, but that the effect of the constraint on contaminant distribution and recovery potential poses a critical limitation to the effectiveness of available technologies.

4.3 TI Evaluation Components[12]

Determinations of technical impracticability will be made by EPA based on site-specific characterization and, where appropriate, remedy performance data. These data should be collected, analyzed, and presented so that the engineering feasibility and reliability of ground-water restoration are fully addressed in a concise and logical manner.

The TI evaluation may be prepared by the owner/operator of a RCRA facility, by a PRP at an enforcement-lead Superfund site, or by EPA or the State at Fund- or State-lead sites, as appropriate. **The evaluation generally should include the following components, based on site-specific information and analyses:**

1. Specific ARARs or media cleanup standards for which TI determinations are sought (See Section 4.4.1).

2. Spatial area over which the TI decision will apply (See Section 4.4.2).

3. Conceptual model that describes site geology, hydrology, ground-water contamination sources, transport, and fate (See Section 4.4.3).

4. An evaluation of the restoration potential of the site, including data and analyses that support any assertion that attainment of ARARs or media cleanup standards is technically impracticable from an engineering perspective (See Section 4.4.4). At a minimum, this generally should include:

   a. A demonstration that contamination sources have been identified and have been, or will be, removed and contained to the extent practicable;
   b. An analysis of the performance of any ongoing or completed remedial actions;
   c. Predictive analyses of the timeframes to attain required cleanup levels using available technologies; and
   d. A demonstration that no other remedial technologies (conventional or innovative) could reliably, logically, or feasibly attain the cleanup levels at the site within a reasonable timeframe.

5. Estimates of the cost of the existing or proposed remedy options, including construction, operation, and maintenance costs (See Section 4.4.5).

6. Any additional information or analyses that EPA deems necessary for the TI evaluation.

The data and analyses needed to address each of these components of a TI evaluation should be determined on a site-specific basis. Where outside parties are preparing the TI evaluation, its contents generally should be identified and discussed prior to submittal of the evaluation to EPA. Early agreement between EPA and PRPs or owner/operators on the type and quantity of data and analyses required for TI decisions will promote efficient review of TI evaluations.

References to other documents in the administrative record, such as the RI/FS and RFI, likely will be necessary to produce a concise evaluation; however, these references should be as explicit as possible (e.g., cite specific page or table numbers). Technical discussions and conclusions should be supported by data compilations, statistical analyses, or other types of data reduction included in the evaluation.

4.4 Supporting Information for TI Evaluations

Most, if not all, of the information needed to evaluate TI could be obtained during a thorough site investigation and, where appropriate, remedy performance monitoring efforts. At some sites, however, additional analysis of existing data or new information may be required before EPA can determine accurately the technical practicability of the restoration goals. Not all of the data or analyses outlined in this guidance will be required at all sites; specific information needs will depend on site conditions and any ongoing remediation efforts.

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12 For this guidance a "TI evaluation" comprises the data and analyses necessary to make a TI determination. The TI evaluation may be performed by PRPs at enforcement-lead Superfund sites, or by State or other Federal agencies, where appropriate. Similarly, owner/operators at RCRA facilities may perform TI evaluations. However, the actual TI "determination," or "decision," will be made by EPA (or other lead agency, as appropriate).

The data and analyses identified and discussed below address the TI evaluation components provided in Section 4.3.

4.4.1. Specific ARARs or Media Cleanup Standards

The TI evaluation should identify the specific ARARs or media cleanup standards (i.e., the specific contaminants) for which the determination is sought. Such contaminants generally should include only those for which attainment of the required cleanup levels is technically impracticable. Factors EPA will consider when evaluating contaminants that may be included in the TI decision include: 1) the technical feasibility of restoring some of the contaminants present in the ground water; and 2) the potential advantages of attaining cleanup levels for some of the contaminants.

For example, consider a Superfund site with a DNAPL contamination problem (e.g., TCE), including a widespread subsurface DNAPL source area for which containment or restoration are technically impracticable. The aqueous plume also contains inorganic contamination (e.g., chromium) from on-site sources. Although it would be feasible to reduce chromium concentrations to the required cleanup level within a reasonable timeframe, TCE concentrations would remain above cleanup levels much longer due to the continued presence of the DNAPL or slow desorption of TCE from aquifer materials. However, in such cases, EPA may choose to limit the TI ARAR waiver to TCE alone, while requiring cleanup of the chromium.[13]

Two situations would favor use of this approach. The first would be where attaining chromium cleanup levels in the ground water will make future *ex situ* treatment of the (TCE-contaminated) ground water less complex and less expensive. This may be advantageous where a community wishes to extract the TCE-contaminated water, perform *ex situ* treatment, and put the treated water to beneficial use. A related consideration is whether removal of the chromium will facilitate future subsurface remediation using a newly developed technology. The second situation favoring this approach is where one of the contaminants (e.g., TCE) is being naturally biodegraded and the other (e.g., chromium) is not. Therefore, cleanup of the chromium may result in more rapid attainment of the long-term cleanup goals at the site.

Where the balance of conditions at such a site do not indicate that it is practicable to attain the cleanup levels for only some of the contaminants present, EPA may conclude that cleanup levels for the remaining contaminants need not be attained, depending on the circumstances of the site. As discussed further in Section 5.0, however, this decision does not preclude EPA from selecting (or continuing operation of) a remedy that includes active measures (e.g., pump-and-treat) along with measures to prevent exposure (e.g., institutional controls) needed to address site risks.

4.4.2 Spatial Extent of TI Decisions

The TI evaluation should specify the horizontal and vertical extent of the area for which the TI determination is sought. Where EPA determines that groundwater restoration is technically impracticable, the area over which the decision applies (the "TI zone") generally will include all portions of the contaminated ground water that do not meet the required cleanup levels (contaminated ground-water zone), unless the TI zone is otherwise defined by EPA.

In certain cases, EPA may restrict the extent of the TI zone to a portion or subarea within the contaminated ground-water zone. For example, consider a DNAPL site where it is technically impracticable to remove the residual DNAPLs from the subsurface but it is feasible and practicable to: 1) limit further migration of contaminated ground-water using a containment system; and 2) restore that portion of the aqueous plume outside of the containment area. The TI zone in this case should be restricted to that portion of the site that lies within the containment area. Outside of the TI zone, ARARs or media cleanup standards still would apply. The potential to spatially restrict the TI zone, therefore, will depend on the ability to delineate and contain non-removable subsurface contamination sources and restore those portions of the aqueous plume outside of the containment area. The spatial extent of the TI zone should be limited to as small an area as possible, given the circumstances of the site.

A TI zone should be delineated spatially, both in area and depth. Depth of a TI zone may be defined in absolute terms (e.g., feet above mean sea level) or in relative terms (e.g., with respect to various aquifers within multi-aquifer systems), as appropriate. Where

13 The extracted ground water would likely need to be treated for both TCE and chromium to satisfy treatment and waste disposal ARARs.

the TI zone will be restricted to a portion of the contaminated ground-water zone, the limits of the TI zone should be delineated clearly on site maps and geologic cross-sections. Delineation of the TI zone based on the location of a particular mapped contaminant concentration contour interval (e.g., the 200 part per billion isoconcentration line) generally should be avoided. This is because the location of such mapped contours often is highly interpretive, and their position may change with time. While concentration data may be appropriate to consider when determining the size of a containment area or the extent of a TI zone, the limits of that TI zone should be fixed in space, both horizontally and vertically.

4.4.3 Development and Purpose of the Site Conceptual Model

Decisions regarding the technical practicability of ground-water restoration must be based on a thorough characterization of the physical and chemical aspects of the site. Characterization data should describe site geology and hydrology; contamination sources, properties, and distribution; release mechanisms and rates; fate and transport processes; current or potential receptors; and other elements that define the contamination problem and facilitate analysis of site restoration potential. While the elements of such a model may vary from site to site, some generalizations can be made about what such a model would contain. Examples of these elements are provided in Figure 4. The site conceptual model synthesizes data acquired from historical research, site characterization, and remediation system operation.

The site conceptual model typically is presented as a summary or specific component of a site investigation report. The model is based on, and should be supported by, interpretive graphics, reduced and analyzed data, subsurface investigation logs, and other pertinent characterization information. The site conceptual model is not a mathematical or computer model, although these may be used to assist in developing and testing the validity of a conceptual model or evaluating the restoration potential of the site. The conceptual model, like any theory or hypothesis, is a dynamic tool that should be tested and refined throughout the life of the project. As illustrated in Figure 5, the model should evolve in stages as information is gathered during the various phases of site remediation. This iterative process allows data collection efforts to be designed so that key model hypotheses may be tested and revised to reflect new information.

The conceptual model serves as the foundation for evaluating the restoration potential of the site and, thereby, technical impracticability as well. The TI determination must consider how site conditions impact the potential for achieving remediation goals and whether remediation performance, cost-effectiveness, and timeframe meet EPA requirements or expectations. As these determinations rely on professional judgment, the clarity of the conceptual model (and supporting information) is critical to the decision-making process.

4.4.4 Evaluation of Restoration Potential

4.4.4.1 Source Control Measures. Remediation of contamination sources is critical to the success of aquifer restoration efforts. Continued releases of contamination from source materials to ground water can greatly reduce the effectiveness of aquifer restoration technologies, such as pump-and-treat, which generally are effective only for removing dissolved contaminants (EPA 1989b; 1992d). EPA considers subsurface NAPLs to be source materials because they are capable of releasing significant quantities of dissolved contamination to ground water over long periods of time.

A demonstration that ground-water restoration is technically impracticable generally should be accompanied by a demonstration that contamination sources have been, or will be, identified and removed or treated to the extent practicable. EPA recognizes that locating and remediating subsurface sources can be difficult. For example, locating DNAPLs in certain complex geologic environments may be impracticable. EPA expects, however, that all reasonable efforts will be made to identify the location of source areas through historical information searches and site characterization efforts.

Source removal and remediation may be difficult, even where source locations are known. The appropriate level of effort for source removal and remediation must be evaluated on a site-specific basis, considering the degree of risk reduction and any other potential benefits that would result from such an action. Even partial removal of contamination sources can greatly reduce the long-term reliance on both active and passive ground-water remediation.

Where complete source removal or treatment is impracticable, use of migration control or containment measures should be considered. Physical and hydraulic barriers are proven technologies that are capable of limiting or preventing further contaminant

Figure 4. Elements of Site Conceptual Model

The data and analysis required for TI evaluations will be determined by EPA on a site-specific basis. This information should be presented in formats conducive to analysis and in sufficient detail to define the key site conditions and mechanisms that limit restoration potential. Types of information and analysis that may be needed or conceptual model development are illustrated below.

Background Information

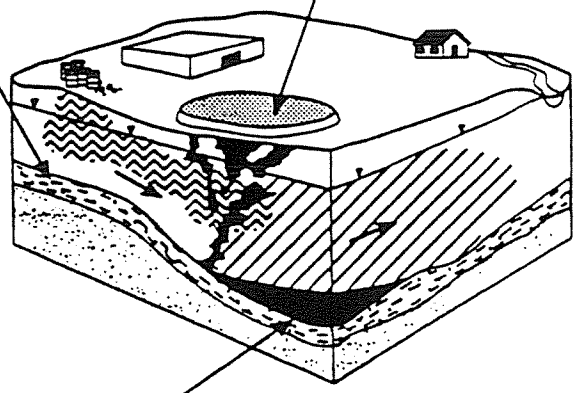
- Location of water supply wells.
- Ground-water Classification.
- Nearby wellhead protection areas or sole-source aquifers.
- Location of potential environmental receptors.

Geologic and Hydrologic Information

- Description of regional and site geology.
- Physical properties of subsurface materials (e.g., texture, porosity, bulk density).
- Stratigraphy, including thickness, lateral extent, continuity of units, and presence of depositional features, such as channel deposits, that may provide preferential pathways for, or barriers to, contaminant transport.
- Geologic structures that may form preferential pathways for NAPL migration or zones of accumulation.
- Depth to ground water.
- Hydraulic gradients (horizontal and vertical).
- Hydraulic properties of subsurface materials (e.g., hydraulic conductivity, storage coefficient, effective porosity) and their directional variability (anisotropy).
- Spatial distribution of soil or bedrock physical/hydraulic properties (degree of heterogeneity).
- Characterization of secondary porosity features (e.g., fractures, karst features) to the extent practicable.
- Temporal variability in hydrologic conditions.
- Ground-water recharge and discharge information.
- Ground-water/surface water interactions.

Contaminant Source and Release Information

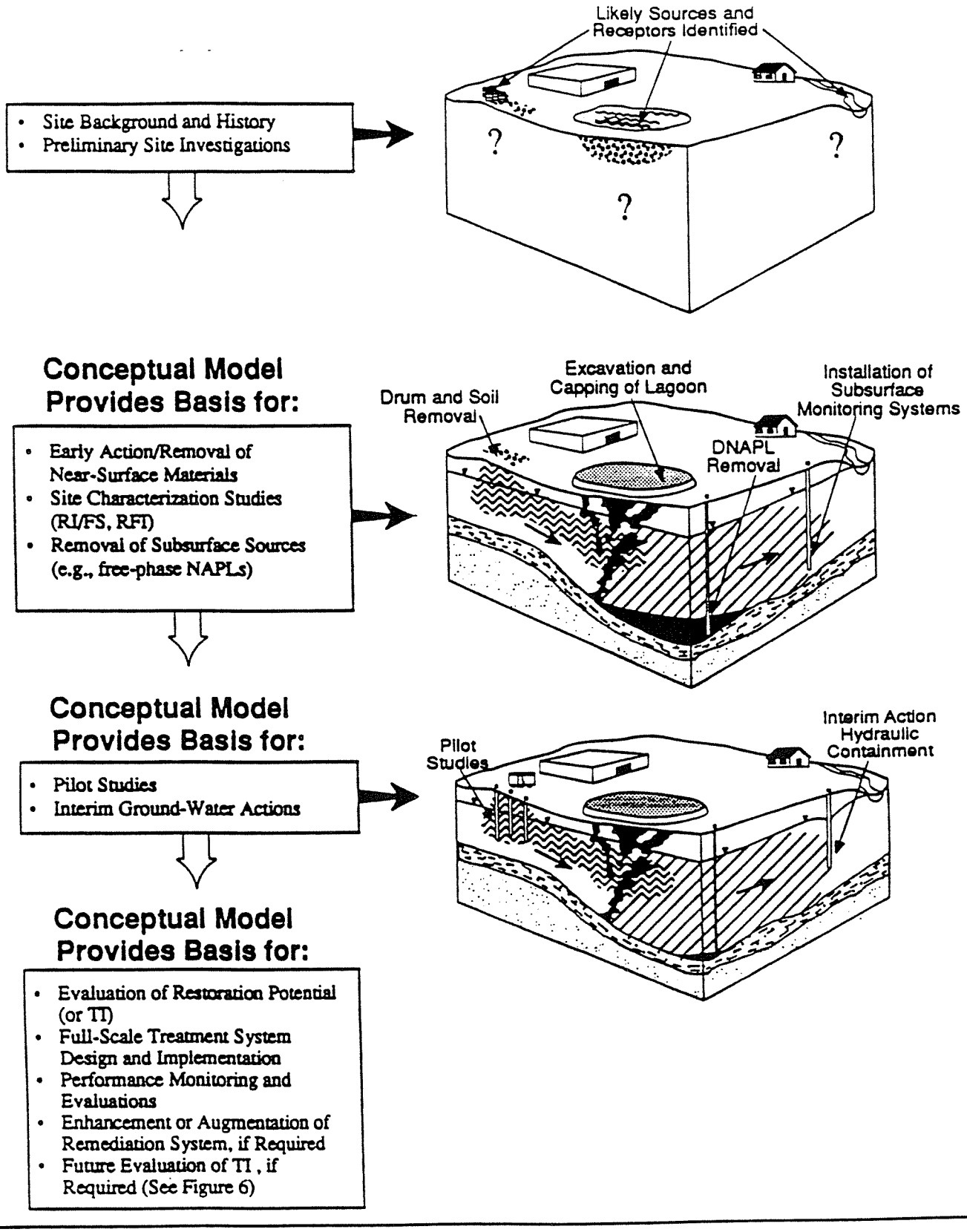
- Location, nature, and history of previous contaminant releases or sources.
- Locations and characterizations of continuing releases or sources.
- Locations of subsurface sources (e.g., NAPLs).



Contaminant Distribution, Transport, and Fate Parameters

- Phase distribution of each contaminant (gaseous, aqueous, sorbed, free-phase NAPL, or residual NAPL) in the unsaturated and saturated zones.
- Spatial distribution of subsurface contaminants in each phase in the unsaturated and saturated zones.
- Estimates of subsurface contaminant mass.
- Temporal trends in contaminant concentrations in each phase.
- Sorption information, including contaminant retardation factors.
- Contaminant transformation processes and rate estimates.
- Contaminant migration rates.
- Assessment of facilitated transport mechanisms (e.g., colloidal transport).
- Properties of NAPLs that affect transport (e.g., composition, effective constituent solubilities, density, viscosity).
- Geochemical characteristics of subsurface media that affect contaminant transport and fate.
- Other characteristics that affect distribution, transport, and fate (e.g., vapor transport properties).

Figure 5. Evolution of the Site Conceptual Model



migration from a source area under the right circumstances. While these containment measures are not capable of restoring source areas to required cleanup levels (i.e., a TI decision may be necessary for the source area), they may enable restoration of portions of the aquifer outside the containment zone.

4.4.4.2 Remedial Action Performance Analysis. The suitability and performance of any completed or ongoing ground-water remedial actions should be evaluated with respect to the objectives of those actions. Examples of remedy performance data are provided in Figure 6. The performance analysis should:

1. Demonstrate that the ground-water monitoring program within and outside of the aqueous contaminant plume is of sufficient quality and detail to fully evaluate remedial action performance (e.g., to analyze plume migration or containment and identify concentration trends within the remediation zone).[14]

2. Demonstrate that the existing remedy has been effectively operated and adequately maintained.

3. Describe and evaluate the effectiveness of any remedy modifications (whether variations in operation, physical changes, or augmentations to the system) designed to enhance its performance.

4. Evaluate trends in subsurface contaminant concentrations. Consider such factors as whether the aqueous plume has been contained, whether the areal extent of the plume is being reduced, and the rates of contaminant concentration decline and contaminant mass removal. Further considerations include whether aqueous-phase concentrations rebound when the system is shut down, whether dilution or other natural attenuation processes are responsible for observed trends, and whether contaminated soils on site are contaminating the ground water.

Analysis of aqueous-phase concentration data should be performed with caution. Contaminant concentrations plotted as a function of time, pore volumes of flushed fluids, or other appropriate variables may be useful in evaluating dominant contaminant fate and transport processes, evaluating remedial system design, and predicting future remedial system performance. Sampling methodologies, locations, and strategies, however, should be analyzed to determine the impact they may have had on observed concentration trends. For example, studies of ground-water extraction systems indicate that some systems show rapid initial decreases in aquifer concentration, followed by less dramatic decreases that eventually approach an asymptotic concentration level (EPA 1989b, 1992c). This "leveling off" effect may represent either a physical limitation to further remediation (e.g., contaminant diffusion from low permeability units) or an artifact of the system design or monitoring program. Professional judgment must be applied carefully when drawing conclusions concerning restoration potential from this information.

In certain cases, EPA may determine that lack of progress in achieving the required cleanup levels has resulted from system design inadequacies, poor system operation, or unsuitability of the technology for site conditions. Such system-related constraints are not sufficient grounds for determining that ground-water restoration is technically impracticable. In such instances, EPA generally will require that the existing remedy be enhanced, augmented, or replaced by a different technology. Furthermore, EPA may require modification or replacement of an existing remedy to ensure protectiveness, regardless of whether or not attainment of required cleanup levels is technically impracticable.

4.4.4.3 Restoration Timeframe Analysis. Estimates of the timeframe required to achieve ground-water restoration may be considered in TI evaluations. While restoration timeframes may be an important consideration in remedy selection, no single timeframe can be specified during which restoration must be achieved to be considered technically practicable. However, very long restoration timeframes (e.g., longer than 100 years) may be indicative of hydrogeologic or contaminant-related constraints to remediation. While predictions of restoration timeframes may be useful in illustrating the effects of such constraints, EPA will base TI decisions on an overall demonstration of the extent of such physical constraints at a site, not on restoration timeframe analyses alone. Such demonstrations should be based on detailed and accurate site conceptual models that also can provide the bases for meaningful predictions of restoration timeframes.

14 Further guidance on design of performance monitoring for remedial actions at ground-water sites is provided in "General Methods for Remedial Operations Performance Evaluations," EPA Office of Research and Development Publication EPA/600/R-92/002, January 1992 (EPA 1992e).

Figure 6. Remedy Performance Analysis

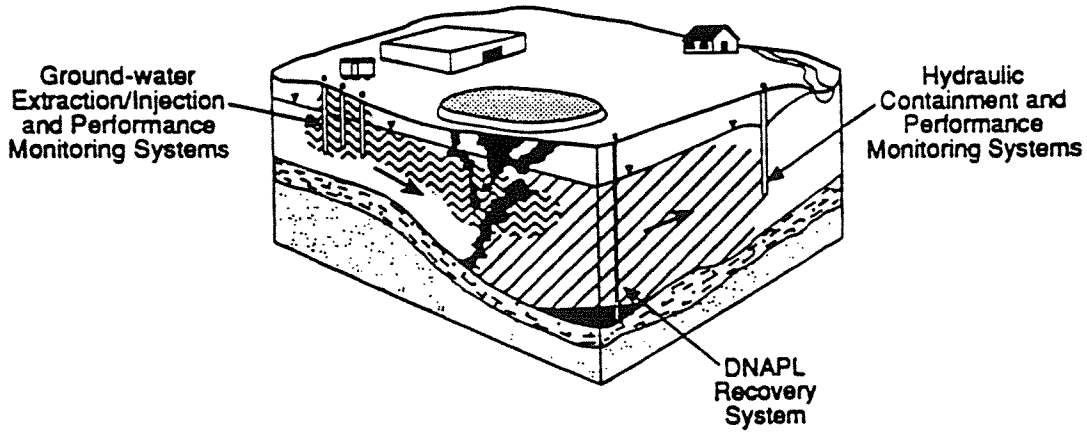
Remedy design and performance data requirements should be specific to technologies employed and site conditions. The categories of required information normally necessary to evaluate performance are provided below with some examples of specific data elements. These data should be reported to EPA in formats conducive to analysis and interpretation. Simple data compilations are insufficient for this purpose.

Remedy Design and Operational Information

- Design and as-built construction information, including locations of extraction or *in situ* treatment points with respect to the contamination.
- Supporting design calculations (e.g., calculation of well spacing).
- Operating information pertinent to remedy (e.g., records of the quantity and quality of extracted or injected fluids).
- Percent downtime and other maintenance problems.

Enhancements to Original Remedial Design

- Information concerning operational modifications, such as variations in pumping, injection rates, or locations.
- Rationale, design, and as-built construction information for system enhancements.
- Monitoring data and analyses that illustrate the effect these modifications have had on system performance.



Source Removal or Control

- Source removal information (e.g., results of soil excavations, removal of lagoon sediments, NAPL removal activities).
- Source control information (e.g., results of NAPL containment, capping of former waste management units).

Performance Monitoring Information

- Design and as-built construction information for performance monitoring systems.
- Hydraulic gradients and other information demonstrating plume containment or changes in areal extent or volume.
- Trends in subsurface contaminant concentrations determined at several/many appropriate locations in the subsurface. Trends should be displayed as a function of time, a function of pore volumes of flushed fluids, or other appropriate measures.
- Information on types and quantities of contaminant mass removed and removal rates.

A further consideration regarding the usefulness of restoration timeframe predictions in TI evaluations is the uncertainty inherent in such analyses. Restoration timeframes generally are estimated using mathematical models that simulate the behavior of subsurface hydrologic processes. Models range from those with relatively limited input data requirements that perform basic simulations of ground-water flow only, to those with extensive data requirements that are capable of simulating multi-phase flow (e.g., water, NAPL, vapor) or other processes such as contaminant adsorption to, and desorption from, aquifer materials. Model input parameters generally are a combination of values measured during site characterization studies and values assumed based on scientific literature or professional judgment. The input parameter selection process, as well as the simplifying assumptions of the mathematical model itself, result in uncertainty of the accuracy of the output. Restoration timeframes predicted using even the most sophisticated modeling tools and data, therefore, will have some degree of uncertainty associated with them.

Restoration timeframe analyses, therefore, generally are well suited for comparing two or more remediation design alternatives to determine the most appropriate strategy for a particular site. Where employed for such purposes, restoration timeframe analyses should be accompanied by a thorough discussion of all assumptions, including a list of measured or assumed parameters and a quantitative analysis, where appropriate, of the degree of uncertainty in those parameters and in the resulting timeframe predictions. The uncertainty in the predictions should be factored into the weight they are given in the remedy decision process.

4.4.4.4 Other Applicable Technologies. The TI evaluation should include a demonstration that no other remedial technologies or strategies would be capable of achieving ground-water restoration at the site.[15] The type of demonstration required will depend on the circumstances of the site and the state of ground-water remediation science at the time such an evaluation is made. In general, EPA expects that such a demonstration should consist of: 1) a review of the technical literature to identify candidate technologies; 2) a screening of the candidate technologies based on general site conditions to identify potentially applicable technologies; and 3) an analysis, using site hydrogeologic and chemical data, of the capability of any of the applicable technologies to achieve the required cleanup standards. Analysis of the potentially applicable technologies generally can be performed as a "paper study." EPA, however, may reserve the right to require treatability or pilot testing demonstrations to determine the actual effectiveness of a technology at a particular site.

Treatability and pilot testing should be conducted with rigorous controls and mass balance constraints. Information required by EPA for evaluation of pilot tests will be similar to that required for evaluation of existing remediation systems (e.g., detailed design and performance data).

4.4.4.5 Additional Considerations. Techniques used for evaluation of ground-water restoration potential are still evolving. The results of such evaluations generally will have some level of uncertainty associated with them. Interpretation of the results of restoration potential evaluations, therefore, will require the use of professional judgment. The use of mathematical models and calculations of mass removal rates are two examples of techniques that require particular caution.

Ground-water Flow and Contaminant Transport/Fate Modeling. Simulation of subsurface systems through mathematical modeling can be useful for designing remediation systems or predicting design performance. However, the limitations of predictive modeling must be considered when evaluating site restoration potential. As discussed in Section 4.4.4.3, ground-water models are sensitive to initial assumptions and the choice of parameters, such as contaminant source locations, leachability, and hydraulic conductivity. Predictions such as the magnitude and distribution of subsurface contaminant concentrations, therefore, will involve uncertainty. The source and degree of this uncertainty should be described, quantified, and evaluated wherever possible so the reviewer understands the level of confidence that should be placed in the predicted concentration values or other outputs. Predictive modeling may be most valuable in providing insight into processes that dominate contaminant transport and fate at the site and evaluating the relative effectiveness of different remedial alternatives. Further guidance and information on the use of ground-water models is provided in Anderson and Woessner (1992), EPA (1992f), and EPA (1992g).

Contaminant Mass Removal Estimates. Evaluation of contaminant mass removal may be useful at some sites

15 See discussions in the NCP (55 FR 8748, March 8, 1990) and Subpart S (55 FR 30838, July 27, 1990).

with existing remediation systems. These measures may include evaluation of mass removal rates, comparison of removal rates to *in situ* mass estimates, changes in the size of the contaminated area, comparison of mass removal rates with pumping rates, and comparison of such measures with associated costs. Mass removal and balance estimates should be used with caution, as there often is a high degree of uncertainty associated with estimates of the initial mass released and the mass remaining *in situ*. This uncertainty results from inaccuracy of historical site waste-management records, subsurface heterogeneities, and the difficulty in delineating the severity and extent of subsurface contamination.

4.4.5 Cost Estimate

Estimates of the cost of remedy alternatives should be provided in the TI evaluation. The estimates should include the present worth of construction, operation, and maintenance costs. Estimates should be provided for the continued operation of the existing remedy (if the evaluation is conducted following implementation of the remedy) or for any proposed alternative remedial strategies.

As discussed in Section 4.4.1, a Superfund remedy alternative may be determined to be technically impracticable if the cost of attaining ARARs would be inordinately high. The role of cost, however, is subordinate to that of ensuring protectiveness. The point at which the cost of ARAR compliance becomes inordinate must be determined based on the particular circumstances of the site. As with long restoration timeframes, relatively high restoration costs may be appropriate in certain cases, depending on the nature of the contamination problem and considerations such as the current and likely future use of the ground water. Compliance with ARARs is not subject to a cost-benefit analysis, however.[16]

5.0 Alternative Remedial Strategies

5.1 Options and Objectives for Alternative Strategies[17]

EPA's goal of restoring contaminated ground water within a reasonable timeframe at Superfund or RCRA sites will be modified where complete restoration is found to be technically impracticable. In such cases, EPA will select an alternative remedial strategy that is technically practicable, protective of human health and the environment, and satisfies the statutory and regulatory requirements of the Superfund or RCRA programs, as appropriate.[18]

Where a TI decision is made at the "front end" of the site remediation process (before a final remedy has been identified and implemented), the alternative strategy should be incorporated into a final remedy decision document, such as a Superfund ROD or RCRA permit or enforcement order. Where the TI decision is made after the final decision document has been signed (i.e., after a remedy has been implemented and its performance evaluated), the alternative remedial strategy should be incorporated in a modified final remedy decision document, such as a ROD amendment or RCRA permit/order modification (see Section 6.0).

Alternative remedial strategies typically will address three types of problems at contaminated ground-water sites: prevention of exposure to contaminated ground water; remediation of contamination sources; and remediation of aqueous contaminant plumes. Recommended objectives and options for addressing these three problems are discussed below. Note that combinations of two or more options may be appropriate at any given site, depending on the size and complexity of the contamination problem or other site circumstances.

5.1.1 Exposure Control

Since the primary objective of any remedial strategy is overall protectiveness, exposure prevention may play a significant role in an alternative remedial strategy. Exposure control may be provided using institutional controls, such as deed notifications and restrictions on water-supply well construction and use. The remedy should provide assurance that these measures are enforceable and consistent with State or local laws and ordinances.

5.1.2 Source Control

Source remediation and control should be considered when developing an alternative remedial strategy.

16 A Fund-Balancing ARAR waiver may be invoked at Fund-lead Superfund sites where meeting an ARAR would entail such cost in relation to the added degree of protection or reduction of risk that remedial actions at other sites would be jeopardized (EPA 1989c).

17 These recommendations are consistent with those made in Section 3.0 concerning DNAPL sites, but are applicable for any site where restoration is technically impracticable.

18 PRPs or owner/operators may propose and analyze alternative remedial strategies. However, only EPA (or designated lead agency, where appropriate) has remedy selection authority.

Sources should be located and treated or removed where feasible and where significant risk reduction will result, regardless of whether EPA has determined that ground-water restoration is technically impracticable.

In some cases, however, the inability to remove or treat sources will be a major factor in a TI decision. Where sources cannot be completely treated or removed, effective source containment may be critical to the long-term effectiveness and reliability of an alternative ground-water remedy. Options currently available for source containment usually involve either a physical barrier system (such as a slurry wall) or a hydraulic containment system (typically a pump-and-treat system) (EPA 1992b).

Applicability and effectiveness of containment systems are influenced by several hydrogeologic factors, however. For example, the effectiveness of a slurry wall generally depends on whether a continuous, low permeability layer exists at a relatively shallow depth beneath the site.

Source containment has several benefits. First, source containment will contribute to the long-term management of contaminant migration by limiting the further contamination of ground water and spread of potentially mobile sources, such as NAPLs. Second, effective source containment may permit restoration of that portion of the aqueous plume that lies outside of the containment area. Third, effective containment may facilitate the future use of new source removal technologies, as some of these technologies (e.g., surfactants, steam injection, radio frequency heating) may increase the mobility of residual and free-phase NAPLs. Remobilization of NAPLs, particularly DNAPLs, often presents a significant risk unless the source area can be reliably contained.

5.1.3 Aqueous Plume Remediation

Remediation of the aqueous plume is the third major technical concern of an alternative remedial strategy. Where the technical constraints to restoration include the inability to remove contamination sources, the ability to effectively contain those sources will be critical to establishing the objectives of plume remediation. Where sources can be effectively contained, the portion of the aqueous plume outside of the containment area generally should be restored to the required cleanup levels.

Inability to contain the sources, or other technical constraints, may render plume restoration technically impracticable. There are several options for alternative remedial strategies in such cases. These include hydraulic containment of the leading edge of the aqueous plume, establishing a less-stringent cleanup level that would be actively sought throughout the plume (at Superfund sites), and natural attenuation or natural gradient flushing of the plume.

Containment of the aqueous plume usually requires the pumping and treating of contaminated ground water, but usually involves fewer wells and smaller quantities of water than does a full plume restoration effort. Plume containment offers the potential advantages of preventing further spreading of the contaminated ground water, thereby limiting the size of the plume, and preventing the plume from encroaching on water-supply wells or discharging to ecologically sensitive areas.

At certain Superfund sites, it may be feasible to restore the contaminated plume (outside of any source containment area) to a site-specific cleanup level that is less stringent than that originally identified. EPA may establish such a level as the cleanup level within the TI zone, where appropriate. The site-specific level may consider the targeted risk level for site cleanup and other factors. Site-specific cleanup levels offer the advantage of providing a clear goal against which to measure the progress of the alternative remedial strategy. However, where site-specific cleanup levels exceed the acceptable risk range for human or environmental exposure, the remedy generally must include other measures (e.g., institutional controls) to ensure protectiveness.

At some Superfund sites, a less-stringent ARAR than the one determined to be unattainable may have to be complied with. For example, it may be technically impracticable to attain the most stringent ARAR at a site (e.g., a State requirement to restore ground water to background concentration levels). However, the next most stringent ARAR (e.g., Federal MCL) for the same compound may be attainable. In such cases, the next most stringent ARAR generally must be attained.

In certain situations where restoration is technically impracticable, EPA may choose natural attenuation as a component of the remedy for the aqueous plume.[19] Natural attenuation generally will result in

19 Technical impracticability of restoration is not a precondition for the use of natural attenuation in a ground-water remedy, however.

attainment of the desired cleanup levels, but may take longer to meet them than active remediation. This approach is most likely to be appropriate where the affected ground water is not a current or reasonably expected future source of drinking water, and ground-water discharge does not significantly impact surface water or ecologic resources. Sufficient technical information and supporting data must be presented to demonstrate the effectiveness of this strategy, along with assurances that any institutional controls required to prevent exposure will be reliable and enforceable. Contingencies for additional or more active remediation also should be incorporated into the remedy, to be triggered by specific contaminant concentration levels in the site ground-water monitoring network, or other criteria as appropriate.

5.2 Alternative Remedy Selection

The alternative remedial strategy options discussed above represent a range of responses for addressing the various aspects of a ground-water contamination site. Selection of the options appropriate for a particular site must not only consider the desired remediation objectives, as discussed above, but also the statutory and regulatory requirements applicable to the program under which the action is being taken. These requirements are discussed briefly below. Further information and guidance on these requirements can be obtained from publications referenced in this section.

5.2.1. Superfund

The selection of an alternative remedy at a Superfund site should follow the remedy selection process provided in NCP §300.430(f). Regardless of whether ARARs are waived at the site, the alternative remedy still must satisfy the two threshold remedy selection criteria (protect human health and the environment and comply with all ARARs that have not been waived); be cost effective; and utilize permanent solutions and treatment to the maximum extent practicable. This last finding is satisfied by identifying the alternative that best balances the trade-offs with respect to the remaining balancing and modifying criteria, taking into account the demonstrated technical limitations (see Highlight 2).[20]

Where ground-water ARARs are waived at a Superfund site due to technical impracticability, EPA's general expectations are to prevent further migration of the contaminated ground-water plume, prevent exposure to the contaminated ground water, and evaluate further risk reduction measures as appropriate. (NCP §300.430(a)(1)(iii)(F)). These expectations should be evaluated along with the nine remedy selection criteria to determine the most appropriate remedial strategy for the site.

Highlight 2.
Superfund Remedy Selection Criteria

Threshold Criteria
- Overall protection of human health and the environment
- Compliance with (or justification for a waiver of) ARARs

Balancing Criteria
- Long-term effectiveness and permanence
- Reduction of mobility, toxicity, or volume
- Short-term effectiveness
- Implementability
- Cost

Modifying Criteria
- State acceptance
- Community acceptance

5.2.2 RCRA

At RCRA facilities where ground-water restoration is technically impracticable, the permit or order schedule of compliance may be modified by establishing: 1) further measures that may be required of the permittee to control exposure to residual contamination, as necessary to protect human health and the environment; and 2) alternate levels or measures for cleaning up contaminated media.[21]

Criteria for establishing an alternative remedial strategy under RCRA are presented in Highlight 3. In addition to satisfying the general standards for remedies, the alternative remedial strategy at a RCRA facility also should provide the best balance of trade-offs among the five remedy selection decision factors.[22]

20 For further guidance on the Superfund remedy selection process, see NCP §300.430(f) and "Guidance for Conducting Remedial Investigations and Feasibility Studies under CERCLA." (EPA 1988a).

21 Proposed Subpart S Rule, §264.531(b).

22 Further guidance on remedy selection at RCRA facilities is provided in the proposed Subpart S Rule (55 FR 30823-30824, July 27, 1990).

Highlight 3.
RCRA Remedy Standards and Selection Factors

General Standards for Remedies

1. Overall protection of human health and the environment
2. Attainment of media cleanup standards
3. Source control
4. Compliance with waste management standards

Remedy Selection Decision Factors

1. Long-term effectiveness
2. Reduction of waste toxicity, mobility, or volume
3. Short-term effectiveness
4. Implementability
5. Cost

5.2.3 Additional Remedy Selection Considerations

The choice among available remedial strategy options may involve a consideration of the aggressiveness of the remedy, a concept that includes both the choice of remedial technologies as well as the relative intensity of how that technology is applied at the site. For example, consider a site where source area restoration is technically impracticable but source containment is both feasible and practicable. With the contaminant source contained, restoration of the portion of the plume outside of the containment area may be feasible. However, as discussed earlier, there are several options for attaining cleanup levels within the aqueous plume: active pump-and-treat throughout the aqueous plume; natural gradient flushing of the plume towards a pump-and-treat capture system located at the leading edge of the plume; and natural attenuation (dilution, dispersion, and any natural degradation processes active within the affected aquifer). Each alternative will attain the required cleanup levels, but the choice involves a trade-off among several factors, including: 1) remediation timeframe (longer with less aggressive strategies); 2) cost (lower with less aggressive strategies); and 3) potential risk of exposure (may increase with less aggressive strategies).[23]

Conditions favoring more aggressive strategies (i.e., active pump-and-treat throughout the aqueous plume) include the following:

1) **The aggressive strategy clearly will result in a significantly shorter restoration timeframe than other available options.** This will depend on site hydrogeologic and contaminant-related factors, including the complexity of the aquifer system, natural rate of ground-water flow, quantity of sorbed contaminant mass in the aquifer (and its rate of desorption), and other factors.

2) **A shorter remediation timeframe is desired to reduce the potential for human exposure.** This generally is the case where there is current or reasonably expected near-term future use of the ground water. Factors that may be useful in evaluating the likelihood of exposure include the State (or Federal, as appropriate) classification of the ground water; availability of alternate supplies, such as municipal hookups or other water supply aquifers; interconnections of the contaminated aquifer with other surface or ground waters; and the ability of institutional controls to limit exposure.

3) **A shorter remediation timeframe is desired to reduce ongoing or potential impacts to environmental receptors.** Such impacts may be caused by discharges to surface waters, sensitive ecologic areas (e.g., wetlands), or sole-source aquifers.

EPA will evaluate and determine the objectives and relative aggressiveness of the alternative remedy on a site-specific basis, based on the applicable regulatory requirements and considering the factors discussed throughout this section. Where conditions favoring more aggressive strategies do not exist, EPA is more likely to choose a less aggressive strategy to achieve the desired remediation objectives. EPA recognizes that, at some sites, remedies may need to be in operation for very long time periods. Adequate monitoring and periodic evaluation of remedy performance should be conducted to ensure protectiveness and to evaluate the need for remedy enhancements or the use of new or different remediation technologies.

5.2.4 Relation to Alternate Concentration Limits

Site-specific cleanup levels established as part of an alternative remedial strategy at a Superfund site should not be confused with CERCLA Alternate Concentration Limits (ACLs). To qualify for use of a CERCLA ACL, the site must meet the following three requirements: 1) there are known points of entry of the contaminated ground water into surface water; 2) there

23 The long-term reliability of a remedy also is an important consideration for alternative remedial strategy selection. In this example, long-term reliability is primarily a function of the design and integrity of the source containment system.

will be no statistically significant increases of the contaminant concentrations in the surface water or contaminant accumulations in downstream sediments; and 3) enforceable measures can be put into place to prevent exposure to the contaminated ground water (see CERCLA §121(d)(2)(B)(ii)). In addition, EPA generally considers ACLs appropriate only where cleanup to ARARs is impracticable, based on an analysis using the Superfund remedy selection "balancing" and "modifying" criteria shown in Highlight 2. Where an ACL is established, an ARAR waiver is not necessary. Conversely, where an ARAR is waived due to technical impracticability, there is no need to establish a CERCLA ACL. For further guidance on CERCLA ACLs, refer to the NCP Preamble (55 FR 8754, March 1990).

Site-specific cleanup levels established in response to a TI determination at a RCRA facility also should not be confused with ACLs established as part of the ground-water monitoring program for regulated units under 40 CFR 264.94. ACLs established under §264.94(a)(3) represent concentrations that EPA determines will not pose a substantial hazard to human or environmental receptors. (If the ACL is exceeded, then corrective action responsibilities for the regulated unit are triggered.) A TI determination generally will not satisfy the criteria for an ACL under this authority.

6.0 Administrative Issues

6.1 TI Review and Decision Process

A TI decision must be incorporated into a site decision document (Superfund ROD or RCRA permit or enforcement order) or be incorporated into a modification or amendment to an original document. Information and analyses supporting the TI decision must be incorporated into the site administrative record, either as part of a Feasibility Study or Corrective Measures Study (for a "front-end" TI determination) or remedy performance evaluation or other technical report or evaluation (for a post-remedy implementation determination).

The first step in EPA's review process for a TI determination will be to assess the completeness and adequacy of the TI evaluation. TI evaluations that do not adequately address the considerations identified in this guidance likely will have to be revised or augmented to address the inadequacies identified by EPA or the responsible agency. Early consultation with EPA by PRPs or owner/operators is encouraged to help identify appropriate data and analysis for the evaluation. While a TI evaluation is underway, remediation efforts underway at a site shall continue until the State or Federal official responsible for the decision determines that the existing remedy should be altered. Requirements specific to the Superfund and RCRA programs are discussed further below.

6.1.1 Superfund

As discussed in Section 4.2, TI decisions may be made either in the ROD (front-end decisions) or after the remedy has been implemented and monitored (post-implementation decisions), depending on the circumstances of the site.

TI decisions at Superfund sites generally will be made by the EPA Regional Administrator who, upon review of a TI evaluation, will determine whether ground-water restoration is technically impracticable and will identify further remedial actions to be taken at the site. TI determinations at Superfund sites may require consultation with headquarters program management. Regional personnel should refer to the most recent OERR Remedy Delegation Memorandum for current consultation requirements.[24]

Where a Superfund ROD will invoke a TI ARAR waiver (front-end decision), EPA (or the lead agency) must provide notice of its intent to waive the ARAR in the Proposed Plan for the site and respond to any State (or Federal) agency or public comments concerning the waiver. The requirements for State and community involvement are provided in NCP §300.500-515 and §300.430, respectively. In general, State and community involvement in the decision to waive an ARAR based on technical impracticability will be the same as for other site remedy decisions. Since TI decisions may affect the potential future uses of ground water, interest in TI ARAR waivers may be high. Therefore, it is EPA's intent to coordinate and consult with States and the public regarding TI ARAR waiver issues as early as possible in the remedy decision process.

24 The types of Superfund site remedy decisions that require consultation with headquarters program management are identified in the periodically updated OERR Remedy Delegation Memorandum. The most recent version available at the time of publication of this guidance was the "Twenty Fourth Remedy Delegation Report - FY 1993," dated February 18, 1993.

State concurrence should be sought, but is not required, for all remedy decisions in which EPA invokes an ARAR waiver. Where the ARAR to be waived is a State ARAR, EPA must notify the State of this when submitting the RI/FS to the State or when responding to a State-lead RI/FS (NCP §300.515(d)(3)). EPA must provide the State with an explanation of any waiver of a State standard (CERCLA §121(f)(1)(G)).

For remedial actions under CERCLA §106 that will waive an ARAR, the State must be notified at least 30 days prior to the date on which any Consent Decree will be entered. If the State wishes the action to conform to (and not waive) those standards, the State may intervene in the action before the Consent Decree is entered (see §121(f)(2) and (f)(3)).

At certain State-lead sites, the State may make the final remedy decision, including a decision to invoke an ARAR waiver. This situation is restricted to sites where the State has been assigned the lead role for the response action, the action is being taken under State law, and the State is not receiving funding for the action from the Trust Fund. In such situations, the State may seek, but is not required to obtain, EPA concurrence on the remedy decision. For further guidance on this and other issues regarding the State role in remedy selection, see "Questions and Answers About the State Role in Remedy Selection at Non-Fund-Financed Enforcement Sites" (EPA 1991c).

Post-remedy-implementation TI decisions may be made in cases where an outside party or agency submits comments requesting a TI determination or EPA determines on its own initiative that a waiver is warranted. The information considered in making such decisions should include the same types of information and analyses discussed for front-end determinations, except that remedy performance data and analysis also should be provided. This information must be entered into the site administrative record before the TI decision can be made and an ARAR waiver invoked. There are limitations, however, to the requirement that EPA open the administrative record to new comments, such as an outside party's request for a TI determination. EPA is not required to consider comments on the selected remedy unless the comments contain "significant information not contained elsewhere in the administrative record file which substantially supports the need to significantly alter the response action" (see NCP §300.825). The type and amount of information necessary to meet this requirement (e.g., the length of time a remedy must be operated prior to a TI evaluation) will be determined by EPA on a site-specific basis.

A modification to a signed ROD invoking a TI ARAR waiver generally will require a ROD amendment, since a waiver usually will constitute a fundamental change in the remedy. A public comment period of 30 days is required for an amendment to a ROD; this period may be extended to 60 days upon request.[25] A public meeting also should be granted if requested. In the exceptional case where an ESD is used to invoke a TI ARAR waiver, public notice and opportunity for comment also should be provided. Further guidance on ROD amendments is provided in "Guide to Addressing Pre-ROD and Post-ROD Changes" (EPA 1991b) and upcoming revisions to "Guidance on Preparing Superfund Decision Documents" (expected Fall 1993).

6.1.2 RCRA

TI decisions at RCRA Corrective Action facilities will be made either by the EPA Regional Administrator or by the appropriate State agency, depending on the RCRA program authorization status of the State. EPA's goal in the RCRA corrective action program is to work cooperatively with individual States, regardless of their authorization status, to promote consistent TI decisions. As in the Superfund program, it is recommended that the State and EPA notify and consult each other as early as possible regarding sites where TI determinations may be made. This notification and consultation process may be outlined in the State/EPA Memorandum of Understanding.

For States authorized for Hazardous and Solid Waste Amendments (HSWA) Corrective Action, the State will have primary authority for remedy decisions, including TI decisions. EPA will retain authority for TI determinations in States that are not authorized for HSWA corrective action.

At RCRA permitted facilities, implementation of a TI determination generally would require a Class 3 permit modification for the purpose of specifying (alternative) corrective measures. This process requires a 45-day notice and comment period, response to comments, and

25 Public notice and opportunity for comment should be provided before an ARAR waiver is granted, regardless of whether an Explanation of Significant Differences (ESD) or ROD amendment is used to invoke the waiver.

public hearing, if requested. At RCRA facilities conducting corrective action under an order, TI determinations generally are implemented through the negotiation of a new order or an amendment to an existing order. This process generally includes a 30- to 45-day pubic comment period and public hearing, if requested.

6.1.3 Technical Review and Support

Technical support for the TI evaluation should be sought as early in the process as possible, preferably during the initial scoping of the content of the TI evaluation. TI determinations usually will require expertise from several disciplines, including hydrogeology, engineering, and risk assessment. Technical staff within the Regions representing these disciplines should be part of the TI review team. EPA's Office of Research and Development (ORD) technical liaisons and scientists based in the Regions also may provide assistance to program staff. Further assistance and review may be obtained from the ORD laboratories involved in the Technical Support Project, including the R.S. Kerr Environmental Research Laboratory (Ada, OK), the Risk Reduction and Engineering Laboratory (Cincinnati, OH), the Environmental Research Laboratory (Athens, GA), and the Environmental Monitoring Systems Laboratory (Las Vegas, NV). The directory of ORD technical services may be consulted for further information (EPA 1993c).

General assistance and site-specific consultation on technical impracticability issues also is available from EPA headquarters staff. Inquiries should be directed to the appropriate OSWER program office.

6.2 Duration of TI Decisions

A determination that ground-water restoration is technically impracticable and the subsequent selection of an alternative remedial strategy will be subject to future review by EPA.

At Superfund sites, an alternative remedial strategy implemented under a CERCLA TI waiver remains in effect so long as that strategy remains protective of human health and the environment. Protectiveness in this context encompasses long-term reliability of the remedy. If the conditions of protectiveness or reliability conditions cease to be met, EPA will determine what additional remedial actions must be implemented to enhance or augment the existing remedy. EPA shall conduct a full assessment of the protectiveness of the alternative remedy at least every five years at any site where contamination remains above levels that allow for unrestricted use, as required under NCP §300.430(f)(4)(ii).

RCRA TI decisions will be incorporated into facility permits or enforcement orders and therefore will be subject to continual oversight and review. Conditions of the permit or order involving the TI decision or the alternative strategy may be revisited on a periodic basis to ensure protectiveness. It may be necessary to modify permits or orders to reflect new information that becomes available during the remedy implementation and monitoring period.[26] Additional measures may be required by EPA to ensure the ongoing protectiveness and reliability of the remedy. Further, owner/operators of RCRA facilities may be required by EPA to undertake additional remedial measures in the future if subsequent advances in remediation technology make attainment of media cleanup standards technically practicable.

The protectiveness of an alternative remedial strategy at a Superfund site or RCRA facility must be ensured through a monitoring program designed to detect releases from containment areas, migration of contaminants to water supply wells, or other releases that would indicate a possible failure of one of the remedy components. EPA may decide to take any further response actions necessary to ensure protectiveness at any time based upon whether the alternative remedy is achieving its required performance standards. Monitoring data, therefore, must be provided to EPA on a regular basis to ensure adequate performance of the alternative remedy. The format, content, and reporting schedule of the monitoring program will be determined by EPA as part of the TI determination and alternative remedy selection process.

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26 RCRA Corrective Action Orders that incorporate TI decisions should contain language that retains EPA's authority to review these decisions and complete additional site remediation, as necessary.

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FEDERAL AND TEXAS STATE SPILL REPORTING REQUIREMENTS

Presented at the
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RELEASES AND REPORTING REQUIREMENTS[1]

I. INTRODUCTION

The purpose of this article is to familiarize the reader with the requirements of federal and state law concerning the notification of federal, state, and local agencies and officials of releases of hazardous substances into the environment. The article is intended to cover those notification requirements relating to one time, episodic releases such as spills, as opposed to continuing releases such as the slow leaching of chemicals into groundwater from an abandoned hazardous waste site. The article does not cover the authority of federal and state governments to respond to releases into the environment after they have been notified of such releases, nor does it cover the notification requirements contained in local ordinances. In addition to the requirements discussed in this paper, readers should also review any environmental permits or orders for additional reporting requirements.

II. SARA TITLE III: THE EMERGENCY PLANNING AND COMMUNITY RIGHT TO KNOW ACT OF 1986

A. Overview

The Superfund Amendments and Reauthorization Act of 1986 ("SARA") was signed into law on October 17, 1986. While most of SARA amends or expands the Comprehensive Environmental Response, Compensation and Liability Act ("CERCLA", commonly known as "Superfund"), Title III of SARA contains a new, freestanding act entitled the Emergency Planning and Community Right to Know Act of 1986 (commonly referred to as "Title III").[2] In general, Title III creates an entirely new framework of local emergency contingency planning and requires owners and operators of facilities that handle hazardous chemicals to comply with a number of new reporting and recordkeeping requirements. Those requirements may be grouped into four categories, as follows:

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[1]This paper is intended to outline selected portions of various spill reporting requirements. Because spill reporting requirements are fact specific, the reader is cautioned to use this paper as a guide only and to review applicable rules and any updates to those rules before concluding about the reportable status of a spill. Many thanks to Bill Menucci, Jeff Pender, and Dave Tamisiea for their invaluable assistance.

[2] Title III has been codified in 42 U.S.C. §§ 11001 et seq. For purposes of this article, however, specific provisions of Title III will be referred to as either "§ _____ of Title III" or "SARA § _____."

(1) Emergency Planning Reporting (SARA §§ 301-303). Facilities with at least one "extremely hazardous substance" present in excess of its threshold planning quantity must supply certain information to state and local planning committees and local fire departments.

(2) Community Right to Know Reporting (SARA §§ 311 and 312). Facilities that use or produce "hazardous chemicals" must supply a Material Safety Data Sheet for each such chemical (or a list of chemicals) and an annual inventory of the chemicals to state and local planning committees and local fire departments.

(3) Emergency Release Reporting (SARA § 304). Facilities that use, produce, or store "hazardous chemicals" must report certain releases of "CERCLA hazardous substances" and "extremely hazardous substances" in excess of their reportable quantities to the state and local planning committees.

(4) Toxic Chemical Release Reporting (SARA § 313). Manufacturing facilities that have ten or more full-time employees, and that use or produce "toxic chemicals" in excess of certain statutory threshold amounts, must file an annual toxic chemical release report with the U.S. Environmental Protection Agency ("EPA") and a designated state agency.

This article will cover only the Emergency Release Reporting requirements (SARA § 304) because this is the only provision of Title III that involves spill reporting. Questions concerning Title III (except SARA § 313, the annual toxic chemical release report) may be directed to the Chemical Emergency Preparedness Program ("CEPP") Hotline at 1-800-535-0202 or 1-202-479-2449. Questions concerning SARA § 313 may be directed to the Toxic Substances Hotline at 1-202-554-1404.

B. Emergency Release Reporting (SARA § 304)

1. Applicability

In general, SARA § 304 requires the owner or operator of a facility at which a "hazardous chemical"[3] is used, produced, or stored to report certain releases to State and local committees. The EPA published a final rule implementing this statute on April 22, 1987. 52 Fed. Reg. 13378, April 22, 1987. Among the provisions that implement this statute is emergency release notification procedures, which are contained in 40 C.F.R. § 355.40.

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[3] Defined under § 311(e) of SARA [40 U.S.C. § 11021 (West Supp.)] as any chemical requiring Material Safety Data Sheets (MS DSs) under 29 C.F.R. § 1910.1200, with some exceptions.

a. Facilities

The emergency release reporting requirements apply to any facility that uses, produces, or stores an extremely hazardous substance or CERCLA hazardous substance, and at a facility where there is a release of a reportable quantity of either of these types of hazardous substances. 40 C.F.R. § 355.40.

b. CERCLA Hazardous Substances and Extremely Hazardous Substances

The emergency release reporting requirements of SARA § 304 apply to "extremely hazardous substances" and "CERCLA hazardous substances." A list of about 360 extremely hazardous substances is contained in Appendices A and B of 40 C.F.R. Part 355. 52 Fed. Reg. 13378, April 22, 1987. A list of over 700 CERCLA hazardous substances is contained in Table 302.4 of 40 C.F.R. Part 302. The latter list is a compilation of substances listed or designated as hazardous or toxic under the following federal environmental laws:

(a) any substance designated pursuant to § 311(b)(2)(A) of the Federal Water Pollution Control Act ("FWPCA") [see 40 C.F.R. § 116.4];

(b) any hazardous waste having the characteristics identified under or listed pursuant to § 3001 of the Resource Conservation and Recovery Act ("RCRA");

(c) any toxic pollutant listed under FWPCA § 307(a);

(d) any hazardous air pollutant listed under § 112 of the Clean Air Act (National Emission Standards for Hazardous Air Pollutants or "NESHAP" substances); and

(e) any imminently hazardous chemical substance or mixture with respect to which EPA has taken action pursuant to § 7 of the Toxic Substances Control Act.

CERCLA § 101(14).

EPA may also identify additional CERCLA hazardous substances pursuant to CERCLA § 102(a). On May 25, 1983, EPA published an advance notice of proposed rulemaking, asking for public comments concerning the procedures and criteria for making such designations. 48 Fed. Reg. 23603. To date, however, EPA has neither published a final designation policy nor designated any substances as hazardous that are not already designated as such under the federal environmental statutes listed in CERCLA § 101(14).

As noted above, CERCLA hazardous substances include "any hazardous waste having the characteristics identified under RCRA

§ 3001." CERCLA § 101(14). Those characteristics are extraction procedure toxicity (EP toxicity), toxicity characteristic (TC), ignitability, corrosivity, and reactivity. Table 302.4 of 40 C.F.R. Part 302 lists, among other things, those substances which exhibit EP toxicity, but does not list substances that are hazardous because they are ignitable, corrosive, or reactive. Accordingly, it is important to note that the list of hazardous substances contained in Table 302.4 is not a complete list of CERCLA hazardous substances. See 40 C.F.R. § 302.4(b) (designation of unlisted hazardous wastes as hazardous substances).

With respect to unlisted substances, a release of such a substance must be reported only if the substance is a waste, either before or after the release. In other words, if an unlisted substance is released and immediately cleaned up for repackaging, reprocessing, recycling, or reuse, it is not a waste and the release need not be reported. 51 Fed. Reg. 34539 (September 29, 1986). On the other hand, if the released substance is not cleaned up or is cleaned up for eventual disposal, it must be reported if the amount released exceeds the reportable quantity for the substance. Id. Unlisted hazardous wastes designated by 40 C.F.R. 302.4(b) have a reportable quantity ("RQ") of 100 pounds. Unlisted hazardous wastes that exhibit EP toxicity have the reportable quantities listed in Table 302.4 for the contaminant on which the characteristic of EP toxicity is based. Id. 40 C.F.R. § 302.5(b).

Certain petroleum products are expressly excluded from the definition of a hazardous substance in CERCLA § 101(14). These substances include petroleum, including crude oil or any fraction thereof, which is not otherwise specifically listed or designated as a hazardous substance . . .; natural gas; natural gas liquids; liquified natural gas; or synthetic gas usable for fuel (or mixtures of natural gas and such synthetic gases)." CERCLA § 101(14). Nevertheless, most petroleum refining sludges are listed hazardous wastes and a release of them must be reported under SARA § 304 and CERCLA § 103(a). 55 Fed. Reg. 46354 (Nov. 2, 1990). U.S. v. Alcan Aluminum Corp., 964 F.2d 252 (3rd Cir.), reh'g, enbanc, denied, 1992 U.S. App. LEXIS 17371 (3rd Cir. 1992); U.S. v. Hardage, 633 F. Supp. 1280 (W.D. Okla. 1990); Mid Valley Bank v. North Valley Bank, 764 F. Supp. 1377 (E.D. Cal. 1991); City of New York v. Exxon Corp., 766 F. Supp. 177 (S.D. N.Y 1990).

The EPA issued a memorandum on July 31, 1987, to help define the scope of the petroleum exclusion provision under CERCLA §§ 101(14) and 104(a)(2). The EPA's interpretation of "petroleum" under CERCLA 101(14) and 104(a)(2) has two parts. First, naturally found fractions of crude oil, including hazardous substances such as benzene, are included in this CERCLA petroleum exclusion. Scope of the CERCLA Petroleum Exclusion Under §§ 101(14) and 104(a)(2), U.S. Environmental Protection Agency Memorandum (July 31, 1987) [hereinafter EPA memo]. Secondly, the petroleum exclusion includes hazardous substances that are normally mixed with or added to crude

oil or crude oil fractions during their refining process. EPA memo at 5. For example, the EPA noted that the inclusion of diesel oil as "petroleum" includes its hazardous constituents, such as benzene and toluene, but PCBs mixed with oil would not be included in the petroleum exclusion. EPA memo at 2. Moreover, federal courts have generally adopted EPA's interpretation of the scope of the petroleum exclusion. See Wilshire Westwood Assoc. v. Atlantic Richfield, 881 F.2d 801 (9th Cir. 1989); Equitable Life Assurance Society of the U.S. v. Greyhound Corp., 31 ERC 1079 (Jun. 26, 1990). However, in U.S. v. Alcan Aluminum Corp. 964 F.2d at 266-67, the court held that CERLCA's petroleum exclusion does not extend to waste oil to which hazardous substances have been added through use. In City of New York v. Exxon Corp., the Court held that "only unadulterated waste oils are excluded from the definition of hazardous substance under Section 101(14)." 766 F.Supp. at 185-188, n.3.

Accordingly, an oil spill must be reported under Title III only if it is contaminated with a CERCLA hazardous substance or an extremely hazardous substance in excess of its reportable quantity. Although certain oil spills are not covered by CERCLA or SARA because of the petroleum exclusion, they remain subject to the notice and liability requirements set forth in § 311 of the FWPCA. See infra § IV. Similarly, an oil spill need not be reported under the release reporting requirements of CERCLA § 103 [see infra § III.], unless it is contaminated with a hazardous substance in excess of its reportable quantity.

To summarize, CERCLA hazardous substances include those substances that have been listed in Table 302.4 and unlisted substances, that are wastes before or after their release. Of the approximately 366 extremely hazardous substances, at least 150 are also considered CERCLA hazardous substances. EPA has announced its intention to designate the other 200+ extremely hazardous substances as hazardous substances for purposes of CERCLA. Obviously, this proposal would broaden the range of substances that would be subject to the release notification and clean up requirements of CERCLA. As of the date of this paper, however, the EPA has not finalized this rule.

c. Releases

Any release that must be reported to the National Response Center under CERCLA § 103(a) [see infra Section III.D.1.] must also be reported to the state and local planning committees under SARA § 304(a). See also 40 C.F.R. § 355.40(b). In addition, a release of an extremely hazardous substance (which is not a CERCLA

hazardous substance)[4] must be reported to the state and local planning committees if the release occurs in a manner that would require notification under CERCLA § 103(a). Consequently, the definition of a "release" under CERCLA must be reviewed to determine the meaning of a release for purposes of SARA § 304.

CERCLA § 101(22) and 40 C.F.R. § 355.20 define a release in very broad terms, which includes "any spilling, leaking, pumping, pouring, emitting, emptying, discharging, injecting, escaping, leaching, dumping or disposing into the environment." The definition includes discharges into any media, since the "environment" is defined in CERCLA § 101(8) to include navigable waters, waters of the contiguous zone, the ocean waters, any other surface water, groundwater, drinking water supply, land surface, subsurface strata, or ambient air within the jurisdiction of the United States.

It is important to note that only releases "into the environment" are subject to the reporting requirements. One example of a release that would not meet this requirement is the spill of a hazardous substance onto a concrete floor which is wholly contained within a building or a structure. See infra § XII. on OSHA regulations. If part of the discharge were to enter the environment, however, such as seeping into the ground adjoining the concrete floor or volatizing into the atmosphere, notice would be required. See 48 Fed. Reg. 23552 (May 25, 1983); 50 Fed. Reg. 13456 (April 4, 1985). See also the Fertilizer Institute v. EPA, 935 F.2d 1303, 1309-1310 (D.C. Cir. 1991) (holding that nothing less than an actual release will trigger CERCLA reporting requirement and rejecting EPA's contention that the mere threat of a release from an unenclosed containment structure is sufficient).

i. Discharges not considered releases

The following four types of discharges are not considered releases for purposes of CERCLA or Title III:

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[4] The EPA has issued a proposed rule that would add all SARA extremely hazardous substances to the list of CERCLA hazardous substances. 54 Fed. Reg. 3388 (Jan. 28, 1989). The rule would simplify reporting requirements by making the release of any extremely hazardous substance or CERCLA hazardous substance generally subject to the same state and local reporting requirements. 54 Fed. Reg. at 3390. Although the rule will bring the hazardous substances covered by SARA and CERCLA into close accord, the reporting requirements under the two acts will still differ somewhat because of differences in facilities covered and types of releases covered. 54 Fed. Reg. at 3392-93. The EPA had planned to take final action on this rule in June, 1992 (57 Fed. Reg. at 3343), but as of July 1994, this action has not been taken.

(1) On-site releases: a release which results in exposure to persons solely within a site or workplace.[5]

(2) Vehicle exhaust: emissions from the engine exhaust of a motor vehicle, aircraft, vessel or pipeline pumping station engine;

(3) Nuclear releases: certain releases of source, by-product, or special nuclear material from a nuclear incident, as those terms are defined in the Atomic Energy Act of 1954; and

(4) Normal applications of fertilizer.

CERCLA § 101(22).

ii. Exempt releases

In addition, the following four types of discharges are considered releases, but are exempt from the CERCLA § 103(a) and SARA § 304 reporting requirements:

(1) Federally permitted releases: Including discharges authorized under a federally approved state program. See CERCLA § 103(b).

(2) Applications of pesticides: The EPA interprets applications "generally in accordance with [the pesticide's] purpose" to be exempt. 50 Fed. Reg. 13464. Nevertheless, compliance with labeling instructions is a critical factor in determining whether or not an application has been made in accordance with the pesticide's purpose. Id. A spill of a pesticide is clearly not considered an application in accordance with the pesticide's purpose and does not, therefore, qualify for the exemption from the CERCLA or Title III notification requirements. See CERCLA § 103(e); see also infra § III.E. for more discussion of this exemption.

(3) Releases reported under RCRA: An owner or operator need not report the same release twice, once under RCRA and once under CERCLA or Title III. CERCLA § 103(f)(1); see infra § III.E. for more discussion of this exemption.

(4) Continuous releases: According to CERCLA § 103(f)(2), any releases that are "continuous and stable in quantity and rate are exempt from the reporting requirement," as long as either:

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[5] EPA made clear in the preamble to the final § 304 rule that releases need not result in actual exposure to persons off-site in order to be subject to the release reporting requirements. See infra Section on Occupational Safety and Health Administration Regulations.

(a) the release is from a hazardous waste site and notification has been given under CERCLA § 103(c), which relates to notification of inactive hazardous waste sites; or

(b) the release has been previously reported under CERCLA § 103(a) for "a time sufficient to establish the continuity, quantity and regularity of the release." For these types of "continuous releases" exempt from the normal reporting requirements of CERCLA, notice must still be given at least annually and each time any "statistically significant increase" occurs above that previously reported. The same rules apply with respect to reporting releases under SARA § 304: continuous releases will need to be reported to the state and local planning committees at least annually and in the event of a statistically significant increase. CERCLA § 103(f)(2); 40 C.F.R. § 355.40(a)(2); see infra § II.E. for more discussion of this exemption.

d. Reportable Quantities

i. Extremely hazardous substances and CERCLA hazardous substances

Only releases of an extremely hazardous substance or a CERCLA hazardous substance in excess of their RQs are subject to the reporting requirements of SARA § 304. A reportable quantity for each extremely hazardous substance is specified in Appendices A and B of 40 C.F.R. Part 355 and for each listed CERCLA hazardous substance in Table 302.4 of 40 C.F.R. Part 302.[6] The RQ for unlisted hazardous substances is 100 pounds. 40 C.F.R. § 302.5(b). Unlisted hazardous substances are those substances that are hazardous solely because they are ignitable, corrosive, reactive or toxic.

Notice must be given under CERCLA § 103(a) or SARA § 304(a) if the amount of the substance released within any 24-hour period equals or exceeds its RQ. 40 C.F.R. § 302.6(a). The 24-hour period can be significant in the case of a slow release. For example, suppose a leak of a hazardous substance occurs over a period of three days (72 hours), but a reportable quantity of the substance was not released during any 24-hour period. In this instance, the entire episode would not need to be reported to the National Response Center or the state or local planning committees. (Of course, the release may be reportable under other state or federal laws.)

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[6] A proposed EPA rule would add to the CERCLA hazardous substance table all SARA extremely hazardous substances. 54 Fed. Reg. 3388 (Jan. 23, 1989). See supra note 4. As of July 1, 1994, EPA had not finalized this rule.

ii. Mixtures

Releases of mixtures are subject to the notification requirement only where a component hazardous substance is released in a quantity in excess of its reportable quantity. 40 C.F.R. § 302.6(b). For example, a release of ten pounds of a solution that contains one pound of a hazardous substance is not reportable if the RQ for the hazardous substance is greater than one pound. Less obviously, this interpretation also implies that a release of a mixture containing 90% of the RQ of hazardous substance A and 90% of the RQ of hazardous substance B is also not subject to the notification requirements. This interpretation requires those responsible for reporting releases to have a reasonably good idea of the chemical makeup of a released mixture, although neither CERCLA nor Title III imposes any specific testing requirements. In the event it is unclear whether or not hazardous components have been released in excess of their reportable quantities, EPA strongly encourages owners and operators to report the release. 48 Fed. Reg. 23555.

On the other hand, if an unlisted hazardous waste exhibits EP toxicity on the basis of more than one constituent, the reportable quantity for that waste should be the lowest of the reportable quantities listed in Table 302.4 for those constituents. 40 C.F.R. § 302.5(b). If an unlisted hazardous waste exhibits a characteristic of EP toxicity and one or more of the ICR characteristics, the reportable quantity for that waste shall be the lowest of the applicable reportable quantities. Id.

2. Reporting Requirements

a. Immediate Notice

The owner or operator of a facility from which a reportable release occurs must notify the emergency coordinator for the local committee in each area likely to be affected by the release and the corresponding state commission(s) immediately after the release, by telephone, radio, in person, or other similar means. SARA § 304(a); 40 C.F.R. § 355.40(b)(1). In contrast, CERCLA § 103(a), requires notice as soon after the person in charge of a vessel or facility has knowledge of the release. See infra Section III. Despite this difference in language, § 304 of Title III was apparently intended to coincide with the corresponding provision in CERCLA. Otherwise, the Title III language could be interpreted to impose a special duty on the owner or operator to monitor or undertake measures necessary to become aware of a release immediately after or during its occurrence.

Notice under SARA § 304 must include each of the following, to the extent known at the time of the notice and so long as no delay in responding to the emergency results:

(1) the chemical name or identity of any substance involved in a release;

(2) an indication of whether the substance is on the list of extremely hazardous substances contained in Appendices A and B of 40 C.F.R. Part 355;

(3) an estimate of the quantity of any such substance that was released into the environment;

(4) the time and duration of the release;

(5) the medium or media into which the release occurred;

(6) any known or anticipated acute or chronic health risks associated with the emergency and, where appropriate, advice regarding medical attention necessary for exposed individuals;

(7) proper precautions to take as a result of the release, including evacuation; and

(8) the name and telephone number of the person or persons to be contacted for further information.

SARA § 304(b)(2); 40 C.F.R. § 355.40(b)(2).

b. Follow-up Notice

A written, follow-up report must be submitted to the state and local planning committees "as soon as practicable" after a reportable release. The report must set forth and update the information required in the immediate notice and, in addition, include information concerning each of the following:

(1) actions taken to respond to and contain the release;

(2) any known or anticipated acute or chronic health risks associated with the release; and

(3) where appropriate, advice regarding medical attention necessary for exposed individuals.

SARA § 304(c); 40 C.F.R. § 355.40(b)(3). EPA has not yet established any particular form or format for the follow-up notice. (It is important to note that neither a follow-up report nor a written report of any kind is currently required under CERCLA § 103(a).)

c. Releases During Transportation

Title III is not generally applicable to transportation activities or storage incident to transportation. SARA § 327. Nevertheless, a release of an extremely hazardous substance or a CERCLA hazardous substance in excess of its reportable quantity during transportation or during storage incident to transportation must be reported to the state and local committees under § 304 of Title III. See SARA § 304(d). Since the operator of the vehicle may not know the local committee's telephone number, SARA § 304(b)(1) provides that the notification requirements may be satisfied by dialing 911 or, in the absence of a 911 emergency telephone number, dialing the operator. A written follow-up report is apparently not required. Notice to the Department of Transportation and/or the National Response Center may also be required, e.g., pursuant to the Hazardous Materials Transportation Act, 49 U.S.C. § 1801 et seq.

3. Penalties

Any person who fails to comply with the emergency release notification requirements of SARA § 304 is subject to civil penalties of up to $25,000 per violation per day or $75,000 per violation per day for second and subsequent violations. SARA § 325; 40 C.F.R. § 355.50(a) and (b). In addition, any person who knowingly and wilfully fails to provide such notice may be assessed a criminal penalty of up to $25,000 or imprisoned for up to two years, or both, or up to $50,000 or five years, or both, for second or subsequent convictions. SARA § 325; 40 C.F.R. § 355.50(c).

III. CERCLA

A. Overview

CERCLA, 42 U.S.C. § 9601 et seq., established broad federal authority to respond to releases or threats of releases of hazardous substances from facilities. As pointed out in a Special Report on Superfund by the Bureau of National Affairs, "the Superfund law incorporates under one statute federal authorities for responding to releases of hazardous substances into the environment, whether intentional or accidental and whether one-time (e.g., from a spill) or continuing (e.g., from an old waste disposal site)." BNA Special Rep.: Superfund: Litigation and Cleanup (1985), at 2.

B. Statutory Notification Requirement [CERCLA § 103(a)]

Section 103(a) of CERCLA generally requires the person in charge of a vessel or facility to report a release of a hazardous substance into the environment from the vessel or facility if the release is of a quantity greater than or equal to the reportable quantity of the substance. The notification must be given

immediately after the person in charge of the vessel or facility has obtained knowledge of the release.

C. Persons Subject to Notification Requirements

1. Overview

Section 103(a) of Superfund generally provides that the "person in charge" of a "vessel" or an onshore or offshore "facility" from which a release of a hazardous substance occurs must report the release, as soon as he has knowledge of the release.

2. Person in Charge

The term "person in charge" is not defined by CERCLA. Guidance is given as to the meaning of the term, however, in the Preamble of proposed notification rules published by the EPA on May 25, 1983. 48 Fed. Reg. 23552 [hereinafter "proposed notification rules"]. In the proposed notification rules, EPA comments that the person in charge of a facility may vary according to the nature of the incident. Examples mentioned by EPA include a truck driver, a shift supervisor of a treatment works, or a pipeline operator. Instead of identifying specific individuals within a business entity who are responsible for reporting releases, EPA states in the proposed notification rules that it will leave the task of assigning reporting responsibilities with the persons in charge of business entities since they are more familiar with their individual operations. This position is reiterated by EPA in the final rules on notification requirements under Section 103(a) and (b) of Superfund published on April 4, 1985. 50 Fed. Reg. 13456 [hereinafter "final notification rules"]. Since EPA is empowered by CERCLA to seek criminal penalties for failure to properly report a release pursuant to Section 103(a) and (b), it is good corporate policy to designate a single person at a particular facility who is responsible for providing the requisite notice of a release. This will help avoid confusion as to whether a particular release has been reported.

3. Definition of "Facility"

Superfund broadly defines the term "facility" to include:

> "(A) any building, structure, installation, equipment, pipe or pipeline (including any pipe into a sewer or publicly owned treatment works), well, pit, pond, lagoon, impoundment, ditch, landfill, storage container, motor vehicle, rolling stock, or aircraft, or
>
> (B) any site or area where a hazardous substance has been deposited, stored, disposed of, or placed, or otherwise come

to be located; but does not include any consumer product in consumer use or any vessel." CERCLA § 101(9).

Read literally, the definition of facility could require multiple reports of releases from the same plant since the definition includes, among other things, individual pipes, buildings, and solid waste management facilities. However, in the Preambles of both the proposed notification rules and the final notification rules, EPA states that it will interpret the term "facility" to include the entire contiguous plant or installation and contiguous grounds under common ownership for the purposes of reporting. As EPA states in the Preamble to the proposed notification rules, this interpretation will avoid unnecessary and burdensome multiple calls where a plant is experiencing more than one reportable release. See 48 Fed. Reg. 23552 and 50 Fed. Reg. 13456.

4. Definition of "Vessel"

A "vessel" is defined in Superfund to include "every description of watercraft or other artificial contrivance used, or capable of being used, as a means of transportation on water." CERCLA § 101(28).

D. Releases Subject to Notification Requirements

1. Definition of "Release"

The term "release" includes virtually every way that a substance can enter the environment. As mentioned in Section II.B.1.c., supra, section 101(22) of Superfund defines a "release" as any "spilling, leaking, pumping, pouring, emitting, emptying, discharging, injecting, escaping, leaching, dumping, or disposing into the environment." This includes discharges into all media since "environment" is defined to include the navigable waters, the waters of the contiguous zone, the ocean waters, any other surface water, groundwater, drinking water supply, land surface, subsurface strata, or ambient air within the jurisdiction of the United States. CERCLA § 101(8).

As also mentioned in Section II.B.1.c., supra, only releases "into the environment" are covered. An example of a release that would not meet this requirement is the spill of a hazardous substance onto a concrete floor which is wholly contained within a building or structure. See supra Section II.B.1.c. for more discussion of this topic.

Four types of discharges are expressly excluded from the definition of a release. These include:

a. any release resulting in exposure to persons solely within a workplace, with respect to a claim that such persons may assert against their employer;

b. emissions from the engine exhaust of a motor vehicle, rolling stock, aircraft, vessel, or pipeline pumping station engine;

c. certain releases of source, byproduct, or special nuclear material from a nuclear incident, as those terms are defined in the Atomic Energy Act of 1954; and

d. the normal application of fertilizer. CERCLA § 101(22).

2. Hazardous Substances Subject to Notification Requirements

In order for a release to be reportable under Superfund a discharge of a "hazardous substance" must occur. These "hazardous substances" are also known as "CERCLA hazardous substances" and, as explained in Section II., supra, most are listed in Table 302.4 of 40 C.F.R. Part 302. See 40 C.F.R. § 302.4. The list is a compilation of substances listed or designated as hazardous or toxic under various federal environmental laws. See supra Section II.B. As explained in Section II., however, the list is not a complete listing of CERCLA hazardous substances because it does not include certain unlisted hazardous waste substances. See supra Section II.B. Releases of these unlisted substances must be reported only if it is a waste, either before or after the releases. Id.

In addition, EPA may identify additional CERCLA hazardous substances pursuant to CERCLA § 102(a), as explained in Section II. of this paper. See Id.

Finally, as mentioned in Section II., supra, certain petroleum products are excluded from the definition of hazardous substance under CERCLA § 101(14), and thus, they are excluded from the list of CERCLA hazardous substances. See supra Section II.B.1.b.

3. Determination of When a Reportable Quantity Has Been Released

Only releases of hazardous substances in quantities equal to or greater than specified "reportable quantities" (RQ) must be reported. Section 102(a) of Superfund requires EPA to promulgate regulations that establish the quantity of a hazardous substance that must be released before it is required to be reported under CERCLA § 103(a). Until a RQ has been established for a hazardous substance by EPA pursuant to Section 102(a), Section 102(b) of CERCLA establishes an interim RQ of one pound for the hazardous substance, unless a different RQ has been established by EPA pursuant to Section 311 of the FWPCA.

As with SARA § 304(a) reporting, notice must be given under CERCLA § 103(a) if the RQ of a substance is released within a 24-hour period. See supra Section II.B.1.d.; 40 C.F.R. § 302.6(a). Of course, a slow leak that does not release a substance's RQ within a 24-hour period will not have to be reported under CERCLA § 103(a). See Id.

As previously explained in Section II. of this paper, releases of mixtures or solutions must be reported only if a component hazardous substance of the mixture or solution is released in a quantity equal to or greater than its RQ. See supra Section II.B.1.d.ii., 40 C.F.R. § 302.6(b).

In addition, this rule requires that the person with the responsibility of deciding whether or not a release is reportable have a reasonably good idea of the component makeup of the mixture or solution that has been released. Since, under Section 103(a) of Superfund, the reporting requirement is triggered as soon as "he [the person in charge] has knowledge of any release . . ." it is arguable that unless such person has certain knowledge that a RQ has been released, the requirement of notification is not triggered. The EPA points out in the Preamble to the final notification rules that CERCLA does not impose any testing requirements to determine whether a RQ of a hazardous substance has been released. 50 Fed. Reg. 13463. In the Preamble to the proposed notification rules, however, EPA strongly encourages notification of any release of a mixture or solution by a person who is unsure whether the components in the mixture or solution exceed their RQs. 48 Fed. Reg. 23555.

However, "knowledge" that a release has occurred has been held to mean only that the person in charge knew of the fact of the release and not that he was aware that it triggered reporting requirements. In United States v. Laughlin, 10 F.3d 961 (2nd Cir. 1993), the owner of a railroad tie treating business was convicted for knowingly disposing of creosote sludge without a permit in violation of RCRA and for failing to report the new release of that hazardous substance in violation of CERCLA. The defendant appealed and argued that it had not been proven at trial that defendant knew that the creosote sludge was a hazardous substance, nor that defendant knew that his release of creosote sludge violated RCRA or CERCLA. § 103(a) of CERCLA provides that "any person in charge of a ... facility shall, as soon as he has knowledge of any release of a hazardous substance from such ... facility in quantities equal to or greater than those pursuant to section 9602 of this title, immediately notify the National Response Center ... of such release." The federal Court of Appeals held that the knowledge requirement of § 103(a) does not require that defendant have knowledge of the regulatory requirements of CERCLA, but only that defendant is aware of his acts.

E. Exemptions from Notification Requirements

1. Overview

In many ways, more important than determining when a reportable quantity of a hazardous substance has been released is determining if and when a technically reportable release is exempt from the notification requirements of Superfund. Superfund exempts the following four types of releases from the Section 103(a) and (b) notification requirements:

a. federally permitted releases as defined in Section 101(10) of CERCLA;

b. application of pesticide products registered under the Federal Insecticide, Fungicide, and Rodenticide Act;

c. certain releases of hazardous wastes that are required to be reported under the provisions of RCRA and which are reported to the National Response Center;

d. certain releases that are determined to be "continuous" under the provisions of Section 103(f)(2) of CERCLA.

Each of these exempted releases is discussed separately below.

2. Federally Permitted Releases

A "federally permitted release" is basically a discharge that has previously been authorized pursuant to the permitting procedures of a federal act or a federally approved state program. If a release qualifies as a "federally permitted release," it does not have to be reported pursuant to the notification requirements and is not subject to the liability provisions of Superfund.

Section 101(10) of Superfund defines "federally permitted release" to include the following releases:

a. discharges in compliance with a permit under Section 402 of the FWPCA;

b. discharges resulting from circumstances identified and reviewed and made part of the public record with respect to a permit issued or modified under Section 402 of the FWPCA and subject to a condition of such permit;

c. continuous or anticipated intermittent discharges from a point source, identified in

a permit or permit application under Section 402 of the FWPCA, which are caused by events occurring within the scope of relevant operating or treatment systems;

d. discharges in compliance with a legally enforceable permit under Section 404 of the FWPCA;

e. releases in compliance with a legally enforceable final permit issued pursuant to RCRA Section 3005(a) through (d) from a hazardous waste treatment, storage, or disposal facility when such permit specifically identifies the hazardous substances and makes such substances subject to a standard of practice, control procedure or bioassay limitation or condition, or other control on the hazardous substances in such releases;

f. any release in compliance with a legally enforceable permit issued under Section 102 or Section 103 of the Marine Protection, Research, and Sanctuaries Act of 1972;

g. any injection of fluids authorized under Federal underground injection control programs or State programs submitted for Federal approval (and not disapproved by the Administrator of the Environmental Protection Agency) pursuant to Part C of the Safe Drinking Water Act;

h. any emission into the air subject to a permit or control regulation under Section 111, Section 112, Title I Part C, Title I Part D, or State implementation plans submitted in accordance with Section 110 of the Clean Air Act (and not disapproved by the Administrator of the Environmental Protection Agency), including any schedule or waiver granted, promulgated, or approved under these sections;

i. any injection of fluids or other materials authorized under applicable State law (i) for the purpose of stimulating or treating wells for the production of crude oil, natural gas, or water, (ii) for the purpose of secondary, tertiary, or other enhanced recovery of crude oil or natural gas, or (iii) fluids brought to the surface in conjunction with the production

of crude oil or natural gas and which are reinjected;

j. the introduction of any pollutant into a POTW when such pollutant is specified in and in compliance with applicable pretreatment standards of Section 307(b) or (c) of the Clean Water Act and enforceable requirements in a pretreatment program submitted by a State or municipality for Federal approval under Section 402 of such Act; and

k. any release of source, special nuclear, or byproduct material, as those terms are defined in the Atomic Energy Act of 1954, in compliance with a legally enforceable license, permit, regulation, or order issued pursuant to the Atomic Energy Act of 1954.

Although EPA explained its interpretation of the various federally permitted releases in the proposed notification rules, the Agency did not confirm any of these interpretations in the final notification rules due to the large number of comments received by EPA regarding this exemption. See 50 Fed. Reg. 13458. The scope of many aspects of the federally permitted release exemption is still not clear at the present time.

3. Application of Pesticide Products

Section 103(e) of Superfund exempts from the notification requirements of CERCLA "the application of a pesticide product registered under the Federal Insecticide, Fungicide, and Rodenticide Act ("FIFRA") . . . [and] . . . the handling and storage of such a pesticide product by an agricultural producer." In the proposed notification rules, EPA narrowly interpreted this exemption to refer to the normal application of registered pesticides (and pesticides used in accordance with FIFRA § 5 experimental use permits or FIFRA § 18 emergency exemptions) in ways which are not inconsistent with the pesticides' labeling. 48 Fed. Reg. 23558. In the Preamble to the final notification rules, however, EPA re-examines the scope of this exemption. First, EPA agrees with commenters that the definition of "normal application of pesticides" should be deleted from the final rules since the term "normal" is not used in CERCLA. Second, EPA retreats from its position that compliance with the pesticide's labeling directions is a prerequisite for the exemption. Instead, the policy announced by EPA is that the pesticide exemption applies to "the application of a pesticide generally in accordance with its purpose." 50 Fed. Reg. 13464. EPA notes that compliance with a pesticide's labeling directions will be a critical factor in determining whether the application was generally in accordance with its purpose. A spill of a pesticide is not considered by EPA to be either an

"application" of the pesticide or in accordance with the pesticide's purpose and, consequently, is not covered by this exemption.

4. Releases Reported Pursuant to RCRA

Section 103(f)(1) exempts from the reporting requirements of Superfund those releases which (i) are required to be reported (or are specifically exempted from a requirement for reporting) under RCRA and (ii) have been reported to the National Response Center. Because of this second condition, this exemption merely has the effect of preventing the reporting of a release twice -- once under RCRA and once under Superfund.

5. Continuous Releases

As mentioned in Section II., supra, pursuant to Section 103(f)(2) of Superfund, no notification of a release of a hazardous substance is required if the release is "continuous and stable in quantity and rate," and is either (i) from a hazardous waste site for which notification has been given under Section 103(c) of CERCLA (relating to the June 9, 1981 notification of inactive hazardous waste sites), or (ii) has been previously reported pursuant to Section 103(a) of Superfund for "a time sufficient to establish the continuity, quantity and regularity of the release." These "continuous releases" are exempt from the normal reporting requirements of CERCLA; nevertheless, notification must be given to the National Response Center at least annually, and each time that any "statistically significant increase" occurs in the quantity of any hazardous substance or constituent released, above that previously reported or occurring.

A "continuous release" is defined as one that "occurs without interruption or abatement or that is routine, anticipated, and intermittent and incidental to normal operations or treatment processes." 40 C.F.R. § 302.8(b). Section 302.8(b) of 40 C.F.R. provides other definitions to help define the scope of "continuous releases." The "normal range" of a release is "all releases (in pounds or kilograms) of a hazardous waste reported or occurring over any 24-hour period under normal operating conditions during the preceding year." Id. A "statistically significant increase" is an increase in the "quantity of the hazardous substance released above the upper bound of the reported normal range of the release." Id.

Under 40 C.F.R. § 355.40(a)(2), which was amended by 55 Fed. Reg. 30188 (Jul. 24, 1990), exemption from notification for continuous releases does not include exemption from (a) initial notifications by telephone under 40 C.F.R. § 302.8(d) and initial written notification under 40 C.F.R. § 302.8(e); (b) notification of a "statistically significant increase," which is to be submitted to the Community Emergency Coordinator for the local Emergency

Planning Committee for any area likely to be affected by the release and to the State Emergency Response Commission of any State likely to be affected by the release; (c) notification of a "new release," which is defined under 40 C.F.R. § 302.8(g)(1) as any change in the composition or source(s) of the release; or (d) notification of a change in the "normal range" of the release. 40 C.F.R. § 355.40(a)(2).

Upon identification of a release as a continuous release, the "person in charge" must notify the National Response Center by telephone and identify the communication as an initial continuous release notification report and provide the following information: (a) the name and location of the facility or vessel; and (b) the name(s) and identity(ies) of the hazardous substance(s) being released. 40 C.F.R. § 302.8(d)(3). In addition, an initial written notification of a continuous release must be made to the appropriate EPA Regional Office for the geographic area where the release is located. 40 C.F.R. § 302.8(e). This initial written notification must be submitted within 30 days of the initial telephone notification to the National Response Center, and it must include (1) the name and location of the facility or vessel; (2) the population density within a 1-mile radius of the facility or vessel; (3) the identity and location of sensitive populations and ecosystems within a 1-mile radius of the facility or vessel; and (4) specific information concerning each hazardous substance released. 40 C.F.R. § 302.8(e)(1).

F. Mechanics of Notification

Section 103(a) of Superfund requires that the notification of a release be made to the National Response Center ("NRC") established under the FWPCA. The notification must be made by telephone at one of the following numbers:

Toll-free number: (800)424-8802
In Washington, D.C.: (202)426-2675

Pursuant to the National Contingency Plan (40 C.F.R. Part 300), the duty officer at the NRC will record pertinent information about the release and relay this release information directly to an On-Scene Coordinator ("OSC") at either the relevant EPA regional office or the relevant U.S. Coast Guard district office. The OSC will then evaluate the circumstances of the release, give pertinent information to appropriate state and local officials, and decide whether and in what manner the federal government should respond to the release.

G. Penalties

Under Section 103(b) of Superfund, the following persons are subject to criminal penalties for failure to notify the NRC of a release of a hazardous substance:

1. any person in charge of a vessel from which a hazardous substance is released, other than a federally permitted release, into or upon the navigable waters of the United States, adjoining shorelines, or into or upon the waters of the contiguous zone, or

2. any person in charge of a vessel from which a hazardous substance is released, other than a federally permitted release, which may affect natural resources belonging to, appertaining to, or under the exclusive management authority of the United States (including resources under the Fishery Conservation and Management Act of 1976), and who is otherwise subject to the jurisdiction of the United States at the time of the release, or

3. any person in charge of a facility from which a hazardous substance is released, other than a federally permitted release, in a quantity equal to or greater than the reportable quantity of such substance.

Any person listed above who fails to immediately notify the NRC as soon as he has knowledge of the release shall, upon conviction, be fined not more than $10,000 or imprisoned for not more than one (1) year, or both.

H. Notification to Potentially Injured Parties

In addition to the notice which must be given to the NRC, Section 111(g) of CERCLA requires that rules and regulations be promulgated for notice to potentially injured parties by an owner or operator of any vessel or facility from which a hazardous substance has been released. During the interim until such rules and regulations have been promulgated, the owner and operator of any such vessel or facility is to provide reasonable notice to potentially injured parties by publication in local newspapers serving the affected area.

In contrast to Section 103(a) of CERCLA (relating to the notification of releases to the NRC), Section 111(g) does not state that a release must be greater than or equal to the RQ of a particular hazardous substance before notification has to be given to potentially injured parties. In addition, the specifically excluded releases discussed in Section E above, do not expressly apply to the Section 111(g) notification to potentially injured parties. Moreover, in the final notification rules, EPA states that the newspaper notification requirement established by Section 111(g) of CERCLA is not affected by the notification requirements established pursuant to Section 103(a) and (b) of CERCLA.

I. National Oil and Hazardous Substances Pollution Contingency Plan

The National Oil and Hazardous Substances Pollution Contingency Plan ("NCP" or "Plan") is required by § 105 of CERCLA and by § 311(d) of the Clean Water Act ("CWA"), as amended, 33 U.S.C. 1321(d). The NCP was originally developed under the CWA and later revised to reflect the responsibilities and authority created by CERCLA. The purpose of the Plan is to carry out the response powers and responsibilities created by CERCLA and the authorities established by § 311 of the CWA. The NCP was promulgated by the EPA in 40 C.F.R. Part 300. Part of the initial responsibilities under the NCP for oil removal under Subpart D and hazardous substances response under Subpart E, is discovery of the release and notifying the proper authorities.

1. Operational Response Phases for Oil Removal

Under Subpart D of 40 C.F.R. Part 300, entitled "Operational Response Phases for Oil Removal", the EPA has set out four phases in the response to an oil discharge. Section 300.300 summarizes Phase I response and lists the ways a discharge of oil may be discovered: (1) a report submitted by the person in charge of a vessel or facility in accordance with statutory requirements [e.g., CERCLA § 103(a)]; (2) deliberate search by patrol; and (3) random or incidental observation by government agencies or the public. Under this section, discharges must be reported to the NRC. 40 C.F.R. § 300.300(b); see also 40 C.F.R. § 300.125(c). Notice of discharge of oil in an amount equal to or greater then the RQ must be made immediately in accordance with 33 C.F.R. Part 153 Subpart B. If direct reporting to the NRC is not practicable, the reports may be made to the Coast Guard or the EPA predesignated OSC for the geographic area where the discharge occurs. All these reports must then be promptly relayed to the NRC.

2. Hazardous Substances Response

Under Subpart E of 40 C.F.R. Part 300, entitled "Hazardous Substance Response", the EPA establishes methods and criteria for determining the appropriate extent of response authorized by CERCLA when there is a release of a hazardous substance or a substantial threat of such a release into the environment. Section 300.405 summarizes how a release may be discovered: (1) notification in accordance with §§ 103(a) or (c) of CERCLA; (2) investigation by government authorities conducted in accordance with § 104(e) of CERCLA or other statutory authority; (3) notification of a release by a Federal or State permit holder when required by its permit; (4) inventory efforts or random; (5) submission of a citizen petition to EPA or the appropriate federal facility requesting preliminary assessment in accordance with § 105(d) of CERCLA; or incidental observation by government agencies or the public; or (6) other sources. This section requires reports of releases to be

made to the NRC. Notice of a release of a hazardous substance in an amount equal to or greater than its RQ must be made immediately in accordance with 40 C.F.R. Part 302. See 40 C.F.R. § 300.125(c). If direct reporting to the NRC is not practicable, it may be made to the Coast Guard or the EPA predesignated OSC for the geographic area where the release occurs. These reports should then be promptly relayed to the NRC.

IV. FEDERAL WATER POLLUTION CONTROL ACT

A. Statutory Notification Requirement

Section 311(b)(5) of the FWPCA [33 U.S.C. § 1321] generally requires any person in charge of a vessel or of an onshore or offshore facility to immediately notify "the appropriate agency of the United States Government" of a discharge of oil or a hazardous substance from such vessel or facility into or upon the navigable waters of the United States, the adjoining shorelines, the waters of the contiguous zone, or the waters of the fishery conservation zone (which extend seaward to 200 miles) in such quantities as may be harmful as soon as such person has knowledge of such discharge. 33 U.S.C. § 1321(b)(5). This notification is also required when the discharge occurs "in connection" with activities under the Outer Continental Shelf Lands Acts (43 U.S.C. § 1331 et seq.) or the Deepwater Port Act of 1974 (33 U.S.C. § 1501 et seq.), or if the discharge may affect the natural resources of the United States. 33 U.S.C. § 1321(b)(3).

B. Releases of Hazardous Substances

The EPA has promulgated regulations at 40 C.F.R. Parts 116 and 117 that implement the requirements of Section 311 of the FWPCA relating to hazardous substances.

Pursuant to Section 311(b)(2)(A) of the FWPCA, the EPA has established a list of "hazardous substances" in 40 C.F.R. § 116.4. The discharge of one of these hazardous substances in reportable quantities must be reported to the NRC. It is important to note that the list of hazardous substances in Section 116.4 is a subset of the list of hazardous substances under Superfund (the CERCLA hazardous substances contained in Table 302.4 of 40 C.F.R.). See supra §§ II.B. and III.D.2.

In 40 C.F.R. § 117.3, EPA has also established specific reportable quantities for each of the designated hazardous substances. In the final Superfund notification rules [50 Fed. Reg. 13456 et seq.], EPA amended the Section 117.3 reportable quantities to be consistent with the reportable quantities established in 40 C.F.R. § 302.4 pursuant to Superfund.

The scope of CERCLA's reporting requirements fully encompasses all hazardous substance discharges reportable under the FWPCA,

because the list of hazardous substances under Section 311 of the FWPCA is a subset of those under Superfund, and because the discharges subject to notification requirements under Section 311 of the FWPCA are a subset of the releases subject to the notification requirements of Superfund. Consequently, for releases of hazardous substances, compliance with the requirements of Superfund will also satisfy the requirements of the FWPCA. Thus, where there is a release of a hazardous substance in a reportable quantity into navigable waters, a single report to the NRC by the person in charge will satisfy the notification requirements of both statutes. 51 Fed. Reg. 34340 (Sept. 29, 1986).

C. Releases of Oil

1. Overview

The one area covered by Section 311 of the FWPCA that is not covered by Superfund is the release of oil from a vessel or facility into or upon the navigable waters of the United States, adjoining shorelines, the waters of the contiguous zone, or the waters of the fishery conservation zone. Such discharges were excluded from coverage under Superfund. "Oil" is defined in Section 311(a)(1) as "oil of any kind or in any form, including, but not limited to, petroleum, fuel oil, sludge, oil refuse, and oil mixed with wastes other than dredged spoil." The term "navigable waters of the United States" has been construed by the courts to encompass practically every body of water in the United States. See, e.g., United States v. Zanger, 767 F. Supp. 1030, 1033 (N.D. Cal. 1991); United States v. Ashland Oil & Trans. Co., 364 F. Supp. 349, 350 (D. Ky. 1973), aff'd, 504 F.2d 1317 (6th Cir. 1974); compare Hoffman Homes, Inc. v. EPA, 961 F.2d 1310 (7th Cir. 1992) (a bowl-shaped depression that was capable of collecting rainwater and could potentially, but had not actually served as a stopover for migrating birds and was not hydrologically connected to any body of water was beyond the regulatory reach of the Clean Water Act.

Regulations that govern the discharge of oil have been promulgated and may be found at 40 C.F.R. Part 110. These regulations provide that any person in charge of a vessel or facility from which oil is discharged in harmful quantities must as soon as he or she has knowledge of the discharge, immediately notify the NRC (phone: 1-800-424-8802) of the discharge. 40 C.F.R. §§ 110.6; 110.10.

2. Determination of "Harmful Quantity"

Sections 110.3, 110.4, and 110.5 of 40 C.F.R. provide that a discharge of oil into or upon the navigable waters of the U. S., the adjoining shorelines, the waters of the contiguous zone, or beyond the contiguous zone shall be considered harmful to the public health or welfare and, hence, reportable, if the discharge:

a. violates applicable water quality standards in navigable waters of the U.S.; or

b. causes a film or sheen upon or discoloration of the surface of the water or adjoining shorelines or causes a sludge or emulsion to be deposited beneath the surface of the water or upon adjoining shorelines.

This standard has come to be known as the "sheen regulation." The Fifth Circuit has ruled that there is no de minimis defense under the Clean Water Act reporting and civil penalty provisions for discharges of oil in quantities large enough to create a sheen on the water. Chevron, U.S.A., Inc. v. Yost, 919 F.2d 27, 30 (5th Cir. 1990). The Court found that the 1978 amendments to the Clean Water Act empowered EPA to prohibit environmentally hazardous substances upon a determination that they may be harmful to the public health or welfare of the United States. Id. By these regulations, EPA has determined that discharges of oil in quantities large enough to cause a sheen on the water may be harmful to the public health or welfare of the United States.

Section 110.5 concerns discharges beyond the contiguous zone. Under this section, discharges of oil beyond the contiguous zone that produce a sheen must be reported if the discharge was "in connection with activities under the Outer Continental Shelf Lands Act or the Deepwater Port Act of 1974, or that may affect natural resources belonging to, appertaining to, or under the exclusive management authority of the United States (including resources under the Magnuson Fishery Conservation and Management Act)." This section incorporates a 1977 amendment to the FWPCA that expanded the geographical scope of Section 311 beyond the contiguous zone, which extends seaward to 12 miles, to include the fishery conservation zone, which extends 200 miles offshore.

Section 110.6, pursuant to CWA § 311(b)(3), prohibits the discharge of oil in quantities that may be harmful as determined by §§ 110.3, 110.4, and 110.5, except for discharges permitted in the contiguous zone and seaward under MARPOL 73/78, Annex I, as provided in 33 C.F.R. 151.09. It should be noted that EPA believes the MARPOL exemption extends to discharges under the Deepwater Port Act ("DWPA"). 52 Fed. Reg. 10713 (April 2, 1987).

3. Exemptions from Notification Requirements

a. Discharges Subject to Section 402 of the FWPCA

The definition of "discharge" in Section 311(a)(2) of the FWPCA excludes three types of discharges subject to Section 402 of the FWPCA. The following three discharges are therefore excluded from Section 311 coverage:

(1) discharges in compliance with an NPDES permit under Section 402 of the FWPCA;

(2) discharges resulting from circumstances identified and reviewed and made a part of the public record with respect to an NPDES permit issued or modified under Section 402 of the FWPCA, and subject to a condition in such permit; and

(3) continuous or anticipated intermittent discharges from a point source, identified in a NPDES permit or permit application under Section 402 of the FWPCA, which are caused by events occurring within the scope of relevant operating or treatment systems.

These exemptions are identical to three exemptions contained in the definition of "federally permitted release" under Superfund. See supra § III.E.2.

b. Discharges Permitted Under the International Convention for the Prevention of Pollution of the Sea by Oil, 1954, as Amended

Section 311(b)(3)(A) of the FWPCA exempts from Section 311 coverage certain discharges into waters seaward of the territorial limit permitted under Annex I of the International Convention for the Prevention of Pollution from Ships, 1973, as modified by the Protocol of 1978 (MARPOL 73/78), which superseded the International Convention for the Prevention of Pollution of the Sea by Oil, 1954. Such discharges include the operational discharge of limited quantities of oil-water mixtures from ships. Therefore, discharges from ships into waters seaward of the territorial limit made in compliance with the requirements of Regulation 9 of MARPOL 73/78, Annex I (as implemented through 33 C.F.R. Parts 151 and 157) are not subject to notification and liability provisions under the FWPCA, even if they would otherwise be of "a quantity that may be harmful" under the FWPCA. The MARPOL exemption does not apply, however, to discharges into the internal waters and the territorial seas of the U.S. (See 50 Fed. Reg. 9778).

c. Discharges Permitted by EPA

Section 311(b)(3)(B) authorizes the EPA to permit the discharge of oil "in quantities and at times and locations or under such circumstances or conditions" as the EPA determines not to be harmful. Therefore, EPA may grant exemptions to the Section 311 prohibitions against discharges and the sheen regulation under appropriate circumstances.

d. Discharges from Vessel Engines

Section 110.7 of 40 C.F.R. exempts discharges of oil from a properly functioning vessel engine from Section 311 coverage.

e. Demonstration Projects

Section 110.9 of 40 C.F.R. provides that the EPA may permit the discharge of oil in connection with research, demonstration projects, or studies relating to the prevention, control, or abatement of oil pollution.

4. Mechanics of Notification

The procedures for providing notice pursuant to Section 311 of the FWPCA are set forth in 40 C.F.R. § 110.10. The person in charge of a vessel or facility from which a reportable discharge of oil occurs is required to notify the NRC (800-424-8802) as soon as he has knowledge of such discharge. Certain exceptions to the requirement to report to the NRC are provided if it would be "impractical" to notify the NRC or if the discharge occurs in Alaska or Hawaii. In such cases, alternative officials are listed for the purposes of receiving the requisite notice.

5. Penalties

Section 311(b)(5) of the FWPCA provides that the following persons are subject to criminal penalties for failure to notify the NRC of a reportable discharge of oil:

a. any person in charge of a vessel from which oil is discharged in such quantities as may be harmful into or upon the navigable waters of the United States, adjoining shorelines, or into or upon the waters of the contiguous zone; or

b. any person in charge of a vessel from which oil is discharged in connection with activities under the Outer Continental Shelf Lands Act [43 U.S.C. § 1331 et seq.] or the Deepwater Port Act of 1974 [33 U.S.C. § 1501 et seq.], or which may affect natural resources belonging to, appertaining to, or under the exclusive management authority of the United States (including resources under the Magnuson Fishery Conservation and Management Act [16 U.S.C. § 1801 et seq.]) in such quantities as may be harmful, and who is otherwise subject to the jurisdiction of the United States at the time of the discharge; or

c. any person in charge of an onshore facility or an offshore facility.

Any person listed above who fails to immediately notify the NRC of a discharge as soon as he or she has knowledge of the discharge shall, upon conviction, be fined not more than $250,000 for an individual and $500,000 for an organization or imprisoned for not more than 3 years, or both. FWPCA § 311(b)(5) as amended by the Oil Pollution Act, Pub.L.No. 101-380 § 4301. Similarly, a person who fails to report a release of a hazardous substance under Superfund will be fined in accordance with Title 18. CERCLA § 103(b)(3). However, a "first time" offender under Superfund faces a maximum sentence of only three years. Id.

V. HAZARDOUS MATERIALS TRANSPORTATION ACT

A. Statutory Notification Requirement

In general, the Hazardous Materials Transportation Act ("HMTA"), 49 U.S.C. § 1801 et seq., requires a carrier or other responsible person to notify the appropriate authority following each "incident" that involves a hazardous material and that occurs during transportation. The HMTA provides for two types of notification:

(1) Immediate notification to the Department of Transportation ("DOT") following certain serious incidents as defined in 49 C.F.R. § 171.15;

(2) A written, detailed report filed with the DOT in accordance with 49 C.F.R. § 171.16 within 30 days following the discovery of any incident.

B. Persons Responsible for Reporting Incidents

The HMTA generally applies to carriers engaged in transportation of hazardous materials by rail, aircraft, vessel, or motor vehicle. 49 C.F.R. § 171.1(a). If immediate notice is required under 49 C.F.R. § 171.15(a) or if a detailed report is required under 49 C.F.R. § 171.16(a), then the carrier must make the required notice or file the required report. If notification of a hazardous substance discharge is required under 49 C.F.R. § 171.15(a), then the carrier must report the discharge to the DOT (phone: 1-800-424-8802). 49 C.F.R. § 171.15(b).

A "carrier" is defined in 40 C.F.R. § 171.8 as "a person engaged in the transportation of passengers or property by: (1) land or water, as a common, contract, or private carrier, or (2) civil aircraft."

As in Superfund, the term "person in charge of [an] aircraft, vessel, or vehicle, or facility" is not defined. The term

presumably means the pilot, captain or admiral, driver, or manager, as the case may be.

C. Releases Which Must be Reported

1. Overview

In general, a carrier or person in charge must report each incident in which a hazardous material or substance is released during transportation. "During transportation" includes loading, unloading, and temporary storage. 49 C.F.R. § 171.15(a).

2. Immediate Notification of Serious Incidents

Under 49 C.F.R. § 171.15(a), a carrier who transports hazardous materials (including hazardous wastes) must report an incident that occurs during the course of transportation at the earliest practicable moment if,

(1) as a direct result of hazardous material:

(a) a person is killed or receives injuries requiring his hospitalization; or

(b) property (including that of the carrier) is damaged and the damage is estimated to exceed $50,000; or

(c) an evacuation of the general public occurs lasting one or more hours; or

(d) one or more major transportation arteries or facilities are closed or shut down for one hour or more; or

(e) the operational flight pattern or routine of an aircraft is altered; or

(2) fire, breakage, spillage, or suspected contamination occurs involving the shipment of radioactive materials; or

(3) fire, breakage, spillage, or suspected contamination occurs involving shipment of etiologic agents; or

(4) there is a release of a marine pollutant in a quantity exceeding 450 L (119 gallons) for liquids or 400 kg (882 pounds) for solids; or

(5) a situation exists of such a nature that, in the judgment of the carrier, it should be

reported even though it does not meet the criteria of paragraphs (1), (2), or (3) above. An example used by DOT to illustrate this provision is a situation in which a continuing danger to life exists at the scene of the incident. 49 C.F.R. § 171.15(a)(1)-(5).

3. Releases Subject to Written Notification Requirement

If immediate notification is required pursuant to 49 C.F.R. § 171.15(a), then the carrier must also prepare and submit a detailed report within 30 days of the incident in accordance with 49 C.F.R. § 171.16(a) and (b). A carrier must also prepare and submit a detailed report of other incidents that occur during transportation pursuant to Section 171.16(a) if:

a. there has been an unintentional release of a hazardous material from a package (including a tank); or

b. any quantity of a hazardous waste has been discharged during transportation.

4. Emergency Response Telephone Number Requirement

Under 49 C.F.R. § 172.604, a person that offers hazardous material for transportation must provide a 24-hour emergency response telephone number for use in case of an emergency involving the material. This telephone line must be monitored at all times by someone knowledgeable about the hazards of the materials, and the telephone number must be entered on the shipping paper in a clearly visible location. 49 C.F.R. § 172.604.

D. Hazardous Materials Subject to Reporting Requirements

As above noted, the HMTA notification requirements apply to releases of "hazardous materials," "hazardous wastes," and "hazardous substances." A "hazardous material" is defined as "a substance or material, including a hazardous substance, which has been determined by the Secretary of Transportation to be capable of posing an unreasonable risk to health, safety, and property when transported in [interstate] commerce, and which has been so designated." 49 C.F.R. § 171.8. A comprehensive list of "hazardous materials" so designated is included in the Table to 49 C.F.R. § 172.101.

For purposes of the HMTA, a "hazardous waste" is defined as a material subject to the hazardous waste manifest requirements specified in 40 C.F.R. Part 262. 49 C.F.R. § 171.8. A complete discussion of those wastes subject to the hazardous waste manifest requirements is beyond the scope of this article. Generally, the

wastes include those solid wastes exhibiting any of the characteristics identified or those wastes listed under 40 C.F.R. Part 261, Subparts C and D.

Some hazardous materials are classified as "hazardous substances." A "hazardous substance" is defined in 49 C.F.R. § 171.8 as a material, including its mixtures and solutions, that: (1) is listed as a hazardous substance in the appendix to § 172.101, and (2) is in a quantity, in one package, which equals or exceeds the reportable quantity listed in that appendix. Petroleum products that are lubricants or fuels, and mixtures or solutions containing hazardous substances in concentrations less than that shown on a Table contained in the definition of "hazardous substance" (based upon the substance's reportable quantity), are exempted from the definition of "hazardous substance."

E. Relationship Between Hazardous Materials and Hazardous Substances Under Superfund, FWPCA and HMTA

Section 306(a) of CERCLA requires that all materials designated as hazardous substances under CERCLA must also be designated as hazardous materials under HMTA. Thus, all hazardous substances under Superfund are hazardous materials under HMTA.

Nevertheless, the HMTA regulations list some materials as hazardous that are not hazardous substances under Superfund. (See the Table to 49 C.F.R. § 172.101). In addition, not all of the CERCLA hazardous substances that are listed as "hazardous materials" under HMTA are subject to the provisions of HMTA. To explain, 49 C.F.R. § 172.101 consists of a Table, an explanation of the Table, and a "CERCLA List." The "CERCLA List" is a list of all materials that are designated as hazardous substances under Superfund and which, by law, must be designated as a hazardous material under HMTA. The Table consists of a list of materials that are considered hazardous "for the purpose of transportation of those materials." 40 C.F.R. § 172.101(a). The Table includes some, but not all, of the materials listed on the CERCLA List. Those materials that are in the CERCLA List but are not included in the Table are hazardous materials. These hazardous materials are not subject to the requirements of 49 C.F.R. Parts 171 - 177, including the notification requirements. (They are presumably not considered hazardous during the course of transportation.) Those materials that are in the Table but not on the CERCLA List (and not hazardous substances under Superfund) are hazardous materials under HMTA. It is important to note that although not all CERCLA hazardous substances are subject to 49 C.F.R. Parts 171 - 177, common and contract carriers may be held liable under CERCLA for the release of a CERCLA hazardous substance after the effective date of the listing of that substance as a hazardous material under HMTA.

The definition of hazardous substance under Superfund includes materials that are designated as a hazardous substance under Section 311(b)(2)(A) of the FWPCA. (See 40 C.F.R. § 116). At the present time, all materials listed as "hazardous substances" in the Hazardous Materials Table under 49 C.F.R. § 172.101 are also listed as hazardous substances under FWPCA, and vice versa.

F. Statutory Exemptions

The reporting requirements of HMTA do not apply to the transportation of firearms or ammunition as defined in 18 U.S.C. § 232(4). 49 U.S.C. § 1806(c). The reporting requirements also do not apply with respect to pipelines which are subject to regulation under either the National Gas Pipeline Safety Act of 1968 (49 U.S.C. § 1671 et seq.) or the Hazardous Liquid Pipeline Safety Act of 1979 (49 U.S.C. § 2001 et seq.), or to any matter subject to the federal postal laws or regulations under this chapter or under Title 18 [Crimes and Criminal Procedure] or Title 39 [Postal Service]. 49 U.S.C. app. § 1811(f).

A carrier or person otherwise subject to the reporting requirements of HMTA is exempt from the detailed reporting requirements of 49 C.F.R. § 171.16 if the incident involves the unintentional release of a hazardous material being transported under the following proper shipping names:

1. consumer commodity;

2. battery, electric storage, wet, filled with acid or alkali; or

3. paint and paint related material when shipped in packagings of five gallons or less. 49 C.F.R. § 171.16(c).

These exemptions do not apply, however, if the incident is required to be reported pursuant to the criteria listed in Section 171.15(a), involves the transportation of hazardous waste, or involves transportation aboard aircraft. 49 C.F.R. § 171.16(d).

G. Mechanics of Notification

1. Notification of Serious Incidents

If immediate notification is required under 49 C.F.R. § 171.15, then the carrier must notify the DOT by telephone (800-424-8802) at the earliest practicable moment. 49 C.F.R. § 171.15(a), (b). If the incident involves an etiologic agent, notice may be given to the Director, Center for Disease Control, U.S. Public Health Service, Atlanta, Georgia at 404-633-5313. Id. If the incident involves radioactive materials, the carrier must also notify the shipper in accordance with 49 C.F.R. § 174.750(a).

If the incident involves transportation by aircraft, the carrier must also notify the nearest FAA Civil Aviation Security Office by telephone at the earliest practicable moment. 49 C.F.R. § 175.45(a).

If immediate notification is required under any of these provisions, then such notice shall include:

a. the reporter's name;

b. the carrier's name and address;

c. phone number where reporter may be contacted;

d. the date, time, and location of the incident;

e. the extent of any injuries;

f. classification, name, and quantity of hazardous materials involved, if such information is available; and

g. type of incident and nature of hazardous material involvement and whether a continuing danger to life exists at the scene. 49 U.S.C. § 171.15(b)

2. Written Notification

If a detailed report is required under 49 C.F.R. § 117.16, then DOT Form F 5800.1 must be filed in duplicate within 30 days of discovering the incident. The report must be sent to the Information Systems Manager, DHM-63, Research and Special Programs Administration, Department of Transportation, Washington, D.C. 20590. If transportation by aircraft is involved, the carrier must also send a copy of Form F 5800.1 to the nearest FAA Civil Aviation Security Office. 49 C.F.R. § 175.45(c). If the incident involves a hazardous waste, then the reporter must attach a copy of the hazardous waste manifest, and an estimate of the quantity of waste removed from the scene, the name and address of the facility to which it was taken, and the manner of disposition of any unremoved waste must be entered in Section IX of the report form. 49 C.F.R. § 171.16(a).

H. Penalties

A person who knowingly violates a requirement of the HMTA is liable for a civil penalty of not more than $25,000 for each violation. 49 U.S.C. § 1809(a); 49 C.F.R. § 107.329(a). When the violation is a continuing one, each day of the violation constitutes a separate offense. Any person who willfully violates any provision of the HMTA or any regulation issued thereunder may

be liable for a fine under Title 18, or imprisonment not to exceed five years, or both. 49 U.S.C. § 1809(b); 49 C.F.R. § 107.333. In addition, the Attorney General is authorized to seek injunctive relief, when necessary. 49 U.S.C. § 1810; 49 C.F.R. § 107.337.

VI. TEXAS WATER CODE REQUIREMENTS

A. Texas Hazardous Substances Spill Prevention and Control Act

At the date of publication of this paper, the TNRCC had just proposed a comprehensive set of regulations addressing the mechanics of spill reporting and cleanup. The following discussion provides an overview of the TNRCC's statutory authority over spill reporting requirements. The TNRCC's regulatory proposal is the subject of a companion paper following this paper, authored by Marianne Baker, Staff Attorney with the TNRCC. Readers should refer to that paper and the final regulations to understand the new requirements.

1. Statutory Notification Requirement

Subchapter G of Chapter 26 of the Texas Water Code (TEX. WATER CODE § 26.261 et seq.), known as the Texas Hazardous Substances Spill Prevention and Control Act, provides for the prevention of spills and discharges of hazardous substances (including oil) into the waters of the State and the removal of such spills and discharges by the State and certain responsible persons. Subchapter G does not contain an express notification provision, but it does provide in the penalties provision, § 26.268(c), that any person operating, in charge of, or responsible for a facility or vessel that causes a discharge or spill and fails to report it upon discovery thereof shall be guilty of a Class A misdemeanor. Section 26.268(c) further provides that the penalties authorized by the subchapter shall not apply to any discharge or spill that is "promptly reported" in accordance with the rules and orders of the Texas Natural Resource Conservation Commission ("TNRCC") if, in addition to such notification, "reasonable precautions to minimize the spill's impacts and reasonable efforts to clean it up were made by the responsible person." This exception to the penalty provisions of Subchapter G does not apply, however, if the TNRCC finds that the spill or discharge was the result of the negligence of the responsible person.

2. Definition of "Person Responsible" or "Responsible Person"

The person required to report a spill or discharge under Section 26.268(c) is the "person operating, in charge of, or responsible for a facility or vessel" from which the discharge or spill occurs." The "person responsible" or "responsible person" is defined as:

a. the owner, operator, or demise charterer of a vessel from which a spill emanates;

b. the owner or operator of a facility from which a spill emanates;

c. any other person who causes, suffers, allows, or permits a spill or discharge. TEX. WATER CODE § 26.263(6).

3. Substances Covered by Subchapter G

Subchapter G is applicable to spills or discharges of "hazardous substances." A "hazardous substance" is defined as follows:

> "any substance designated as such by the administrator of the Environmental Protection Agency pursuant to the Comprehensive Environmental Response, Compensation and Liability Act, regulated pursuant to Section 311 of the federal Clean Water Act, or designated by the Commission." TEX. WATER CODE § 26.263(4) [citations omitted].

The substances covered by Subchapter G, therefore, include all the CERCLA designated hazardous substances previously discussed, plus "oil," which is the only material "regulated" by Section 311 of the FWPCA that is not covered by CERCLA. As of this writing, the TNRCC has not designated any additional hazardous substances subject to Subchapter G.

4. Discharges or Spills Covered by Subchapter G

Subchapter G encourages the reporting of "discharges or spills" of hazardous substances. A "discharge or spill" is defined as follows:

> (1) "Discharge or spill" means an act or omission by which hazardous substances in <u>harmful quantities</u> are spilled, leaked, pumped, poured, emitted, entered, or dumped onto or into waters in this state or by which those substances are deposited where, unless controlled or removed, they may drain, seep, run, or otherwise enter water in this state. The term "discharge" or "spill" shall not include any discharge which is authorized by a permit issued pursuant to federal law or any other law of this state or, with the exception of transportation spills and spills in coastal waters, regulated by the Railroad Commission of Texas. TEX. WATER CODE § 26.263(1).

This definition raises several points. First, Subchapter G applies only to discharges or spills into water or onto other media from which the hazardous substances may "drain, seep, run or otherwise enter water".

Second, Subchapter G applies only to discharges or spills in "harmful quantities." "Harmful quantity" is defined as follows:

> [T]hat quantity of hazardous substance the discharge or spill of which is determined to be harmful to the environment or public health or welfare or may reasonably be anticipated to present an imminent and substantial danger to the public health or welfare by the administrator of the Environmental Protection Agency pursuant to federal law and by the executive director. TEX. WATER CODE § 26.263(3).

Although not clearly stated, the definition of "harmful quantity" is presumably intended to be consistent with the "reportable quantities" under Section 311 of the FWPCA. (See Table 117.3, 40 C.F.R. § 117.3). This interpretation is consistent with the legislative history of Subchapter G which originally was based, to a large degree, on Section 311. (For example, the term "harmful quantity" was originally used in Section 311 of the FWPCA.) As of the time of this writing, the Executive Director of the TNRCC has not established any "harmful quantities" for hazardous substances. For the purposes of oil spills, the "sheen test" discussed previously with respect to discharges of oil covered by Section 311 of the FWPCA would presumably apply.

Finally, the definition of "discharge or spill" contains an important exemption for those discharges regulated by the Railroad Commission of Texas other than "transportation spills and spills in coastal water." As a result of this exemption, non-transportation related spills of oil in waters other than coastal waters are clearly not covered by Subchapter G. A 1983 amendment to Subchapter G deleted the definition of "coastal waters" from the Hazardous Substances Spill Prevention and Control Act. The term had previously been defined as any water in the geographic area comprising all counties of Texas having any tidewater shoreline, including that portion of the bed and waters of the Gulf of Mexico within the jurisdiction of the State of Texas.

5. Mechanics of Notification

Subchapter G provides no details as to the notification encouraged in Section 26.268(c) and (e) other than that the notification should be given "promptly". Section 26.264(a) provides that the TNRCC shall be the State's lead agency in spill response and shall administer Subchapter G. Presumably,

therefore, the notification encouraged by Section 26.268(c) and (e) should be made to the TNRCC.

The TNRCC is empowered by Section 26.264(b) to adopt rules necessary and convenient to carry out the purposes of Subchapter G. The TNRCC has proposed regulations on spill reporting. These are discussed in the companion paper authored by Marianne Baker, Staff Attorney with the TNRCC. Until the final adoption of these rules, the reader may want to review the TNRCC's State of Texas Oil and Hazardous Substances Spill Contingency Plan, which establishes procedures by which discharges and spills of oil or other hazardous materials are to be reported to the relevant State agency. This document is discussed in greater detail below.

B. Section 26.039

At the date of publication of this paper, the TNRCC had just proposed a comprehensive set of regulations addressing the mechanics of spill reporting and cleanup. The following discussion provides an overview of the TNRCC's statutory authority over spill reporting requirements. The TNRCC's regulatory proposal is the subject of a companion paper following this paper, authored by Marianne Baker, Staff Attorney with the TNRCC. Readers should refer to that paper and the final regulations to understand the new requirements.

1. Statutory Notification Requirement

Section 26.039 of the Texas Water Code requires the individual operating, in charge of, or responsible for an activity or facility at or from which an accidental discharge or spill occurs that causes or may cause pollution to notify the TNRCC as soon as possible and not later than 24 hours after the discharge or spill.

2. Definitions of Key Terms

Section 26.039(a)(1) defines an "accidental discharge" as "an act or omission through which waste or other substances are inadvertently discharged into water in the State." The term "spill" is defined as "an act or omission through which waste or other substances are deposited where, unless controlled or removed, they will drain, seep, run, or otherwise enter water in the state." TEX. WATER CODE § 26.039(a)(2). Finally, the term "other substances" is defined in Section 26.039(a)(3) as "substances which may be useful or valuable and therefore are not ordinarily considered to be waste, but which will cause pollution if discharged into water in the state."

3. Scope of Notification Requirement

Unlike other notification requirements, Section 26.039 does not limit its scope to a defined group of hazardous substances or

to releases of a specified "reportable quantity." The only criteria to be considered in determining whether a particular discharge or spill is reportable is whether the discharge or spill has caused or may cause pollution of the waters of the State.

The term "pollution" is broadly defined in Section 26.001 (13) as follows:

> "(13) 'Pollution' means the alteration of the physical, thermal, chemical, or biological quality of, or the contamination of, any water in the state that renders the water harmful, detrimental, or injurious to humans, animal life, vegetation, or property or to public health, safety, or welfare, or impairs the usefulness or the public enjoyment of the water for any lawful or reasonable purpose." TEX. WATER CODE § 26.001(13).

4. Mechanics of Notification

Section 26.039 requires notification to the TNRCC of a spill or discharge "as soon as possible and not later than 24 hours after the occurrence."

As previously mentioned, the TNRCC has published a guidance document entitled State of Texas Oil and Hazardous Substances Pollution Contingency Plan, which details specific procedures for providing the requisite notice under Section 26.039. This document is discussed further in the next Section.

C. State of Texas Oil and Hazardous Substances Pollution Contingency Plan

The State of Texas Oil and Hazardous Substances Pollution Contingency Plan ("Contingency Plan" or "Plan") is a document published by the TNRCC that provides guidance as to when to report a spill or release of oil or a hazardous substance or waste into waters of the State and to whom the report should be made. The document is intended as guidance on how to comply with the reporting requirements of Section 26.039 and Subchapter G of the Texas Water Code. This guidance will likely be replaced by the final adoption of spill reporting regulations currently proposed by the TNRCC.

1. Notification Requirements

Under § 2.2 of the Plan the responsible person must immediately notify the appropriate District or Regional Office of the TNRCC during business hours by telephone or call the Texas Emergency Response Center ("TERC") at 512/463-7727 upon discovery of a spill, release, or threatened release of a harmful quantity of oil, hazardous substance, solid or hazardous waste, or other substance. A "discharge or spill" is defined as an act or

omission by which oil, hazardous substances, or other substances in harmful quantities reach waters of the State or, unless controlled or removed, may enter waters of the State. The term does not include a discharge that is authorized by a federal or State permit or discharges regulated by the Railroad Commission ("RRC"). Plan § 1.4(a).

A "harmful quantity" is the quantity of a substance determined to be harmful to the environment or public health or welfare or that may be reasonably anticipated to present imminent and substantial danger. Plan § 1.4(e). A harmful quantity may be determined by EPA RQs or by the TNRCC. Toxicity, corrosivity, ignitability, reactivity, or oxygen demand (biological or chemical) are factors considered by the TNRCC in determining the quantity at which a substance is harmful. Id. Any quantity of oil spilled in the State's water is designated a harmful quantity and must be reported. See Plan V-7. Otherwise, the reportable quantity for oil is 5 or more barrels (210 gallons). Id. In this case, the Plan is inconsistent with § 26.039 of the Water Code because the Code requires notification of a spill in any amount.

Companies that experience a release should exercise caution with State reporting requirements because notification to the NRC under federal statutes or rules does not constitute notification to the State under its requirements. Plan § 2.1.

2. Report Information

The telephone report to the TNRCC or TERC should include the following information, if possible:

(a) the date and time of the spill or release;

(b) the identity or chemical name of material released or spilled as well as whether the substance is an extremely hazardous substance;

(c) an estimate of the quantity of material released or spilled and the time or duration of the event;

(d) the exact location of the spill, including the name of the waters involved or threatened, and/or other medium or media affected by the release or spill;

(e) the source of the release or spill;

(f) the name, address, and telephone number of the party in charge of, or responsible for, the facility or activity associated with the release or spill;

(g) the extent of actual and potential water pollution;

(h) the party at the release or spill site who is in charge of operations at the site and the telephone number of this party;

(i) the steps being taken or proposed to contain and clean up the released or spilled material and any precautions taken to minimize impacts including evacuation;

(j) the extent of injuries, if any;

(k) any known or anticipated health risks associated with the incident and, where appropriate, advice regarding medical attention necessary for exposed individuals;

(l) possible hazards to the environment (air, soil, water, wildlife, etc.). This assessment may include references to accepted chemical databases, Material Safety Data Sheets ("MSDSs"), and health advisories. Estimated or measured concentrations of a containment may be requested by the TNRCC for the State's hazard assessment (see Section 5.0 of this plan); and

(m) identity of governmental and/or private sector representatives responding on-scene.

After the initial telephone notification, the responsible person must submit a written report to the TNRCC within 15 days of when the actual or potential release occurred. All written reports submitted should address the following information:

(a) All information supplied by the initial telephone notification should be verified or updated and expanded;

(b) Actions taken in containment or response to the release, discharge, or spill;

(c) Any known or anticipated acute or chronic health risks associated with the release, discharge, or spill; and

(d) Where appropriate, advice regarding medical attention necessary for exposed individuals.

When the TNRCC is notified of a spill or discharge, the TNRCC completes a report entitled "Oil or Hazardous Substances Accidental Discharge or Spill Report." The classifications of spills or discharges referenced in the report form are described in the Contingency Plan.

VII. STATE AND FEDERAL HAZARDOUS WASTE REGULATIONS

A. Standards Applicable to Transporters of Hazardous Waste

1. Overview

Section 335.93 of Title 30 of the Texas Administrative Code requires a transporter of hazardous waste to notify the TNRCC in the event of a discharge of hazardous waste during transportation. The notification should be according to § 26.039 of the Texas Water Code and the procedures set out in the State Oil and Hazardous Substances Spill Contingency Plan. See supra § V.C. "Hazardous wastes" subject to this requirement include those identified or listed by EPA pursuant to 40 C.F.R. Part 261. See 30 T.A.C. § 335.1. The term "discharge" is defined in 30 TEX. ADMIN. CODE § 335.1 as "the accidental or intentional spilling, leaking, pumping, pouring, emitting, emptying, or dumping of hazardous waste into or on any land or water."

The notification must be made as soon as possible and not later than 24 hours after the occurrence "according to the provisions of the Texas Water Code, § 26.039 [see supra § V.B.] and the procedures set out in the . . . Contingency Plan . . . [see supra § V.C.]." The transporter is also required to "take appropriate immediate action to protect human health and the environment (e.g., notify local authorities, dike the discharge, etc.). See also 40 C.F.R. § 263.30.

2. Notification to State and Local Authorities

Section 335.93(a) requires notification to the State "according to the provisions of Texas Water Code § 26.039 . . . ." As previously discussed, Section 26.039 requires notification if a discharge or spill has caused or may cause "pollution", as defined in Section 26.001 of the Water Code. Section 335.93(a) also requires a transporter to notify local authorities if necessary to protect human health or the environment. With these guidelines in mind, a transporter must decide in each individual case whether to notify the State or local authorities.

3. Notification to Federal Authorities

Sections 335.93(c) and (d) and 40 C.F.R. §§ 263.30(c) and (d) require a transporter to provide notification to certain federal authorities under certain circumstances.

In addition to any required notification to the State, an air, rail, highway, or water transporter who has discharged hazardous waste must also:

a. notify the NRC if required by 49 C.F.R. § 171.15 (this regulation is discussed in the

section regarding the Hazardous Materials Transportation Act); and

b. report in writing as required by 49 C.F.R. § 171.16 (this requirement is also discussed in the section on the Hazardous Materials Transportation Act).

A water (bulk shipment) transporter who has discharged hazardous waste must, in addition to providing notice to the State, give notice to the NRC as required by 33 C.F.R. § 153.203 (discussed in section on Section 311 of the FWPCA).

B. Standards Applicable to Owners and Operators of Hazardous Waste Storage, Processing or Disposal Facilities

1. Requirement for Contingency Plan

All owners or operators of interim status or permitted hazardous waste treatment, storage or disposal facilities are required to have a contingency plan designed to minimize hazards to human health or the environment from fires, explosions, or any unplanned sudden or non-sudden release of hazardous waste or hazardous waste constituents into the air, soil, or surface water. The provisions of the plan must be carried out immediately whenever there is a fire, explosion, or release of hazardous waste or hazardous waste constituents that could threaten human health or the environment. 30 TEX. ADMIN. CODE § 335.152(a)(3) adopting by reference 40 C.F.R. Part 264, Subpart D, except § 264.56(d) (applicable to emergency situation outside the facility); 30 TEX. ADMIN. CODE § 335.112(a)(3) adopting by reference 40 C.F.R. Part 265, Subpart D, except § 265.56(d).

2. Emergency Situation Inside the Facility

Whenever there is an imminent or actual emergency situation at a hazardous waste treatment, storage, or disposal facility, the emergency coordinator (or his designee) is required, pursuant to 30 TEX. ADMIN. CODE § 335.152(a)(3) and 335.112(a)(3) [adopting by reference 40 C.F.R. § 264.56(a) and 40 C.F.R. § 265.56(a)], to immediately:

a. activate internal facility alarms or communication systems, where applicable, to notify all facility personnel; and

b. notify appropriate State or local agencies with designated response roles if their help is needed.

The facility's contingency plan should list all appropriate state or local agencies, their addresses, and telephone numbers.

3. Potential Emergency Situations Outside Facility

If the emergency coordinator determines that the facility has had a release, fire, or explosion which could threaten human health or the environment, outside the facility, then he must, pursuant to 30 TEX. ADMIN. CODE §§ 335.153 and 335.113 [40 C.F.R. §§ 264.56(d) and 265.56(d)], provide the following notifications:

a. if the emergency coordinator's assessment of the emergency situation indicates that evacuation of local areas may be advisable, he must immediately notify appropriate local authorities.

b. The emergency coordinator must also immediately notify the TNRCC according to procedures set out in the State of Texas Oil and Hazardous Substances Spill Contingency Plan. The report must include:

(1) name and telephone number of reporter;

(2) name and address of facility;

(3) time and type of incident (e.g., release, fire);

(4) name and quantity of material(s) involved, to the extent known;

(5) the extent of injuries if any, and

(6) the possible hazards to human health, or the environment, outside the facility.

4. Report of Contingency Plan Implementation

Pursuant to 30 TEX. ADMIN. CODE §§ 335.155(1) and 335.115(1) [40 C.F.R. §§ 264.56(j) and 265.56(j)], the emergency coordinator must submit a written report to the TNRCC of any incident that requires implementation of the contingency plan. The report must be submitted within 15 days after the incident. The report must include:

a. name, address, and telephone number of owner or reporter;

b. name, address, and telephone number of the facility;

c. date, time, and type of incident (e.g., fire, explosion);

d. name and quantity of material(s) involved;

e. the extent of injuries, if any;

f. an assessment of actual or potential hazards to human health or the environment, where this is applicable; and

g. estimated quantity and disposition of recovered material that resulted from the incident.

C. RCRA Permit 24-Hour Notification

As a condition to all RCRA permits, the reporting requirements of 40 C.F.R. § 270.30(l) apply. The owner or operator of a RCRA permitted hazardous waste generation, treatment, processing, storage, or disposal facility must:

(i) orally report any noncompliance that may endanger health or the environment within 24 hours of becoming aware of the circumstances, and

(ii) report in writing within five days. 40 C.F.R. § 270.30(l)(6). Parallel Texas requirements are found at 30 T.A.C. § 305.145.

Specifically, the permittee must report any information concerning a release of any hazardous waste that may cause endangerment to public drinking water supplies. The report should also include information of a release or discharge of hazardous waste or of a fire or explosion from a hazardous waste facility that could threaten the environment or human health outside the facility. 40 C.F.R. § 270.30(l)(6). The oral report should include:

(a) the name, address, and telephone number of the owner or operator;

(b) the name, address, and telephone number of the facility;

(c) the date, time, and type of incident;

(d) the name and quantity of material(s) involved;

(e) the extent of injuries, if any;

(f) an assessment of actual or potential hazards to the environment and human health outside the facility, where this is applicable; and

(g) estimated quantity and disposition of recovered material that resulted from the incident. Id.

The written report must include:

(a) a description of the incident and its cause;

(b) the period of noncompliance including exact dates and times;

(c) the expected duration of noncompliance if not already corrected; and

(d) the steps taken to reduce, eliminate, and prevent recurrence of the noncompliance.

Parallel requirements for RCRA permitted facilities and interim status facilities are found at 40 C.F.R. § 264.56(e) and 40 C.F.R. § 265.56(e), respectively.

VIII. TEXAS AIR RELATED RULES

A. Major Upsets

1. Regulatory Requirement

Section 101.6 of Title 30 of the Texas Administrative Code requires that the Executive Director of the Texas Natural Resource Conservation Commission (TNRCC) and the appropriate local air pollution control agency shall be notified as soon as possible of any major upset condition which causes or may cause an excessive emission that contravenes the intent of the Texas Clean Air Act or the regulations of the TNRCC.

2. Definition of "Major Upset"

A "major upset" is defined as "an unscheduled occurrence or excursion of a process or operation that results in an emission of air contaminants that contravenes the Texas Clean Air Act and is beyond immediate control, or a release that is initiated to protect life in the immediate or adjacent areas." 30 TEX. ADMIN. CODE § 101.1.

3. Determination of Whether Notification is Required

a. Did the upset result in "excessive" emissions?

When determining whether any particular upset should be reported to the TNRCC pursuant to 30 TEX. ADMIN. CODE § 101.6, it is necessary for the responsible operator to exercise his judgment as to whether the upset resulted in "excessive" emissions. If, for example, a flare is operated for extended periods, the TNRCC

should be notified. Likewise, where a plant upset, such as a pipeline rupture or other equipment failure, resulted or is resulting in large or potentially dangerous emissions, such occurrences should be reported to the TNRCC. In addition, situations such as burner problems, fuel problems, or air pollution control equipment problems that result in stack emissions or opacity greater than the limits imposed by the applicable permits or regulations of the TNRCC should be reported.

b. Does the upset condition come within the requirements of 30 TEX. ADMIN. CODE § 101. 11(a)?

Section 101.11(a) of Title 30 of the Texas Administrative Code provides that a facility may exceed the emission levels specified in the applicable permits if the TNRCC is notified of the upset and the Executive Director determines that the upset was unavoidable and that proper corrective action was taken as soon as practicable. By providing the proper notification pursuant to 30 TEX. ADMIN. CODE § 101.6 and requesting that the Executive Director, pursuant to 30 TEX. ADMIN. CODE § 101.11(a), determine that there was an unavoidable upset followed by corrective action, the possibility of compliance proceedings may be avoided.

4. When and Who to Notify

The TNRCC must be notified "as soon as possible." In some cases, this may mean while the upset is occurring and not after it has happened. Notification should be given to the TNRCC and the appropriate local air pollution control agency. 30 TEX. ADMIN. CODE § 101.6(a).

B. Planned Maintenance, Start-Up or Shut-Down

1. Regulatory Requirement

Under 30 TEX. ADMIN. CODE § 101.7(b) notice is required to be given prior to any maintenance, start-up, or shut-down that will or may cause an excessive emission that contravenes the intent of the Texas Clean Air Act or the TNRCC regulations.

2. Determination of Whether Notification is Required

a. Will "excessive" emissions result from the maintenance, start-up or shut-down?

As with the upset notification requirement, judgment must be used to determine if "excessive" emissions will or may occur. Examples of activities that may require notification are plant shut-downs where all equipment will be purged and gases flared, as well as maintenance on ordinarily closed hydrocarbon handling

equipment such as floating roof or pressure tanks where that equipment will be opened to the atmosphere.

b. Applicability of 30 TEX. ADMIN. CODE § 101. 11(b)

Under 30 TEX. ADMIN. CODE § 101.11(b), emissions that occur during start-up or shut-down of processes or during periods of maintenance may not be required to meet the allowable emission levels set by the TNRCC rules if so determined by the Executive Director upon proper notification under Section 101.7. Consequently, if a plant start-up or shut-down is planned for maintenance or other purposes and excessive emissions may occur, the notification filed with the TNRCC should be accompanied by a specific request that the Executive Director determine that these emissions are excused from compliance with the applicable specific agency rule or permit condition. The Executive Director may specify the amount, time, and duration of emissions that will be allowed during start-up, shut-down, and periods of maintenance.

3. When and Who to Notify

The notification must be given in writing to the Executive Director and the appropriate local air pollution control agency at least 10 days prior to any planned maintenance, start-up, or shut-down. 30 TEX. ADMIN. CODE § 101.7(b). In the case of an unplanned occurrence, notice must be given as soon as practical prior to shut-down. Id.

C. Outdoor Burning of Hydrocarbons from Pipeline Breaks or Oil Spills

1. Regulatory Requirements

Under 30 TEX. ADMIN. CODE § 111.103(b)(7), if combustion is to be used to clean up hydrocarbons from pipeline breaks or oil spills, notice must be given. In addition, the Executive Director of TNRCC must determine that the burning is necessary to protect the "public welfare."

2. Who to Notify

The notice and request for determination under Section 111.103(b)(7) must be sent to the Executive Director and the appropriate local authority, in accordance with Section 101.6.

IX. FEDERAL CLEAN AIR ACT

With respect to the federal Clean Air Act Amendments of 1990, § 112(r) addresses the need for EPA to promulgate rules to provide, "to the greatest extent practicable", for the prevention and detection of accidental releases into the ambient air of

regulated substances from stationary sources. EPA has not yet promulgated these rules.

X. TOXIC SUBSTANCES CONTROL ACT

A. Overview

Section 8(e) of the Toxic Substances Control Act ("TSCA") [15 U.S.C. § 2607(e)] contains a reporting requirement that may be applicable in the case of a release of chemical substances into the environment. The EPA has issued a "Statement of Interpretation" that more fully explains the policy adopted by the EPA to implement Section 8(e) (43 Fed. Reg. 11110, March 16, 1978). Clarification and solicitation of public comment concerning "mandatory reporting of information under Section 8(e) was requested via Federal Register notice on July 13, 1993 (58 Fed. Reg. 37735). The comment period was extended until October 28, 1993, but no further action has been taken and the final word on guidance is still pending. It should be noted, however, that this Statement of Interpretation (hereinafter referred to as "Guidance") is a guidance document only and was not promulgated pursuant to the notice and comment provisions required under the Federal Administrative Procedures Act.[7]

B. Statutory Requirement

Section 8(e) of TSCA states in part that:

> "Any person who manufactures, processes, or distributes in commerce a chemical substance or mixture and who obtains information which reasonably supports the conclusion that such substance or mixture presents a substantial risk of injury to health or the environment shall immediately inform the Administrator [of the EPA] of such information unless such person has actual knowledge that the Administrator has been adequately informed of such information.

15 U.S.C. § 2607(e).

C. Persons Subject to Requirement

Both natural persons and business entities engaged in manufacturing, processing, or distributing in commerce a chemical

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[7] EPA plans to publish in the Federal Register proposed guidance "refining" this Statement of Interpretation. Solicitation of comments and clarification of policy was published on July 13, 1993 (58 FR 37735) but the comment period was extended until October 28, 1993. As of July 1994, EPA had taken no further action on this issue.

substance or mixture for sale, private use, or research, are subject to the reporting requirements. Guidance § II. Business entities will be charged with knowledge of information possessed by employees if these employees are capable of appreciating the significance of the information. The business entity and its individual employees have the separate duty to report pertinent information directly to the EPA. However, individual employees need not report the required information directly to the EPA if their employer has established, internally publicized, and affirmatively implemented a program for receiving and processing such information and the employee reports it to the employer. The EPA, in turn, must receive the pertinent information within 15 working days after the person obtains this information.

D. Releases Subject to Reporting Requirements

Any environmental contamination by a "chemical substance" or "mixture" to which certain adverse effects have been ascribed (namely, cancer, birth defects, death, or bioaccumulation), and which, because of the pattern, extent, and amount of contamination, either (1) seriously threatens humans with cancer, birth defects, mutation, death, or serious or prolonged incapacitation, or (2) seriously threatens nonhuman organisms with large scale or ecologically significant population destruction, must be reported.

E. Hazardous Substances Subject to Reporting Requirements

The reporting requirements apply to a broad category of "chemical substances" and "mixtures". Chemical substances are defined in Section 3 of TSCA (15 U.S.C. § 2602) as "any organic or inorganic substance of a particular molecular identity, including (i) any combination of such substances . . . and (ii) any element or uncombined radical". The definition specifically excludes any mixture; pesticides as defined in the Federal Insecticide, Fungicide and Rodenticide Act (7 U.S.C. § 136 et seq.); tobacco or tobacco products; source, special nuclear, or byproduct material defined in the Atomic Energy Act (42 U.S.C. § 2011 et seq.); and, any food, food additive, drug, or cosmetic device as defined in the Federal Food, Drug, and Cosmetic Act (21 U.S.C. § 321 et seq.). "Mixture" is defined as "any combination of two or more chemical substances if the combination does not occur in nature and is not, in whole or in part, the result of a chemical reaction . . .". 15 U.S.C. § 2602(8). It should be noted that Section 8(b) of TSCA [15 U.S.C. § 2607(b)] requires that an inventory of each chemical substance that is manufactured or processed in the United States be kept. However, because of exceptions to this requirement, not all "chemical substances" that may be subject to reporting requirements will be found on this inventory.

F. Determination of Reportable Event

Reporting is only required when the person obtains information that "reasonably supports" the conclusion that such substances or mixtures present a substantial risk of injury to health or the environment. In the case of an unanticipated release, a single incidence of cancer, birth defects, mutation, death or serious incapacitation of a human would be reportable if one or a few chemicals were implicated. "Reasonable support" for this connection would include preliminary and final conclusions of medical health surveys, clinical studies, and reports concerning and evidence of effects in the environment. Guidance § VI.

G. Exemptions

Information required to be reported under this Guidance need not be reported in two circumstances. The first is where the person who would report a contamination has actual knowledge that the EPA has already been informed. The second exemption is when the incident has already been reported as a spill, as required by Section 311(b)(5) of the FWPCA. Guidance § VII.

H. Mechanisms of Notification: What Must be Reported and How

For emergency incidents of environmental contamination, a telephone report to the EPA is required as soon as the person has knowledge of the incident. This report should contain as much of the following as possible:

1. a statement that the incident is being reported pursuant to Section 8(e) of TSCA.

2. the name, address, telephone number, and job title of the person reporting the incident, along with the name and address of his employer.

3. the name of the chemical substance or mixture including, if known, the CAS Registry number.

4. a summary of the adverse effects being reported, including a description of the nature and extent of the risk involved.

5. the specific source of information together with a summary of any available supporting technical data.

A written report supplying all of the above information must be submitted within 30 calendar days of the incident to: Document Processing Center (TS-790), Office of Toxic Substances, Environmental Protection Agency, 401 M Street S.W., Washington,

D.C. 20460. Attn: 8(e) Coordinator. 52 Fed. Reg. 20083 (May 29, 1987).

I. Penalties

Failure or refusal to report the above information when required renders a person liable to the United States for civil and criminal penalties pursuant to Section 16 of TSCA. (15 U.S.C. § 2615.) The government may also seek judicial relief to compel production of the information required, pursuant to Section 17 of TSCA. (15 U.S.C. § 2616). Note, however, that confidentiality claims may be submitted to the EPA at the time of the disclosure of the information and the EPA will handle these claims according to the regulations outlined in 40 C.F.R. Part 2.

XI. UNDERGROUND STORAGE TANK REGULATIONS

A. Federal Release Reporting Requirements

Pursuant to RCRA § 9003(c)(3), EPA promulgated reporting requirements for suspected releases and releases from underground storage tank ("UST") systems at 40 C.F.R. §§ 280.50 and 280.53. According to § 280.50, owners and operators of UST systems must report to the implementing agency within 24 hours, or another reasonable time period specified by the implementing agency and follow release investigation and confirmation steps in § 280.52 for any of the following conditions:

(a) the discovery by owners and operators or others of released regulated substances at the UST site or in the surrounding area (i.e, presence of free product or vapors in soils, basements, sewer and utility lines, and nearby surface water);

(b) unusual operating conditions observed by owners and operators, such as erratic behavior of product dispensing equipment, sudden loss of product from the UST system, or an unexplained presence of water in the tank. These unusual operating conditions must be reported, unless system equipment is found to be defective, but not leaking, and it is immediately repaired or replaced; and

(c) monitoring results from a release detection method required under § 280.41 and § 280.42 indicate a release may have occurred, unless the monitoring device is found to be defective or, in the case of inventory control, a second month of data does not confirm the initial result.

As is clear from this review, § 280.50 covers reporting of suspected releases; whereas, § 280.53 covers confirmed releases--spills and overfills. Under § 280.53, owners and operators of UST systems must contain and immediately cleanup a spill or overfill

and report to the implementing agency within 24 hours, or another reasonable time period specified by the implementing agency, and begin corrective action in accordance with Subpart F of Part 280. Owners and operators of UST systems must follow these procedures in the following cases:

(1) a spill or overfill of petroleum that results in a release to the environment that exceeds 25 gallons or another reasonable amount specified by the implementing agency, or that causes a sheen on nearby surface water; and

(2) a spill or overfill of a hazardous substance that results in a release to the environment that equals or exceeds its reportable quantity under CERCLA (40 C.F.R. Part 302). In addition, under this section, if owners and operators of a UST system cannot contain and immediately cleanup a spill or overfill of petroleum that is less than 25 gallons or a spill or overfill of a hazardous substance that is less than the reportable quantity within 24 hours, they must immediately notify the implementing agency. 40 C.F.R. § 280.53(b). It should also be noted here that pursuant to 40 C.F.R. §§ 302.6 and 355.40, a release of a hazardous substance equal to or in excess of its reportable quantity must also be reported immediately (rather than within 24 hours) to the National Response Center under CERCLA §§ 102 and 103, and it must be reported to appropriate state and local authorities under SARA Title III. See supra §§ II and III.

B. Texas Underground Storage Regulations

The TNRCC has authority to regulate release reporting for USTs in Texas. These TNRCC regulations are essentially the same as those outlined above for the federal UST release reporting requirements. The TNRCC regulations are found at 30 T.A.C. § 334.72 for reporting of suspected releases and § 334.75 for reporting of surface spills and overfills. A suspected spill must be reported within 24 hours to the appropriate TNRCC District Office or the Austin Central Office of the TNRCC. Spills and overfills from a UST system must be reported by the owner or operator to the TNRCC within 24 hours.

XII. OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION REGULATIONS

The primary emphasis of the Occupational Safety and Health Administration ("OSHA") regulations is to protect employee health by limiting their exposure to hazardous and toxic materials. Employee exposure limits may be found at 29 C.F.R. § 1910.1000 et. seq. Thus, a release inside a building that does not reach the environment may not trigger environmental regulations requiring release reporting, but may trigger OSHA limits for employee exposure. Under 29 C.F.R. Part 1910, elements of an OSHA emergency response plan requires that emergency response personnel be trained and knowledgeable regarding emergency alerting and

response procedures. Under § 1910.120(p), for RCRA facilities, SARA Title III plans may be substituted for similar items in the employer's emergency response plan. This substitution would presumably include Title III release reporting requirements, if they are part of the emergency response plans.

XIII. OIL POLLUTION ACT

The federal Oil Pollution Act ("OPA") provides that responsible parties for vessels from which a discharge or substantial threat of discharge of oil into or upon navigable waters, adjoining shorelines, or exclusive economic zones of the United States are liable for removal costs and various types of damages. See 33 U.S.C. § 2701-2761. These damages include losses associated with natural resources, real or personal property, subsistence use of natural resources, revenues, profits and earning capacity, and public services. The Oil Pollution Act essentially amends the Clean Water Act, but it has no independent reporting requirement for discharges of oil. Nevertheless, failure to report a discharge as required by other federal laws where the responsible party knows or has reason to know of the incident, bars assertion of a defense from liability under § 1003 of OPA. See OPA § 1003(c). Section 1003 provides defenses to liability for discharges where the discharge and resulting damages or removal costs are solely the result of "(1) an act of God; (2) an act of war; (3) an act or omission of a third party, other than an employee or agent of the responsible party or a third party whose act or omission occurs in connection with any contractual relationship with the responsible party . . . ." See OPA § 1003(a). Finally, the OPA will require revisions to the National Contingency Plan (NCP) discussed supra at III.I., (40 C.F.R. Part 300). The revisions to the NCP were proposed on October 22, 1993 (58 Fed. Reg. 54702) and the comment period extended until January 14, 1994. No action has been taken since that time.

XIV. TEXAS OIL SPILL PREVENTION & RESPONSE ACT OF 1991

A. Overview

The 72nd Texas Legislature enacted revisions to the Natural Resources Code, adding Chapter 40 which addresses petroleum discharges that impact or threaten to impact coastal waters of the State. The Oil Spill Prevention and Response Act of 1991 ("OSPRA"), which became effective March 28, 1991, conferred authority on Texas General Land Office (GLO) to:

- prevent spills and discharges of oil
- provide for prompt response to abate same

- develop a state coastal discharge contingency plan (coordinated with TNRCC)

- administer a fund to provide for abatement activities

Regulations promulgated by the GLO to administer OSPRA are detailed at 30 Texas Administrative Code, Chapter 19.

B. Statutory Notification Requirements

Natural Resources Code Sections 40.101, et seq. state that any person responsible for an unauthorized discharge of oil (or the person in charge of any vessel or a terminal facility from which an unauthorized discharge has occurred) shall, as soon as that person has knowledge of the discharge:

(1) immediately notify the Commissioner of the discharge;[8] and

(2) undertake all reasonable action to abate, contain, and remove pollution from the discharge.

C. Persons Subject to Notification

The term "person in charge" is defined by the Act in § 40.003(18) to mean "the person on the scene who is directly responsible for a terminal facility or vessel when the discharge occurs...." Similarly, Natural Resources Code § 40.003(19) defines the term "responsible person" to mean either (1) the owner or operator of a vessel or terminal facility, or in the case of an abandoned vessel or facility, the person who would have been responsible immediately prior to abandonment, or (2) any other person who causes, allows, or permits an unauthorized discharge of oil. Additionally, 30 TAC § 19.16 stipulates that, upon applying for a certificate, an applicant must designate a person (or persons), by name and job title, who is in charge of the facility for purposes of notifying the GLO in the event of unauthorized discharges at the facility.

D. Unauthorized Discharge Subject to Notification

30 TAC § 19.2(15) defines "unauthorized discharges" as discharges, excluding those authorized by and in compliance with a government permit, seepage from the earth solely from natural causes, and unavoidable minute discharges of oil from a properly functioning engine, of a harmful quantity of oil from a vessel or facility into either coastal waters or onto any waters or land

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[8] For purposes of this regulation, the term "immediately" means within one (1) hour of the time the discharge is discovered. 30 TAC § 19.32(c) (17 Tex. Reg. 1121, Feb. 7, 1992).

adjacent to coastal waters where harmful quantities of oil may enter coastal waters or threaten to enter coastal waters if the discharge is not abated nor contained and the oil is not removed.

E. Mechanics of Notification

To report an actual or threatened unauthorized discharge, phone 1-800-832-8224. This line is staffed at all times. (30 TAC § 19.32(a)).

F. Penalties

The Act provides for both civil and criminal penalties for noncompliance. For example, Natural Resources Code § 40.251 of the Act provides that persons who intentionally commit certain violations of the Act are guilty of Class A misdemeanors. Other actions, such as unauthorized discharges, followed by failure to notify, are subject to substantial civil penalties (Natural Resources Code § 40.251(b)) (e.g., not less than $250 nor more than $25,000 for each day of the discharge, or not more than $1,000 per barrel of oil discharged) (Natural Resources Code § 40.251(c)). Likewise, persons who fail to abate discharges and file fraudulent statements and claims may be found guilty of third degree felonies.

Additionally, persons responsible for unauthorized discharges are liable for reimbursement to the fund of all reasonable response costs. Natural Resources Code § 40.153.

XV. TEXAS RAILROAD COMMISSION RULES FOR CRUDE OIL SPILLS

A. Introduction

On October 5, 1993, the Texas Railroad Commission adopted a new rule, 16 T.A.C. 3.91 (18 Tex. Reg. 6835) to provide standards on the cleanup of spills of crude oil into soil. These rules relate to cleanup of crude oil spills from oil and gas exploration and production activities, including transportation by pipeline. It was the Commission's intent to allow flexibility in the methods used to achieve final cleanup levels, including natural or enhanced bioremediation; thermal treatment, incineration, or other heat-driven process; and solvent extraction. Alternative methods may be approved by the Commission on a case-by-case basis.

B. Applicability

The rule applies to the clean up of soils contaminated by crude oil spills in "non-sensitive areas". The standards do not apply, however, to oil spills in "sensitive areas." Sensitive areas include lakes, rivers, streams, dry creekbeds, wetlands, irrigation canals, stock tanks, other surface water bodies (or proximity to surface water), proximity to parks or natural

wildlife refuges, proximity to residential or commercial areas, and areas with shallow groundwater, or pathways for communication with deeper groundwater.

C. Reporting and Notification Requirements

1. Spills into Soil of Five Barrels or Less of Crude Oil

Spills into soil of five barrels or less of crude oil are not subject to the reporting requirements set forth in the rules. However, such spills must be remediated to standards. All spills into water must be reported.

2. Spills into Soil Exceeding Five Barrels of Crude Oil

For each spill exceeding five barrels, the responsible operator must comply with the notification and reporting requirements of Statewide Rule 20 (16 TEX. ADMIN. CODE § 3.20) and submit a report on Form H-8 to the appropriate Railroad Commission district office.

a. Statewide Rule 20

Under Statewide Rule 20, 16 TEX. ADMIN. CODE § 3.20, operators must give immediate notice of an oil spill or leak to the appropriate Railroad Commission district office by telephone or telegraph. The operator must then submit a letter fully describing the event. This letter must include the volume of petroleum lost, the location of the well or receptacle by county, survey, and property (so that the exact location thereof can be readily located on the ground), and a description of the steps taken to remedy the situation.

b. Form H-8

In addition to the reporting requirements of Statewide Rule 20, the operator must submit a report on Form H-8 to the appropriate Railroad Commission district office. In addition to the information required on Form H-8, the operator must also include the following:

(1) area (square feet), maximum depth (feet), and volume (cubic yards) of soil contaminated with greater than one percent by weight total petroleum hydrocarbons;

(2) a signed statement that all soil containing over one percent by weight total petroleum hydrocarbon was brought to the surface for remediation or disposal;

(3) a signed statement that all soil containing over 5% by weight total petroleum hydrocarbons has been mixed in place to five percent by weight or less total petroleum hydrocarbons or has been removed to an appropriate disposal site;

(4) detailed description of the disposal or remediation method used or planned to be used for cleanup of the site; and

(5) the estimated date of completion of site cleanup.

3. Spills into Soil Exceeding Twenty-Five Barrels of Crude Oil

For each spill of 25 barrels or more, in addition to the above requirements, the operator must submit a final report to the Railroad Commission district office upon completion of site cleanup. The operator should also submit analyses of representative samples of the spill site to verify that the final cleanup concentration has been achieved.

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CONTAMINATION ASSESSMENT AND REMEDIATION

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INTRODUCTION

Assessment of contamination that has resulted from releases of hazardous materials or hazardous waste typically is conducted through soils and groundwater investigation. Once contamination is identified in terms of compounds and contamination levels, methods of remediation and clean up levels can be established. This paper describes the major elements associated with contamination assessment and further discusses remediation technologies applicable to soils and groundwater.

SOILS SAMPLING AND ANALYSIS

Soils Sampling

Before commencing the sampling activities, the engineer or scientist must first determine sampling and sampling techniques. A useful guidance document when making these determinations is EPA's SW-846, "Test Methods for Evaluating Solid Waste." A three-dimensional grid is often superimposed over the area of investigation. Samples can be taken at varying locations and depths within the grid to assess the extent and depth of contamination, if any. Typically, a circular pattern of sampling is used, with samples being concentrated near expected contamination.

In order to effectively interpret data gathered from the analysis of the samples, background samples must be collected. These background samples will indicate what constituents are naturally occurring in the soil. The background samples should come from areas of the same or similar soil classification as the area under investigation. This determination can be made using the visual-manual procedure outlined by the American Society of Testing and Materials (ASTM) in ASTM D 2488-90. In addition to having the same or similar classification, the areas must have been secluded from chemical and waste traffic, manufacturing, and/or other chemical-use activities to provide effective background data.

Typical sampling devices used to collect soil samples include augers, thin-walled tubes, and split spoon or split barrel samplers. Whenever possible, liners should be used with sampling devices to help prevent cross-contamination during sampling. Liners should be made of materials such as stainless steel, brass, or another material that prevents leaching of contaminants into the sample from the liner. In particular, flexible PVC and polyethylene liners are not recommended when sampling for certain volatile organics due to sorption.

In some applications, preparation methods are required, such as coring of concrete for sampling under a slab or boring of the soil in order to collect samples at progressively deeper locations. In these instances, drilling equipment typically is used, and drilling operations occur in tandem with sample collection.

In most applications, the most efficient preservation method for soil samples is refrigeration. Sample integrity can be maintained for several days and up to several weeks, depending on soil

type and preservation temperature, with the optimal temperature range being 0°C to 4°C (EPA 1991). If the sample has to be transferred to a container, the time the sample is exposed to the atmosphere should be minimized and measures should be taken to ensure the sample strata is not disturbed.

The field log is an integral part of the sampling event and should be completed as accurately as possible. Data pertaining to persons/company performing the sampling, site data, and sample data should be collected. Once the log for an event is completed, it should be kept as part of the sampling record, and should be filed with sampling data and other information about the project. Likewise, chain of custody records are kept with the sampling data as part of the sampling record.

Soils Analysis

Standard Methods. Standard methods for soils analysis are documented in EPA's manual SW-846. The methods presented for analysis of soils are the same methods used for groundwater. Preparation procedures typically will be different, however, since soils will require digestion and extraction before the analysis is performed. Because of this, practical quantitation limits (PQLs) of soil and groundwater may vary significantly from contaminant to contaminant, with quantitation limits of groundwater contaminants generally being lower.

In Situ Analysis

Soil-Gas Analysis. Several analytical devices currently are marketed that can perform in situ soil-gas analysis. In general, in situ analysis is less time consuming and cuts down on sample handling and exposure of the sample to the atmosphere. This type of analysis typically is used for screening.

Active in situ soil-gas analysis utilizes soil-gas cores or probes, which are 1 to 3 meters in depth, and a vacuum system such as a syringe to pull the vapor to the surface for immediate analysis. Probes can be inserted into the ground with hammers or hydraulic rams to reach depths of 3 to 5 feet. Numerous chemical detectors can be used in the field to give a quantitative measure of soil-gas contamination, including flame ionization detector (FID), electron capture detector (ECD), Hall electrolytic conductivity detector (HECD), photoionization detector (PID), and flame photometric detector (FPD). Sensitivity ranges from 10-100 picograms/sec of material for photoionization detectors to 0.001 picograms/sec of material for electron capture detector.

In addition to active soil-gas analysis using detectors listed in the table, initial screening for contamination can be performed using an organic vapor analyzer (OVA). This type of device does not distinguish between hydrocarbons and chlorinated solvents. Thus, once contamination is identified, more sophisticated equipment must be used to speciate and quantify the contaminants. Other hand-held instruments that can be used as screening devices include portable infrared spectrometers, ion mobility spectrometers, and fiber optical sensors. If budgets and trained personnel do not allow for active sampling, passive samplers made of an adsorbent such

as activated charcoal can be buried in the soil and collected at a later time for analysis in the laboratory.

Surface Radiation Survey. Portable beta/gamma detectors are used widely for screening contamination at a hazardous waste site containing radioactive wastes. Most of these detectors are easy to operate, with probes that are used to scan the surface and provide continuous readings while the operator walks in a predetermined pattern. When areas contaminated above background levels are found, they can be marked with a stake, and measured values can be recorded on the stake and in a log book. Using this method, the extent of contamination can be charted easily (DOE 1990).

GROUNDWATER MONITORING

The primary reason for installing a groundwater monitoring system is to determine in situ groundwater conditions. If the system is installed properly, samples collected and analyzed from the wells will provide a means for evaluating groundwater contamination.

Design and Installation of Monitoring System

Several factors influence the design and installation of an effective groundwater monitoring system. These include:

- Geologic and hydrogeologic conditions — Geologic and hydrogeologic conditions directly affect the occurrence and movement of groundwater and contaminant transport. Considerations include soil type, soil permeability, water table height and seasonal fluctuations, characteristics of aquifers, groundwater direction, and others. In addition, the presence of consolidated or unconsolidated formations must be understood in order to properly evaluate and design water intake methods.

- Facility characteristics — Different types of facilities (i.e., land treatment facilities, hazardous waste landfills, underground injection control systems, waste treatment facilities, underground storage facilities, etc.) will require different monitoring system designs. Waste characteristics, such as solubility and miscibility of wastes managed at the facility, also should be considered.

- Other site-specific information — Other information about the site should be taken into account, such as age of tanks, activities at the site, location of previously existing pumping wells, exact property boundaries, and other data that may be available.

- Equipment to be used in the well — The well must be designed to accommodate certain equipment such as water level measuring devices and groundwater sampling

- Material compatibility — Compatibility of the material with the expected groundwater constituents should be investigated thoroughly before well installation, since some materials have limited use. For instance, stainless steel can be used only in noncorrosive conditions, and

thermoplastics are not recommended for use where potentially sorbing organics are of concern. Additionally, studies have indicated that cuts and abrasions on stainless steel and, to a lesser degree, PVC casing during installation are readily susceptible to surface oxidation and provide active sites for sorption of metal impurities such as lead, cadmium, and other heavy metals.

Materials used in joining sections of casing should be of adequate strength and should be chemically compatible with the application.When possible, mechanical joints, such as threaded joints, are recommended. A fluoropolymer tape can be wrapped around the threads of the joint for water-tightness. Another joint commonly found in the field is a welded joint for metal applications.

- Well intake — The intake should be placed in the aquifer of interest for evaluation of that specific aquifer. If several aquifers are to be evaluated, separate wells should be constructed with the intakes placed at proper depths for sampling discrete water-bearing zones.

- System configuration — The groundwater monitoring system must consist of a sufficient number of wells, installed at appropriate locations and depths, to yield representative background and point-of-compliance groundwater samples from the uppermost aquifer. Upgradient wells should be installed in positions that will yield samples of groundwater not affected by the hazardous waste management unit. Downgradient well locations should be selected to ensure that potential pathways of contaminant migration are sampled. If several water-bearing zones are to monitored, this can be accomplished through well clusters, multiport well systems, nested piezometers (for shallow depths), and other groundwater profile systems.

Statistical Analysis

As required under RCRA regulations, upgradient wells and downgradient wells must be compared statistically to demonstrate that waste management units have not contaminated the groundwater. For permitted facilities, statistical evaluation of groundwater contamination can be performed using one of four statistical methodologies. These include parametric analysis of variance (ANOVA), nonparametric ANOVA based on ranks, tolerance or prediction interval analysis, or control chart analysis. RCRA-permitted facilities may use an alternate method if it meets the same performance standards required of the four delineated methods. Interim status facilities (those that have applied for, but have not received a RCRA permit) must make their statistical demonstration using the Student's *t*-test. EPA-approved statistical methods are delineated in EPA's guidance document "Statistical Analysis of Ground-Water Monitoring Data at RCRA Facilities: Interim Final Guidance."

Analytical Methods

Laboratory Analysis. Acceptable analytical methods for evaluating groundwater are documented in EPA's SW–846. Two quantitation limits are defined in the manual — the method quantitation limit (MQL), which is the minimum concentration of a substance that can be measured using the

method, and the practical quantitation limit (PQL), which is the lowest level that can be reliably achieved within specified limits of precision and accuracy during routine laboratory operating conditions. The PQL generally is accepted as adequate for groundwater evaluation.

Most commonly, sample analysis for groundwater is performed in a laboratory. Typical analytical methods used in groundwater analysis of organics and pesticides include gas chromatographic (GC) methods and gas chromatographic/mass spectroscopic (GC/MS) methods. Hydrocarbons are analyzed using GC and high performance liquid chromatographic methods. Metals (except for hexavalent chromium and mercury) generally are evaluated using atomic absorption (AA) methods. Other constituents are evaluated using colorimetric, spectrophotometric, and other test methods.

In-Situ Analytical Methods. As a result of Superfund and other remediation activities, analytical methods for groundwater evaluation that can be used directly in the field are being investigated and, when possible, employed. Some of these methods that have proved successful in pilot or field tests include:

- Optical detection of organic nitro compounds (experimental) — This method uses a membrane for in situ optical detection of organic nitro compounds based on fluorescence quenching. A fluorophor is incorporated into a plasticized membrane, which preconcentrates organic nitro compounds from the groundwater. This leads to fluorescence quenching. The membrane can be used to sense explosives that are present at the parts per million (ppm) level or higher (U.S. Army Corps of Engineers 1991).

- Optical detection of polynitroaromatic hydrocarbons — This method uses a membrane that reacts with polynitroaromatic hydrocarbons to form a brown product when placed in groundwater contaminated with these compounds. This brown product can be remotely detected in the parts per billion (ppb) range with fiber optics, as a one-time reading (U.S. Army Corps of Engineers 1991).

- Synchronous excitation (SE) fluorescence spectroscopy — This method is an advanced type of ultraviolet fluorescence spectroscopy. The method is different from the conventional single wavelength excitation (SWE) technique in that the SE procedure can avoid scatter distortion in situ that the SWE cannot. Examples of contaminants that can be quantified in the ppb (and sometimes parts per trillion) range include aniline, o-cresol, naphthalene, phenol, toluene, and xylene (EPA 1988).

- Fiber-optic sensor — This method uses a differential-absorption fiber optic sensor to monitor certain volatile organochlorides such as trichloroethylene and chloroform. Optical fibers are sealed into a capillary tube containing a reagent. A porous teflon membrane at one end allows the target molecules to enter the tube and mix with the reagent, which turns color in the presence of these constituents. This color results in a decreased transmission of light, which the optical fibers measure (DOE 1991).

Other methods for monitoring changes in the groundwater are being investigated by Lawrence Livermore National Laboratory's Environmental Technology Program and include high-frequency electromagnetic measurements and electrical resistance tomography (DOE, DE91 009070 1990).

IN SITU AND ON-SITE TREATMENT OF SOILS

Numerous in situ and on-site treatment technologies have proved effective for field use. These include soil flushing, solidification/stabilization, vitrification, chemical degradation, biodegradation, soil vapor extraction, photolysis, and on-site incineration.

Soil Flushing

Soil flushing is accomplished by flooding the area to be remediated with an appropriate washing solution such as acidic or basic solutions, surfactants, or water. The elutriate is collected via shallow wells or drains and treated and/or reused. This technology is suitable for soluble compounds, and. if successful, no additional treatment is needed. The technology can be used in permeable soils, but is difficult to use in tight soils. Additionally, flushing may cause contamination to migrate to other soil areas or into the groundwater if the system is not installed properly.

Solidification/Stabilization

Solidification techniques produce a solid from liquid or semi-liquid wastes, thus improving handling and physical characteristics through agents such as lime, kiln dust, and cement. Stabilization techniques reduce the hazard potential of a waste by reducing solubility, mobility, or toxicity through organic binding or thermoplastic microencapsulation. This technology is suitable for inorganics, low-level radioactive wastes, and has some limited use for organics. Additives needed in the process are widely available and are relatively inexpensive. Additionally, leaching is reduced and, under the right conditions, no other treatment is necessary. However, in situ mixing can be difficult, and the volume of material will expand with the addition of solidification/stabilization agents.

In Situ Vitrification

This process is a thermal treatment process that converts contaminated soils into inert glass or other crystalline material. Large electrodes are inserted into silicate-containing soils, and an electric current generates enough heat to pyrolyze contaminants. This technology is suitable for organic compounds that will either fuse or vaporize. The technology has also proved effective for soils containing radionuclides and hazardous metals (DOE 1988). Excavation is not necessary, thus minimizing worker's exposure to contaminants. Products from this process have a low leachability. The process is very energy intensive, however, and specialized equipment and trained personnel are required, which increases the cost of this technology.

Chemical Degradation

With this process, wastes are transformed into less toxic, more elemental compounds through oxidation, reduction, and other chemical processes. In situ oxidation is suitable for pesticides and organic wastes that are water soluble; in situ reduction is suitable for metals and chlorinated organics. The achievable level of treatment potentially can be very high for many of applicable compounds. Treatment effectiveness is variable for different wastes and soil types, however, and some breakdown products may be more problematic or toxic than the parent compound. Additionally, some of the treatment reagents are costly.

Biodegradation

This process uses microbial organisms to convert waste to biomass and harmless by-products. The technology is suitable for oils and numerous organic compounds. Achievable levels of treatment potentially can be very high, while costs of using this technology are relatively low. Additionally, soils can be treated without excavating large quantities of soil. Treatment effectiveness is variable, however, depending on waste and soil type, and some by-products may be water soluble or mobile in soil.

Soil Vapor Extraction

The soil vapor extraction technology removes volatile organics by extracting vapors from the unsaturated zone using a vacuum or other extraction mechanism. This process is best suited for highly volatile compounds in fractured rock, or homogenous, high permeability soils. The technology provides permanent remediation once the material is extracted from the unsaturated zone.

Photolysis (Photodegradation)

This process breaks down chemicals with light energy such as ultraviolet light or incident solar radiation. Photo-enhancements can be used to increase treatment efficiencies. This technology is suitable for PCBs and specific organics such as acetaldehyde, dioxin, formaldehyde, and methylene chloride. The process does not require excavation, but the depth of treatment is limited to a thin upper layer of soil. Also, field data of expected breakdown products from the use of this technology is not fully developed.

On Site Incineration

On site incineration is a thermal process that uses a mobile rotary kiln incinerator system or other thermal system at the field site. This technology is suitable for PCB-contaminated soils and soils containing volatile and semi-volatile compounds. High treatment efficiencies are achievable with this technology; however, the process is expensive and energy intensive. Soils must be excavated to be treated.

Innovative Treatment Technologies

In Situ Treatment of Radionuclide-Contaminated Soils. In situ treatment of radionuclide-contaminated soils has been investigated, and several technologies proved effective during bench scale tests. These included vibratory grinding, scrubbing, screening and desliming, and flotation. For full-scale applications, attrition scrubbing at a high pH was deemed the most feasible (DOE 1988).

Other Innovative In Situ Treatment Technologies. Other in situ treatment technologies are still in the investigative stages. These include biochemical enhancement mechanisms such as cometabolism and cell-free enzymes, electrokinetics, low energy extraction, ozone treatment, steam heating and extraction, vacuum-induced venting for volatile organic compounds in saturated low-permeable soils, and field treatment with a bioreactor. Methods to control volatile materials during remediation activities also are being researched and include radio frequency heating and soil cooling.

GROUNDWATER REMEDIATION

Over the last decade, groundwater remediation has been a major focus of engineers, scientists, and practitioners working in the environmental field. As such, numerous technologies have been developed and utilized to expedite cleanup of contaminated groundwater. Because of the quantities of groundwater involved with any remediation project, treatment technologies generally are limited to those that can be performed at the remediation site. Considerations that should be taken into account when selecting a technology include source of contamination, types of contaminants, hydrogeologic features, groundwater recharge zones, and other factors. Groundwater treatment technologies that have proved successful for some applications are detailed below.

Extraction/Treatment (also termed Pump and Treat)

This process involves extracting contaminated groundwater out of the ground with a system of pumping wells and treating the extracted groundwater with an air stripper, carbon adsorption unit, or other appropriate treatment unit. Remediated water is discharged to a stream, a groundwater recharge zone, or the sanitary sewer. This is the most commonly used remediation technology, and is most appropriate for water soluble compounds. The technology generally is not suitable for free phase contaminants in permeable aquifers. These systems typically are simple to operate and maintain and have been successful in many field applications over the years. Complete remediation using this method, however, is difficult to achieve due to tailing effects after initial high concentrations are remediated. Also, the volume of water that must be pumped to achieve acceptable cleanup levels can be excessive, and wells may become dry or perform poorly before remediation is completed.

Biological Barriers or Filters

This in situ technology involves use of microbial organisms which attach to a surface or a liquid/liquid interface and form a biofilm. This biofilm allows for uptake and decomposition of contaminants. The process is useful for groundwater in the saturation zone and for aquifer systems (Bellamy and deLint 1991 and DOE, DE91 009070 1990). Contaminants that can be treated using this technology include organic compounds and monoaromatic hydrocarbons, benzene, toluene, ethylbenzene and xylenes (termed BTX as a group). Biofouling can occur in some situations if pH, temperature, oxygen and/or the availability of electron acceptors cannot be controlled adequately.

In Situ Aeration

This technology uses air injected above or below the water table for the purpose of volatilizing organics. The air is injected through injection wells or horizontal trenches in the contaminated zone (Adomait and Whiffin 1991). The process is inexpensive and does not have the potential to create break-down products. As with pump and treat technology, the amount of material removed decreases substantially as the concentration levels decrease.

CONCLUSION

Assessment of contamination and the development of increasingly effective soil and groundwater cleanup technologies are activities that will continue throughout this decade and the next. Remediation of the unsaturated soil zone can provide great benefit, since this cleanup helps avert initial or subsequent groundwater contamination. Additionally, effective in situ remediation technologies for cleanup of contaminated groundwater are needed if or background conditions are to be restored because of the tailing effects and other limitations of traditional technologies.

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TNRCC SPILL REPORTING AND RESPONSE RULES

Presented at the
Sixth Annual Texas Environmental Superconference
August 4-5, 1994
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TNRCC Spill Reporting and Response Rules

In July, 1994, the Texas Natural Resource Conservation Commission (TNRCC) proposed the new Spill Prevention and Control Rules in the Texas Register.[1] These Rules were promulgated in an effort to clarify the Texas Water Code's statutory requirements for spill reporting. For many years, the Texas Water Code has required spill reporting, under Section 26.039. The language in this statute is very broad, which has made it difficult for the regulated community to interpret exactly when spills must be reported. For instance, commonly asked questions under this provision included:

> "Is there a reportable quantity or a de minimis amount that does not need to be reported?"
>
> "Who is required to report: anyone who discovers contamination or just the facility owner?"
>
> "Does a release that was not known by the current facility owner, but is discovered through audits or other investigations, need to be reported?"

The new Rules attempt to answer such questions and provide a clear framework for spill[2] reporting and response. They will be codified as Chapter 327 of Volume 30 of the Texas Administrative Code.

The purpose of this paper is to review the major elements of the proposed Rules.

1. Applicability

One of the stated purposes of the proposed Rules is to establish a comprehensive reporting and response program applicable to all discharges or spills under the TNRCC's jurisdiction. The Rules do not apply to spills regulated under the exclusive jurisdiction of other agencies. Thus, oil spills in or near coastal waters are not reported under these Rules because they are regulated by the General Land Office under Chapter 40 of the Texas Natural Resources Code. Likewise, discharges or spills from most activities associated with the oil business are regulated by the Railroad Commission and are exempt from these Rules. Tex. Nat. Res. Code Ann. §§ 85.042, 91.101, 91.601. However, the Rules do

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[1] This paper was written before the Rules were actually proposed. It is based on the draft of the Rules as they existed on June 29, 1994.

[2] The word "spill," when used in this paper, is intended to encompass "discharge or spill" as defined in § 327.2 of the new rules.

apply to spills of refined product from pipelines, and spills of crude oil from other forms of transportation (i.e. truck or rail).

Consistent with Federal spill-reporting programs, the Rules do not require reporting of permitted discharges. Proposed Rule § 327.1(d). Similarly, they exempt the lawful placement of waste in registered or permitted solid waste management units. Proposed Rule § 327.1(c). The Rules also exempt underground storage tanks regulated under Texas Water Code Chapter 26, Subchapter I.

2. Relationship to Risk Reduction Rules

Under these proposed Rules, the cleanup standards of the Risk Reduction Rules apply to all spills. Preamble to the Proposed Rules. Normally, the Risk Reduction Rules do not apply unless the remediation is not completed within 180 days. 30 Tex. Admin Code, Ch. 335, Subch. S. Under the proposed Rules, the procedural aspects of the Risk Reduction Rules (sampling, analysis, notification, deed recordation and reporting requirements) are not applied to spills unless the cleanup cannot be finished in 180 days. Proposed Rule § 327.4(d)(3).

3. Reporting Spills and Discharges - Proposed Rule§ 327.3

a. What is Reportable

The Rules define "reportable discharge or spill" as follows:

(1) any discharge or spill of any quantity of oil, hazardous substances, or other substances discharged or spilled into or which may enter water in the State if not immediately contained, controlled, or removed;

(2) any discharge or spill which presents an imminent and substantial endangerment to public health or public safety;

(3) discharges or spills of the CERCLA reportable quantity (RQ) or more for the material discharged or spilled and which are contained within operating registered facilities;

(4) any discharge or spill during transportation;

(5) any discharge or spill to soil only of 25 gallons or more of a petroleum product as defined in Texas Water Code § 26.342;

(6) any discharge or spill to soil only of 5 barrels or 210 gallons or more of crude oil; or,

(7) any discharge or spill to soil only of 25 gallons or more of oil as otherwise defined in these Rules.

b. When Does the Report Need to be Made?

Spills must reported within one hour of the time of the spill, or within one hour of a determination that a **reportable** spill or discharge occurred. This allows time to determine, for example, whether a spill of petroleum products exceeded 25 gallons. However, the responsible person must always report the spill report within 24 hours. Thus, if at 24 hours, the determination of whether a reportable quantity has been spilled is not complete, the spill must be reported.

c. To Whom is the Report Made?

(1) Initial Notification

In all cases, spills must be reported to the Regional Office for the TNRCC Region in which the discharge or spill occurred. Proposed Rule § 327.3(b). In addition, when the spill presents "endangerment to the public health or welfare," (such as an explosion, fire or traffic hazard) the responsible person must notify appropriate local governmental authorities. Proposed Rule § 327.3(d). These authorities may include the local fire department, law enforcement agencies, health authority or Local Emergency Planning Committee (LEPC). Finally, the owner or occupant of the property where the spill occurred, and the occupants of any property that may be affected, must be notified by telephone within one working day, and in writing within three working days. Proposed Rule § 327.3(e).

(2) Follow-Up Notification

The Rules require four possible follow-up reports:

i. A 24-hour update, giving any required information not provided in the original notification. This may be waived if all information is provided in the initial report and all response actions are complete. Proposed Rule § 327.3(b)(5).
ii. Immediate notification whenever there are significant changes in the quantity, quality or location of the spill. Proposed Rule § 327.3(b)(4).
iii. A 10-day written notification describing the response action. Proposed Rule § 327.4(d).

iv. A 10-day written confirmation that owners and occupants were notified. Proposed Rule § 327.3(e).

(3) Other Notifications

Currently, the Rules do not replace reporting requirements in any other rule or statute. Proposed Rule § 327.3(g). Sometime in the future, the Commission intends to consolidate all state reporting requirements into Chapter 327. Until then, duplicative reporting may be required under other Rules or statutes. For example, permit exceedances may have to be reported both under these Rules and under 30 TAC § 305.125(9). Likewise, continuous and stable spills reported to the EPA under 40 CFR § 302.8 must also be reported to the Commission.

d. Who Must Report?

The Rules require the "responsible person" to make the reports. Proposed Rule § 327.2 defines responsible person as:

(1) the owner, operator, or demise charterer of a vessel from which a discharge or spill emanates; or

(2) the owner or operator of a facility or unit from which a discharge or spill emanates; or

(3) any other person who causes, suffers, allows, or permits a discharge or spill.

e. Information Required to be Reported

The initial telephone notification must report, to the extent known, the following information:

(1) the date and time of the incident;

(2) a specific description or identification of the waste, hazardous substances or other substances discharged or spilled;

(3) an estimate of the quantity discharged or spilled;

(4) the duration of the incident;

(5) a description of the waters or other media involved, affected or threatened;

(6) the source of the discharge or spill;

(7) the name, address and telephone number of the responsible person;

(8) a description of the extent of actual or potential water pollution;

(9) the name and telephone number of the person who is in charge of operations or the person in charge at the location of the discharge or spill;

(10) a description of any actions that have been taken, are being taken and will be taken to contain and cleanup the site of the discharge or spill;

(11) the extent of any injuries resulting from or caused by the incident;

(12) any known or anticipated health risks;

(13) a description of any possible hazards to the environment;

(14) the identity of any governmental representatives, including local authorities, or third parties responding to the incident; and

(15) any other information which may be significant to the response action.

f. Alternative Reporting Requirements

Responsible persons may submit alternate notification plans for Commission approval. Proposed Rule § 327.3(h). This may allow facilities to tailor their reporting requirements to individual facilities.

g. Exemptions

As mentioned above, permitted discharges, and continuous and stable discharges reported to the EPA under 40 CFR § 302.8, are exempt from the requirements of these Rules. Proposed Rule § 327.1. Likewise, underground storage tanks are already extensively regulated under the Texas Water Code, Chapter 26, Subchapter I, and are thus completely exempt from these Rules. Proposed Rule § 327.1(d).

Conversely, facilities that are registered with the Commission as solid waste generators are exempt only from the notification requirements of these Rules, and only under certain circumstances. Proposed Rule § 327.3(b)(2). This exemption is allowed because of a recognition that registered facilities are likely to be aware of and comply with cleanup

requirements. For this exemption to apply, the following conditions must be met:

(a) the discharge or spill is on-site and is contained or removed;

(b) the discharge or spill has not entered and will not enter water in the State;

(c) the discharge or spill does not present an imminent and substantial endangerment to public health or public safety;

(d) the amount of the substance discharged or spilled is less than the CERCLA reportable quantity for that substance and the discharge or spill is only to soil;

(e) if the substance discharged or spilled is oil spilled only to soil, and

(i) the amount discharged or spilled is less than 25 gallons of petroleum product as defined in Texas Water Code § 26.342; or,

(ii) the amount discharged or spilled is less than 5 barrels or 210 gallons of crude oil; or,

(iii) the amount discharged or spilled is less than 25 gallons of oil as otherwise defined in these Rules.

4. Response Actions Required - Proposed Rule § 327.4

a. **Action**

Under the Rules, responsible persons must immediately begin reasonable response actions and cooperate fully with the Commission. The response actions may include, but are not limited to:

(1) initiation of efforts to stop the discharge or spill;
(2) minimization of the impact to the public health and the environment;
(3) containment of the discharge or spill;
(4) neutralization of the effects of the incident;
(5) removal of the material and substances discharged or spilled; and
(6) management of the wastes.

The responsible person is required to ensure that properly trained personnel respond to the discharge or spill and that these personal are provided with proper protective equipment. Proposed Rule § 327.4(b).

b. Notification

Within ten working days after discovering the incident, the responsible person must submit written notification to the TNRCC Regional Office describing the details of the event and the response action. Proposed Rule § 327.4(d). This written notice must contain one of the following items:

(1) a statement that the discharge or spill cleanup has been completed and a description of how the cleanup was conducted;

(2) a summary of the circumstances which require an extension of time for the response action and a work schedule for such action; or

(3) a statement that the discharge or spill cleanup has not been completed nor is a complete cleanup expected within 180 days, along with an explanation.

If a spill cannot be cleaned up within 180 days, the spill will become subject to not only the cleanup standards of the Risk Reduction Rules, but also to all of the procedural requirements under the Risk Reduction Rules. Proposed Rule § 327.327.4(d)(3).

c. Records of Unreported Spills

Operating facilities registered with the TNRCC as solid waste generators must maintain records of all discharges or spills and historical contamination that they have determined are not subject to the notification requirements of the Rules. These records must be maintained at the facility or vessel for three years after the discharge or spill or discovery of historical contamination. Proposed Rule § 327.4(e).

5. Emergency Planning Form Requirements - Proposed Rule§ 327.5

A new requirement in these rules calls for an "Emergency Planning Form" for most facilities and vessels. Proposed Rule § 327.5. This requirement applies to facilities or vessels storing, processing, or transporting any materials or substances that are capable of causing or resulting in pollution under the following circumstances. A facility must have an Emergency Planning Form if it is storing, operating processing or

transporting containers, tanks, pipelines, or vessels with a bulk capacity of 500 gallons or more of oil, or 500 gallons or more of hazardous substances or other substances. Proposed Rule § 327.5(a)(2). A vessel must have an Emergency Planning Form if it is storing, processing or transporting 500 gallons in bulk or more of oil, hazardous substances, or other substances. Proposed Rule § 327.5(a)(1).

The Rules contain a sample, three-page Emergency Planning Form in Appendix I. The form must contain general information about the facility, along with names and telephone numbers of emergency coordinators and responders. The form also requires the following information for stationary facilities:

a. distance and identification of nearest surface water within 1 mile;

b. distance and identification of nearest population within 1 mile;

c. distance and identification of other nearest sensitive receptors within 1 mile (for example - Edwards Aquifer Recharge Zone, wetland or marsh, wildlife refuge, recreational area, nursing homes, schools and hospitals);

d. Evacuation Sketch and Details;

e. The workplace chemical list required by the community right-to-Know provisions of SARA Title III.

The Emergency Planning form must be available at all times to personnel. Proposed Rule § 327.5(c). Posting the form on employee bulletin boards and near telephones and other emergency response equipment is sufficient to comply with this requirement. Proposed Rule § 327.5(c). The form must be available within ninety days after the effective date of the Rules. It must be reviewed and updated whenever any of the required information changes. Proposed Rule § 327.6.

6. Emergency Coordinator - Proposed Rule§ 327.7

The Rules require each facility or vessel subject to the Emergency Planning Form requirement to designate at least one emergency coordinator.

7. Historical Contamination - Proposed Rule§ 327.8

One issue that has perplexed many regulated entities, and their lawyers, is the obligations related to contamination that is not attributable to any known source. The Commission has received an increasing number of reports of contamination discovered during

property transfer site assessments as well as many requests for information about contamination by adjacent or prospective property owners. In response to these concerns, the Commission defined a reporting obligation for "historical contamination." See Proposed Rule § 327.8. Historical Contamination is defined in Rule § 327.2 as:

> the presence on land, or in the groundwater, of contamination in the form of oil, hazardous substances, or other substances resulting from discharges or spills the time or origin of which is not known. Historical contamination shall not include any discharge or spill:
>
> (a) authorized by a permit issued pursuant to federal law or any other law of the State of Texas;
>
> (b) any discharge or spill to which Subchapter C, D, E, F, or G, Chapter 40, Texas Natural Resources Code applies;
>
> (c) any discharge or spill that is regulated solely by the Railroad Commission of Texas; or
>
> (d) residual contamination from a discharge or spill that was previously reported to the TNRCC or a predecessor agency.

a. Who Must Report?

The historical contamination reporting requirements of the Rules differ from the regular requirements in that they require a broader class of people to report contamination. While current spills require only the responsible person (usually the owner, operator or spiller) to report a spill, the historical contamination rule requires any "person or entity discovering" the contamination to submit a written report. Proposed Rule § 327.8(a). The preamble clarifies that "the entity discovering historical contamination is considered the entity that has received analytical results or has firsthand knowledge of site circumstances."

b. Timing

Historical contamination must be reported in writing to the appropriate TNRCC Region Office within 10 working days of discovery. The notification must include the address and exact location of the contamination, the date and method of discovery, the nature of contamination, possible sources, the current property owner or operator, and any other appropriate information. Proposed Rule § 327.8(a).

Significantly, if the contamination presents an "imminent and substantial endangerment to the public health, public

safety or the environment" the person discovering it must immediately notify the Commission and any other appropriate authorities. Proposed Rule § 327.(b).

c. Response Actions

If the available information regarding historical contamination indicates that it presents an imminent danger, then the responsible person must cooperate with the Commission coordinator and the local incident command system to respond to the spill. If the contamination does not present an imminent and substantial endangerment to public health, safety or the environment, then the responsible person shall conduct a response consistent with the Risk Reduction Rules.

d. Exemptions

The notification requirements for historical contamination do not apply to operating facilities registered with the Commission as solid waste generators that maintain a current Notice of Registration if one of the following conditions is met:

(1) The historical contamination is reported in accordance with existing permits issued by the Commission; or

(B) The historical contamination is reported and incorporated into a current Site Assessment or RCRA Facility Investigation being conducted at the registered facility with the knowledge of the Commission; or,

(C) The concentration of the constituent detected by appropriate sampling and analytical methods is less than the Medium-Specific Concentrations identified in Appendix I or Appendix II of Subchapter S, Chapter 335 (the Risk Reduction Rules).

e. Burden of Proof

When historical contamination is discovered, the rules allow 10 days to submit a written report. Conversely, the rules for current spills require immediate telephone reporting (within 24 hours). Thus, when a report is made under the historical contamination rule, the responsible person has the burden of proof to show that the discharge or spill is the result of historical contamination. Proposed Rule § 327.8(e).

Chapter 327
Spill Prevention and Control
§§ 327.1-327.9

The Texas Natural Resource Conservation Commission (TNRCC) proposes new §§ 327.1-327.9 concerning the prevention, control and management of discharges or spills. Preventing discharges or spills and expeditiously removing discharges or spills is necessary to protect and maintain the quality of the waters in this state.

The TNRCC is proposing these Spill Prevention and Control Rules in a new Chapter 327 to effectuate its powers, responsibilities, and authorities regarding discharges or spills under Chapter 26 of the *Texas Water Code* and Chapter 361 *et seq.* of the Solid Waste Disposal Act, *Texas Health and Safety Code*. The Commission believes that such rules are necessary in order to improve the timeliness, adequacy, coordination, efficiency and effectiveness of the response to discharges or spills subject to the Commission's regulatory jurisdiction.

These proposed rules are designed to achieve the policy stated in § 26.262 of the Texas Hazardous Substances Spill Prevention and Control Act, *Texas Water Code*, which is to prevent the discharge or spill of hazardous substances into the waters in the state and to cause the removal of discharges or spills without undue delay. Also, the TNRCC serves as a member of the State Emergency Response Commission established under the authorities of Title III of the Superfund Amendments and Reauthorization Act of 1986. In this capacity, the TNRCC was designated to receive the Title III, Section 304 hazardous substance release reports beginning with the May 21, 1987 effective date for reporting to the state.

These rules establish a comprehensive reporting and response program applicable to all discharges or spills subject to the regulatory authority of the TNRCC. The TNRCC is the state's lead agency for the response to all hazardous substance discharges or spills, and discharges or spills of other substances and certain inland oil discharges or spills which may cause pollution. This authority is derived from §§ 26.261 - 26.268 of the Texas Hazardous Substances Spill Prevention and Control Act, *Texas Water Code*, and § 26.039, *Texas Water Code*. These rules will also apply to discharges or spills of solid waste pursuant to the Commission's authority to promulgate minimum standards for these materials as expressed at § 361.024 of the Solid Waste Disposal Act, *Texas Health and Safety Code*.

These proposed rules will generally apply to discharges or spills and contamination under the regulatory jurisdiction of the TNRCC. Specifically, these rules will not apply to oil discharges or spills that enter or threaten to enter coastal waters of the state. All response and cleanup operations resulting from such unauthorized discharges of oil are administered by the Texas General Land Office pursuant to Chapter 40, Oil Spill Prevention and Response Act of 1991, *Texas Natural Resources Code*.

Likewise, the Railroad Commission of Texas (RRC) is generally the agency to respond to discharges or spills from activities associated with the exploration, development, or production (including storage or transportation) of oil, gas and geothermal resources, under §§ 85.042, 91.101, and 91.601 of the *Texas Natural Resources Code*. Discharges or spills from brine mining or surface mining are also under the jurisdiction of the RRC and will not be subject to these rules. In general, the RRC has jurisdiction over discharges or spills associated with the transportation of crude oil before refining of the oil and of natural gas before its use in a manufacturing process or as a residential or industrial fuel. As a result, discharges or spills

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that the responsible person will make a realistic judgement about the likelihood of pollution occurring based on circumstances including, but not necessarily limited to, the chemical and physical characteristics of the spilled material, the soil characteristics of the area where the spill or discharge occurred, and the distance to the surface water or groundwater which could potentially be affected.

However, discharges or spills to on-site facility surface impoundments reservoirs and/or drainage ways which are in direct contact with surface water in the state are subject to the notification and response provisions of these rules.

Some responsible persons have, in the past, failed to comply with their obligations under the *Texas Water Code*, Chapter 26. This chapter is intended to ensure that responsible persons fully comply with the requirements of *Texas Water Code*, Chapter 26. The Commission wishes to make clear that any violation of this chapter could subject the responsible person to a civil penalty of up to $10,000 for each act of violation and each day of violation as provided in *Texas Water Code*, § 26.268. This chapter provides for immediate reporting, efficient, effective and coordinated responses, determination of the adequacy of any response or removal actions, and prevention of undue delay in removal actions. This chapter is also intended to improve and facilitate the enforcement of the provisions of this chapter and the *Texas Water Code* provisions applicable to discharges or spills.

In these proposed rules, the Commission defines terms applicable to the Texas Hazardous Substances Spill Prevention and Control Act, *Texas Water Code* §§ 26.261-26.268, *Texas Water Code*, § 26.039, and the provisions of these proposed rules. Standards and requirements for activities covered by this chapter are established. Specifically, these proposed rules establish reporting requirements and notification procedures, describe and set forth requirements and standards for timely and adequate responses to discharges or spills, require preparedness for the occurrence of discharges or spills, and prohibit certain activities.

In addition, these proposed rules are intended for coordination with the Risk Reduction Rules (30 TAC 335.8). Although there may have been some confusion in the past, the Commission wishes to make clear that the constituent-specific cleanup standards enumerated in the Risk Reduction Rules apply to cleanups of discharges or spills. Even though the Risk Reduction Rule procedures (including sampling, analysis, notification, deed recordation, and reporting) are not triggered under Subsections 327.4(d)(1) or (2), the constituent-specific cleanup standards of the Risk Reduction Rules (30 TAC §§ 335.554, 335.556, 335.559, and 335.563) apply to all cleanup activities for discharges or spills, whether conducted during or after the 180-day period discussed in Section 327.4(d)(2). The Commission believes the Risk Reduction Rule cleanup standards to be protective of public health and the environment and are appropriate for application to the cleanup of discharges or spills.

New § 327.1 will set forth the applicability of this chapter. Subsection (a) of this section clarifies that this chapter applies to all discharges or spills as defined in *Texas Water Code* §§ 26.039 and 26.262-268 and 30 *Texas Administrative Code* § 335.1, as well as to the discovery of historical contamination as defined in this chapter. Under subsection (b),

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New § 327.4 will require the responsible person to cooperate with the Commission on-scene coordinator and/or the local incident command system during the initial response, to provide reports of planned and completed response actions, and to undertake certain actions in response to a discharge or spill. Although the responsible person may be required to submit various work plans to the Commission, the Commission expects the responsible person to proceed with the response action at all times without any unnecessary interruptions. The responsible person will not be justified in interrupting a response action to wait for the executive director's approval of a work plan.

Subsection (a) of § 327.4 proposes to require the responsible person to begin adequate response actions immediately after the occurrence of the discharge or spill. This subsection is intended to prevent undue delay in the removal of discharges or spills. Subsection (b) will require the responsible person to take steps to ensure that personnel responding to a discharge or spill are properly trained and are provided with proper equipment.

Subsection (c) will require the responsible person to provide a report of past and planned response actions upon reasonable request by the executive director or local government responders. This subsection is intended to ensure that response actions are adequate to prevent or minimize pollution into the waters of the state and to facilitate Commission oversight of the response action.

Subsection (d) of § 327.4 proposes to require the responsible person to provide a written report containing information about the response action within 10 working days after the occurrence of the discharge or spill. This subsection is intended to ensure that the responsible person appropriately assesses, removes and disposes of the discharge or spill in a timely manner. This subsection is also intended to ensure that the responsible person properly assesses the impacts of the discharge or spill, and to facilitate Commission oversight of the removal action.

New § 327.5 sets forth emergency planning requirements. Subsection (a) proposes to require most facilities and vessels engaged in the storage, processing or transportation of materials or substances that could cause or result in pollution to prepare and maintain an emergency planning form. The form may be prepared so that it covers all vehicles or vessels in a responsible person's fleet and/or all vessels located at a facility. This section is intended to improve preparedness for a discharge or spill.

Subsection (b) refers to Appendix I, which lists the information required on the emergency planning form. Appendix I contains an example fill-in-the-blanks form that will meet the requirements of this section if it is completed properly and accurately. The emergency planning form requires certain notification information, and for stationary facilities only, some site specific information.

The form includes a section for listing the hazardous materials that may be present at stationary facilities. The form should list the chemicals and other materials at the site which site owners are currently required to identify in the Workplace Chemical List, under the "Community Right-to-Know" provisions of SARA Title III. The list need only include materials found at the site and stored in bulk in containers with capacities of 500 gallons or more.

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documents contamination on land or in the groundwater. The Commission wishes to maintain a clear distinction and prevent duplication between reports of current or ongoing discharges or spills requiring immediate response and cleanup, and reports of historical contamination that are not an immediate threat to surface or ground waters. The Commission requests reports of historical contamination in writing rather than the telephone notification required of current or ongoing discharges or spills.

The term historical contamination is defined in § 327.2. Historical contamination is not considered attributable to any known discharge or spill incident and discovery of historical contamination will usually be determined by the receipt of site sample analyses. In addition, the entity discovering historical contamination is considered the entity that has received analytical results or has firsthand knowledge of site circumstances. However, the discovery of any ongoing discharge or spill where the source or nature of the discharge or spill is unknown and the discharge or spill has entered, is entering, or may enter the water of the state is not considered historical contamination and is subject to the notification requirements of § 327.3. The notification requirements for the discovery of historical contamination (see § 327.8) are applicable where there is no imminent and substantial endangerment to public health or public safety. Residual contamination from a discharge or spill previously reported to the TNRCC or a predecessor agency is not reportable as historical contamination under these rules.

New § 327.9 will authorize members of the Commission and employees and agents of the Commission to enter any public or private property at any reasonable time to inspect or investigate conditions or actions relating to discharges or spills or to investigate compliance with this chapter. Specifically, the use of audio-visual equipment to depict and record site conditions is authorized. The purpose of this section is to make clear that Commission representatives investigating conditions or actions relating to discharges or spills or investigating compliance with this chapter have the right to enter any public or private property to do so as well as the corresponding right to take pictures, film, or record any conditions or activities.

_____, Director of Budget, Planning and Evaluation Division, has determined that for the first five-year period these rules will be in effect, there will be [no] fiscal implications as a result of enforcement or administration of these proposed rules. The effect on state government will be ... for the first five-year period these sections will be in effect. The effect on local government will be ... for the first five-year period these sections will be in effect.

These sections as proposed will (will not) have impacts on small businesses.

The cost of compliance for small businesses compared with the cost of compliance for the largest businesses affected is...

_____has also determined that for each year of the first five years these sections are in effect the public benefit anticipated as a result of enforcing and administering these sections will be improvements in ... The anticipated economic cost to individuals who are required to comply with these sections as proposed will be...

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§ 327.2. Definitions.

The following words and terms when used in this chapter, shall have the following meanings, unless the context clearly indicates otherwise.

Coastal waters - Surface waters subject to the tide and located in or bordering counties of Texas having a shoreline and that portion of the Gulf of Mexico subject to the jurisdiction of the State of Texas.

Commission - The Texas Natural Resource Conservation Commission.

Commission On-Scene Coordinator - The official designated by the executive director to coordinate and direct Commission responses, or to oversee private responses to discharges or spills on-site.

Discharge or spill - An act or omission by which oil, hazardous substances, or other substances in harmful quantities, are spilled, leaked, pumped, poured, emitted, entered, or dumped onto or into waters in the State of Texas or by which those substances are deposited where, unless controlled or removed, they may drain, seep, run, or otherwise enter water in the State of Texas. The term "discharge" or "spill" shall not include any discharge which is authorized by a permit issued pursuant to federal law or any other law of the State of Texas, any discharge to which Subchapter C, D, E, F, or G, Chapter 40, *Texas Natural Resources Code*, applies or, with the exception of spills in coastal waters, regulated solely by the Railroad Commission of Texas.

Emergency Coordinator - The employee designated by the owner or operator of a facility or vessel to coordinate response actions in the event of a discharge or spill.

Emergency Response Team - A unit of the Emergency Response and Assessment Section of the Pollution Cleanup Division in the Office of Waste Management and Pollution Cleanup of the Commission.

Facility - Any structure or building, including contiguous land, equipment, pipe or pipeline, well, pit, pond, lagoon, impoundment, ditch, landfill, storage container, motor vehicle, rolling stock, aircraft, or any site or area where a discharge or spill has occurred or may occur.

Harmful quantity - That quantity of hazardous substance the discharge or spill of which is determined to be harmful to the environment or public health or welfare or may reasonably be anticipated to present an imminent and substantial danger to the public health or welfare by the administrator of the EPA pursuant to federal law and by the executive director.

Hazardous substance - Any substance designated as such by the administrator of the EPA pursuant to the Comprehensive Environmental Response, Compensation, and Liability Act, 42 U.S.C. 9601 *et seq.*, regulated pursuant to Section 311 of the Clean Water Act, 33 U.S.C. 1321 *et seq.*, or designated by the Commission.

Hazardous waste - Any solid waste identified or listed as a hazardous waste by the administrator of the EPA pursuant to the federal Solid Waste Disposal Act, as amended by the Resource Conservation and Recovery Act, 42 U.S.C. 6901 *et seq.*, as amended.

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Transportation - The act of conveyance or movement of materials from one place to another by truck, ship, pipeline, or other means.

Vessel - Every description of watercraft, used or capable of being used as a means of transportation on the water.

Water or water in the state - Groundwater, percolating or otherwise, lakes, bays, ponds, impounding reservoirs, springs, rivers, streams, creeks, estuaries, wetlands, marshes, inlets, canals, the Gulf of Mexico, inside the territorial limits of the state, and all other bodies of surface water, natural or artificial, inland or coastal, fresh or salt, navigable or nonnavigable, and including the beds and banks of all watercourses and bodies of surface waters, that are wholly or partially inside or bordering the state or inside the jurisdiction of the state.

§ 327.3. Notification Requirements.

(a) A *reportable discharge or spill* is: (1) any discharge or spill of any quantity of oil, hazardous substances, or other substances discharged or spilled into or which may enter water in the State if not immediately contained, controlled, or removed; (2) any discharge or spill which presents an imminent and substantial endangerment to public health or public safety; (3) discharges or spills of the CERCLA reportable quantity (RQ) or more for the material discharged or spilled and which are contained within operating registered facilities; (4) any discharge or spill during transportation; (5) any discharge or spill to soil only of 25 gallons or more of a *petroleum product* as defined in *Texas Water Code* § 26.342; (6) any discharge or spill to soil only of 5 barrels or 210 gallons or more of crude oil; or, (7) any discharge or spill to soil only of 25 gallons or more of oil as otherwise defined in these rules.

(b) Initial notification required. Upon the determination that a reportable discharge or spill has occurred, the responsible person must provide a telephone report to the Commission within one (1) hour of that determination. In all occurrences, the initial telephone notification must be made within 24 hours of the discovery of or the occurrence of the discharge or spill. This notification may be accomplished during normal business hours by calling the Regional Office for the TNRCC Region in which the discharge or spill occurred. For incidents occurring after normal business hours, this notification may be accomplished by calling the Texas Emergency Response Center at the telephone numbers listed in the most recent State of Texas Oil and Hazardous Substances Spill Contingency Plan.

(1) In all occurrences, the initial telephone notification must provide, at a minimum and to the extent known, the information covered in section 327.3(c)(1-7).

(2) Operating facilities registered with the Commission as a solid waste generator and maintaining a current Notice of Registration are not subject

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(2) a specific description or identification of the waste, hazardous substances or other substances discharged or spilled;
(3) an estimate of the quantity discharged or spilled;
(4) the duration of the incident;
(5) a description of the waters or other media involved, affected or threatened;
(6) the source of the discharge or spill;
(7) the name, address and telephone number of the responsible person;
(8) a description of the extent of actual or potential water pollution;
(9) the name and telephone number of the person who is in charge of operations or the person in charge at the location of the discharge or spill;
(10) a description of any actions that have been taken, are being taken and will be taken to contain and cleanup the site of the discharge or spill;
(11) the extent of any injuries resulting from or caused by the incident;
(12) any known or anticipated health risks;
(13) a description of any possible hazards to the environment;
(14) the identity of any governmental representatives, including local authorities, or third parties responding to the incident; and
(15) any other information which may be significant to the response action.

(d) Notification of Local Governmental Authorities. If the discharge or spill presents endangerment to the public health or welfare (such as, but not limited to the occurrence of an explosion, a fire, or a traffic hazard), the responsible person must immediately notify the local fire department, law enforcement authority, health authority, or LEPC as appropriate. If the local government does not agree or is unable to notify potentially affected parties, including residents, to take appropriate precautions such as evacuation, then the responsible person shall make these notifications immediately.

(e) Notification to Property Owner and Residents. The responsible person must notify the owner or occupant of the property upon which the discharge or spill occurred as well as the occupants of any property that may be affected, by telephone, within one (1) working day and, in writing, within three (3) working days of the incident. Notification must be made immediately in situations where the discharge or spill may threaten the health or safety of property owners, occupants, residents, or others either by the local government or by the responsible person.

(f) Proof of Owner Notification. A copy of all written reports required by the Commission under § 327.4 of this chapter (relating to Actions Required) must be mailed, by certified mail, return receipt requested, at the same time that the report is submitted to the Commission, to the owner and occupant(s) of the property upon which the discharge or spill occurred. The person who caused,

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need for:

(1) further remedial actions by the responsible person;

(2) the initiation of state funded actions for which the responsible person may be held liable to the maximum extent allowed by law; and

(3) subsequent reports on the response actions.

(d) The responsible person must submit written notification, such as a letter, describing the details of the event and supporting the adequacy of the response action, to the appropriate Regional Manager and the Emergency Response Team Leader, within 10 working days of the discovery of the incident. The Regional Manager has the discretion to extend the deadline for written notification up to a maximum of 30 days. The report must state one of the following items:

(1) A statement that the discharge or spill cleanup has been completed and a description of how the cleanup was conducted. The statement should include the information required for the Telephone Report, § 327.3(c). The executive director may request additional information. (See Appendix III for guidance.)

(2) A summary of the circumstances which necessitate a request for an extension of the time allowed for the response action as well as a projected work schedule outlining the time required to conduct the remaining tasks to complete the cleanup. The executive director may grant an extension up to 180 days. Unless otherwise notified by the appropriate Regional Manager or the Emergency Response Team, the responsible party shall proceed according to the terms of the projected work schedule. (See Appendix III for guidance.)

(3) A statement that the discharge or spill cleanup has not been completed nor is a complete cleanup expected to be possible within the maximum allowable 180-day extension, a summary of why a complete cleanup is not feasible, and a projected work schedule outlining the remaining tasks to complete the cleanup. This notification will also serve as notification of remediation under 30 TAC 335.8 and will trigger compliance with all applicable risk reduction rules. (See Appendix III for guidance.)

(e) Operating facilities registered with the TNRCC as a solid waste generator must maintain records of all discharges or spills and historical contamination that they have determined are not subject to the notification requirements of 327.3 or 327.8. These records are to be maintained at the facility or vessel for 3 years after the discharge or spill or discovery of historical contamination. These records are to be made available to the executive director upon request.

§ 327.5 Emergency Planning Form Requirements.

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chapter;

(c) Initiating and ensuring that the countermeasures necessary to minimize impacts are completed;

(d) Ensuring that the response action is conducted appropriately; and

(e) Taking all other necessary actions to respond to a discharge or spill both on-site and offsite.

§ 327.8. Historical Contamination

(a) The person or entity discovering historical contamination must submit written notification to the appropriate Regional Manager and the Emergency Response and Assessment Manager within 10 working days of discovery. Discovery of historical contamination can occur either through observation or through receipt of analytical sampling data. The notification must include the address and exact location of the historical contamination, the date and method of discovery, the nature of the historical contamination, an estimate of the extent of contamination, possible sources if any can be determined, the current property owner and/or operator of the location of the contamination and any other appropriate information. (See Appendix III for guidance.)

(b) If the available information regarding the discovery of historical contamination indicates the presence of an imminent and substantial endangerment to the public health, public safety, or the environment, the person or entity discovering the contamination must immediately notify the Commission, the local fire department, law enforcement authority, health authority, or LEPC as appropriate. The responsible person must cooperate fully with the Commission on-scene coordinator and/or the local incident command system in initiating appropriate actions under section 327.4 of these rules and § 26.266 of the *Texas Water Code*.

(c) If the available information regarding the historical contamination indicates that it does not present an imminent and substantial endangerment to the public health, public safety, or the environment, then after submitting the notification required by subsection (a), the responsible person shall conduct any further response in a form and manner consistent with the requirements of Subchapter (S) of Chapter 335.

(d) These notification requirements do not apply when:

(1) the historical contamination is found at an operating facility registered with the Commission as a solid waste generator; and

(2) the facility maintains a current Notice of Registration; and

(3) one of the following conditions is met:

(A) The historical contamination is reported in accordance with existing permits issued by the Commission; or

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APPENDIX I
Emergency Planning Form for Facilities and Vessels

Facility or Vessel Name: _____

Registration or Permit No.: _____ and Issuing Agency and Program: (e.g. Texas Natural Resource Conservation Commission (TNRCC) & Solid Waste Registration or TNRCC & Petroleum Storage Tank or TNRCC & Industrial/Hazardous Waste or TNRCC & Wastewater or Texas Parks and Wildlife Department & Boat): _____
_____

Person In Charge of Operations: Name _____
Telephone No. _____

Emergency Response Coordinator: Name _____
Telephone No.(24-Hour): _____

Name, Address and Telephone Number of Responsible Official:

_____
_____
_____
_____
_____
_____

In the event of an emergency including fire, explosion, collision, or discharges or spills including releases to the atmosphere that may effect public health and the environment, the following notifications are suggested for emergency assistance and in some cases may be required by law:

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Other Contacts/Responders

Port Authority:
River Basin or Aquifer Authority:
Water Supplier:
Local Health District:
Nearest U.S. Coast Guard Office:

For Stationary Facilities Only

Distance and Identification of nearest Surface Water within 1 mile.

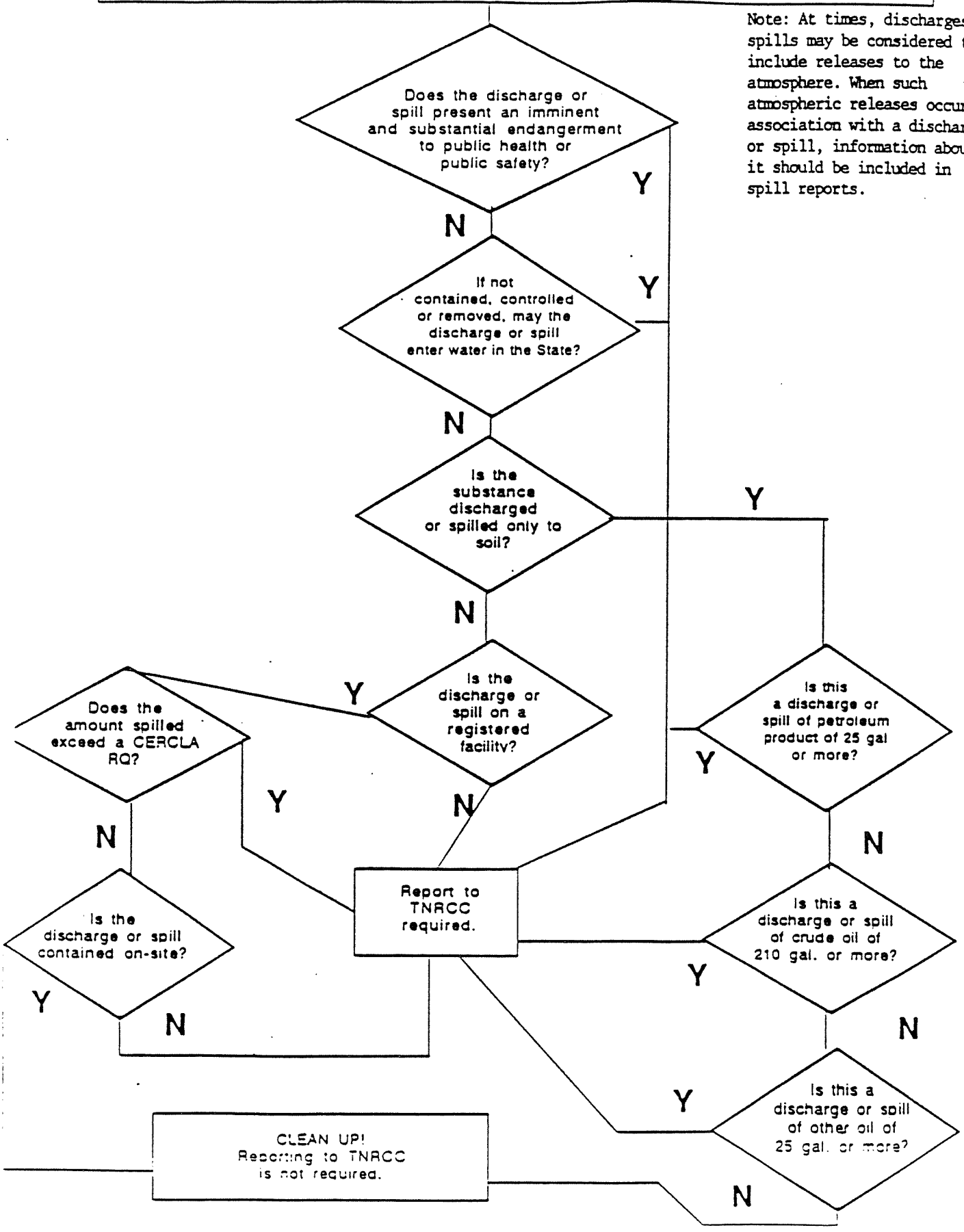
Distance and identification of Nearest Population within 1 mile.

Distance and Identification of Other Nearest Sensitive Receptors within 1 mile (for example - Edwards Aquifer Recharge Zone, Wetland/Marsh, Wildlife Refuge, Recreational Area, Nursing Homes, Schools and Hospitals).

Evacuation Sketch and Details (for facilities where this is already in existence, the existing document may be displayed alongside this form and information may be included to also recognize evacuation procedures for local residents as worked out with local fire departments, police departments, and Local Emergency Planning Committees).

The Workplace Chemical List required by the "Community Right-to-Know" provisions of SARA Title III.

Discovery of Discharges or Spills of Oil, Hazardous Substances, or Other Substances



Note: At times, discharges or spills may be considered to include releases to the atmosphere. When such atmospheric releases occur in association with a discharge or spill, information about it should be included in spill reports.

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person, if different;

d. The name and phone number for a contact person at the site;

e. If the location of the discharge or spill is not owned by the responsible person, then the responsible person must include the names, addresses and phone numbers of the property owners; and

5. The time and date that the Commission was notified including:

a. The name of the representative of the responsible person who reported the incident to the Commission;

b. The name of the Commission representative who received the report from the responsible person; and

c. If the Commission conducted a site visit, the name of the Commission inspector and the date of the site visit.

B. Chronology

A time and date chronology of the response actions taken by the responsible person. The chronology should describe the nature of the response actions (i.e., the name, address and phone number of the response contractor as well as the name of a contact person, if different than the responsible person; the date and time of the first containment actions and the name of the individuals or company conducting these activities; a detailed description of the containment equipment and personnel used; and a description of the effectiveness of the initial response actions; etc.);

C. Other agencies notified, including the time and date of the notification and the contact person;

D. Weather conditions during the clean-up and a discussion of how the weather conditions may aid or hinder the clean-up activities;

E. Reported injuries;

F. Actions taken to remove, neutralize the substances discharged or spilled including:

1. The amount of substances recovered and contained;

2. The amount of substances lost to the environment;

3. If soil was impacted, the amount of substances removed. A scaled map indicating the lateral and vertical extent of the excavation activities is to be included;

4. The disposition of the excavated substances, the recovered substances and any additional wastes generated from the clean-up activities including any on-site and off-site storage, processing or treatment. If the material is stored at an off-site location, the responsible person must include the

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APPENDIX IV
Contingency Plan Guidelines

Because of the complexity of the issues involved, the Commission will issue rules on Contingency Plans in a separate future rulemaking. Meanwhile, the Commission recommends that facilities that handle oil and hazardous substances, including industrial and hazardous wastes, prepare a contingency plan. The following guidelines may serve as an example to those facilities that prepare a contingency plan before the Contingency Plan rules are written.

(a) Owners and operators of facilities or vessels storing, processing or transporting any materials or substances which are capable of causing or resulting in pollution should have a contingency plan for each facility and each vessel if:
  (1) The vessel is storing, processing or transporting 500 gallons or more of oil, hazardous substances, or other substances; or
  (2) The facility is storing, operating, processing, or transporting containers, tanks, pipelines, or vessels with a bulk capacity of 1,000 gallons or more of oil, or 5,000 gallons or more of hazardous substances or other substances.

(b) The contingency plan should contain the following information:
  (1) A description of the actions that facility or vessel personnel should take in response to any discharge or spill;
  (2) A description of the arrangements agreed to by local police and fire departments, hospitals, local emergency response teams and contractors to coordinate services;
  (3) A description of the provisions used for coordination with the State of Texas in accordance with the most recent *State of Texas Oil and Hazardous Substances Spill Contingency Plan*;
  (4) An up-to-date list of the names, addresses, and phone numbers (office and home) of each person designated to act as an emergency coordinator of the facility or vessel. If more than one person is listed and identified as the emergency coordinator for the facility or vessel, then the list is to include a designation of one person as the primary emergency coordinator with the alternate emergency coordinators identified and listed in succeeding order.
  (5) An up-to-date list of all emergency equipment (such as, but not limited to, fire extinguishing systems, discharge or spill control equipment, communications systems, alarm systems, and decontamination equipment and materials.) This list of emergency equipment should contain a description of the location of this equipment. The description of the location of the

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Amendment of Contingency Plan. The contingency plan should be reviewed and amended within 90 days whenever:

(a) The Regional Manager or Emergency Response Team Leader finds deficiencies in the plan after conducting an evaluation and requests corrective action including, but not limited to, discharge or spill prevention measures, countermeasures, control procedures, and contractor support to ensure an adequate response action;

(b) The plan fails in an emergency based on the judgment of the vessel or facility emergency coordinator, the Regional Manager, or the Emergency Response Team Leader; or

(c) The facility or vessel is to be changed in any way that increases the potential for a discharge or spill.

Emergency Coordinator. There must be at least one designated emergency coordinator for each facility or vessel available to respond immediately, to coordinate emergency response measures and commit any resources necessary to comply with the requirements of this Chapter in connection with a discharge or spill. The emergency coordinator is responsible for the following:

(a) Maintaining familiarity with all aspects of the contingency plan;

(b) Committing the resources necessary for compliance with the requirements of this chapter;

(c) Initiating and ensuring that the countermeasures necessary to minimize impacts are completed;

(d) Ensuring that the response action is conducted appropriately; and

(e) Taking all other necessary actions to respond to a discharge or spill both on-site and offsite.

Open Mike Discussion

"The rule of three"

Pam Reed

Mark Jordon

Jody Henneke

Susan Ferguson

Nancy Lynch

Mark Alvarado

Gregg Cooke

TEXAS NATURAL RESOURCE CONSERVATION COMMISSION

FOR YOUR INFORMATION

TNRCC COMMISSIONER PAM REED

Pam Reed serves on the three-member Texas Natural Resource Conservation Commission (TNRCC), which was formed Sept. 1, 1993 by the merger of the Texas Water Commission (TWC) and the Texas Air Control Board (TACB). Commissioner Reed originally was appointed by Gov. Ann Richards to the TWC on Oct. 9, 1991.

Commissioner Reed served on the Travis County Commissioners Court from 1985 until her appointment. While on the court, she led the drive to establish a city-county emergency air medivac system that became a model for the state. She served the city of Austin as an assistant city attorney, was a trial lawyer in private practice for several years, and has been a business owner.

U.S.-Mexico border affairs, from the water quality of the Rio Grande to hazardous waste dumping, are of special interest to Commissioner Reed. She also chairs the Innovative Technology Committee which oversees an internal working group focused on new technologies and how they can be blended efficiently with current technologies.

Commissioner Reed, an experienced attorney, feels the TNRCC must focus on problem solving as well as regulating. She strongly favors pollution prevention and reduction, and recycling, instead of traditional disposal methods. She also advocates tough enforcement actions for repeat environmental violations.

Commissioner Reed is active in her community. She is one of 46 Texans chosen to serve on the Board of Advisors for the Center for Public Policy Dispute Resolution at the University Texas School of Law.

Mark Alvarado
Public Interest Counsel
Texas Natural Resource Conservation Commission

Mark is a graduate of the University of Texas at Austin, where he received a B.A. in Sociology in 1982, and J.D. in 1987. After practicing General Civil Litigation in El Paso, he joined the Legal Division of the Texas Water Commission in 1990. As a Staff Attorney with the Commission, he worked in the areas of Industrial & Hazardous Waste, Municipal Solid Waste, and Petroleum Storage Tanks.

In September of 1993, the Commissioners of the TNRCC appointed Mark to serve as Public Interest Counsel for the agency. The Legislature created the Office of Public Interest Counsel in 1976 to represent the interest of citizens in permitting hearings and all other matters considered by the Commission.

BIOGRAPHICAL SKETCH

Jodena N. Henneke

JODENA (Jody) HENNEKE is the Division Director for the Air Quality Planning Division within the Office of Air of the Texas Natural Resource Conservation Commission. Ms. Henneke started in November of 1990 with the Texas Air Control Board as Regional Director for Region 7 (Houston Office). As Region the Houston Director, Ms. Henneke managed the largest of the TACB's regional offices. This office maintained primary TACB responsibility for 12 counties in southeast Texas. This Region has the most complex petrochemical facilities in the United States. In addition, the Houston-Galveston area is non-attainment for ozone (classified as severe). She was formerly the Environmental Health Manager for the City of Fort Worth Department of Public Health. She was employed by the city since 1985, working in several capacities. She is a graduate of Oklahoma State University where she received a bachelor of science degree, majoring in Animal Science. She also holds a masters degree in Environmental Science from the University of Oklahoma. In addition, she is a member of many professional organizations such as the Texas Environmental Health Association, the National Environmental Health Association, the Air and Waste Management Association and the Texas Association of Municipal Health Officials.

As Division Director of Air Quality Planning, Ms. Henneke manages four sections, Emissions Inventory, Modeling (Permit and Special), Regulation Development, and Issues Management (Public Outreach). Her responsibilities encompass a very vital role in the development and implementation of Air Regulations.