

E I G H T E E N T H A N N U A L
**Texas Environmental
Superconference**
"THE FUTURE'S SO BRIGHT I GOTTA WEAR SHADES"



TO: Attendees
FROM: Planning Committee
DATE: August 3, 2005

On behalf of the Environmental and Natural Resources Law Section of the State Bar of Texas, the Air and Waste Management Association-Southwest Section, the Water Environment Association of Texas, the Texas Association of Environmental Professionals, the Auditing Roundtable, and the American Bar Association Section of Environment, Energy & Resources, welcome to the Eighteenth Annual Texas Environmental Superconference -- "The Future's So Bright I Gotta Wear Shades," a tribute to the music of the 80s.

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 2-3, 2007. Please mark your calendars.

This year, as last, we added a Wednesday evening session -- Environmental 102. Last year we focused on substantive areas; this year we are focusing on fundamentals of various aspects of the practice of environmental law. Please let us know what you think about the concept of a Wednesday evening program. Should we do it again? What topics should we cover?

If you have any questions or comments, please do not hesitate to contact any member of the Planning Committee at the conference, or, thereafter, Jeff Civins at (512) 867-8477 or Jeff.Civins@haynesboone.com.

Thanks for your participation!

AGENDA

EIGHTEENTH ANNUAL TEXAS ENVIRONMENTAL SUPERCONFERENCE

THURSDAY, AUGUST 3, 2006

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|--------------|--------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| TAB 1 | 8:40-9:00 | Welcoming Remarks – Hello
Jeff Civins, Texas Environmental Superconference
Mary Mendoza, Environmental and Natural Resources law Section, SBOT
Cindy Smiley, Air & Waste Management Association, Southwest Section
Carol Batterton, Water Environment Association of Texas
Lee Garrett, Texas Association of Environmental Professionals
Michael Byington, Auditing Roundtable
Danny Worrell, ABA Section of Environment, Energy & Resources
<i>[Surprise Performance]</i>
Moderator: Snehal Patel, Assistant County Attorney, Harris County |
| TAB 2 | 9:00-9:35 | Municipal Solid Waste – Regulatory Changes – Down Under
Kerry Russell, Russell & Rodriguez, LLP
Jackie Hardee, Director, Waste Permits Division, TCEQ
Robin Schneider, Texas Campaign for the Environment |
| TAB 3 | 9:35-9:55 | Proving Up Costs in Environmental Cases – Money for Nothing
Phil Watters, Rimkus Consulting Group |
| TAB 4 | 9:55-10:15 | Jury Argument -- Simply Irresistible
Mark Sobus, RandD Strategic Solutions |
| | 10:15-10:30 | Break – Breakout
<i>[First Skit]</i>
Moderator: Marcella Olson, Kelly Hart & Hallman |
| TAB 5 | 10:30-10:50 | Case Law Update – I Still Haven't Found What I'm Looking For
Sarah Walls, Cantey & Hanger, L.L.P. |
| TAB 6 | 10:50-11:20 | Featured Presentation
Hurricane Katrina – EPA's Challenges – Eye in the Sky
Mayor Richard Greene, Regional Administrator, EPA Region 6 |
| TAB 7 | 11:20-11:40 | Hurricane Katrina – Tort Claims – Blame if on the Rain
Rick Curry, McGlinchey Stafford |
| TAB 8 | 11:40-12:00 | Hurricane Katrina – Rebuilding/Land Use – We Built this City
Fernando Costa, Planning Director, City of Fort Worth
<i>[Second Skit]</i> |
| | 12:00-1:15 | Lunch – Hungry Like the Wolf
<i>[Third Skit]</i>
Moderator: Lisa Shelton, Andrews Kurth LLP |
| TAB 9 | 1:15-1:35 | CERCLA – Aviall and Its Aftermath – Don't Worry, Be Happy
Edward Lewis, Fulbright & Jaworski, L.L.P. |

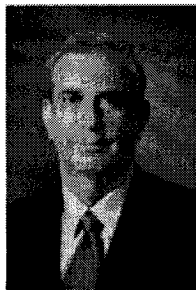
TAB 10	1:35-1:55	CERCLA – All Appropriate Inquiry – <i>Is There Something I Should Know?</i> Jeff Civins, Haynes and Boone, LLP
TAB 11	1:55-2:25	RCRA – Pre-agreed Process for Remediation and Allocation – <i>Let's Hear It For The Boys</i> George Phair, Resource Environmental L.L.C.
TAB 12	2:15-3:15	Water Quality Panel – <i>Purple Rain</i> E.g., (Environmental Flows, TMDLs for Bacteria, Stormwater, Effluent Toxicities, Desalination) Stephanie Bergeron Perdue, Deputy Director, Office of Legal Services, TCEQ, Moderator L'Oreal Stepney, Director, Water Quality Division, TCEQ Ken Ramirez, Brown McCarroll, LLP Dr. Richard Browning, Trinity River Authority Peggy Glass, Alan Plummer Associates, Inc.
	3:10-3:30	Break – <i>Break Dance</i> <i>[Fourth Skit]</i> Moderator: Jeff Saitas, Saitas & Arenson
TAB 13	3:30-4:45	Air Quality Panel – <i>Every Breath You Take</i> E.g., (EPA's Blue Skies Initiative, Emission Events NSR Reform, Houston and Dallas SIP Revisions) Ramon Alvarez, Environmental Defense Rebecca Weber, Acting Associate Air Director, EPA Region 6 David Schanbacher, Chief Engineer, TCEQ Joshua Epel, Duke Energy Field Services Chet Thompson, Associate Deputy General Counsel, EPA DC
TAB 14	4:45-5:15	Ethics for Environmental Professionals -- <i>Borderline</i> Brad Castleberry, Lloyd Gosselink Blevins Rochelle & Townsend, P.C. Keith Linton, URS <i>[Fifth Skit]</i>
	5:15-6:00	Reception – <i>Everybody Have Fun Tonight</i> Sponsored by the Environmental and Natural Resources Law Section of SBOT <i>[Submit Skit Quiz Answers]</i>

FRIDAY, AUGUST 4, 2006

[Distribution of Written Quiz]

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|--------|-------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| TAB 15 | 8:30-8:45 | <p>Welcoming Remarks – <i>Wake Me Up Before You Go Go</i>
Jeff Civins</p> <p><i>[Announcement of Winners of Skit Quiz]</i></p> <p><i>Moderator:</i> Mike Nasi, Lloyd Gosselink Blevins Rochelle & Townsend, P.C.</p> |
| | 8:45-9:10 | <p><i>Featured Presentation</i>
Biofuels – <i>The Power of Love</i>
Senator Todd Staples, Texas Senate</p> |
| TAB 16 | 9:10-10:15 | <p>Energy and Power Plant Development Panel – <i>Electric Avenue</i>
(Mercury Rule, IGCC, CARI?CAMR, Cooling Water, Local Issues, New Energy Bill, Future Generation)
David Cabe, Zephyr Environmental Corporation, <i>Moderator</i>
Bill Harnett, EPA-RTP
Bob Temple, Acting General Counsel, CPS Energy
Derek McDonald, Baker Botts
Wendi Hammond, Blue Skies Alliance</p> |
| | 10:15-10:35 | <p>Break – <i>Stepping Out</i></p> <p><i>Moderator:</i> Maddie Kadas, Beveridge & Diamond</p> |
| TAB 17 | 10:35-11:00 | <p><i>Featured Presentation</i>
Headquarters' Perspective – <i>Funky Town</i>
Roger Martella, Principal Deputy General Counsel, EPA DC</p> |
| TAB 18 | 11:00-12:00 | <p>Future Enforcement Direction Panel – <i>Do You Really Want to Hurt Me?</i>
Roger Haseman, Assistant District Attorney, Harris County
Chuck Sheehan, Regional Counsel, EPA Region 6
John Steib, Deputy Director, Office of Compliance and Enforcement, TCEQ
Ken Kramer, Sierra Club</p> <p><i>[Submit Written Quiz]</i></p> |
| | 12:00-1:15 | <p>Lunch – <i>Hungry Eyes</i></p> <p><i>[Announcement of Written Quiz Winners]</i>
<i>Moderator:</i> Bill Newchurch, State Office of Administrative Hearings</p> |
| TAB 19 | 1:15-2:00 | <p>In-House Counsel Forum – <i>The Inside Perspective – Our House</i>
Arnoldo Medina, Shell Oil Company, <i>Moderator</i>
Margaret Hoffman, Chevron U.S.A. Inc.
Susanne Echevarria, Union Pacific Railroad Company
Paul Liebman, Tempe-Inland Corporate Services</p> |

TAB 20	2:00-2:30	Former Commissioners' Views – Back to The Future – <i>If I Could Turn Back Time</i> Gregg Cooke, Guida Slavich & Flores, P.C., <i>Moderator</i> John Baker, Brazos River Authority, Former Commissioner, TCEQ Ralph Marquez, Former Commissioner, TCEQ Robert Huston, Former Chairman, TCEQ
TAB 21	2:30-3:30	<i>Featured Presentation</i> Point-Counterpoint-Crosspoint – Hit Me With Your Best Shot Jeff Gaba, SMU, <i>Moderator</i> Larry Soward, Commissioner, TCEQ Larry Starfield, Deputy Regional Administrator, EPA Region 6 Jim Blackburn, Blackburn & Carter Molly Cagle, Vinson & Elkins LLP
	3:30	Adjourn – Get on Your Feet Ice Cream Sundaes – Just What I Needed <i>[Submit Comments/Comment Drawing for Prizes]</i>



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Environmental

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Areas of Experience:
Environmental Law
Transactions
Counseling
Litigation
Administrative Law

Jeff Civins

jeff.civins@haynesboone.com

Mr. Civins has practiced all aspects of environmental law since 1975. He advises clients on regulatory requirements, he assists them in the evaluation and negotiation of corporate transactions, and he represents them in environmental and toxic tort litigation.

As an adjunct professor at the University of Texas School of Law, Mr. Civins taught a seminar on Environmental Law Concerns to Business in 1987, and has taught a seminar on Environmental Litigation each Spring since 1992. He is co-editor of the Thomson West Texas Practice 2-volume treatise on Texas Environmental Law (1997 and 2005 editions).

Mr. Civins recently has represented:

- An airline in settling litigation with another airline regarding contamination at JFK Airport.
- A major energy company in private party Superfund litigation and in negotiating a settlement in a RCRA enforcement action brought by EPA Region 6 involving contaminated ground water.
- A national real estate company in its sale of office buildings in downtown Dallas and Houston and of a major development near Houston, and its acquisition of an apartment complex in Massachusetts and office building in Las Vegas.

Honors

- Top environmental lawyer in Texas (tied) -- Chambers USA America's Leading Lawyers (2003-2004, 2004, 2005, 2006)
- Best Lawyers in America (1989-present)
- Texas Super Lawyer -- Texas Monthly (2003, 2004, 2005)
- Top 50 Lawyers in Central and West Texas -- Texas Monthly (2003, 2004, 2005)
- Austin Business Journal Best of Business Attorneys -- Environmental (2005)
- Who's Who Legal: USA -- Environment 2006

Education

J.D., University of Texas, 1975, with honors; Order of the Coif
M.S., in Chemistry, Pennsylvania State University, 1970
A.B., in Chemistry, Brandeis University, 1967

Memberships

Environmental and Natural Resources Law Section, State Bar of Texas, Past Chair, and Chair, Annual Texas Environmental Superconference; Administrative Law and Litigation Sections, State Bar of Texas; American Bar Association, Sections of Environment, Energy, and Resources, and of Litigation and Administrative Law; Air and Waste Management Association, Central Texas Chapter, Past Chair; American Chemical Society -- Environment Division; Environmental Law Institute; Texas Law Foundation; University of Texas Law School Alumni Association Executive Board, Keeton Fellow, and Dean's Roundtable; President, Communities-In-Schools, Central Texas Chapter

Selected Recent Publications and Presentations

- "All Appropriate Inquiries -- Are They Appropriate?" with M. Mendoza, BNA Environmental Due Diligence Guide (Jan. 19, 2006, No. 167) and BNA EHS Strategies (Jan. 2006, No. 1)
- "New Rule Affects Landscape For Real Estate Purchasers, " Austin Business Journal (Jan. 6, 2006)
- "New AAI Rule: All A Matter of Perspective, Attorney Says," On The Cutting Edge: An Insider's Perspective, BNA Environmental Due Diligence Guide (Feb. 16, 2006), interview
- "EPA's All Appropriate Inquires Rule: How appropriate is it?" BNA national audio conference (February 21, 2006), participant
- "Transactional Environmental Due Diligence -- What diligence is due?" with M. Mendoza, Natural Resources & Environment, ABA Section of Environment, Energy, and Resources (SEER) (Winter 2006)

"Public Participation in Environmental Permitting and Enforcement Proceedings," with Iris Gibson, University of Texas Administrative Law Conference (June 28-29)

"The Third Party and Transaction-Related Defenses," with M. Mendoza and C. Fernandez, ABA-SEER Environmental Litigation & Toxic Torts Committee Newsletter (July 2005)

"Environmental Management Systems," with A. Strong and C. Fernandez, Chapter 31, Volumes 45-46, Thomson West Texas Practice (2005)

"Environmental Aspects of Business Transactions," with B. Phillippi, Chapter 32, Volumes 45-46, Thomson West Texas Practice (2005)

"Fundamentals of Environmental Law," State Bar of Texas Ten Minute Mentor

"Cleanup Help Not Available," with J. Eldridge, Texas Lawyer (Jan. 10, 2005)

"Proper environmental due diligence should be part of a stock acquisition," Austin Business Journal (Dec. 3-9, 2004), Dallas Business Journal, Birmingham Business Journal

"Who's Liable Now? New Federal Brownfields Legislation," with B. Phillippi, Texas Bar Journal (Dec. 2002), reprinted in Real Estate Issues (Winter 2003-2004)

"Practical Advice for Defense Counsel in Mass Toxic Tort Cases," with M. Mazzone and E. Kohn, Texas Lawyer (Nov. 2001)

"Water Issues for Oil & Gas Producers," Southwest Legal Foundation (2001)



Mary Simmons Mendoza

mary.mendoza@haynesboone.com

Ms. Mendoza concentrates her practice in the areas of environmental and administrative law. She represents clients in toxic tort litigation, hazardous and solid waste cleanups, contested case hearings, enforcement matters, and appeals of agency decisions. Ms. Mendoza counsels clients on general issues of regulatory compliance as well as on environmental issues associated with real estate, corporate and other transactions.

Ms. Mendoza recently has represented:

- Multiple defendants in toxic tort litigation regarding a commercial waste disposal facility.
- A manufacturer of water treatment equipment in a four week jury trial regarding alleged design defects
- Defendants in enforcement hearings before the Texas Commission on Environmental Quality and the Environmental Protection Agency.
- Defendants in negotiations of RCRA and CERCLA cleanup orders with the Environmental Protection Agency.
- A multi state corporation in multimedia compliance audits of plant operations.
- Major property management companies in the defense of mold lawsuits and in the development of mold policies.
- A seller in a divestiture involving multi state property transfer notifications.
- A corporation regarding compliance counseling and divestiture of a water and wastewater supply corporation.
- A major corporation in a multi-million dollar remediation of a contaminated site under the state voluntary cleanup program.
- Entities in a contested case hearing related to horse race track licensing before the Texas Racing Commission.

Partner

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Areas of Experience:

Environmental Law -
Litigation, Regulatory
Compliance and
Transactional Counseling
Administrative Law

Education

J.D. University of Texas, 1994, with honors, Order of the Coif

B.S. Civil Engineering University of Texas, 1991, with highest honors

Memberships

Chair of the Environmental and Natural Resources Law Section of the State Bar of Texas; American Bar Association, Section of Environment, Energy and Resources – Toxic Torts and Environmental Litigation Committee, Membership Vice-Chair

Online Publications

- *PUB:General - All Appropriate Inquiries-Are They Appropriate? - 1/24/2006*
As seen in BNA's Environmental Due Diligence Guide
- *ENVIRONMENTAL TIP: "No Further Action" Letters Do Not Preclude Further Action*

- *Environmental Alert: New Environmental Due Diligence Standard - EPA Declares What Diligence is Due*
- *Arranging Liability - A Waste is a Terrible Thing to Mind*
- *ALERT: 77th Regular Session, Texas Legislature Real Estate Legislation*
- *ALERT: 77th Regular Session, Texas Legislature Real Estate Legislation*
- *PUB:General - Environmental Case Law Update - 8/2/2001*
- *PUB:Litigation - Environmental Case Law Update - 8/2/2001*
- *PUB:Transactions - Environmental Issues In Real Estate Transactions - 5/7/1999*
- *PUB:Transactions - Institutional Controls for Property Remediation - 4/27/2000*
Doing the Real Estate Deal: The Ultimate Environmental Toolkit



Cynthia C. Smiley

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Practice Group

[Environmental and Administrative Law](#)

Education

[University of Texas](#) (B.A., Plan II, summa cum laude, 1978)

[University of Texas School of Law](#) (J.D., 1981)

Admitted to Practice

- Texas, 1981
- U.S. District Court, Western District of Texas, 1988

Professional Organizations and Activities

- State Bar of Texas
- Austin Bar Association
- Air & Waste Management Association (Past Chair - Southwest Section)
- Industry Council on the Environment, 2006 Board Member
- Environmental and Natural Resources Law Section, State Bar of Texas, Executive Committee Member (2005-2008)

Narrative

With more than 24 years of experience, Ms. Smiley's practice focuses on water quality, water rights, and waste matters at the federal, state, and local levels. After beginning her legal career in an oil and gas exploration division at Exxon

Company U.S.A. in Houston, she served as an attorney at the Texas Department of Water Resources and its successor agency, the Texas Water Commission (now the Texas Commission on Environmental Quality) in Austin. In 1988, Ms. Smiley entered private practice, where she handles a range of environmental matters, including those involving permitting, enforcement and regulatory counseling.

Carol V. Batterton, Executive Director, Water Environment Association of Texas

Carol Batterton currently serves as the Executive Director of the Water Environment Association of Texas. In this position, she is responsible for coordination of WEAT's legislative activities with a primary focus on promoting WEAT as a technical resource in the legislative process. She also coordinates WEAT's interaction with regulatory agencies involved with water issues.

Prior to serving as WEAT's Executive Director, Carol worked for the Texas Commission on Environmental Quality for 25 years. At TCEQ, she served in a variety of positions related to compliance and enforcement, including Director of Field Operations Division, Director of the Compliance Support Division, and Special Assistant to the Deputy Director of the Office of Compliance and Enforcement.

Carol is a past-president of WEAT, past chair of the National Environmental Laboratory Accreditation Conference, and past chair of the Institute for National Environmental Laboratory Accreditation.

Carol received a B. S. in biology from Baylor University and a M. A. in biological sciences from the University of Texas, Marine Science Institute.

LEE GARRETT, P.G.

DEPARTMENT MANAGER, TERRACON CONSULTANTS, INC.

PROFESSIONAL EXPERIENCE

Mr. Garrett is a department manager with Terracon Consultants, Inc. in their Houston, Texas office. He has more than 20 years of experience of consulting experience and manages a staff of over 15 environmental professional that perform due diligence and remediation services for private and public sector clients. Mr. Garrett has participated in and supervised numerous environmental consulting projects with an emphasis on hydrogeologic investigations. His experience is based on first-hand supervision of the investigation and evaluation of affected soil and groundwater. He has participated in and managed RCRA facility investigations, investigations and remediation of LPST facilities, investigation and remediation of sites in the Voluntary Cleanup Program (VCP) and Corrective Action Section, and investigation and reporting of sites in the Innocent Owner/Operator Program (IOP). Mr. Garrett is trained in the Texas Risk Reduction Program (TRRP) rules and has experience remediating sites using in situ chemical oxidation (ISCO) and enhanced bioremediation.

Mr. Garrett is currently serving his second term as the President of the Texas Association of Environmental Professionals (TAEP). During the past year, the TAEP recognized its first Environmental Professional of the Year, established a Young Environmental Professionals (YEP) group, received a proclamation from the Mayor of Houston to recognize the third week of January as Environmental Professionals Week, and made significant changes to the scholarship program and the TAEP web page. The TAEP will host an annual symposium beginning in February 2007 to provide environmental professionals with the opportunity to present papers to their peers.

Mr. Garrett and his wife Melonie have three children, Sam, Hunter and Hannah. Mr. Garrett enjoys playing golf with other hackers and cheering on the Texas Longhorns. Hook'em!

EDUCATION

*Bachelor of Science, Geology,
1983, University of Texas at
Austin*

REGISTRATIONS

*Professional Geoscientist: Texas,
No. 2971
Professional Geologist:
Tennessee, No. TN3793
Registered Corrective Action
Project Manager, No.485*

AFFILIATIONS

*Texas Association
Environmental Professionals
Association of Groundwater
Scientists and Engineers
Houston Geological Society*

Professional Profile

Principal of Byington & Genuise since 2000, with over 25-years of experience in environmental regulatory compliance, permitting, auditing and project management; experience includes corporate coordinator and project manager for environmental regulatory compliance, permitting, and auditing in conjunction with solid waste, water, and air.

Areas of Expertise

Environmental Regulatory Compliance	Acquisition Due Diligence	Research/Development
Environmental Auditing	Environmental Site Assessments	Public Relations
Environmental Permitting	Health and Safety	Implementation

Professional Experience and Responsibilities

- Currently (2003 to present) assisting in all environmental compliance programs and EMS implementation project at a major Federal installation in Texas. This involves all aspects of implementation from design and development through full system implementation leading to third party registration.
- Corporate coordinator and project manager for environmental regulatory compliance, permitting and auditing in conjunction with waste, water, and air; in response to U.S. EPA and State regulatory requirements. Developed corporate environmental auditing policies and procedures. Additional audit overviews of operational activities pertaining to MSHA and OSHA requirements.
- Conducted numerous Acquisition Due Diligence and Environmental Site Assessment activities and reporting; including asbestos sampling and reporting. Involved in developing several Asbestos Maintenance Plans.
- Performed numerous environmental compliance audits of industrial operations and third-party waste disposal facilities.
- Managed operational issues concerning solid waste, water, and air permitting compliance and reporting. Issues include waste disposal, Hazard Materials Communication Plans, Spill Prevention and Storm Water.
- Oversee corporate technical consultant requirements and coordinated efforts with Fortune 100 companies with a wide array of technical and industry requirements.

Environmental Consultant - Byington & Genuise, LLC	2000-Present
Environmental Consultant - J. McNutt and Associates	1998-2000
Senior Environmental Specialist - The North American Coal Corporation	1991-1997
Senior Environmental Engineer - Texas Municipal Power Agency	1984-1991

Education & Training

B.S. Zoology, Texas A&M University, 1977

Graduate Studies (MBA), Texas A&M University

Numerous regulatory seminars and training classes for Regulatory Compliance and Environmental Auditing

Professional Certifications and Affiliations

Level 5 Federal Security Clearance

Certified Professional Environmental Auditor (CPEA)

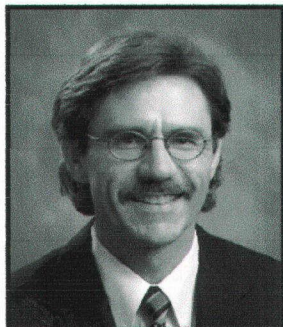
The Auditing Roundtable - Chairman, South Central Region

Previous Certifications Include:

Certified Hazardous Material Manager (CHMM)

Visible Emissions Evaluation Certification

Certified Asbestos Inspector



DANNY WORRELL

Partner

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Legal Experience

Mr. Worrell's practice is concentrated in the areas of environmental permitting and enforcement, Superfund liability, and regulatory compliance involving hazardous and municipal solid waste, air quality, underground storage tanks, injection wells, asbestos, PCBs, and pipelines.

Recent Accomplishments

- Represented client in administrative contested case hearing successfully obtaining renewal and new Class 1 hazardous waste injection well permits from the Texas Commission on Environmental Quality ("TCEQ").
- Represented and assisted client in administrative, district court and appeals court proceedings involving a contested case hearing, successfully obtaining major modifications to its Class 1 non-hazardous injection well permits from the Texas Commission on Environmental Quality "TCEQ".
- Lead attorney in successful effort to obtain a Municipal Solid Waste Type I landfill permit for client in state administrative proceedings, including contested case hearing.
- Represented client in successfully negotiating settlement of administrative proceedings, involving a contested case hearing, on an application for renewal and major modification of Commercial Hazardous Waste Treatment, Storage and Disposal Facility permit.
- Assisted client in successfully obtaining first Regulatory Flexibility Order from the TCEQ for use of the EPA Comparable Fuels Rule allowing substitution of fuels at chemical manufacturing facility.
- Represented clients in successfully obtaining a Single Property Designations from the TCEQ for air quality regulatory purposes.
- Represented four different clients in settling claims associated with federal Superfund litigation involving former tin smelter.
- Assisted client in successful settlement of product liability litigation relating to oil well cementing operations.

Education

- Doctor of Jurisprudence, University of Houston Law Center, 1990. Houston Journal of International Law
- Master of Science, Geology, Louisiana State University, 1984
- Bachelor of Science, Geology (Major), Petroleum Engineering (Minor), University of Texas at Austin, 1980

Professional Licenses

- Attorney at Law, Texas, 1990

Court Admissions

- United States Court of Appeals for the Fifth Circuit
- Supreme Court of Texas

Prior Professional Experience

- ARCO Oil and Gas Company, Geologist, Specialized in oil and gas exploration, 1984-1986

Speeches and Publications

- *Environmental Law 101: Solid Waste*, In conference materials associated with the Texas Environmental Superconference, 2005, Article
- RCRA: Resource Conservation and Recovery Act Co-Author with John W. Teets and Dennis P. Reis, American Bar Association, 2003, Book
- *Subsurface Trespass Claims Against Underground Injection Control Operations*, in conference materials for the Texas Natural Resource Conservation Commission 2002 Underground Injection Control Symposium, 2002, Article
- *Legal and Strategic Considerations in Risk-Based Closures*, in proceedings of Energy Week Conference and Exhibition, 1996, Article
- *Land Disposal Restrictions: Current Developments and The Corrective Action Management Unit (CAMU) Rule*, in conference materials for the Brown McCarroll & Oaks Hartline Annual Client Environmental Seminar, 1994, Article
- *Exploration and Production Wastes and Class II Injection Wells: Current Regulatory Developments (SPE 27706)*, in Proceedings of the Permian Basin Oil & Gas Recovery Conference, sponsored by the Society of Petroleum Engineers, 1994, Article
- *Understanding the New Corrective Action Management Unit (CAMU) Rule and its Impact on CERCLA Projects*, in Operating Under RCRA and CERCLA Requirements, sponsored by Executive Enterprises, Inc., 1993, Article
- *Overview of Federal and Texas Class II Injection Well Regulatory Programs and New Developments in Efforts to Revise These Programs*, in proceedings of the Symposium on Class II Injection Well Management and Practices, sponsored by the Underground Injection Practices Search Foundation and the U.S. Department of Energy, 1992, Article
- *Producing Property Conveyances and Environmental Liabilities: A Mine Field for the Unwary*, with R. Kinnan Golemon, 43rd Annual Institute on Oil and Gas Law and Taxation, Mathew Bender 1992, Article
- *Permitting Injection Wells in the New Texas*, with Albert R. Axe, Jr., in Proceedings of the Underground Injection Practices Council, Winter and Summer 1991, Article
- *Recent Regulatory Changes Affecting Class I Injection Wells*, with Albert R. Axe, Jr. and R. Steven Morton, in Proceedings of the Underground Injection Practices Council, Winter and Summer 1991, Article
- *An Overview of the Use of Injection Wells for Industrial Waste Disposal*, with R. Steven Morton and Susan Thompson, 1990, Article
- *Issues and Policy Considerations Regarding Hazardous Waste Exports*, 11 Houston Journal of International Law 373, 1989, Article

Professional Memberships and Activities

- State Bar of Texas
- American Bar Association, Sections of Natural Resources, Energy, and Environmental Law
- Austin Bar Association

Honors

- Recognized in *Best Lawyers in America*
- "Leaders in Their Field," Environmental Law, Chambers USA 2005 Guide

Community Involvement

- Austin United Capital Soccer Club, Team Manager, 2005-2006
- North Austin Soccer Alliance, Soccer Coach, 2003-2004
- West Austin Youth Association, Soccer Coach, 2000-2002
- Adult Services Council, President, Officer, and Board Member, 1991-1996

SNEHAL R. PATEL

Snehal R. Patel is an Assistant County Attorney in the Environmental Section of the Harris County Attorney's Office. Ms. Patel represents the third largest county in the U.S. in environmental matters including permitting and enforcement issues, and regulatory compliance. Ms. Patel counsels clients in the areas of storm water quality, air quality, industrial, municipal, and hazardous waste, superfund, and TMDLs. Her practice includes handling civil environmental litigation enforcing state and local environmental laws and regulations. Ms. Patel also represents Harris County in contested case hearings before SOAH.

Prior to joining the County Attorney's Office, Ms. Patel was a staff attorney for the Texas Commission on Environmental Quality. From 1998-2003, Ms. Patel worked in the TCEQ's Austin Office and her practice area included permitting and rulemaking matters related to air quality, water quality, industrial and hazardous waste, and radioactive waste issues. In 2004, Ms. Patel transferred to the TCEQ Region 12 Office in Houston where she focused her practice on environmental enforcement, and she provided legal counsel to the regional offices in Houston, Beaumont, and Corpus Christi. While at TCEQ, Ms. Patel also served as a member of the Air and Waste Rule Interpretation Teams and the Emissions Events Review Team.

Ms. Patel was born and raised in Tanzania, East Africa until the age of 10, educated in India for two years, and completed her secondary education in England. In 1992, Ms. Patel received her B.A. in Sociology with honors and special honors in Sociology from the University of Texas at Austin. After taking a year off, Ms. Patel entered the four-year joint degree program at U.T. LBJ School of Public Affairs and School of Law. In May 1997, Ms. Patel graduated with a Juris Doctor and a Masters in Public Affairs.

**Municipal Solid Waste Regulation in Texas
Lot's of Work Done; More To Do**

By

**Jackie Hardee
Texas Commission on Environmental Quality**

**Kerry Russell
Russell & Rodriguez, L.L.P.**

**Robin Schneider
Texas Campaign for the Environment**

Introduction

Municipal solid waste (MSW) management activities in Texas are regulated by the Texas Commission on Environmental Quality (TCEQ). MSW regulations are generally found at 30 Texas Administrative Code (TAC) Chapter 330. Until this year, the last major rewrite of MSW regulations took place during the Subtitle D implementation between 1991 and 1993. It should be noted that the federal MSW regulations found in Subtitle D of the Resource Conservation and Recovery Act (RCRA) were fully delegated to Texas in 1993. Also at that time MSW regulatory authority in Texas was transferred from the Texas Health Department to the Texas Water Commission, which is now TCEQ. In the early 1990s MSW management activities consisted primarily of landfill operations. Consequently, the 1993 MSW regulations were directed primarily at landfill permits and operations.

Since 1993, MSW management activities have significantly expanded beyond landfills. Modern MSW management includes various forms of recycling from direct material separation to composting. Chapter 330 regulations have been amended many times since 1993 to address new forms of MSW management and changing management practices. The result was a set of regulations that were both internally conflicting and inadequate to properly regulate current MSW management activities. As a result, in early 2003 industry groups and TCEQ MSW staff pushed for a major update of the Chapter 330 MSW regulations.

Concurrently, there was a successful court challenge to a San Antonio-area landfill permit based on the inadequacy of the permit's Site Operating Plan (SOP). Some in industry then petitioned TCEQ to change (and in some ways weaken) the SOP rules in response to the court ruling. The industry initiative was halted in March 2004 by TCEQ Chairman Kathleen Hartnett White and Commissioner Larry Soward as a result of public interest opposition to the proposed SOP rule rewrite. The Commission then directed TCEQ staff to develop a more balanced approach to rewriting the SOP rules and the rest of Chapter 330.

On May 29, 2003, the TCEQ Commissioners formally directed TCEQ MSW staff to begin rewriting the MSW regulations. That rewrite essentially moved forward in three phases. Phase I was a complete rewrite of the MSW facility site operating plan (SOP) rules, which are part of Chapter 330. Phase II was a more comprehensive revision of the Chapter 330 rules. Phase II was voluminous with concepts and regulations that necessitated more time to allow public participation and comment as part of its rulemaking process, which not only allows for stakeholder input, but follows the requirements of the Texas Administrative Procedures Act (APA). Phase 3 is a limited rewrite of 30 TAC Chapter 305, which contains rules specific to MSW permit amendments and modifications. Phase I has been completed and Phase II is now officially completed; although, the TCEQ Commissioners did elect to reserve some concepts originally considered in Phase II for possible rulemaking in the future. Phase III is under way.

The primary purpose of this paper is to provide a current status report from regulatory, industry, and public interest perspectives on the MSW regulatory revisions and the work left to do.

TCEQ Perspective

In 2003 TCEQ MSW staff initiated a major update of TCEQ's MSW management rules. Staff review of the situation resulted in a decision to approach the undertaking in multiple phases. Based on recent Commission and court decisions related to a number of MSW permit applications, it was decided that MSW facility SOPs should be addressed first. The new SOP rules would be followed by a comprehensive update of the Chapter 330 rules. The staff also determined that the Chapter 305 permitting rules would need to be modified to address the changes in Chapter 330.

The SOP rulemaking was initiated by petition and Commission directive at the May 29, 2003 Commission Agenda. The overall Chapter 330 rulemaking was formally initiated through a TCEQ Interoffice Memorandum dated January 5, 2004. A copy of that memorandum is included with this paper as Attachment A. That memorandum anticipated final adoption of the overall Chapter 330 rule package by late summer of 2005, with prior adoption of the initial SOP rewrite.

The final SOP rulemaking was approved for publication at the July 28, 2004 Commission Agenda and was published in the Texas Register on August 13, 2004. The Commission approved the new SOP rules on November 10, 2004. Implementation of the new SOP regulations began on April 26, 2005 with the Notice of Site Operating Plan Call-In letters being issued for the first group of MSW facilities. Due to the large number of MSW facilities in Texas that would need to completely rewrite their individual SOPs, it was decided to proceed with the process by groups to allow TCEQ staff adequate time for review and approval of the new SOPs. The industry-wide SOP revision process is still ongoing at this time.

As part of the Chapter 330 rulemaking process and in response to repeated requests from public interest groups, TCEQ staff held numerous stakeholder meetings beginning in 2003 to seek input from industry and public interest representatives. Those stakeholder meetings resulted in numerous changes to the originally proposed rule package. While the public participation aspect extended the time frame for the rulemaking, it also resulted in general consensus of support for the final Chapter 330 rules package by both industry groups and public interest groups. While no group was totally satisfied with the final rule package, everyone agreed there was some improvement in the MSW rules as a result of the process.

The Chapter 330 rule package was extensively discussed at multiple Commission Agendas in early 2006 and was finally adopted at the March 1, 2006 Commission Agenda. The final Chapter 330 rule package was filed with the Secretary of State on March 9, 2006 and published in the March 24, 2006 Texas Register. The final rule package was not appealed to Travis County District Court. An overview of the Chapter 330 rules changes is included with this paper as Attachment B.

By Interoffice Memorandum dated March 21, 2006 TCEQ MSW staff initiated the Chapter 305 rulemaking process. A copy of that memorandum is included with this paper as Attachment C. That memorandum anticipates final adoption in early 2007. The first Chapter 305 rulemaking stakeholder meeting was held on May 25, 2006 and the process continues at this time.

Industry Perspective

The MSW industry in Texas covers a wide spectrum of MSW management activities including both the public and private sectors. There are two major MSW industry groups in Texas. The National Solid Waste Management Association (NSWMA) generally represents the private sector and the Solid Waste Association of North America (SWANA) generally represents the public sector. In addition, many individual MSW facility owners actively participate in the regulatory process. Continuing industry and public interest participation in the regulatory process is primarily through TCEQ's Municipal Solid Waste and Resource Recovery Advisory Council.

Due in part to internally conflicting TCEQ MSW regulations, MSW management facility permitting in Texas has become a lengthy and expensive legal process. In addition, TCEQ enforcement oversight of MSW management facilities has become inconsistent as to both alleged violations and assessed penalties. The much amended version of the 1993 regulations was outdated and confusing. For these reasons, the MSW industry requested a major review and update of MSW regulations by TCEQ.

From an industry perspective, the final version of the SOP rules was a definite improvement over the old rules. Although some problem areas remain, the new SOP rules will certainly encourage more uniform MSW management in Texas. However, in contrast to the new SOP rules, the new 330 rules still leave some major issues unresolved.

Industry representatives were primarily concerned with rule proposals that were in direct conflict with current operating methodology and proposed rules that simply could not be implemented at some sites due to physical constraints. Concerns were also expressed regarding proposed rules that would make new permits far more difficult and expensive to obtain. Industry generally reviewed the proposed rules from a cost/benefit perspective. In other words, would the cost of implementation really justify the environmental benefit? A rule that is very expensive to implement while providing little environmental benefit is less desirable than a rule that can be easily implemented and provide significant environmental benefit.

Various industry concerns were raised on many of the proposed rules. Some concerns were generic and some were site specific. Industry concerns ultimately fell into four categories. The first category included proposed rules that the entire industry could not accept and, therefore, would force the entire rule package into a lengthy judicial review process. The second category included proposed rules that the industry could accept with modification. The third category included those rules certain industry members might not like, but could accept. The fourth category included those rules the industry favored. The first two categories are briefly noted below. One of the industry group comment papers is included with this paper as Attachment D to provide the reader with some additional detail. All of the industry comments were addressed in the final rule package and that is the best resource if the reader is interested in specific industry concerns.

The following issues of major industry concern in the first category and were ultimately not included in the final rule package. Some of these issues may be addressed in a follow up rule package.

- Five year review of permits and registrations.
- Recirculation of leachate over non-composite liners.
- The use of "equivalent" liners.
- Permitting of bio-reactor landfill.
- Permitting of grease trap and grit trap processing facilities.

The following issues in categories one and two were revised in some manner in the final rule package from the original proposals. Some of these issues may be further refined in a follow up rule package.

- Groundwater monitoring well spacing.
- Buffer zone requirements.
- "Contaminated water" definition.
- "Aquifer" definition.
- Surface water runoff controls.
- Airport distance restrictions.
- Arid exempt landfill operational requirements.
- FEMA maps/100 year floodplains.
- Various notice requirements.
- Various implementation and Sunset dates.

The overall industry perspective is that the final Chapter 330 rule package is an improvement over the 1993 version. However, most industry representatives believe the MSW rules should move even further towards performance based regulations. Such regulations are the basis of environmental management systems now found in most major industries in the United States. Environmental management systems, rather than rigid regulations, allow for rapid operational innovation while providing sound environmental protection.

Public Interest Perspective

For many years public interest groups have had inadequate input into the MSW permitting process. As a result, many permit applications were contested in both the administrative forum and the judicial forum. Some of the legal challenges to TCEQ permit approvals resulted in judicial reversal of Commission decisions and major changes in the permitting process. Unfortunately, this litigation cost private property owners many thousands of dollars to protect their health and property. For this reason, public interest groups played an active role in TCEQ's Chapter 330 rulemaking initiative. Both public interest groups and private individuals actively participated in the rulemaking process. While most groups and individuals do not believe the new Chapter 330 rules went far enough in regulating MSW management activities in Texas, they do believe a reasonable start has been made. There is still a pressing need for more regulatory oversight of MSW management activities in Texas.

Widespread private property contamination resulting from landfill flooding remains a primary concern to public interest groups and private individuals. The final rule package still looks to FEMA as the primary reference for a site-specific 100-year floodplain determination.

This rule is not adequate to protect the public health and property of Texans. FEMA acknowledges that its maps are not always accurate and other TCEQ rules, such as those for Confined Animal Feeding Operations (CAFOs), allow for other floodplain data to be considered. Additionally, this provision of the rules also prohibits landfills only in floodways. Landfills should be barred from floodplains because there is an unacceptable risk that landfill contamination will be spread via floodwaters.

The “buffer zone” requirement of the final rule is still inadequate. The minimum 125-foot buffer is too small given the increasing size of landfills in Texas. In 2004, there were thirty-nine landfills that were more than 100 feet high and six that were more than 200 feet high. It makes better sense to tie the buffer zone size to sensitive receptors, as many other states do. As recognized by some major landfill operators in Texas, a 300 foot buffer zone should be a minimum around large landfills. A buffer zone of at least 300 feet should also be required around transfer stations and liquid waste handling facilities to protect people from the potential odor and noise problems. The 50 foot buffer zone for storage and processing facilities is too small and should be substantially increased as well. Proper operation and adequate buffer areas are the best ways to reduce negative public impacts from MSW management facilities.

Another critical issue not addressed in the final rule package is the so-called Grandfather Loophole. The Grandfather Loophole allows vertical expansions over old, unlined landfills. The requirement to have a liner in between the old unlined cell and the vertical expansion falls far short of protecting our environment. The practice of grandfathering older landfills in this manner must stop. It is absolutely contrary to the letter and spirit of the original Subtitle D rules. This practice ignores improved federal standards and undermines Congress’ clear intention to improve landfill standards.

The MSW Permit Review Process contained in the final rule package does not allow for regular renewal of MSW permits, contrary to most other TCEQ program areas and most other states which often have five or ten years permit terms. This means that unless MSW facilities make major changes, there is no regular process for the public and TCEQ staff to comprehensively review the operations of MSW facilities and, thereby, require improvements.

From the public interest perspective the final Chapter 330 rules are a positive step in the right direction, especially in improving public notice with regard to Internet posting and physical sign posting at a proposed MSW site when a permit application is pending. However, much work remains to be done to adequately regulate MSW management facilities in Texas.

For additional information on this paper, the reader should contact Jackie Hardee (jhardee@tceq.state.tx.us), Kerry Russell (krussell@txadminlaw.com), or Robin Schneider (robin@texasenvironment.org).

Attachment A

TCEQ Chapter 330 Rulemaking Memorandum

Texas Commission on Environmental Quality

INTEROFFICE MEMORANDUM

To: Jim Muse, Director
Policy and Regulations Division

Date: January 5, 2004

Through: Pattie Burnett, Rules Liaison
Office of Permitting, Remediation & Registration

From: Kari Bourland, Rules Liaison
Waste Permits Division

Subject: Rulemaking Initiation Request
MSW Rule Revisions and Updates

We are requesting permission to schedule this rule package for discussion at the next Rules Project Management (RPM) meeting. Mark Vickery, Deputy Director, Office of Permitting, Remediation, and Registration has approved the basic concepts and timing of this proposal.

§ **Suggested short title:** MSW Rule Revisions and Updates

§ **Reasons for the rule package:** The Municipal Solid Waste Permits Section is initiating this rulemaking to revise and update Chapters 330 and 332. Some main changes will be to implement Phase 2 of the Site Operating Plan rule revisions, to reduce the level of agency approvals of low impact waste management activities, to improve the organizational flow of MSW requirements, to implement some streamlining initiatives, and to update cross references and citations.

§ Under what authority are we proposing these changes? The rule change would be proposed under the authority of the Texas Health and Safety Code (THSC), §§ 361.017 and 361.024, which provide the commission the authority to adopt rules necessary to carry out its power and duties under the Texas Solid Waste Disposal Act.

§ What issue(s) or problem(s) are we trying to solve? The municipal solid waste program has undergone extensive change over the past 10 years. New regulatory requirements have been patched into the original rule structure. Enough change has occurred to justify a revamping of the MSW rules to a new organizational structure to more appropriately reflect current programs and requirements within the Municipal Solid Waste Permits Section. Also, some streamlining initiatives such as eliminating unnecessary requirements, reducing agency approvals of low impact waste management activities, and reducing or combining reporting requirements while improving overall data quality submitted to the TCEQ will be pursued.

§ Why is it important that we do this rule package? This rule package is necessary to implement Phase 2 of the Site Operating Plan rule revisions. Phase 2 will establish standards for the expected content, and explore an option for incorporating an Environmental Management System, within applicant-prepared site operating plans that are submitted as part of a permit or registration application. Also, medical waste

management regulations must be updated to keep pace with changes in the medical profession and the manner in which health care related waste is generated.

The rule package will update current regulatory citations, improve data quality requirements for information submitted to the TCEQ, and incorporate some streamlining initiatives to the MSW program. The TCEQ proposes to explore the feasibility of permits or registrations by rule for certain low impact waste management activities. In addition, reduced authorization levels for certain low impact waste management activities (i.e., from a permit to a registration application, from a registration application to a notification) will be explored.

Also, if the proposed technical standards for commercial nonhazardous industrial solid waste landfills are adopted, Chapter 330 will be harmonized as appropriate to reflect consistent landfill technical standards.

Reason(s)			
Commission Directive	<u> X </u>	MOU	Petition
Executive Director Directive		Federal	Staff <u> X </u>
Legislative		Quad	Quad F/U
Other			

§ How does it improve the environment? The rulemaking is intended to improve the overall structure of Chapter 330 which may result in greater understanding of municipal solid waste requirements, fewer notices of violations and increased compliance with regulations.

§ **Legislative background (if applicable):** N/A.

§ **What the rule will do:** The current Chapter 330 relates primarily to permit standards for MSW landfills, with registration and notification requirements for storage and processing facilities referring, as appropriate, to the landfill permit application requirements. Chapter 330 is proposed to be rewritten to refer more generally to municipal solid waste management facilities. The rules will further describe the variety of activities relating to the storage, processing, or disposal of municipal solid waste which may occur at these facilities. Waste management requirements will be appropriately tailored to the waste type and the related storage, processing, or disposal activity. For waste management activities which require prior TCEQ approval, the application requirements will be rewritten to request information relevant to permit and to registration applications.

Chapter 332 Composting will be combined into Chapter 330 in order to remove confusion regarding the different types of MSW storage and processing facilities. As stated above, the waste management standards and information submission requirements will be tailored to the waste type and the related storage and processing activity.

Also, the MSW Permits Section will propose certain streamlining initiatives relating to eliminating unnecessary requirements, reducing or combining reporting while improving the data quality requirements, and pursuing whether certain waste management activities can be authorized as a permit or registration by rule.

- \$ **Impact on the:**
 - \$ **Regulated Community:**
 - \$ The regulated community will support streamlining initiatives such as reduced reporting and permitting by rule. Also, the regulated community will support application requirements tailored to registrations and to permits.
 - \$ Does it create a group of affected persons who were not affected before? No.
 - \$ **Public:**
 - \$ The public will find the rules more readable and understandable.
 - \$ Does it create a group of affected persons who were not affected before? Yes. Opportunities for public participation may be affected if TCEQ authorization levels are reduced for low impact waste management activities
 - \$ **Agency Programs:** The MSW Permits Section, in conjunction with the Field Operations Division, will be able to more effectively and appropriately implement the requirements of the MSW Program.
- \$ **The Implications are:**
 - \$ What policy issues are affected? The MSW Permits Section would like to pursue the viability of permits and registrations by rule for certain low impact waste management activities.
 - \$ What are the consequences if this rulemaking is not approved to go forward? The TCEQ and the regulated community will continue to experience difficulty in consistently and appropriately applying the requirements of an evolving MSW Program. As an example, the appropriate level of information provided in applicant-prepared site operating plans will continue to be an issue in contested permit applications. There is also a potential for municipal solid waste landfill regulations governing disposal of Class 1 industrial solid waste to be inconsistent with new commercial nonhazardous industrial solid waste landfill regulations.
 - \$ Are there alternatives? Additional waste rule interpretation documents are also a way to implement outdated or unclear requirements. However, at this point, a TCEQ-initiated rulemaking is viewed as the most efficient way of implementing streamlining initiatives and simplifying regulatory requirements.
- \$ **Potentially Controversial Matters:** The perceived lack of detail in facility site operating plans is a current controversial issue, affecting all MSW permit applications. This rulemaking will attempt to resolve that controversy by appropriately improving the information submittal requirements for site operating plans. The municipal solid waste landfill regulations may also need to be revised to be consistent with new commercial nonhazardous industrial solid waste landfill regulations if they are adopted.

Persons may object that the TCEQ streamlining initiatives go too far or do not go far enough.

A few persons may object to improved data quality requirements due to perceived increased analytical requirements and related costs.

- \$ **Timeline constraints:**
 - \$ Requested proposal and adoption dates: Proposal by March 1, 2005. Adoption by August 1, 2005.
 - \$ What is driving this time constraint? The MSW Permits Section has been directed by the Commissioners to resolve through rulemaking the issues relating to site operating plans.
 - \$ Are there any hard deadlines? No.
 - \$ Are there any commitments? Yes. To whom? The TCEQ Executive Director and Commissioners, the Texas Legislature, the regulated community, and the public. Who made the commitments? The MSW Permits Section has made a commitment to resolve issues relating to site operating plans in a Phase 2 rulemaking.

- § **Internal Communications:**
- § Have there been any discussions with the Commissioners, ED and/or executive assistants on this project? Yes. When and by whom? During the Phase 1 SOP rulemaking proceedings.
- § Are early briefings needed? No, normal briefings will be satisfactory.
- § **External Communications:**
- § Will this rule package need to be reviewed by EPA or other federal agencies, other state agencies, or standing advisory groups? This rule will be developed with input from the Municipal Solid Waste Management & Resource Recovery Advisory Council.
- § How will the timeline need to be adjusted to accommodate this additional comment? No adjustment needed.
- § Who does this need to be sent to?
- § Have there been any communications with external advisory groups, stakeholders or legislators? Yes. If so, with whom? Legislators and the Municipal Solid Waste Management & Resource Recovery Advisory Council. What was the nature of the discussion? A commitment was made to legislators to resolve issues relating to site operating plans and to let the Municipal Solid Waste Management & Resource Recovery Advisory Council know of the upcoming rulemaking to address such issues as streamlining and data quality issues. Were any commitments made? Yes.
- § Will advisory group/stakeholder input be requested? Yes.
- § Has a balanced advisory group/stakeholder group already been formed and approved by the program deputy? No.
- § Are public meetings/hearings required? No, but a public hearing should be held.
- § Will newspaper notice be required? No.
- § Will there be any mailouts? Any mailouts will be performed and paid for by the MSW Permits Section. Who will pay expenses? MSW Permits Section. Who will be responsible for the mailout? MSW Permits Section.
- § **Complexity of Rulemaking and/or Recommended Tier Level:** Tier III.
- § **Other Relevant Information:** None.

Scheduling at RPM approved:	Not approved:
Reason:	

Jim Muse, Director
Policy and Regulations Division

To be filled out at RPM:

Group	Liaison	Team Member
Originating Program		
Environmental Law		
Litigation		
Enforcement		
Compliance Support		
Field Operations		
SBEA		
Regulation Development	Kathy Vail	

Project Manager: _____

TR Coordinator: _____

Tier Assignment: _____

Rule Log Number: _____

cc: Mark Vickery, Deputy Director, Office of Permitting, Remediation, and Registration
Mickie Hillman, Executive Assistant, Policy and Regulations Division

Attachment B

TCEQ Chapter 330 Rule Change Overview

Chapter 330 Changes from Current Rules

330.1 Purpose and Applicability

Added language to specify when changed portions of this chapter will take effect:

Added definitions for 330.3 Definitions

Medical waste - added reference to the federal definition of Regulated Medical Waste/revised definition to apply to treated and untreated waste from health care related facilities, exempted single and multi-family dwellings, hotels, motels, and other lodging.

Special waste -added condition that soil contaminated by petroleum products, crude oils, or chemicals is a special waste only if the concentrations are greater than 1,500 mg/kg total petroleum hydrocarbons;

330.5 Classification of Municipal Solid Waste Facilities

Adopted requirements of HB1609 to allow up to 20 tons per day of municipal solid waste and up to 20 tons per day of construction and demolition waste for a total waste acceptance rate not to exceed 40 tons per day for the facility.

330.9 Registration Required

Created a solid waste registration by rule for:

Type IX facilities that recover landfill gas for beneficial use.

Owners/operators of mobile treatment units conducting on-site treatment of medical waste.

Added reporting and financial assurance requirements for owners/operators of medical waste mobile treatment units.

Allowed the registration (instead of permitting) of facilities that will store or process untreated medical waste.

Added reporting requirements for Type V grit and grease trap facilities using the 10% recovery standard as a permit exemption.

330.11 Notification Required

Authorized low volume transfer stations to store up to 40 cubic yards in rural areas via a notification to the commission provided that all local county approvals are granted and the adjacent landowners have been notified of the activity.

330.13 Waste Management Activities Exempt from Permitting, Registration, or Notification

Removed the deed recordation requirement from persons who generate and dispose up to 2,000 pounds of MSW on their own property per year.

' 330.15 General Prohibitions

Added prohibitions on radioactive materials from disposal in MSW facilities.

330.25 Relationship with County Licensing System

Created a new streamlined provision for local governments which authorize MSW facilities.

330.57 Permit and Registration Applications for Municipal Solid Waste Facilities

Added requirement that the owner or operator furnish Parts I and II of the application to the regional solid waste Council of Governments.

Added requirement the owner or operator to provide a complete copy of the application for any permit, permit modification, permit amendment, registration, or registration modification that requires public notice except for Type I arid exempt and Type IV arid exempt facilities, including all revisions and supplements to the application, on a publicly accessible Web site, and provide the commission with the Web address link to be placed on the TCEQ web page.

' 330.59. Contents of Part I of the Application.

Added requirement for mineral interest ownership under the facility to be included with the adjacent and potentially affected landownership list.

330.63 Contents of Part III of the Application

For landfills and compost facilities, the owner or operator must now verify that natural drainage patterns will not be adversely altered, changed from significantly altered.

330.67 Property Rights

Deleted the requirement that lease agreements must contain provisions delineating mineral rights and other rights to recoverable materials associated with the property.

' 330.69. Public Notice for Registrations.

Added requirement for the owner/operator to post a sign or signs at the site declaring that the application has been filed and stating contact information for the commission and owner/operator.

330.121 General

The 2006 Revisions regarding alternative landfill cover supercede any inconsistent provisions contained in existing permits.

330.165 Landfill Cover

Limited alternative material used as daily cover to not contain polychlorinated biphenyl wastes, total petroleum hydrocarbons in concentrations greater than 1,500 mg/kg, or exceed constituent limitations imposed on authorized wastes to be disposed at the facility. The owner or operator may demonstrate for executive director approval whether material exceeding 1,500 mg/kg total petroleum hydrocarbons can be a suitable alternative daily cover.

330.171 Disposal of Special Wastes

Allowed Type IV and Type IVAE landfills to dispose of special waste that is consistent with brush, construction and demolition waste, or rubbish that is free of putrescible wastes and free of household wastes consistent with the waste acceptance plan.

Added requirement that soils contaminated by petroleum products, crude oils, or chemicals in concentrations of greater than 1,500 mg/kg total petroleum hydrocarbons; or contaminated by constituents of concern that exceed Class 1 industrial solid waste levels be disposed in dedicated cells that meet the design requirements for Class 1 industrial solid waste cells at MSW landfills.

330.173, Disposal of Industrial Wastes

Allow Type IV and Type IVAE landfills to accept Class 2 industrial solid waste consistent with brush, construction and demolition waste, rubbish, and the waste acceptance plan.

330.201. Applicability

Permits and registrations for units that existed before 3/27/06 remain valid, except that the permittee or registrant is required to apply for a modification with public notice within 180 days to incorporate the 2006 Revisions.

330.213 Citizen's Collection Stations

Allowed a citizen=s collection station to accept sharps from single or multi-family dwellings, hotels, motels, or other similar establishments and manage as household waste.

330.219 Record-Keeping and Reporting Requirements

Revised 330.219(b)(9) to add an annual reporting requirement for recycled material from grit, grease trap, and septage liquid waste processing facilities.

330.261 Applicability and Purpose

The subchapter will Asunset@ January 1, 2009, after NELAC takes effect.

330.301 Applicability

Permits and registrations for units that existed before 3/27/06 remain valid, except that the permittee or registrant shall apply for a modification, not subject to public notice, within 180 days to comply with the 2006 Revisions.

330.305 Surface Water Drainage for Landfills

Revised to state that drainage patterns shall not be adversely altered, from significantly altered.

Revised landfill unit design to require long-term erosional stability during all phases of unit operation, closure, and post closure care.

330.331 Design Criteria.

Revised to require vertical expansions of Type I landfills over pre-RCRA Subtitle D landfills, must satisfy the post-RCRA Subtitle D liner requirements.

330.335 Alternative Liner Design

Alternative liner designs for Type I landfills must include a leachate management system.

330.401 Applicability

Facilities that have closed prior to 3/27/06 are allowed to continue to monitor groundwater using the well location requirements contained in previously issued authorizations. The 2006 Revisions to this subchapter, other than well location requirements, supercede any inconsistent provisions contained in existing authorizations.

Owners and operators of landfill units shall comply with the 2006 Revisions to this subchapter by applying for a permit modification with public notice to revise any inconsistent permit provisions by 3/27/08. If an approved groundwater sampling and analysis plan allows for filtering groundwater samples, unfiltered groundwater samples will be needed to reestablish background groundwater constituent concentrations. Additionally, the executive director may require groundwater monitoring requirements for solid waste management units other than Type I or Type IV landfills where there is the potential for groundwater contamination.

330.403 Groundwater Monitoring Systems

Owners or operator must install a point of compliance groundwater monitoring system with a well spacing not to exceed 600 feet unless alternative spacing is demonstrated more suitable by using a multi-dimensional fate and transport numerical flow model.

330.405 Groundwater Sampling and Analysis Requirements

Disallowed field-filtering of groundwater samples prior to laboratory analysis.

330.407 Detection Monitoring Program for Type I Landfills

Additional wells at the point of compliance may be required to further characterize the release of an increase of hazardous constituents in the groundwater.

330.409. Assessment Monitoring Program

Revised to require sampling of all point of compliance wells for 40 CFR 258 Appendix II constituents.

Added the requirement for additional groundwater monitoring wells if the groundwater protection standard has been exceeded for a hazardous constituent.

330.459 Closure Requirements for MSW Storage and Processing Units

Added new requirement that the executive director may require an investigation and corrective action if there is evidence of a release affecting groundwater when all waste and waste residues cannot be removed.

330.543 Easements and Buffer Zones

Landfill permits that existed before 3/27/06 are subject to the former rules and the facility permit.

Added a new requirement for a 125-foot buffer zone for new Type I landfills and vertical or lateral expansions of existing Type I landfills. A vertical expansion is any height increase that exceeds the maximum permitted final contour for any cell or unit for which an increase is requested. For a vertical expansion, the buffer distance must be measured from the outermost edge of the newly permitted solid waste disposal airspace. For a lateral expansion, the buffer distance must be measured from the edge of the horizontally expanded portion of the landfill.

The new buffer zone will not apply to Type IAE, Type IV, and Type IVAE landfills.

Subchapter O, Regional and Local Solid Waste Management Planning and Financial Assistance General Provisions

Restructured this Subchapter to streamline regional solid waste management plan preparation and adoption and added flexibility to the Councils of Government and local governing bodies in implementing their regional and local solid waste management plans. Streamlined the requirements for the regional and local solid waste management plan while maintaining the content consistent with THSC 363, Subchapter D.

Subchapter U, Standard Air Permits for Municipal Solid Waste Landfill Facilities and Transfer Stations

Added a new standard permit to authorize air emissions at municipal solid waste (MSW) landfill sites and transfer stations, effective September 1, 2006. This standard permit replaces the repealed standard permit for MSW landfills in 30 TAC '116.621, Municipal Solid Waste Landfills.

330.1203 Applicability

This subchapter is effective 7/25/06.

330.1205 Definitions

For medical waste management, increased the definition of Aon-site@ to 75 miles from the point of generation.

330.1207 Generators of Medical Waste

Revised the packaging requirements of untreated medical waste to conform to the United States Department of Transportation regulations.

Required the generator to provide the weight and contents of a container of untreated medical waste.

330.1209 Storage of Medical Waste

Allowed treatment facilities to store putrescible or biohazardous untreated medical waste for up to 72 hours after receipt before having to refrigerate the waste.

330.1211 Transporters of Untreated Medical Waste

Allowed co-transportation of untreated medical waste, containerized Animal and Plant Health Inspection Services waste, and nonhazardous pharmaceutical waste provided the entire shipment is delivered to the same treatment facility.

Required transporters who are not generators to refrigerate putrescible, biohazardous, untreated medical waste that will be transported for more than 72 hours after initial receipt from the generator.

330.1219 Treatment and Disposal of Medical Waste

Added the requirement for the operator to confirm that any chemicals or reagents used in medical waste treatment processes are at the effective treatment strength.

Added recordkeeping requirements for medical waste treatment processes and reagent strength.

Added the requirement that operators of medical waste treatment equipment use backflow preventers on any potable water connections to prevent contamination of potable water supplies.

330.1221 On-Site Treatment Services on Mobile Treatment Units

Added requirement that providers of on-site treatment of medical waste on mobile treatment units to furnish the generator a statement that the medical waste has been properly treated.

Attachment C

TCEQ Chapter 305 Rulemaking Memorandum

Texas Commission on Environmental Quality

INTEROFFICE MEMORANDUM

To: Commissioners **Date:** 3/21/06

Thru: Glenn Shankle, Executive Director

Thru: Dan Eden, Deputy Director
Office of Permitting, Remediation & Registration

From: Jacqueline S. Hardee, Division Director
Waste Permits Division

Subject: Rulemaking draft concept and initiation memo Chapter 305, Consolidated Permits

Suggested short title: Limited Scope Major Amendments for Municipal Solid Waste Permits

Introduction and reason(s) for the rulemaking:

- This rule would define and limit the scope of certain major permit amendments for the purpose of application submittal and review.
- Is this rulemaking explicitly required by federal rule or state statute? No.
- Is this rulemaking in response to legislation? No.

Scope of the proposed rule: The rule would accomplish the following five things:

1. The rules would change a practice to allow a limited scope approach for some changes to permits that currently meet the definition of a major amendment for an MSW facility. Past practice has required a permittee to revise and open the entire permit to review and comment using the major amendment process in §305.62 in order to make a significant change to a permitted MSW facility. By practice, an application for a major amendment has subjected the entire permit to the commission's comment/hearing procedures making the processing identical to a new permit application. The proposed rule would revise the major amendment process to limit the scope of some major permit changes to those aspects of an application being changed. Only those changes resulting in an increase in landfill capacity, a vertical or lateral expansion of a landfill, additional authorization to dispose class 1 industrial waste, or up-grades to meet Sub-title D requirements would constitute a re-opener of the entire permit. Other significant changes would be processed as a limited scope major amendment. The revision of the major amendment process in §305.62 would allow the applicant, public, and agency in some instances to focus solely on the changes that are within the scope of the requested changes to the application, rather than the entire permit. Minor permit changes would continue to be processed as modifications. Public notice and comment would not be changed for amendments.
2. The rules would specify that the means of transferring MSW permits is a permit modification.
3. The rules would state that an MSW temporary authorization is not limited to minor permit changes.
4. The rules would establish that all future upgrades to landfills to meet 30 TAC 330 Subtitle D requirements promulgated by a 1993 rule must be accomplished via a major amendment.

5. The rules would require full public notice for some currently limited notice minor permit modifications.

Potential controversial concerns and legislative interest: The public may oppose a rule allowing significant changes to a permit without subjecting the entire existing permit to public scrutiny. No legislative interest is currently known.

Potential alternatives: Continue with current rules and existing approach.

Effect on the:

- **Regulated Community:** The regulated community would likely benefit from this rule change because there is a potential savings in costs, time, and resources.
- **Public:** The public would likely benefit from some aspects of this rule change because: some contentious limited public notice permit modifications would be changed to require full public notice; transfer of permit ownership would require full public notice; and all Subtitle D upgrades would require a major amendment. For some major amendments, the public would no longer have the opportunity to comment or request a contested case hearing on all aspects of a permit.
- **Agency programs:** There is a potential savings in costs and resources for the Municipal Solid Waste Permits Section and the Environmental Law Division. This rule would streamline a portion of the MSW permits process. The amount of processing time (and workload) saved for each affected application, for applicants and the staff alike, may be as much as fifty percent of the currently required time for certain applications. However, the number of applications submitted will potentially increase.

Proposed schedule and constraints: A normal schedule will be followed. No constraints are currently known.

Timeline:

Stakeholder meetings May or June 2006
Commission Agenda for Proposal September 2006
Published in Texas Register September 2006
Public Comments due October 2006
Available to Public January 2007
Commission Agenda for Adoption February 2007

Planned Stakeholder involvement: One or more open participation stakeholder meetings will be held during the development and adoption of the rule. The Municipal Solid Waste Advisory Council will be involved at their regularly scheduled quarterly meetings during the development and adoption of the rule.

Statutory authority: The rule change would be proposed under the authority of Texas Health and Safety Code (THSC), § 361.024, which provides the commission the authority to adopt rules necessary to carry out its power and duties under the Texas Solid Waste Disposal Act; Texas Health and Safety Code, §361.011, which establishes the commission's jurisdiction over all aspects of the management of municipal solid waste with all powers necessary or convenient to carry out the responsibilities of that jurisdiction; Texas Health and Safety Code, §361.061, which authorizes the commission to require and issue permits governing the construction, operation, and maintenance of solid waste facilities used to store, process, or dispose of solid waste; and Texas Water Code, §5.103, which authorizes the commission to adopt any rules necessary to carry out its powers and duties.

Direction and Guidance: To be completed at ED briefing.

Project number: Completed after approval.

cc: Matt Beeter
Sonia Ralls
Kerri Rowland
David C. Schanbacher, P.E.

Electronic cc: Pattie Burnett
Betsy Chapman
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Jason Skaggs
Brent Wade
Ashley K. Wadick
Kari Bourland, Division Liaison
Wayne Lee, Project Manager
Debi Dyer, Program Office Liaison

Attachments: none

Attachment D
Selected Industry Comments

§ 330.5430)(1)-(3) **Buffer Zones.**

The following suggested revisions to the proposed buffer zone requirements would (i) focus the expanded buffer zone requirements on Type I landfills (not Type IV construction/demolition waste facilities); (ii) specify how the expanded buffer zone would be measured, so that previously deposited waste would not need to be excavated and previously authorized waste disposal capacity is not retroactively revoked; (iii) specify how control over property may be demonstrated to meet the expanded buffer zone requirements; and (iv) clarify the bases for securing a variance or alternative.

Suggested Revisions:

(1) Except for facilities that are authorized by a notification or permit by rule, the owner or operator shall maintain a minimum separating distance of 50 feet between feedstock or final product storage areas; solid waste storage, processing, Type IAE landfill units, Type IVAE landfill units permitted by rule, Type IV landfill units, and the boundary of the facility. The buffer zone shall not be narrower than that necessary to provide for safe passage for fire fighting and other emergency vehicles. The executive director may consider alternatives to buffer zone requirements for permitted and registered storage and processing municipal solid waste facilities.

(2) For landfill permits that existed before the comprehensive rule revisions of this chapter as adopted in 2006 became effective, the owner or operator is ~~subject to the former rules and~~ shall establish and maintain a buffer zone in compliance with the permit as it existed prior to the comprehensive rule revisions. For new Type I and ~~Type IV~~ landfills, vertical or lateral expansions of existing Type I ~~and Type IV~~ landfills, and existing Type IAE and ~~Type IVAE~~ landfills that subsequently no longer satisfy the conditions specified in § 330.5(b)(1) of this title (relating to Classification of Municipal Solid Waste Facilities), the owner or operator shall establish and maintain a 125-foot buffer zone measured along a horizontal line extending from the outermost edge of the newly permitted solid waste disposal airspace. For vertical or lateral expansions of existing landfills, the 125-foot buffer zone requirement shall apply only to the newly permitted airspace and shall not apply to any previously permitted airspace, regardless of whether or not the previously permitted airspace has been constructed or filled with solid waste. The buffer zone may include any previously permitted airspace. All buffer zones must be within on property owned, leased, or otherwise controlled by the owner or operator. The owner or operator may demonstrate control of property for purposes of meeting the buffer zone requirements through agreements with adjacent landowners, including, but not limited to, written easements, restrictive covenants, settlement agreements, or waivers. Easements or rights-of-way that cross the facility and are subject to the protections of paragraph (a) of this section may constitute all or part of the buffer zone area that is required by this paragraph.

(3) The executive director may consider variances or alternatives to the buffer zone requirements in paragraph (2) of this subsection. ~~Alternatives shall only be approved~~ where the owner or operator demonstrates that: the prescribed

buffer zone standard is not feasible with respect to land availability, cost, or other considerations; and or

(A) the prescribed buffer zone standard is not necessary to meet the performance goal of providing visual separation of solid waste processing and disposal activities; or

(~~C~~B) there is a specific engineered design alternative that:

(i) is consistent with the performance goal of providing a visual ~~screening~~ separation of solid waste processing and disposal activities;

(ii) ~~affords ready access for~~ provides sufficient area to meet emergency response, maintenance, and monitoring requirements otherwise applicable to the facility; and

(iii) ~~affords equivalent control of odors and windblown waste as the prescribed buffer zone;~~

(~~iv~~iii) provides sufficient distance to meet the drainage and sediment control requirements applicable to the facility.

§ 330.403(a)(1)-(2) Groundwater Monitoring Systems.

The following suggested revisions to the proposed groundwater monitoring system requirements would refocus the demonstration on site-specific considerations listed in the agency's rules (rather than establishing a fixed distance for well spacing) and lend effect to prior agency determinations. The possible use of a numerical flow models is retained, and the default 300-foot well spacing may still be used if neither a site-specific demonstration nor a flow model are used.

Suggested Revisions:

(a) A groundwater monitoring system must be installed that consists of a sufficient number of monitoring wells, installed at appropriate locations and depths, to yield representative groundwater samples from the uppermost aquifer as defined in §330.3 of this title (relating to Definitions).

(1) Background monitoring wells shall be installed to allow determination of the quality of background groundwater that has not been affected by leakage from a unit. Background monitoring wells may be placed in locations that are not hydraulically upgradient of the waste management area if hydrogeologic conditions do not allow the owner or operator to determine which wells are hydraulically upgradient or if sampling at other wells will provide a better indication of background groundwater quality than is possible from upgradient wells.

(2) The point of compliance monitoring system must include monitoring wells installed ~~with a well spacing no greater than 300 feet~~ to allow determination of the quality of groundwater passing the point of compliance as defined in §330.3 of this title and to ensure the detection of groundwater contamination in the uppermost aquifer. The owner or operator may provide a demonstration for ~~other~~ well spacings using either an applicable multi-dimensional fate and transport numerical flow model or another method of demonstration based upon applicable site-specific factors in accordance with

subsection (e) of this section. In the event neither a site-specific demonstration nor a multi-dimensional fate and transport numerical flow model is used, the groundwater monitoring system satisfies the well spacing requirements of this section if it is designed, constructed, and installed with a well spacing no greater than 300 feet. The owner or operator must install a groundwater monitoring system at the point of compliance, as required by 40 Code of Federal Regulations §258.51(a)(2). Previously approved monitoring system designs at authorized facilities remain valid and facilities may continue to monitor groundwater applying the well location requirements contained in previously issued authorizations. When physical obstacles preclude installation of the groundwater monitoring wells at existing units, the wells may be installed at the closest practicable distance to the point of compliance as defined in §330.3 of this title that will ensure detection of groundwater contamination of the uppermost aquifer.

§ 330.59(c)(3)(A)-(B) Land Ownership Map and Landowners List.

The following suggested revisions to the proposed landowners list and notice requirements would (i) specify the appraisal district's records at the time of filing as the governmental source of information, and (ii) require that the owners of mineral interest underlying the facility and appearing in such records also be provided notice as a matter of convenience to the public.

Suggested Revisions:

(A) These maps shall comply with the requirements of §281.5 of this title by locating the property owned by adjacent and potentially affected landowners. The maps should show all property ownership within 500 feet of the facility, ~~and all mineral interest ownership under the facility.~~

(B) The adjacent and potentially affected landowners' list shall be keyed to the land ownership maps and shall give each property owner's name and mailing address. The list shall comply with the requirements of §281.5 of this title, and shall include all property owners within 500 feet of the facility, ~~and all mineral interest ownership under the facility.~~ Except as provided in § 39.101(f)(3)(A) of this title (relating to Application for Municipal Solid Waste Permit) and § 39.501(f)(3)(A) of this title (relating to Application for Municipal Solid Waste Permit), Pproperty and mineral interest owners' names and mailing addresses derived from county deed records as listed in the real property appraisal records of the appraisal district in which the municipal solid waste facility is located or proposed to be located on the date that the application is filed will comply with this paragraph. As a matter of convenience to the public, and without intending to confer legal standing, the list shall also include the names and mailing addresses of any owners of mineral interests underlying the facility as set forth in the appraisal records on the date

that the application is filed. Notice of an application is not defective if a person did not receive notice because the person was not listed in the real property appraisal records. The list shall also be provided in electronic form.

§ 330.1(a) (1)-(6) Purpose and Applicability.

The following suggested revisions to the proposed applicability provisions would replace the complicated series of piecemeal and successive compliance deadlines (which must be interlaced with the ongoing SOP call-in program) with a unified and administratively simplified effective

date of one year following adoption, and would further clarify the applicability to existing individual authorizations and closed facilities.

Suggested Revisions:

Proposed § 330.1(a)(1)-(3) and individual applicability sections would be revised as suggested below.

(a) The regulations promulgated in this chapter cover aspects of municipal solid waste (MSW) management and air emissions from MSW units under the authority of the commission and are based primarily on the stated purpose of Texas Health and Safety Code, Chapter 361. The provisions of this chapter apply to any person as defined in §3.2 of this title (relating to Definitions) involved in any aspect of the management and control of MSW including, but not limited to, storage, collection, handling, transportation, processing, and disposal. Furthermore, these regulations apply to any person that by contract, agreement, or otherwise arranges to process, store, or dispose of, or arranges with a transporter for transport to process, store, or dispose of, solid waste owned or possessed by the person, or by any other person or entity. The comprehensive rule revisions in this chapter as adopted in 2006 (2006 Revisions) are effective 20 days one year after they are filed with the Office of the Secretary of State.

(1) This section applies to all applications filed under this chapter; including applications for new permits, registrations, or orders and applications for any renewal of or amendment or modification to existing permits, registrations, or orders. With regard to any application for which an administrative completeness review is applicable, the application shall be considered under the rules in effect when the application has been or is deemed administratively complete. For all other applications where an administrative completeness review is not applicable, the application shall be considered under the rules in effect when the application is deemed technically complete. Applications filed under this chapter are not subject to §305.127(4)(B) of this title (relating to Conditions to be Determined for Individuals Permits).

(12) Permits and registrations, and orders issued by the commission and its predecessors, that existed before the 2006 Revisions became effective, and permits, registrations, and orders issued at any time based on an application deemed administratively or technically complete under rules in effect prior to the date on which the 2006 Revisions become effective shall be considered existing individual authorizations. Existing individual authorizations shall remain valid until suspended or revoked except as expressly provided otherwise in this chapter. To the extent that a standard has been changed by the 2006 Revisions, the holder of an existing individual authorization may continue to ~~Facilities may operate under standards contained in the existing permits and registrations subject to: individual authorization, except for requirements in the~~

~~2006 Revisions, which expressly supersede provisions contained in existing authorizations or require revisions to existing authorizations; and those requirements mandated by the United States Environmental Protection Agency in 40 Code of Federal Regulations (CFR) Parts 257 and 258, as amended, which implement certain requirements of Resource Conservation and Recovery Act (RCRA), Subtitle D and those requirements of the 2006 Revisions that expressly supercede or expressly require revision of existing individual authorizations by the provisions of each such requirement. For requirements of the 2006 Revisions that require a modification to an existing individual authorization, a request for modification must be filed by the effective date of the 2006 Revisions or one year after the existing individual authorization was issued, whichever is later. If an application for a modification is timely filed, then the requirements of the existing individual authorization shall remain in effect until final commission action is taken on the application. For those federally mandated requirements and the equivalent state requirements, the effective dates listed in 40 CFR Parts 257 and 258, as amended, shall apply.~~

For those federally mandated requirements, the permittee is under an obligation to apply for a permit change in accordance with §305.62 of this title (relating to Amendment) or §305.70 of this title (relating to Municipal Solid Waste Permit and Registration Modifications), as applicable, to incorporate the required standard. The application shall be submitted no later than six months from the effective date of the required standard.

(2) Applications for new permits and major amendments to existing permits that are administratively complete and registration applications for which the executive director has completed a technical review, as of the effective date of the 2006 Revisions, shall be considered under the former rules of this chapter. Such applications are not subject to §305.127(4)(B) of this title (relating to Conditions to be Determined for Individuals Permits).

(3) Authorizations, other than permits and registrations, that existed before the 2006 Revisions become effective shall comply with the 2006 Revisions within 120 days of the 2006 Revisions becoming effective unless expressly provided otherwise in the chapter. These authorizations include notifications, exemptions, permits by, and registrations by rule.

(4) Authorizations, other than permits and registrations, that had not been claimed or did not exist before the 2006 Revisions became effective shall comply with the 2006 Revisions.

(5) Applications for modifications filed before the 2006 Revisions become effective are subject to the former rules.

(6) Owners or operators of medical waste mobile treatment units, operating under an existing authorization may continue operating and shall submit:

(A) a closure cost estimate within 60 days of the effective date of the 2006 Revisions and annually thereafter; and

(B) evidence of financial assurance meeting the requirements specified in §30.9(m)(1)(I) of this title within 120 days of the effective date of this chapter and annually thereafter.

§ 330.201 Applicability.

(a) This subchapter applies to operation of the municipal solid waste storage and processing units.

(b) Permits and registrations for units that existed before the comprehensive rule revisions in this chapter as adopted in 2006 (2006 Revisions) became effective remain valid, except as provided by this subchapter. The permittee or registrant is under an obligation to apply for a modification within 180 days unless approved otherwise by the executive director, in accordance with § 305.70(k) of this title (relating to Municipal Solid Waste Permit and Registration Modifications), as applicable, to incorporate the 2006 Revisions. The initial application will be processed as a modification requiring public notice and any subsequent applications will be processed in accordance with Chapter 305, Subchapter D of this title (relating to Amendments, Renewals, Transfers, Corrections, Revocation, and Suspension of permits). Timely submission of a request for a modification qualifies the owners or operators of existing units to operate under requirements contained in the existing authorization.

§ 330.261 Applicability and Purpose.

(a) This subchapter applies to municipal solid waste facilities submitting laboratory data and analyses for use in commission decisions regarding any matter under the commission's jurisdiction relating to permits or other authorizations, compliance matters, enforcement actions, or corrective actions. ~~Owners and operators of municipal solid waste facilities shall operate in compliance with the comprehensive rule revisions in the chapter as adopted in 2006 (2006 Revisions) to this subchapter within 120 days of the 2006 Revisions becoming effective. The 2006 Revisions to this subchapter supersede any inconsistent provisions contained in existing permit or registrations. Permits and registrations for units that existed before the comprehensive rule revisions in this chapter as adopted in 2006 (2006 Revisions) to this subchapter became effective remain valid, except as provided by this subchapter. If existing authorizations contain any provisions inconsistent with the 2006 Revisions, the permittee or registrant is under an obligation to apply for a modification not subject to public notice in accordance with § 305.70(1) of this title (relating to Municipal Solid Waste Permit and Registration Modifications) to remove any inconsistent provisions. Timely submission of an application to modify qualifies the owners or operators of existing units to operate under requirements contained in the existing authorization until a final decision is made on the application.~~

§ 330.301 Applicability.

Permits and registrations for units that existed before the comprehensive rule revisions in this chapter as adopted in 2006 (2006 Revisions) to this subchapter became effective remain valid, except as provided by this subchapter. If existing authorizations contain any provisions inconsistent with the 2006 Revisions, the permittee or registrant is under an obligation to apply for a modification not subject to public notice in accordance with § 305.70(1) of this title (relating to Municipal Solid Waste Permit and Registration Modifications) ~~within 180 days~~ to incorporate any inconsistent provisions. Timely submission of an application to modify qualifies the owners or operators of existing units to operate under requirements contained in the existing authorization until a final decision is made on the application.

§ 330.401 Applicability.

(a) Facilities that have closed in accordance with §§ 330.453, 330.455, or 330.457 of this title (relating to Closure Requirements for Municipal solid Waste Landfill Units that Stop Receiving Waste Prior to October 9, 1991, Type IV Landfills, and Municipal Solid Waste Sites; Closure

Requirements for Municipal Solid Waste Landfill Units that Receive Waste on or after October 9, 1991, but Stop Receiving Waste Prior to October 9, 1993; or Closure Requirement for Municipal Solid Waste Landfill Units that Receive Waste on or after October 9, 1993) prior to the effective date of the comprehensive rule revisions in this chapter as adopted in 2006 (2006 Revisions) may continue to monitor groundwater using the well location requirements contained in previously issued authorizations, as allowed by § 330.1(a)(1) of this title (relating to Purpose and Applicability) ~~unless the owner or operator determines a statistically significant change for the unit in accordance with § 330.407(b) of this title (relating to Detection Monitoring Program for Type I Landfills) or determines a release of contaminants from the unit in accordance with § 330.417(b)(5) of this title (relating to Groundwater Monitoring at Type IV Landfills). If the owner or operator of a closed unit determines a statistically significant change or release has occurred, then the owner or operator shall apply for a modification not subject to public notice in accordance with § 305.70(1) of this title (relating to Municipal Solid Waste Permit and Registration Modification) within 180 days of that determination to comply with the 2006 Revisions to this subchapter. Timely submission of a request for a modification qualifies the owners or operators of existing units to operate under requirements contained in the existing~~

~~authorization until a final decision is made on the application. Closed facilities shall comply with the other 2006 Revisions to this subchapter, other than well location requirements, within 120 days. The 2006 Revisions to this subchapter, other than well location requirements, supersede any inconsistent provisions contained in existing authorizations.~~

(b) Owners and operators of landfill units that do not close before the comprehensive rule revisions in this chapter as adopted in 2006 (2006 Revisions) to this subchapter become effective, shall comply with the 2006 Revisions to this subchapter, ~~except for the well spacing requirement, within 120 days.~~ Owners and operators shall comply with the revised well spacing requirements by applying for a permit modification without public notice in accordance with § 305.70(1) of this title ~~within two years from the effective date of the 2006 Revisions.~~ The requirements in this subchapter apply to all municipal solid waste landfill units, except as provided in § 330.5(c) and (d) of this title (relating to Applicability). Additionally, the executive director may establish groundwater monitoring requirements for solid waste management units other than Type I or Type IV landfills where site-specific conditions and operations have the potential for groundwater contamination.

§ 330.981 Applicability.

~~The requirements of this subchapter will be implemented 180 days after the effective date of this chapter.~~

§ 330.1203 Applicability.

(a) ~~Owners and operators shall comply with the comprehensive rule revisions to this chapter as adopted in 2006 within 120 days of the effective date of the 2006 Revisions. This subchapter is applicable to persons who generate, collect, transport, store, process, treat or dispose of medical waste.~~

§ 330.57(1)(1)-(2) Permit and Registration Applications for Municipal Solid Waste Facilities.

The following suggested revisions establish mechanisms for securing electronic copies of significant permit applications via the Internet as a matter of convenience for the public and without establishing new jurisdictional notice requirements.

Suggested Revisions:

(1) The owner or operator shall ~~provide~~ submit a complete copy of ~~the~~ an application for any a permit, permit modification, or major permit amendment; or registration, including all revisions and supplements to the application, in Adobe Acrobat PDF format on a publicly available Web site, and provide the commission with the Web address link for the application materials.

(2) The commission shall post on its Web site the identity of all owners and operators filing such applications and ~~the Web address link an email address provided by the applicant where one may request an electronic copy of the application required by this subsection. The requestor must provide a valid mailing address in the email request and the applicant may request such an address in reply to the requestor.~~

(3) The requirements of this subsection are intended solely for the convenience of the public and are not jurisdictional notice requirements. These requirements are not intended to be a substitute for, or an addition to, the public notice requirements for

applications. The requirements for the applicant to submit an electronic copy of its application allows, but does not require, the commission to post a copy of the application on the commission Web site.

§§ 330.261 - 330.289 *Analytical Quality Assurance and Quality Control.*

The following suggested revision is based on the agency's recent and specific establishment of enforceable requirements (i.e., National Environmental Laboratory Accreditation Conference (NELAC) standards), thereby avoiding the creation of unnecessary parallel requirements in Chapter 330 that are more stringent than the agency's other programs (e.g., public water systems).

Suggested Revision:

Delete this subchapter in its entirety.

Jackie Hardee

In October, 2005, Jackie Hardee was named the new division director of the TCEQ's Waste Permits Division. For five years prior to this appointment, she was Director of the agency's Remediation Division. Jackie has B.S. in Civil Engineering from the University of Texas at Austin and an M.B.A. from Texas State University in San Marcos. She has worked at the TCEQ, or its predecessor agencies, since 1982. She received her professional engineer license in 1988, and in 1989 she was named Young Government Civil Engineer for the Austin Chapter of the American Society of Civil Engineers. Jackie been involved in RCRA, Superfund, Voluntary Cleanup, Dry Cleaners, Municipal Setting Designations and Petroleum Storage Tank Programs during her TCEQ tenure.

Kerry Russell

Kerry Russell is an attorney licensed to practice in Texas and Colorado, in State and Federal Courts. Mr. Russell holds a Mechanical Engineering Degree from the University of Texas at Austin and a Juris Doctor from the University of Wyoming. Mr. Russell is a partner with Russell & Rodriguez, L.L.P. and maintains a statewide practice with offices in Georgetown, Texas. Mr. Russell is a published author and frequent speaker on contemporary topics in environmental law with an emphasis on the impact of environmental regulation on municipal government. Mr. Russell has been a municipal solid waste landfill permitting attorney for many years and is an active participant in TCEQ municipal solid waste rulemaking. Mr. Russell also lectures UTME classes on professional ethics and legal aspects of engineering practice.

Robin Schneider

Robin Schneider has been the Executive Director of Texas Campaign for the Environment (TCE) since 2000. She started her activist career in high school as a canvasser for the Equal Rights Amendment. While at UCLA earning a Bachelor of Arts in Political Science, she led a campaign to stop a plan to drill for oil on campus. She worked for the California Abortion Rights Action League (CARAL) and developed winning strategies for pro-choice lobbying and electoral work. Under Robin's direction, TCE took a leading role in the campaign to close the Grandfather Loophole in the Texas Clean Air Act, for which she was dubbed the "Best Advocate for Breathers" by *The Austin Chronicle*. She is a Vice Chair of the Computer TakeBack Campaign which successfully pressured Dell and Apple to take back obsolete products for proper recycling and disposal. TCE has been working with landfill neighbors to impact local trash issues and statewide rules and legislation since late 2002. Austin City Councilmember Betty Dunkerley appointed Robin to the city's Long-Range Solid Waste Planning Task Force in 2005.

Proving Up Costs in Environmental Cases

“Money for Nothing”

Mr. Philip R. Watters, P.E., M.B.A.
Senior Vice President, Rimkus Consulting Group, Inc.

Abstract

Determining what is reasonable and appropriate when evaluating environmental invoices often causes confusion and can seem like an insurmountable task when the responsibility falls on your shoulders. This is never truer than when a large environmental site, such as one of Texas's 50 Federal Superfund sites, happens to come across your desk. Without appropriate review, superfluous costs are typically passed on to the client without thought. These costs can amount to millions of dollars that ultimately may not be the responsibility of your client to pay.

In most cases, invoices are evaluated considerably after the fact. That is, invoices are thrust upon the reviewer months or years after the costs have already been incurred and paid. These invoices generally have little to no organization and appropriate measures have not been put in place to minimize the confusion. This puts your client into an immediate (and often intended) disadvantage. Although seemingly daunting, this task can be accomplished relatively painlessly with some basic technical information. Armed with a detailed operations history and a little understanding of the environmental remediation requirements for the site, this task becomes much more manageable.

In the more favorable scenario, you become involved in the project during the earliest stages. In this case, there is ample time to prepare or categorize the work and contractors performing the work into simple accounting codes. These codes can help in separating costs into the appropriate category for payment by the potentially responsible party (PRP). Once these codes have been established, the codes can be further subcategorized depending on site by site circumstances (i.e. individual chemical contaminant removal vs. groundwater treatment). By spending the time to create a useful system on the front end, endless hours of confusion and disarray can be avoided.

In the following paper, a working example of the situations presented above is demonstrated for a large, environmentally contaminated site.

Site Background / History

The site first opened in the late 1940's as a manufacturing facility that produced military and commercial batteries. During its operational period, the Lead Processing Corporation (LPC) encompassed approximately 55 acres. The facility was comprised of a lead battery processing plant and two interconnected impoundments.

LPC ceased operation in 1961. The two surface impoundments were filled to grade and most of the plant was dismantled. That same year the property was purchased for use as a metal finishing facility. The Metals Finishing Corporation (MFC) used a portion of the former lead battery processing plant for a metals degreasing operation using trichloroethylene (TCE) as the solvent. Initially in the 1960's, untreated TCE-contaminated waste water was disposed of to surface drainage. However, by the 1980's, the waste water was treated onsite using a solvent treatment process. The treated water was then discharged to a nearby stream with a regulatory permit.

Regulatory focus was directed towards the site in 1996, when a neighboring property owner complained of an odor in newly-installed domestic water well. In an act of good faith, MFC sampled the well and encountered TCE levels exceeding regulatory standards. Remedial environmental activity shortly ensued.

MFC entered into the Texas Voluntary Cleanup Program in 1997. As a result, extensive soil and groundwater investigations were conducted at the site throughout 1998. Investigations concluded that soils around the former lead processing facility and shallow groundwater were contaminated with TCE. The contaminated groundwater plume was determined to extend nearly one mile beyond the site boundary. That same year the Texas Commission on Environmental Quality (TCEQ) required an expanded investigation of private drinking water wells within a two mile radius of the facility and additional sampling of wells for lead. The report was completed in the summer of 1999 and determined that several of the tested private drinking water wells within a mile radius contained detectable levels of TCE and its biodegradation components.

In winter of 1999 carbon filtration units were installed on 75 individual water wells, of which 30 wells had levels exceeding the 5 parts per billion action levels for TCE. In summer of 2000 a remedial action plan was approved by the TCEQ which included a soil vapor extraction (SVE) of contaminated soil hot spots and source recovery of the Dense Non Aqueous Phase Liquid (DNAPL) by extraction. The recovered TCE was processed onsite using the existing solvent treatment equipment already at the site. The remedial system was operational by winter of 2000.

In 2001 investigations were initiated concerning operations and any resulting contamination associated with the former lead processing facility. Results of these investigations concluded in 2002. Results identified lead contamination in surface soils down to 5 feet that exceed regulatory action levels. However, no detectable levels of lead were identified in groundwater beneath or beyond the facility. Therefore, it was determined that groundwater had not been impacted by LPC's operations, which was attributed to the immobility of lead and the depth to subsurface waters (in excess of 60 feet).

Negotiations concerning the sale of the property to an interested party began in 2003; however, the prospective buyer had concerns over the perceived

environmental contamination surrounding the site. As a result, it was agreed that all lead contaminated surface soils would be excavated to a residential cleanup level of 25 parts per million (ppm) and the existing TCE treatment system would be the responsibility of MFC until the treatment goals had been met.

In the spring of 2004 onsite lead contaminated soils were removed from the site and a closure letter was approved by the TCEQ. Enhanced with monetary incentives, sale of the property ensued shortly after all structures (excluding the soil vapor extraction and groundwater extraction treatment systems) were demolished. In 2005, TCE in soil concentrations was reduced to below regulatory action levels and the SVE system was removed. A closure letter concerning TCE contaminated soils was approved by the TCEQ that same year. Current projections for cleanup of the groundwater are estimated to be in the 10 to 15 year time frame.

Forensic Expenditure Analysis

Project invoices for the claimed site remediation activities arrived in our offices in January of 2006 and totaled five banker boxes. The request by the client: detailed analysis of invoices to separate costs into what is 'reasonable and appropriate.' At first this task appeared formidable; however, using basic techniques a simple system was developed.

The first step to perform an analysis of this magnitude is to obtain a good understanding of the process and waste generation history of the facility. This can be done using a flowchart analysis. Once the facility timeline has been visually represented, a good facility plan should be obtained to identify process structures. In the case presented above, an overlaying facility plan should be developed depicting historic and current locations of the process structures used in LPC's and MFC's operations.

The next step involves overlaying the facility plans with environmental drawings indicating contamination locations and associated contaminants. This analysis would show the origins of lead contamination versus that of TCE contamination. This is done not only to depict the source(s) and entry points of the contamination, but also to show the finite boundaries between the potentially responsible parties (PRP). This also can be used as an aid in allocating PRP shares.

Based on our analysis of this complicated file, the allocation could be simplified to soil versus groundwater issues. MFC had accountability for TCE contaminated soils (which included operation of the SVE system) and all groundwater expenses. On the other hand, LPC had liability for all lead contaminated surface soils. Armed with this knowledge, the invoices could now be tackled.

Site expenses could be divided into the following categories:

- Investigative and feasibility studies
 - a. TCE
 - b. Lead
- Remedial system
 - a. TCE capital costs (including pilot testing)
 - b. TCE operation and maintenance
 - c. TCE system monitoring
 - d. Lead soil removal costs
- Construction (structure closure and demolition)
- Operational expenses
- Agency oversight
 - TCE
 - Lead
- Legal / Settlement
- Miscellaneous

Several complications were encountered during this review. The first of which involved invoices for closure and demolition of onsite structures amounting to more than \$350,000. Based on our understanding of the conditions of the purchase agreement between the MFC and the purchaser, these matters were to be addressed prior to the sale. However, these expenses do not constitute environmental expenditures; therefore, should not be included in the total.

Secondly, we evaluated the option of an alternative water treatment system for the 75 individual water wells versus the current carbon filtration system option. It was our opinion that the more economical route would have been to connect the 75 homeowners to the city water system, which would have amounted to substantial savings over a 20 or even 15 year time frame.

Invoices were also submitted for all expenditures associated with the solvent treatment facility since TCE remediation began in 2000. Since the extracted groundwater system was tied into this solvent treatment system and according to our estimates only accounted for 12 percent of the entire process flow, only 12 percent of these costs should be attributed to the environmental system at the site. However, after closure of the MFC operating facility, allocation of this solvent treatment operation was changed back to 100% share allocation for environmental remediation.

Lastly, there was the problem with excavation of the surface soils for lead at the site. According to agency documentation and our understanding of the Risk Based Corrective Action program, soil contamination levels for the site should have been evaluated against soil background levels versus the much more stringent standards proposed in the sale agreement. Based on our review of the soil contamination data during the site investigation, background lead levels were 100 ppm versus the 25 ppm cleanup level used during the remediation. Analysis indicated that a third less soil volume would have been removed and disposed of.

As a result, over one million dollars was eliminated from the overall site expenditures that were otherwise attributed to this expenditure.

Contemporaneous Expenditure Analysis

With ample planning a good system can be put in place to avoid the confusion and uncertainty of the **Forensic Expenditure Analysis**. After a good technical understanding of the site facility, operations history, waste generation, and environmental contamination has been accomplished, you are ready to lay the groundwork for this approach. Using the same scenario from above, project task accounting codes can be implemented to represent each phase of work being performed at the site and placed into a flexible database. In turn, all contractors can bill their time by referencing the appropriate codes supplied for the particular task.

For the simplified case presented above, accounting codes can be assigned for each of the categories.

- Investigative - 1000
 - a. TCE - 1010
 - b. Lead - 1020
- Remedial system - 2000
 - a. TCE capital costs (including pilot testing) -2010
 - b. TCE operation and maintenance - 2020
 - c. TCE system monitoring -2030
 - d. Lead capital costs -2040
- Construction - 3000
 - a. Structure closure - 3010
 - b. Structure demolition - 3020
- Operational expenses - 4000
- Agency oversight - 5000
 - a. TCE - 5010
 - b. Lead - 5020
- Legal / Settlement - 6000
- Miscellaneous - 7000

As different expenses appear that do not fit into a particular code, new categories or codes can be easily created. Individual vendor task budgets, invoices, invoice approval, and payments should be incorporated into these project management codes. These database codes illustrate how even expenditures for a complicated site can be readily controlled, allocated and analyzed. Quality assurance and control can be handled by in-house technical personnel or through a third party, outside consultant. Consideration should be given to the possibility that the person assigned to provide the quality assurance and control function may be called upon to present his or her opinions in negotiations, mediation or courtroom testimony.

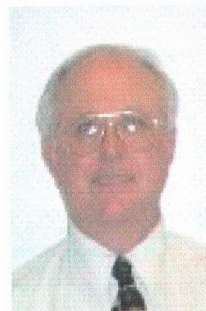
Conclusions

Proving up costs in environmental cases can be an overwhelming task. In the **Forensic Expenditure Analysis** scenario, environmental costs and invoices are thrust upon the reviewer with little or no regard for organization. In the more favorable situation, the **Contemporaneous Expenditure Analysis**, there is time and forethought to set up a coding system to account for the varying site circumstances. In both circumstances, collection of site operational and technical information is an essential building block to begin the analysis. After this task has been performed, invoices can be organized for review in comparison with the site facts pertinent to your case. In either case, suspect costs can be clearly identified and set aside for further scrutiny. When properly evaluated, unnecessary or inappropriate costs are identified and eliminated, resulting in large cost reductions for your client.



Rimkus

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**PHILIP R. WATTERS, M.B.A., P.E., CMR
SENIOR VICE PRESIDENT**

Mr. Watters is a 1969 engineering graduate of Michigan Technological University and 1972 graduate of the University of Houston Business School. His professional experience has been in the petrochemicals, refining, oil and gas exploration, and natural gas processing industries as well as the engineering and management consulting profession. He is knowledgeable in environmental assessments, indoor air quality and industrial hygiene investigations, economics, market research, supply/demand and price forecasting, process and mechanical engineering design, process economics and optimization, and technology evaluations. He has owned and managed engineering and management consulting firms. He has prepared and delivered numerous papers, expert reports, and depositions during litigation proceedings.

Mr. Watters' principal areas of expertise include environmental remediation cost analysis, indoor air quality evaluations, business interruption and economic evaluations, process technology audits, manufacturing cost analysis, process design, project evaluations, product contract negotiations, and acquisition studies. Mr. Watters has performed investigations of pipeline economic losses, industrial accidents, fires, explosions, wrongful death economic losses, toxic/hazardous waste evaluations, including determination of cause, origin, extent, and severity of environmental contamination, product contamination assessments, subrogation evaluations, and product liability determinations.

EDUCATION AND PROFESSIONAL ASSOCIATIONS

M.B.A. - University of Houston

B.S. - Chemical Engineering - Michigan Technological University

Registered Professional Engineer - Texas

Completed 40-Hour OSHA Hazardous Waste Operations and Emergency Response Course

Certified Mold Remediator – Indoor Air Quality Association, Inc.

Certified Residential Mold Inspector - Indoor Environmental Standards Organization

Certified Instructor – Indoor Environmental Standards Organization

Licensed Mold Assessment Consultant (Texas License No. MAC0180)

Member: American Institute of Chemical Engineers
Commercial Development and Marketing Association
National Groundwater Association
Southwest Chemical Association


EMPLOYMENT HISTORY

1989 - Present
1986 - 1989
1981 - 1986
1975 - 1981
1973 - 1975
1969 - 1973

Rimkus Consulting Group, Inc.
Resource Planning Consultants, A Bonner & Moore Company
Resource Planning Consultants, Inc.
Pace Consultants, Inc.
Advanced Management Systems, Inc.
Exxon Chemical Company

The Appeal of Junk Science

by Mark S. Sobus
and Dan Jacks

A man in a dark suit, white shirt, and patterned tie is shown from the chest up. He is looking down at a CD-ROM he is holding in his right hand. Several other CD-ROMs are floating in the air around him, some near his head and others near his hands. The background is dark with some light streaks.

You've been prepping the case for over a year, and now it's time for trial. You are certain that your case hinges on the jury's ability to understand the critical issue of causation. Your diligent efforts and study have led you to retain top experts, each of whom will testify that there is no link between your client's product and the plaintiff's injury. Your confidence is overflowing because your two key experts have Ivy League Ph.D.s and they actually wrote *The Book on the scientific question* ostensibly in debate in this case, while the plaintiff's experts are "bought and paid for" professional witnesses who always find themselves working for plaintiffs.

In fact, you are a little puzzled that the case survived summary judgment, given the apparent weakness of the plaintiff's causation theory. *The only thing more puzzling than the judge's ruling on summary judgment is how the jury ultimately returns a multimillion dollar verdict against you and also hits your client with punitive damages.* Surely 12 rational people who were taking their jobs as jurors seriously could not have reached a plaintiff's verdict.

Isn't the only explanation that the jury was either stupid or so results-oriented that it didn't care about the scientific evidence? Well, actually there is another explanation.

In all likelihood, the jury simply did not share your opinion of the plaintiff's experts and the "questionable" causation theory they presented. What you had dismissed as junk science, jurors concluded was a reasonable explanation for what happened to the plaintiff. But, you may argue, science is not a matter of opinion; it is based on observable and testable facts, and the most qualified experts in the field disagreed with the plaintiff's theory. How could 12 apparently rational people not go along with these top-notch experts?

Real Science versus Junk Science

At a superficial level, it is actually not surprising that a jury would find a junk science theory appealing, even if the experts disagree. Like junk food, junk science gives jurors what they want. And what jurors want most is a clear explanation for why the plaintiff's injuries occurred. As we—trial consultants—watch juries deliberate in mock

trials, talk with "shadow jurors" in ongoing trials, and question jurors in post-trial interviews, we routinely notice there is an almost instinctive drive to identify a cause for a plaintiff's injuries. When plaintiffs present their theory of causation, no matter how absurd it may appear to the educated observer, this theory often provides the sought-after cause that explains the effect.

But the appeal of junk science doesn't end there. In fact, much of the appeal lies in the fact that the explanations offered by junk science fit with what many jurors already believe. Junk science theories rarely require jurors to examine their closely held beliefs or to question what they have heard in the media. Jurors can continue to believe that any level of chemical exposure is dangerous, that brain injuries during birth are always the result of mistakes by medical professionals, that repetitive motions are the main cause of carpal tunnel syndrome, that physically demanding tasks "wear out" the body, or that any work around asbestos means that exposure to asbestos must be the best explanation for lung injuries. Contrary to what you (and apparently the "best" science) would argue, junk science actually lines up quite nicely with how jurors see the world, and since the judge has permitted the junk theory to be presented, the jury has no automatic reason to doubt the veracity of this theory.

In contrast to junk science, truly scientific theories are rarely so neat. Instead of clear explanations, legitimate scientific theories often blame uncontrollable factors, or even ask people to accept that the true cause of an injury is unknown. Real science theories also frequently fly in the face of what many people believe and what they have heard in the media. And perhaps most damaging of all, at least in the context of litigation, real science theories are often coupled with less-than-perfect company behavior. Thus, corporate defendants are frequently asking juries

to essentially forgive questionable corporate conduct because the defense's scientific theory says the company's behavior is not a clear cause of the plaintiff's harm.

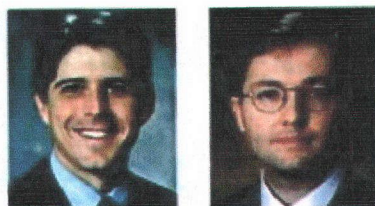
Given the demands and challenges posed by real science theories, it should not be surprising that what defendants see as junk science often carries the day at trial. Below, we examine the factors that make junk science so appealing and discuss the implications for defending against junk science theories.

Most of Us Are Not Scientists

It is critical to remember that most of the population, and thus most people who sit on juries, do not possess the scientific training or background necessary for critically evaluating the scientific validity of a theory. Most of us are so busy with our day-to-day lives that it is unlikely, and unreasonable, to expect that we shall come to the courthouse prepared to critically examine and challenge the difficult science being presented. Without specific training or experience, any theory presented by an expert that seems to explain the plaintiff's injury is going to seem credible. And why wouldn't it? Unlike the defense lawyer, the juror is not automatically cynical about the plaintiff's theory of causation.

Consider a case in which the family of a contract worker sued a plant where he had worked for several years. The family showed the jury that there was an open pit at the plant that contained benzene, the man had worked around this area on numerous occasions, and although he did not have a classic benzene-related disease, he had developed cancer and died. The defense pointed out that the pit had very little benzene in it, the area was vented, and that while the man may have worked in the area, he didn't do so frequently. In addition, the defense provided a nationally renowned benzene expert who testified that the exposure level could never have caused any disease.

During the research conducted prior to trial, most mock jurors wholeheartedly accepted the plaintiffs' theory. They pointed out that the man had an odd cancer that didn't run in his family, and they believed that exposure to benzene was the best explanation for what happened. When they were asked why they didn't give more weight



to the defense expert, they indicated that while the expert's credentials were impeccable, that he had failed to explain what caused the man's death. The plaintiff's expert had an explanation that filled in the cause-and-effect gap; the highly credentialed defense expert did not.

Without a Competing Explanation, Any Explanation Looks Good

As any social science graduate student will tell you, null results (no relationship between a variable being tested and an outcome) are viewed as disappointing and are usually very difficult to publish. Like jurors, editors of scientific journals are usually less interested in what isn't an explanation for an outcome, and more interested in what is. Similarly, for a defendant to claim that there is no relationship between factor *x* and outcome *y*, or that the true cause is unknown, is less satisfying and does not complete the circle for jurors. Instead, these defense claims often pave the way for the plaintiff's clear and easy explanation for why the bad outcome occurred.

Consider a case in which the jury was asked to evaluate whether workers' repetitive job duties resulted in career-ending injuries, such as carpal tunnel syndrome. The defendants faced a real challenge because the workers were actually injured, and some had even undergone surgery to address their conditions. The defense presented several well-done epidemiological studies showing that the type of work done by the plaintiffs did not produce a higher level of carpal tunnel syndrome than would be expected in the general population. In addition, the defense showed task analyses that demonstrated that the job tasks performed by the plaintiffs were not as repetitive as they appeared.

Despite the scientific validity of these studies, they were almost wholly rejected by the jury. It dismissed the scientific studies because none explained why these particular plaintiffs had problems. Instead, most jurors believed the plaintiff's claims that this type of work had caused their injuries. In their eyes, the claim—all by itself—provided a clear explanation for the plaintiffs' injuries and it fit with what jurors, as a result of media reports and their own experience, already be-

lieved. The defense's inability to present an alternative cause for any particular plaintiff's injury dramatically handicapped the ability to defend against the claim.

The tendency for juries to reject even well-founded epidemiology that demonstrates no relationship between a particular cause and effect is what we call the "idiopathic problem." Jurors rarely find it enticing to conclude that the cause of a plaintiff's bad outcome is unknown. And they are quick to

Jurors rarely find it enticing to conclude that the cause of a plaintiff's bad outcome is unknown.

note the contradiction involved when a defendant claims the cause is unknown, but then asserts that the cause definitely isn't what the plaintiff says it is. Essentially, any cause is better than "no one knows what caused this plaintiff's problem."

In the repetitive injury litigation, only when the defense could show a plaintiff-specific alternative cause did jurors become willing to consider the defense's arguments and the epidemiology. Another example comes from asbestos litigation, where the defense faces a special challenge: most jurors already believe in a strong link between any asbestos exposure and lung disease. In asbestos injury cases, the plaintiff has to prove very little, because many jurors start out believing the plaintiff's claims. Telling them that a large percentage of mesothelioma instances have no clear cause is rarely sufficient when the plaintiff can show simply that he worked around some form of asbestos. Moreover, even epidemiological studies that demonstrate that the type of work the plaintiff was doing has not been associated with an increased risk of mesothelioma frequently are not accepted. The jury often believes that, even if the work does not present a higher-than-average risk for workers generally, the plaintiff's particular case can reasonably be explained by exposure at work. Jurors can be heard asserting that the workplace may not be inherently riskier for most

people, but this particular plaintiff was one of the unlucky few who was affected by the exposure.

The Contribution Standard: A Very Low Threshold

The defense is put at a significant disadvantage when the jury is given a verdict question that allows it to find in favor of the plaintiff based on a theory of contribution (e.g., "Did taking this drug cause or contribute to the plaintiff's injury?"). Asking jurors whether a factor contributed to an outcome almost begs them to answer in the affirmative.

A contribution analysis is qualitatively different than a pure causation analysis. When the possibility of contribution is introduced, jurors will ask each other questions like, "Was this factor at least a one percent contributor?" or even "Could this factor have contributed to the outcome?" They also may frequently require the defense to rule out the particular contributing factor, rather than requiring the plaintiffs to rule it in.

Suppose a dram shop action in which a driver was alleged to have bought alcohol from a supplier at a time when sales were not permitted, and was later involved in a deadly accident. There was a great deal of debate during jury research about whether the alcohol was actually bought "after hours," and if it was bought after hours, whether it was consumed in the brief period between the alleged purchase and the accident. The jury could never agree on these issues, but some members commented that "we cannot rule out the possibility that an illegal sale was made, and the sold alcohol contributed to the accident." When asked to assign percentages of responsibility to various factors that could have caused the accident, jurors did not want to place a *great deal of blame* on the liquor store proprietor, but everyone consistently agreed to lay *some blame* with the owner.

When contribution is the standard, the jury's inclination to spread blame to several possible causes quickly becomes terminal to the defense (particularly in venues with tough joint-and-several liability laws). And while it may be tempting to think that a small percentage of responsibility would lead the jury to reduce its damages award,

this is rarely the case. Once a defendant's contribution has been established, the damages discussion rarely takes into account whether the defendant was a major or minor contributor.

Media Science

Persuasion is hard enough when jurors start with no pre-existing beliefs about the issue in dispute. Unfortunately, in much high-profile litigation, the jury has already been exposed to media claims that a product causes injury. For example, Fen Phen went from an accepted weight loss aid to a chemical poison almost overnight as television and magazines focused on vivid anecdotes of people who had bad outcomes from using the drug. Fen Phen media coverage rarely included a discussion of how patients had consulted with their doctors to balance the benefits and risks of this weight loss treatment. Instead, reports tended to focus on specific bad outcomes and typically portrayed the Fen Phen user as an uninformed victim of a greedy drug company.

Breast implant litigation is another good example of just how powerful such pre-existing beliefs can be. A few individuals did have real problems with their implants, such as ruptures and capsular contractor complications. But the anti-implant publicity blitz was overwhelming, and had a profoundly negative impact on the way the public viewed the topic. After all, what else does the public really know? What alternative explanation does it have? In the face of the negative publicity and a very public ban on silicone breast implants, it was no surprise that juries approached these cases already hostile toward the manufacturers. In fact, our studies demonstrated that even after reputable scientific institutions reported no autoimmune problems as a result of the silicone implants, jurors routinely rejected this information in favor of what they already believed. It took a great deal of time to undo the inaccurate beliefs formed as a result of the bad press surrounding this product.

Given the power of these pre-existing beliefs, attending to the print and electronic media's spin on your client's product is crucial. What they learn from the media is all most people—including prospective jurors—

will ever know about a product. Assessing the risk of litigation and determining the defense's ability to present a palatable causation defense goes hand-in-hand with understanding what jurors already believe about your product and similar products.

The impact of the media is readily apparent in litigation surrounding chemicals and chemical companies. Several years ago, negative publicity about Alar resulted in a national media blitz that "uncovered" the potentially dangerous effects this chemical would have on people—particularly children—who consumed apples. This media blitz even led to apples and apple juice being taken out of the hands of children, and ultimately Alar was removed from the market. All the while, the slower wheels of science were turning. Now, despite the ongoing claims of a few "true believers," the consensus is that the risk of Alar was dramatically overstated. But imagine having to defend Alar, or any chemical, during the onslaught of negative publicity.

Junk-Friendly Venues

Junk science all too often finds a very receptive audience in the jury charged with deciding the case. Thus, defense teams and their clients must consider the general character of the residents of the venue where this ostensibly scientific debate will take place. It may be tempting to start the analysis by assessing the likely intellect of the jury who will hear the lawsuit, but the first venue analysis involves the judge who will preside. We routinely see judges within the same state giving radically different rulings on the admissibility of key evidence. For the purposes of understanding how the scientific debate will play out, there are two important aspects to the judge's ruling that will be relevant.

Obviously, the trial team will be interested in whether the judge decides that the plaintiff's scientific theory survives analysis under the "gatekeeper" guidelines of *Daubert v. Merrell Dow Pharmaceuticals*. However, once the evidence gets in, no matter how close the call was for the judge, the jury will never know it was a close call. As far as the jury is concerned, the judge put his or her stamp of approval on this evidence and believes it would be helpful to the jury's decision-

making. Remember, the jury has no automatic reason to doubt the veracity of the plaintiff's theory; thus, once the evidence gets in, the defense must treat its attack on this evidence as if jurors will initially accept it as true. As defendants assess the risk of a trial, it is essential not to underestimate the power of even "bad science" once it has survived the trial judge.

The other key issue involves the type of corporate conduct the judge will permit the jury to hear. Corporate conduct evidence directly interacts with how the jury assesses the defense's scientific evidence. A judge who allows a broad range of seemingly unrelated—yet questionable—conduct into the trial is essentially boosting the credibility of the plaintiff's theory while undermining the defense's scientific evidence. We have had many opportunities—through post-trial jury interviews, shadow juries, and direct empirical testing—to compare how jurors differentially evaluate a product when the judge includes or excludes powerful corporate conduct information. In each case, even though the defense could argue that the company's behavior was totally unrelated and irrelevant to the matter at hand, such evidence of unseemly conduct not only made it harder for jurors to want to defend the company, it also had the independent effect of bolstering the plaintiff's causation theory (or at least undermining the defense's causation theory).

Of course, most defendants know that tough court rulings tend to come in venues where the jurors are also difficult to persuade. While we normally find that demographic characteristics such as education are some of the least helpful factors in predicting how a jury will evaluate the defense's case, there is some truth to the belief that, all other things being equal, the defense would rather be talking to a jury pool that has the capacity to understand the defense's scientific evidence, rather than people who are inclined to automatically take the simple path to verdict. Finding jurors who will listen does not mean they automatically favor the defense (such jurors rarely survive *voir dire*). Rather, it means they can actively evaluate competing theories and understand that the simplest

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explanation may not always be the correct one. Determining whether a particular venue is a viable place to deliver your particular evidence is an empirical question, and it is a question worth testing in advance of taking your chances with the actual jury.

Another issue to consider as the venue is assessed are the attitudes toward your client's industry, its product(s), and businesses in general. Some venues are populated by people who are not particularly sympathetic to your client's type of business, at least when that business is defending itself against claims brought by local citizens. Even if your client is a large contributor to the local economy, it is important not to assume that prospective jurors will hold positive attitudes toward it (or that their decisions will be driven by concerns about the potential economic impact of a plaintiff's verdict). Because jurors' evaluation of corporate conduct interacts with how they view the scientific causation evidence, it is essential to understand whether a substantial number of people living in the venue are hostile toward your business or businesses in general. Strong negative attitudes toward companies will naturally color the way jurors view almost any questionable corporate conduct, and this can only serve to undermine the ability of the jury to seriously entertain the defense's evidence.

It is certainly important to closely scrutinize the venue as one decides how well the defense's scientific evidence will be received. Of course, we know that companies don't get to pick where they are sued. Not all jury pools will possess the same capacity, or even motivation, to evaluate the defense's scientific evidence, but in every case it will be incumbent upon the defense—rather than the jury—to do the hard work of making the science relevant to the jury's decision process.

Cleaning Up the Junk

A common misconception among attorneys is that the best way to combat junk science theories is to educate juries about the merits of the real science theory (i.e., "if I can just get them to understand the epidemiology"). This "educate the jury" approach has some major obstacles. First, providing a successful education requires that there actually be a straightforward way to describe the real science. It also requires "students" who are motivated to learn, find you and your sources credible, and are capable of understanding and using the information you provide. These requirements are difficult to satisfy.

The education approach also starts from a faulty premise—that simplifying the defense's science will automatically counteract the plaintiff's simple explanations. But as noted above, there is more than just simplicity working in favor of junk science theories. Junk science theories tend to be more familiar to jurors, they tend to line up with common sense (e.g., chemical exposure can't be good for you), they give jurors a way to justify their desire to send a message to a company that has misbehaved, and they offer a clear (and potentially controllable) explanation for why the bad outcome occurred. Not surprisingly, simplifying the "defense science," while certainly useful, is rarely enough.

Successfully combating junk science theories requires far more than just simplifying the real science. It requires addressing two central questions for jurors: "Did the defendant behave responsibly?" and, if so, "Why did the bad outcome occur?"

The Defendant's Behavior

It may seem ironic that a key element in combating junk science—showing that the defendant behaved responsibly—has nothing to do with real science. But demonstrating responsible defendant behavior is crucial. Juries are certainly capable of ignoring a reasonable alternative explanation of why the bad outcome occurred if they believe a defendant behaved irresponsibly. In fact, the contribution standard described above provides jurors with an easy way to implicate an irresponsible defendant, even when that defendant has provided a clear alternative cause for the injury allegedly suffered. In contrast, reasonable defendant behavior tends to make jurors more receptive to alternative cause information (and makes them less vulnerable to arguments that the defendant contributed to the cause). Over the years, we have found that the ability to tell a compelling "good company story" makes the jury much more open to listening to the defense's causation arguments. It should be noted, however, that even good company behavior rarely makes the jury receptive to an idiopathic theory of causation. Jurors want alternative explanations, not alternative unknowns.

The effect of failing to defend the quality of a defendant's conduct was revealed in a medical malpractice trial where there was an apparently strong causation defense. The plaintiffs were claiming that excessive bleeding, which was left untreated, led to the death of their father. The defense successfully convinced the

jury that the man's death was caused by liver failure, not by excessive bleeding. However, jurors were bothered that the treating doctors and nurses failed to identify and treat the liver problem. They felt that it demonstrated callousness for the defense to "take credit" for the man dying of some other disorder which the doctors and the hospital did not catch. Interestingly, this was a very easy problem to fix once it was identified. The medical staff simply needed to spend more time discussing the quality of its care and its monitoring of the patient.

Was the Plaintiff Harmed?

But demonstrating reasonable defendant behavior is only half the battle. Addressing the plaintiff's injury—either by demonstrating no harm or by providing a clear alternative cause—is crucial in combating junk science. Without an acceptable alternative explanation about what happened to a particular plaintiff, good science—even simple science—frequently fails to persuade the jury that the defendant's behavior played no role in causing the plaintiff's harm.

So what counts as an acceptable alternative cause for the plaintiff's injury? Naturally, the answer depends on whether the defense wants to prove that the plaintiff isn't really hurt, or whether you want to prove that the injury was not caused by a particular factor.

An absence of injury is often best proved by showing that the plaintiff hasn't acted as if he was hurt, or even acted concerned about possible harm. For example, the jury quickly became suspicious of several plaintiffs who claimed to have been injured from a chemical release, but who did not see a doctor for days, opting to see an attorney first. When the plaintiffs finally did get to a doctor, it was a doctor recommended by their newly retained attorney. Many jurors concluded that the plaintiffs had not acted as if they had been injured, and therefore had probably not been harmed.

In another trial, the jury rejected the plaintiff's claims that a plume from a local chemical plant had killed all his livestock. The plaintiff had refused to allow the allegedly poisoned animals to be examined and had also stood outside with his young children videotaping the supposedly toxic plume. Interestingly, no medical attention had been sought for the man's children, despite his claims that the chemicals released were deadly enough to kill his livestock. After this evidence, the science showing how the release of chemicals from the plant was minimal and that this chemical in small

doses was essentially harmless was just icing on the cake.

When it is undisputed that the plaintiff was injured, the key is to find potential alternative explanations for the plaintiff's harm. These explanations are not intended to replace the "hard science," only to make it more readily accessible to the jury. Alternative explanations that frequently ring true are findings like a pre-existing condition directly related to the injury being claimed, a family history of a similar problem, individuals who are similarly situated to the plaintiff who have experienced no harm, advanced age, serious underlying health problems, other sources of exposure, or a simple and compelling alternative source of injury (e.g., the plaintiff's death was caused by 50 years of smoking, not by the defendant's product). In addition to meeting jurors' almost instinctive drive to find an explanation of the plaintiff's injuries, providing credible alternative explanations tends to improve the jury's perception of a company's behavior. Jurors become a little more forgiving of imperfect company behavior in the presence of a relatively compelling alternative cause for the plaintiff's injuries. They reason that if there is another explanation for why the plaintiff is hurt, then perhaps the corporate conduct in question isn't as horrific as the plaintiff claims.

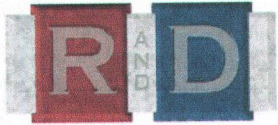
Ironically, the potential alternative explanations sometimes involve just as much "junk science" as the plaintiff's theory. For example, in an asbestos lawsuit, some defense-oriented jurors argued that the plaintiff's mesothelioma could have just as easily been caused by the plaintiff working with asbestos brakes and gaskets in his home garage as it could have by what he was blaming—his work at a local plant. In this situation, there was no science to demonstrate any link between the man's work in his garage and mesothelioma, and the defense team was in no way blaming the garage work for the man's illness; rather, the defense team wanted to show that there were many places where people are exposed to asbestos that are completely safe. Yet for some jurors, just knowing there were other sources of exposure for this man was enough for them to reconsider whether the exposure at the chemical plant caused the man's health problems.

Conclusion

It is important to remember that most people who sit on juries really are motivated to do the right thing and to come to the right conclusion. The jurors we talk to after actual trials

tell us how hard they worked, and how the jury struggled to reach a decision they could call "justice." So when they do adopt the plaintiff's theory of causation, we should not kid ourselves into believing they did it solely out of sympathy for the plaintiff or out of hatred for all large corporations. The fact is, in most cases when jurors have found for the plaintiff, they really have "bought into" the plaintiff's theory of causation. And in some cases, they have even had questions about the plaintiff's theory only to be disappointed that the defense could not offer a better theory—or any theory at all.

It may not be fair, and it may not be consistent with the burden of proof, but if a jury is going to seriously consider the defense's position, it expects defendants to offer a trial story that can compete with the plaintiff's version of events. Succeeding in this task and successfully meeting jurors' expectations must involve looking at the science and then seriously looking at how the defense can present an alternative causation story that, first, is consistent with common sense, and second, can be reinforced by the science. Putting common sense and science together, along with a solid defense of corporate conduct, are essential pieces in what is an extremely difficult puzzle. Anything less, no matter how scientific or how well-supported by experts, often fails to clean up the junk. ■



RAND STRATEGIC SOLUTIONS

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Mark Sobus is a graduate of the Law/Psychology Program at the University of Nebraska. While at Nebraska he taught introductory and advanced social psychology courses, and he conducted basic and applied research on topics including social norms, attitudes, and motivation. After graduation, Mark immediately began working in the field of jury psychology, having now worked on literally hundreds of cases. He has assisted clients across the country in the development of strategies for both trial and mediation, witness preparation, and jury selection.

Mark firmly believes that jury research is really just a means to an end, rather than an end in itself. True jury consulting and litigation strategy is about applying what has been learned through the empirical research processes to the development of real and practical solutions to the problems his clients face. Mark has published numerous articles on jury psychology and trial strategy, and he is routinely invited to speak at legal conferences.

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Selected Articles

Jury Research: Ensuring You Get All It Has To Offer, Mark S. Sobus & Dan Jacks, in Managing Products Liability Risks: A Comprehensive Guide to Winning Legal Strategies for Managing Product Liability Exposure and Litigation. David Canter & J. Wilson McCallister. Aspatore Books, In press December, 2005.

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"Persuading Jurors When Defending Chemical Companies." Equistar Chemical Company's Annual Litigation Meeting, Houston, Texas, August 2005.

"Effective Story Telling: Finding your Message and Making sure it gets Told." The Winning Strategies Seminar, Pittsburgh, PA, May 2005.

"Effective Story Telling: Finding your Message and Making sure it gets Told." Southern Trial Lawyers Association, Birmingham, AL, May 2005.

"Persuading a Skeptical Audience: Jurors' Processing of Employment Disputes." Nebraska Employment Seminar, Omaha, NE, April 2005.

"Going Beyond the Bar Charts: Efficient and Meaningful Use of Jury Research." Primerus Defense Group, 2004.

"Risks of Attacking the Plaintiff at Trial," Seventh Annual Tenet Defense Counsel Meeting, Tempe, Arizona, March 2004.

"Bias Against Corporations: How to Take Advantage of It and Defend Against It," Advanced Civil Trial Law Conference, South Texas College of Law, Houston, Texas, February 2004.

"How Jurors React to Energy Lawsuits in the Post-Enron World," Second Annual Energy Litigation Program, ABA Section of Environment, Energy and Resources, Houston, Texas, November 2003.

MARK S. SOBUS, PH.D., J.D. (CONTINUED)

- "Jurors' Processing of Medical Malpractice Litigation: Understanding Decision-Making,"* American Law Firm Association, 2003 Health Care Practice Group Seminar, New Orleans, Louisiana, November 2003.
- "Corporations Under Siege: Jurors' Perceptions of Corporate America."* Fulbright & Jaworski, Breakfast Seminar, Houston, TX, October 2003.
- "Key Issues in Defending Medical Malpractice Cases."* Louisiana Hospital Association, Baton Rouge, LA, September 2003.
- "Persuading Juries."* Employment Law Course, South Texas College of Law, Houston, TX July 2003.
- "Advanced Topics in Medical Malpractice Defense."* 2003 Tenet Healthcare Corporate Counsel Meeting, Dallas, TX, May 2003.
- "Juries Trials after Enron: How Do We Regain Corporate Credibility?"* IADC Corporate Counsel College, Chicago, IL April 2003.
- "Disclosing Medical Errors: When Does a Patient Have a Right to Know?"* American Society for Healthcare Risk Management 2002 Annual Conference, Seattle, WA, Sept. 2002.
- "Using Trial Consultants on a Variety of Budgets."* Houston Bar Association, September, 2002.
- "Jurors' views of Insurance Companies."* Property Damage Issues Meeting, State Farm Seminar, Chicago, IL, July 2002.
- "Developing Trial Strategies in Employment Disputes."* Labor and Employment Law Course, South Texas College of Law, Houston, TX, July 2002.
- "Evaluating Your Case: Using Focus Groups, Mock Trials, and Jury Consultants."* Advance Personal Injury Law Course 2002, Texas State Bar, Dallas and San Antonio, TX July 2002.
- "JCAHO Standards on Disclosure: How Does this affect our Defense?"* Fifth Annual Tenet Defense Counsel Meeting, New Orleans, LA, March 2002.
- "Jury Decision-Making."* 10th Annual Advanced Employment Law Course, Texas Bar Association, Houston, TX, January 2002.
- "Reluctant Dependence: Jurors' Views of Corporate America."* The Corporate Counsel Forum, Indiana State Bar Association, Indianapolis, IN, September, 2001.
- "Jury Psychology and the art of Jury Selection."* IADC Trial Academy, Boulder, CO, July 2001.
- "Developing Trial Strategies in Downsizing Cases."* Texas Bar Association Seminar, *Layoffs and Reductions in Force*, Austin, TX, June 2001.
- "Arguing Alternative Damages."* Third Annual TrialNet Users Conference, Las Vegas, NV, March 2001.
- "Respecting Decision Makers: Persuading People by First Understanding what They Care About."* Academy of Trial Lawyers of Allegheny County, Pittsburgh, PA, November 2001.
- "Jury Selection: Debunking Myths and Creating Strategies that Work."* IADC Trial Academy, Boulder, CO, July 2000.
- "How Jurors view Corporate America."* IADC Corporate Counsel College, Dallas, TX, November 1999.
- "Judging the Jury."* Jackson Lewis 11th Annual Corporate Counsel Conference, San Antonio, TX, October 1999.
- "The Challenge of Testifying: Common Mistakes and Some Effective Solutions."* 1999 Association of American Railroad General Claims Conference, Montreal, Quebec, August 1999.
- "Jury Selection."* IADC 1999 Defense Counsel Trial Academy, Boulder, CO, July 1999.
- "Playing the 'Race Card' in Toxic Tort Litigation."* American Bar Association Environmental Justice Conference, Arlington, VA, June 1999.
- "The Use of Jury Consultants in Settlement Negotiations."* The Network of Trial Law Firms, Inc. Litigation Management Conference, Carlsbad, CA, April 1999.

MARK S. SOBUS, PH.D., J.D. (CONTINUED)

"Implementing and Interpreting Mock Jury and Focus Group Research: The Difference Between What You Want and What You Get." IADC Mid-Year Meeting, Acapulco, Mexico, February 1998.

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ENVIRONMENTAL CASE LAW UPDATE

“I STILL HAVEN’T FOUND WHAT I’M LOOKING FOR”

by

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**Eighteenth Annual Texas Environmental Law Superconference
Austin, Texas
August 3-4, 2006**

CASE LAW UPDATE

“I Still Haven’t Found What I’m Looking For”

**Sarah K. Walls
Cantey & Hanger, LLP**

**Texas Environmental Superconference
Austin, Texas
August 3-4, 2006**

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CASE LAW UPDATE
“I Still Haven’t Found What I’m Looking For”

Sarah K. Walls
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I. Introduction.

The cases in this paper were chosen for their significance and/or their quirky appeal to me, admittedly a subjective standard. This paper does not purport to be a comprehensive summary of all environmental cases since last year’s Superconference. For example, I refer you to Eddie Lewis’ paper on post-Aviatt CERCLA cases which appears later in this volume.

II. United States Supreme Court

A. Water – “With or Without You”

1. John A. Rapanos et ux., et al. v. United States. June Carabell, et al. V. United States Army Corps of Engineers, et al. Nos. 04-1034 and 04-1384, 2006 U.S. LEXIS 4887; 74 U.S.L.W. 4365 (U.S. 2006): On June 19, 2006, a closely divided Supreme Court vacated two judgments and remanded to the Sixth Circuit the issue of whether the U.S. Army Corps of Engineers (“Corps”) exceeded its statutory authority under the Clean Water Act (“CWA”), 33 U.S.C. §§ 1251 et seq., by requiring property owners to acquire permits before dredging and filling certain wetlands.

Although many practitioners were awaiting a definitive ruling from the Court, the decision left open questions, both because there was no majority opinion, and because the various opinions diverged widely from each other in their reasoning.

The Supreme Court consolidated the Sixth Circuit’s decisions in United States v. Rapanos, 376 F.3d 629 (6th Cir. 2004) and Carabell v. United States Army Corps of Engineers, 391 F.3d 704 (6th Cir. 2004). Both cases involved the scope of CWA jurisdiction over wetlands that developers argued were beyond the scope of federal authority. In Carabell, a Michigan developer sought to build a condominium on property containing fifteen acres of wetlands that were separated by a berm from a ditch connected to downstream tributaries. In Rapanos, developers dredged and filled wetlands on three properties that were connected to navigable waters by a man-made drain, without seeking a permit. The nearest body of navigable water was 11 to 20 miles away from the wetlands. The Sixth Circuit Court of Appeals ruled in both cases that the wetlands at issue were subject to CWA jurisdiction since they were adjacent to tributaries of navigable waters and a nexus existed between the wetlands and “waters of the United States.”

In their petitions for certiorari, *Rapanos* and *Carabell* posed similar questions: 1) whether the Corps exceeded its statutory authority by regulating non-navigable wetlands not adjacent to, and “hydrologically isolated” from, “waters of the United States;” and 2) whether Corps jurisdiction over “every intrastate wetland with any sort of hydrological connection to navigable waters, no matter how tenuous or remote the connection, exceed[s] Congress’ constitutional power to regulate commerce among the states?”

Justice Scalia, writing for a plurality of four that included Chief Justice Roberts, and Justices Thomas and Alito, said that while “navigable waters” means something more than traditional navigable waters, the Corps had interpreted the term “waters of the United States” much too broadly. Scalia said that the lower court had failed to apply the appropriate standard in deciding that the CWA covered the wetlands at issue. The plurality advanced the following test for determining whether wetlands are covered by the Act: 1) “the adjacent channel contains a ‘water of the United States’; and 2) the wetland has a continuous surface connection with that water, making it difficult to determine where the ‘water’ ends and the ‘wetland’ begins.” (Emphasis added.)

Relying on *Webster’s New International Dictionary*, Justice Scalia interpreted the phrase “waters of the United States” to “include only those relatively permanent, standing or continuously flowing bodies of water,” such as oceans, streams, rivers, and lakes, as opposed to ordinarily dry channels “through which water flows intermittently or ephemerally, or channels that periodically provide drainage for rainfall.” (Emphasis added.) Thus, under Justice Scalia’s analysis, the Corps exceeds its statutory authority by applying the definition of “waters of the United States” to “wet meadows, storm sewers and culverts, directional sheet flow during storm events, drain tiles, man-made drainage ditches, and dry arroyos.”

Justice Scalia emphasized that in *United States v. Riverside Bayview Homes, Inc.*, 474 U.S. 121 (1985), the Supreme Court had extended CWA jurisdiction over wetlands adjacent to navigable waters “principally due to the difficulty of drawing any clear boundary between the two” but had not suggested that the CWA should be expanded to include entities other than conventionally defined waters, such as oceans, streams, and lakes.

Still relying on *Riverside Bayview*, Justice Scalia decided that wetlands physically distant from navigable waters are not “adjacent to” navigable waters by virtue of a “mere” hydrologic connection to them. The lower courts were directed to determine if the ditches or drains near each wetland are “waters” in the “ordinary” sense of containing relatively permanent flow, and if they are, whether the wetlands in question are adjacent to these waters in that they contain a continuous surface connection to the waters. However, the opinion failed to command a majority, and was specifically rejected in Justice Kennedy’s

concurrence. Chief Justice John Roberts wrote a brief concurring opinion recognizing: "It is unfortunate that no opinion commands a majority . . . Lower courts and regulated entities will now have to feel their way on a case-by-case basis."

In an opinion which concurred with the judgment of vacation and remand, Justice Kennedy said the plurality's interpretation of "waters of the United States" was inconsistent with the language and purpose of the CWA, and proposed a test that would require the Corps to establish a significant nexus between wetlands and navigable waters on a case-by-case basis. Justice Kennedy agreed with some of the dissent's interpretations (e.g., "the dissent is correct to observe that an intermittent flow can constitute a stream.") Adding some color, Justice Kennedy pointed out that Mr. Rapanos allegedly threatened to "destroy" his wetlands consultant for writing a survey report which concluded that over 48 acres of wetlands existed on his property.

Under Justice Kennedy's "significant nexus" test, "wetlands possess the requisite nexus, and thus come within the statutory phrase 'navigable waters,' if the wetlands, either alone or in combination with similarly situated lands in the region, significantly affect the chemical, physical, and biological integrity of other covered waters more readily understood as 'navigable'. . . ." A hydrological connection would not suffice as a significant nexus in all cases, and an effect on traditionally navigable water would be required. A remand was necessary because the Sixth Circuit had not sought the presence of the appropriate "nexus" in *Rapanos* and *Carabell*.

In their dissenting opinion, Justices Stevens, Souter, Ginsburg, and Breyer took the position that the Court's decision in *Riverside Bayview* was controlling. The dissenting opinion criticized the plurality's continuous surface connection requirement, and criticized the plurality's reliance on SWANCC. The dissenters accused the plurality of revisionist history: "*Riverside Bayview* nowhere implied that our approval of [federal jurisdiction over] 'adjacent' wetlands was contingent upon an understanding that 'adjacent' means having a 'continuous surface connection' between the wetland and its neighboring creek." The dissent found that the wetlands at issue were not isolated, but were adjacent to tributaries of navigable waters and that the Corps had "reasonably interpreted its jurisdiction to cover non-isolated wetlands."

Justice Breyer wrote a refreshingly brief and gentlemanly dissenting opinion, pointing out that in drafting the Clean Water Act, Congress intended to give the Corps broad powers.

One thing that several of the opinions agreed on was that the Corps should issue new regulations. Criticism was directed at the Corps for not issuing regulations after the Court's decision in *Solid Waste Agency of Northern Cook County v. Army Corps of Engineers*, 531 U.S. 159 (2001).

2. S.D. Warren Co. v. Maine Board of Environmental Protection, 126 S.Ct. 1184, 163 L.Ed.2d 1126 (U.S. 2006): The Supreme Court held that operating a dam to produce hydroelectricity raises a potential for a discharge into the navigable waters of the United States, thereby triggering CWA § 401 and state certification requirements. The case arose after S.D. Warren Co. asked FERC to renew its licenses for five hydroelectric dams it operates on a Maine river to generate power for its paper mill. During the relicensing process, the Maine DEP required Warren to maintain minimum stream flows and allow passage for eels and certain fish as part of its § 401 certification. Each dam impounds water, which is then run through turbines and returned to the riverbed after bypassing a section of the river. Under protest, the company applied for water quality certifications from the state environmental agency pursuant to CWA § 401, which requires state approval of "any activity" that "may result in any discharge into the [Nation's] navigable waters." FERC licensed the dams subject to compliance with those certifications. Warren filed suit, arguing that its dams do not result in a "discharge" under § 401. The Court disagreed, holding that the dams do result in a discharge for purposes of § 401.

Warren had relied on South Florida Water Management District v. Miccosukee Tribe, 541 U. S. 95 (2004) concerning the addition of pollutants with respect to NPDES permits; but according to the Court, that case is not on point. The Court held that *Miccosukee* addressed § 402, not § 401, and that the two sections are not interchangeable, as they serve different purposes and use different language to reach them. Finally, said the Court, the CWA's legislative history also goes against the company's reading of "discharge." While acknowledging that the CWA does not define "discharge," it presumed that "discharge" has a broader meaning than "discharge of a pollutant." Under 33 U.S.C. § 1362(16), the term "discharge" does not require that something foreign be added to the water into which the discharge flowed, and the ordinary meaning of "discharge" (flowing or issuing out) is appropriate here, as opposed to "discharge of a pollutant." Justice Souter delivered the opinion of the Court, in which Chief Justice Roberts and Justices Stevens, Kennedy, Thomas, Ginsburg, Breyer, and Alito joined, and in which Justice Scalia joined as to all but one part.

III. Federal Circuit Courts of Appeal

A. Land Use – "Where the Streets Have No Name"

1. Earth Island Institute v. United States Forest Service, 442 F.3d 1147 (9th Cir. 2006). In this case, the Ninth Circuit reversed a denial of a motion to enjoin two Forest Service projects. There had been two fires in the El Dorado National Forest, in response to which the Forest Service created two fire restoration projects. Earth Island Institute contended that the Final Environmental Impact Statements ("FEISs") prepared for both projects failed to meet the requirements set forth in the National Environmental Policy Act ("NEPA") because the Forest Service used faulty scientific methodology in developing its

tree mortality guidelines, and because the FEISs failed to consider adequately the adverse impacts of the projects on the California spotted owl. Earth Island Institute also contended that the FEISs fail to comply with the National Forest Management Act because the USFS did not compile sufficient population data for certain bird Management Indicator Species. The Court took heed of these arguments and remanded the case to the district court for further proceedings. The Ninth Circuit noted that NEPA required that agencies take a “hard look” at the environmental consequences of their actions, and found that had not been done in a number of respects. Finally, the Court observed: “We have noticed a disturbing trend in the USFS’s recent timber-harvesting and timber-sale activities. . . . It has not escaped our notice that the USFS has a substantial financial interest in the harvesting of timber in the National Forest. We regret to say that in this case...the USFS appears to have been more interested in harvesting timber than in complying with our environmental laws.”

B. Water – “Dirty Laundry”

1. Citizens Coal Council v. EPA, 447 F.3d 879 (6th Cir. 2006): Here, the Sixth Circuit denied petitions to review an EPA rule that amended existing effluent limitations guidelines for the coal mining industry. The EPA rule had created the coal remining and western alkaline mining subcategories. Petitioners argued that the coal remining regulations conflicted with the specific language adopted by Congress in the Rahall Amendment, CWA § 301(p), governing pollution abatement at mining sites abandoned before 1977 that companies want to reopen for mining. The environmental harm at stake was the pollution of streams by acid mine drainage. However, the Court found nothing in the plain text of the Rahall Amendment prohibiting EPA from promulgating the final rule, and in an en banc review, upheld the EPA regulations for the coal remining subcategory. Petitioners also argued that the creation of the western alkaline mining subcategory violated the CWA by eliminating numeric pollution limits and that EPA acted arbitrarily and capriciously in preferring best management practices to numeric effluent limits for sediment reduction. The Court disagreed with petitioners’ contention that this subcategory conflicted with the CWA, and found that EPA did not act arbitrarily or capriciously in promulgating the final rule. According to the Court, the Rahall Amendment was intended to remove the disincentive created by regulations as 50 Fed. Reg. 41,296 (October 9, 1985) which required reminers to bring treated previously mined, abandoned lands to the same standard as virgin lands. Yet the Rahall amendment did not have the intended effect, as most companies remained reluctant to remine without formal EPA approval/guidelines. “Thus, the Final Rule was a reasonable response to a real problem.”

2. Friends of the Earth, Inc., v. EPA, 446 F.3d 140 (D.C. Cir. 2006); The issue was whether the word “daily” in the Clean Water Act could be interpreted to mean something other than “daily”. Go figure. The EPA had argued that Congress, in requiring TMDLs (Total Maximum Daily Loads) to be

established, didn't really mean daily. EPA had approved one TMDL based on an annual limits and one based on a seasonal load. The Court pointed out that the agency could reconsider its own regulation which specified daily loads, but until then, it was stuck with the plain meaning of the words it used in the regulation. The Court remanded the case with instructions to vacate. The Court held that nothing in the language of the statute or regulations suggested that EPA could approve total maximum seasonal or annual loads. "If EPA believes using daily loads for certain types of pollutants has undesirable consequences then it must either amend its regulation designating all pollutants as 'suitable' for daily loads or take its concerns to Congress." This case creates a split between the D.C. Circuit and the Second Circuit's ruling in Natural Resources Defense Council v. Muszynski, 268 F.3d 91 (2nd Cir. 2001).

3. U.S. v. City of Dallas, No. 3:06-0845-B (unreported case) (N.D. Tex., May 10, 2006) Not a reported case, but gratifying to those who have suffered the slings and arrows of Dallas' storm water inspectors. After being pursued by the Department of Justice and EPA, not to mention the press, the City of Dallas agreed to a consent agreement to resolve allegations of violating the Clean Water Act in its operation and funding of its storm water management system. City storm water staff will be increased, as will the number of inspections. Two SEPs will be performed, entailing creation of wetlands. The City will pay a penalty of \$800,000.00. A particular focus of the investigation, the press coverage, and the consent agreement was the City's own service center.

4. Taira Lynn Marine Ltd. No. 5, LLC v. Jays Seafood, Inc., 444 F.3d 371 (5th Cir. 2006): This case is interesting for its use of the word "allision," hitherto unbeknownst to some of us. A ship ran into a bridge in Louisiana (where else?). Unfortunately, the ship was carrying a gaseous mixture of propylene/propane, which discharged into the air upon allision. The state police ordered an evacuation of all businesses and residences in the area. "The primary issue on appeal is whether claimants who suffered no physical damage to a proprietary interest can recover for their economic losses as a result of a maritime allision." Fourteen businesses and business owners brought claims under the general maritime law, the Oil Pollution Act of 1990, CERCLA, and state law. Most did not claim any physical damages. The appellants filed motions for partial summary judgment to dismiss these claims, which the district court denied. The Fifth Circuit reversed, holding that none of the claimants was entitled to recover under CERCLA, citing Louisiana ex rel. Guste v. M/V Test Bank, 752 F.2d 1019 (5th Cir. 1985) and Robins Dry Dock & Repair v. Flint, 48 S.Ct. 134 (1927).

5. Texas Independent Producers & Royalty Owners Assn v. EPA, 435 F.3d 758 (7th Cir. 2006): The Seventh Circuit dismissed a petition for review of the EPA general permit for storm water discharges from construction activities because petitioners lacked standing. The EPA had issued a rule entitled the Deferral Rule that required small oil and gas construction activities to obtain a

permit for storm water discharges by March 2005. As the Seventh Circuit explained: "After the Fifth Circuit held that the Oil and Gas Petitioners' challenge to the application of the General Permit was not ripe for review, *Texas Independent Producers & Royalty Owners Assn v. EPA*, 413 F.3d 479 (5th Cir. 2005), we directed the parties to file supplemental briefing addressing the import of that decision. Before briefing was due, Congress passed the Energy Policy Act of 2005, which expressly exempts uncontaminated discharges from construction activities in the oil and gas industries from the permit requirements of the CWA." (In that Fifth Circuit case wherein the oil and gas petitioners challenged the EPA's decision that they must obtain storm water permits, the Court had dismissed the petition as not ripe for review because the EPA was still examining the issue and the petitioners had not established significant hardship, as they did not have to comply for another year.)

6. *United States v. Johnson*, 437 F.3d 157 (1st Cir. 2006): The Johnsons discharged dredged and fill material on their three properties (wetlands) in Massachusetts in order to "construct, expand and maintain cranberry bogs," without obtaining a § 404 permit. The United States sued, claiming a discharge of pollutants without a permit, and got a summary judgment. The Johnsons appealed on jurisdictional grounds, but lost. The First Circuit found that the Clean Water Act did extend to the Johnsons' cranberry bogs because they are hydrologically connected to the navigable Weweantic River. "Each target site is immediately adjacent to, i.e. connected to, a stream, creek, or ditch; and every wetland, bog, or swamp in the chain of waters connecting the target sites to the Weweantic River is also immediately adjacent to a stream, creek, ditch, or pond." *Id.* at 161. Query how the Supreme Court's *Rapanos* decision affects this ruling.

7. *Ohio Valley Env'tl. Coalition v. Bulen*, 429 F.3d 493 (4th Cir. 2005) and 437 F.3d 421 (4th Cir. 2006) (rehearing denied): The U.S. Army Corps of Engineers can issue individual permits for discharge of dredged or fill material on a case-by-case basis or issue general permits which authorize "categories of activities." Pursuant to CWA section 404(e), the Corps issued a number of general permits which allow certain activities to proceed without approval, with one exception. That exception is Nationwide Permit 21 ("NWP 21"), which authorizes projects associated with surface coal mining and reclamation projects but requires those projects to gain individual approval from the Corps before proceeding. Environmental groups challenged NWP 21 on a number of grounds and had some luck at the district court, where NWP 21 was declared facially invalid, but got a mixed bag from the Fourth Circuit, which affirmed in part, and vacated and remanded in part. Probably the most interesting part of the Fourth Circuit's opinion was its finding that it was not necessary for the Corps to determine before it issued the permit that the activities authorized by NWP 21 would have minimal impacts, but could make these determinations on a case-by-case basis after the permit was issued. The Corps complied with CWA § 404 in

promulgating NWP 21. The Fourth Circuit denied the petition for rehearing en banc.

8. United States v. Ortiz, 427 F.3d 1278 (10th Cir. 2005): Ortiz was the sole employee and manager of a Chemical Specialties, Inc. facility that distilled propylene glycol used for airplane wing deicing. The City of Grand Junction, Colorado, where the facility is located, had changed its wastewater system from one in which both storm water drainage systems and sanitary sewer lines went to a wastewater treatment plant, to one in which the storm water drainage system empties into the Colorado River. In changing its system, the City had overlooked certain pipeline connections in the area near Chemical Specialties, with the result that all of Chemical Specialties' sanitary discharges went into a storm drain and directly into the Colorado River. A little background: Rather than obtain a permit for discharge of its industrial wastewater to Grand Junction's wastewater plant, Chemical Specialties told the City it would ship its wastes to another company. A complaint of an odor near the Colorado River led the City first to a black, onion-smelling discharge into the river from a storm water outfall, which then led the City to Chemical Specialties. It turns out there was a leaky tanker truck at Chemical Specialties' facility, some of the contents of which eventually entered the storm water drainage system. Also, the bathroom at the facility was apparently accidentally routed into the storm water drainage system. However, even after being alerted by investigators, Ortiz continued to dump glycol wastewater down the toilet. A jury convicted Ortiz, but the district court acquitted him, finding no evidence that he knew the toilet was not connected to the sanitary sewer and was discharging to the river. The Tenth Circuit said, "The [district] court ruled as a matter of law that an individual is not guilty of negligently discharging a pollutant unless he knows that the pollutant's path terminates in protected water. This conclusion is at odds with the plain language of the Clean Water Act, which criminalizes any act of ordinary negligence that leads to the discharge of a pollutant into the navigable waters of the United States." The Tenth Circuit reversed the acquittal.

9. Fairhurst v. Hagener, 422 F3d 1146 (9th Cir. 2005): Here, the Ninth Circuit held that a pesticide applied to a river to eliminate a pestilent fish species was not a "pollutant" under the Clean Water Act and thus no CWA permit was needed. The Montana Department of Fish, Wildlife and Parks was trying to re-introduce the threatened westslope cutthroat trout, which, despite its name, was threatened by other non-native trout species. The Court relied on EPA's determination that pesticides are not wastes when applied consistent with FIFRA.

C. Wildlife – "Hungry Like The Wolf"

1. Wyoming v. Livingston, 443 F.3d 1211 (10th Cir. 2006): A strange little case, in which Wyoming filed criminal trespassing charges against a federal agent and contractor who were tracking gray wolves and fitting them with radio collars. The Tenth Circuit said that the agent and contractor were not acting

unreasonably when they trespassed on private land, and were immune. The case reflects the tensions among ranchers, regulators, local communities, and environmentalists regarding wolf reintroduction and management.

2. Wyoming v. United States Department of the Interior, 442 F.3d 1262 (10th Cir. 2006): Wyoming and various organizations made constitutional, APA, ESA, and NEPA claims against the DOI, USFW, and others for failing to initiate delisting of the gray wolf as an endangered species and for their alleged failure to manage and control the wolf population in the state. The district court consolidated this suit with a similar one brought by a group of organizations known as the “Wolf Coalition.” The district court ruled the plaintiffs had failed to identify a final agency action and thus dismissed the Administrative Procedure Act and National Environmental Policy Act claims, and then ruled that the defendants’ actions “are consistent with the powers delegated to them by Congress through the ESA (Endangered Species Act) via the Commerce Clause.” The Tenth Circuit affirmed for “substantially the same reasons” but expressed no opinion as to the merits of the ESA and NEPA claims because the plaintiffs had no standing to sue under the APA as they had failed to state a final agency action; the DOI’s failure to remove the gray wolf from the endangered species list was not a final agency action.

3. Defenders of Wildlife v. EPA, 420 F.3d 946 (9th Cir. 2005): Petitioners argued, and the Court agreed, that transfer of NPDES authority to Arizona could result in a significant loss of “conservation benefits” if real estate developments proceeded without Section 7 consultation pursuant to the Endangered Species Act. Petitioners claimed that EPA had violated Section 7(a)(2) of the Endangered Species Act by failing to properly consult with USFW and by relying on an inadequate biological opinion. “The case largely boils down to consideration of one fundamental issue: Does the Endangered Species Act authorize – indeed require – the EPA to consider the impact on endangered and threatened species and their habitat when it decides whether to transfer water pollution permitting authority to state governments?” The Ninth Circuit said yes, and vacated EPA’s approval of Arizona’s application to administer the NPDES program and remanded to EPA. The court sent the ESA and Administrative Procedure Act claims back to the district court. Rehearing denied. 2006 U.S. App. LEXIS 14006 (9th Cir., June 8, 2006).

D. Air – “Under a Blood Red Sky”

1. Knox v. United States Department of Labor, 434 F.3d 721 (4th Cir. 2006): The provisions of the Clean Air Act prohibit an employer from discharging or discriminating against an employee for instituting proceedings for enforcement of the CAA or carrying out the purposes of the CAA. Petitioner Knox, an employee of the Department of the Interior, learned that the facilities where he worked contained asbestos, were the subject of an asbestos survey, and had received an OSHA “Notice of Unsafe or Unhealthful Conditions” after an

inspection. He told the DOI that employees, students, and contractors may have been exposed. After raising these concerns Knox was allegedly threatened with reduction of his job duties and pay, and was later fired, although quickly reinstated. After Knox brought several claims of violations of the Clean Air Act's whistle-blower provisions before the Merit Systems Board, an Administrative Law Judge ruled in Knox's favor, awarding a variety of damages. The DOI appealed. The Department of Labor's Administrative Review Board rejected the ALJ's analysis and dismissed Knox's complaint, construing the CAA to require that Knox believe that the asbestos was being emitted into the ambient air in order for his whistle-blowing activity to be protected. The Fourth Circuit granted Knox's petition for review and remanded the case to the Department of Labor's Administrative Review Board for a determination as to whether DOI retaliated against Knox because he engaged in a protected activity. The Fourth Circuit pointed out that requiring a reasonable belief that asbestos was being released into the ambient air was not necessarily the correct standard, as there are other ways to violate the CAA.

2. New York v. EPA, 443 F.3d 880 (D.C. Cir. 2006): The Court of Appeals vacated EPA's equipment replacement provision rule (40 C.F.R. 352.21(cc)), which expanded the routine maintenance, repair, and replacement exclusion from new source review ("NSR") requirements by allowing sources to avoid NSR when replacing equipment that does not exceed 20% of the total unit's value (capital cost), notwithstanding an increase in emissions. Thus, the provision would have allowed sources to avoid NSR when replacing equipment under the 20% cap even if there was a resulting increase in emissions. The D.C. Circuit Court of Appeals vacated the equipment replacement provision as violative of the Clean Air Act in that it attempted to narrow the meaning of the terms "physical change" and "modification" as defined in the Clean Air Act by Congress. The Court of Appeals referred to Webster's for the commonly understood meaning of "physical change," and found that "any" means "any," despite EPA's protestations that it should mean something else. EPA must apply NSR whenever a source conducts an emission – increasing activity that fits within the ordinary meaning of "physical change." The EPA has asked the Court of Appeals to rehear the case. If the D.C. Circuit rejects the petition for rehearing, EPA could ask the Supreme Court to review that ruling, in which case, the high court will be compelled to use the unfortunate acronym "ERP" when referring to the EPA rule.

3. Pennsylvania v. EPA, 429 F.3d 1125 (D.C. Cir. 2005): Pennsylvania and Delaware challenged EPA's designation of certain counties as being in the Philadelphia non-attainment area, claiming the designations were arbitrary and capricious. The Court of Appeals deferred to the EPA's designation, as the states failed to submit the eleven-factor contradictory analysis required.

4. United States v. Duke Energy, 411 F.3d 539 (4th Cir. 2005): This case has been accepted for review by the Supreme Court (No. 05-8481). The petition for certiorari was filed by Environmental Defense, Public Interest Research Group, and the Sierra Club. The United States is claiming that Duke Energy failed to comply with the Prevention of Significant Deterioration ("PSD") requirements of the Clean Air Act when it began refurbishing coal-fired power plants in North and South Carolina. The Fourth Circuit agreed with the District Court in ruling against the United States, based on its belief that in order for a "modification" to trigger PSD requirements, there must be a post-project increase in emissions on an hourly basis. This case contrasts with the D.C. Circuit's ruling in New York v. EPA, supra, which held that EPA does not have to use the definition of the NSPS program in its PSD program and could use the annual increase definition. Oral argument before the Supreme Court will occur during the Court's fall calendar, with a decision expected by July 2007.

In another case, United States v. American Electric Power, S.D. Ohio, No. C2-99-1182, a temporary stay was ordered by the District Court pending a decision in the *Duke Energy* case.

E. Natural Resources – "The Joshua Tree"

1. United States v. Anglin, 438 F.3d 1229 (10th Cir. 2006): Three individuals were convicted for cutting and removing ginseng from the Ouachita National Forest without authorization. In addition to Landon M. Anglin, the named defendants were Robbin L. Bunyard and John Paul Jones (whose name begs the question: father of the U.S. Navy or bassist for Led Zeppelin?). A United States Forest Service officer testified "that he observed the Defendants walking along the forested area, and that they were carrying ginseng probes, buckets, and satchels." Even though they admitted they did not have the required permits for extracting ginseng, the defendants argued that because the officer did not actually observe them digging up the ginseng, they could not be found guilty of violating 36 C.F.R. § 261.6(h). The Tenth Circuit upheld the conviction, stating: "The district court's determination that the stop, detention and investigation of the Defendants did not violate their constitutional rights is amply supported by the record." The USFS officer did not give the defendants Miranda warnings, but "that is of no matter" because they were not being arrested or put in custody at that moment.

F. Hazardous & Solid Wastes/Substances – "Bad"

1. Elementis Chromium LLP v. Coastal States Petroleum Co., 2006 U.S. App. LEXIS 13312 (5th Cir. 2006): In this case, the Fifth Circuit vacated and remanded in part a decision by the Southern District of Texas which held two companies jointly and severally liable in a CERCLA contribution action. Relying on Redwing Carriers v. Saraland Apartments, 94 F.3d 1489 (11th Cir. 1996), the Fifth Circuit said that the plain language of CERCLA Section 113 requires courts

to allocate response costs in an equitable manner in a contribution action, not jointly and severally.

2. United Haulers Ass'n v. Oneida-Herkimer Solid Waste Mgmt. Auth., 438 F.3d 150 (2d Cir. 2006 Petition for Cert. filed April 21, 2006) (No. 05-1345): Plaintiff trash haulers challenged a municipal flow control ordinance requiring that they take all solid waste and recyclables to specific dumping facilities owned by defendant (a municipal corporation) where "tipping fees" were considerably higher than elsewhere in the state. Requiring the waste and recyclables to go to a particular public corporation prevented it from going to non-local facilities. The Second Circuit affirmed that since the ordinance did not treat similarly situated in-state and out-of-state businesses differently, it did not violate the dormant Commerce Clause of the U.S. Constitution. The Court concluded that even if it were to recognize that such ordinances burden interstate commerce, which it declined to decide, it would find that burden not excessive when compared to the local benefits the ordinances confer. On April 21, 2006, the U.S. Supreme Court was petitioned by appellant to review the Second Circuit's decision as being in conflict with other cases.

3. Carson Harbor Village, Ltd. v. County of L.A., 433 F.3d 1260 (9th Cir. 2006): The owner of a mobile home park which was previously used for oil production and storage discovered tar-like and slag material in a wetlands on the property and took steps to clean it up. The owner then filed this action seeking cost recovery from a former oil and gas lessee of the property, Unocal, under CERCLA. The district court ruled and the Ninth Circuit affirmed that since the plaintiff failed to comply with the public comment and feasibility requirements of the National Oil and Hazardous Substances Pollution Contingency Plan prior to remediation, he could not recover damages under CERCLA. Although some courts have held that significant agency involvement is enough to satisfy the public participation requirement, this court would not decide that question and found that the state agency's involvement here would not be sufficient even were the court willing to decide the question.

4. U.S. v. W.R. Grace & Co., 429 F.3d 1224 (9th Cir. 2005) Petition for Cert. filed April 27, 2006 (No.05-1363): The district court had awarded \$54,000,000.00 in CERCLA removal cost reimbursement, \$11,400,000.00 in indirect costs, and a declaratory judgment for future costs to EPA. This case is interesting for its detailed discussion of the differences between removal actions and remedial actions. W.R. Grace & Co. disagreed with the EPA's characterization of its cleanup of asbestos as a removal action. Had EPA characterized its cleanup as a remedial action, more restrictive standards and cost analysis would have been required, as opposed to the more lenient standards for removal actions. Grace also contested the district court's exemption of the action from CERCLA's general twelve-month, \$2,000,000.00 cap for removal action. Grace lost; the Ninth Circuit upheld the district court's decision. The Tenth Circuit acknowledged that the definitions of the two terms,

“removal” and “remedial action,” were “inescapably vague.” The Court therefore deferred to the agency’s judgment, and also seemed to be influenced by the seriousness of the health threats to the residents of Libby, Montana, where Grace had a mining and processing operation. “For example, residents described halting baseball games when large dust clouds swept over the field carrying particles from exposed piles of vermiculite.” A petition for certiorari was filed in April (No. 05-1363).

5. Cox v. City of Dallas, 430 F.3d 734 (5th Cir. 2005): Plaintiff homeowners brought a discrimination suit against the City of Dallas under the Fair Housing Act and 42 U.S.C.S. §§ 1981 and 1983 (Equal Protection) for the City’s alleged failure to police and prevent illegal dumping in an abandoned gravel pit near their homes. Residents had made many complaints to the City Council, which was “attentive, if ineffectual . . .” The site caught fire twice. A judgment was obtained to ensure closure of the site but was never enforced. The Northern District of Texas granted summary judgment in favor of Dallas. The Fifth Circuit upheld the summary judgment, although acknowledging that the failure of the City to police the landfill could have harmed the housing market and market value of the homes. The Court found that the claim of failures and omissions by the City, and of a decrease in value, did not give rise to a claim of “undeniability” or “denial” of housing under the FHA. The FHA claim was also denied because the service of zoning law enforcement was not connected to the sale or rental of a dwelling, and the 42 U.S.C.S. §§ 1981 and 1983 claims failed because the City did not have actual or constructive knowledge of the dumping when it occurred.

G. Miscellaneous – “Achtung Baby”

1. Davis v. Walt Disney Co., 430 F.3d 901 (8th Cir. 2005) Rehearing denied, writ denied.: Davis is the founder and president of an environmental advocacy group called Earth Protector and owns a registered federal trademark on the term “Earth Protector”. Disney created a movie in which a fictional company called Earth Protectors tried to control the minds of children in a plot to take over the world. The district court concluded that Disney’s use of the Earth Protector mark in a movie was very unlikely to create confusion. The Eighth Circuit affirmed after applying the factor test from SquirtCo v. Seven-Up Co., 628 F.2d. 1086 (8th Cir.1980) and determining that the likelihood of confusion was low.

2. Reichley v. Pennsylvania Department of Agriculture., 427 F.3d 236 (3d Cir. 2005): Held: The actions taken by the Pennsylvania Department of Agriculture and trade associations in response to an outbreak of avian influenza did not deprive a poultry farmer of his property in violation of the Fourteenth Amendment. The plaintiffs were poultry growers and brokers. Several flocks of their chickens were quarantined and destroyed by the Pennsylvania Department of Agriculture. The Department has the power to quarantine animals with a

dangerous, transmittable disease under the Domestic Animal Law. The district court ruled that there was not arbitrary action since the growers consented to the quarantine and destruction, and were compensated for the chickens.

IV. Lower Federal Courts and Texas Courts

A. Land Use – “This Must Be The Place”

1. Benson v. California Coastal Commission, 42 Cal. Rptr. 3d 580 (Ca App 2d Dist 2006); Corrected by Benson v. California Coastal Comm., 2006 Cal. App. LEXIS 843): Like DUH! A developer lost because he relied on agency staff's recommendation and did not appear at the due process hearing on his application for a coastal development permit, where it was denied. Imagine: “. . . there is a difference between what the staff says it told Benson during those calls, and what Benson says he heard . . .” Under the circumstances, he could not reasonably rely on staff comments predicting what action the Commission would take.

2. Wal-Mart Stores, Inc. v. City of Turlock, 138 Cal. App. 4th 273 (Cal. Ct. App. 5th Dist. 2006). The appellate court upheld a City zoning ordinance which prohibited the development of a "big box" retail store. The lower court had ruled that the City's zoning amendments and general plan conformed with the California Environmental Quality Act because an environmental impact report had been issued, no new report was necessary, and further, the ordinance reasonably related to the protection of the legitimate choice to organize development using neighborhood shopping centers dispersed throughout the City. Thus the City was properly exercising its police power, not exceeding it, as Wal-Mart had claimed. The appellate court affirmed for the same reasons.

B. Water – “Take Me to the River” (Talking Heads Version)

1. Wason Ranch Corp. v. Hecla Mining Co., No. 05-cv-00838-WDM-PAC, 36 ELR 20093 (U.S.D.C. Colo. 2006): A magistrate judge recommended the dismissal of a ranch owner's CWA and RCRA citizen suit action against mining companies for releasing and discharging solid and hazardous wastes into two creeks where they eventually migrated into the Rio Grande. The owner alleged that the releases and discharges contaminated soils, surface water, and groundwater near, on, or under his ranch. Although the owner's notice letters to the companies were timely, they failed to give the companies the information required by RCRA and CWA; nor did the owner's second notice letters cure these deficiencies. Consequently, the magistrate judge recommended that the mining companies' motions to dismiss be granted.

2. Friends of the Earth, Inc. v. Chevron Chemical Company, 2006 U.S. Dist. LEXIS 21864 (E.D. Tex. 2006): The issue before the Court was the statutory maximum penalty for a monthly average violation under § 309(d) of the

Clean Water Act: “. . . not to exceed \$25,000.00 per day for each violation.” Chevron had allegedly violated the TSS limitations in its NPDES permit 65 times. Some of the alleged violations involved monthly average TSS violations, while others involved daily maximum TSS violations. Chevron argued that the monthly average limit should be counted as a single violation. In ruling against Chevron, the Court cited several cases (though there were no rulings on point by the Fifth Circuit) supporting its decision that the statutory maximum penalty for a monthly average violation should be calculated by multiplying the statutory amount by the total number of days in the month in which the violation occurred.

3. City of Arcadia v. State Water Resources Control Bd., 135 Cal. App. 4th 1392 (Cal. Ct. App. 4th Dist. 2006): In an effort to ameliorate the serious problem of refuse discharging into the Los Angeles River via municipal storm drains, the California Regional Water Quality Control Board, Los Angeles Region and the State Water Resources Control Board adopted a planning document setting a target of zero total maximum daily load of trash. This met with opposition from several cities, who claimed the target was both impossible and unreasonably expensive to meet. The appellate court reversed the lower court’s grant of the cities’ petition for writ of mandate on all grounds, except that the appellate court found that the regional board’s environmental checklist was deficient because the board had not conducted an environmental impact report, even though the project (adding the trash TMDL to the basin plan) might have a significant effect on the environment. Thus, it appears that had an environmental impact report been prepared, the zero discharge standard might have stood. Rehearing denied, 2006 Ct. App. LEXIS 221 (Cal. App. 4th Dist., February 17, 2006 and review denied, 2006 Cal. LEXIS 4781 (Cal. April 19, 2006)

C. Air – “Got Me Under Pressure”

1. Northwest Environmental Defense Center v. Owens Corning Corp., 2006 U.S. Dist. LEXIS 33791 (D. Or. 2006) substituted opinion at 2006 U.S. Dist. LEXIS 37904 (D. Or. 2006): Plaintiffs contended that Owens Corning began construction of a polystyrene foam insulation manufacturing facility without having obtained a preconstruction permit in violation of Section 165(a) of the Clean Air Act, among other alleged violations. Plaintiffs contended that HCFC-142b is “a potent greenhouse gas and ozone- depleting substance.” Plaintiffs expressed fear about the effects of the emissions, including those diseases aggravated by increased exposure to the sun such as lupus. Plaintiffs claimed at least one member of the plaintiffs’ organizations had lupus. The magistrate judge found that plaintiffs had standing. The judge also found that if Owens Corning unlawfully initiated construction without a permit, its penalties would not be capped at one day. Owens Corning had argued that it should be subject only to a single day of penalties because it could only commence construction one time. Nice try.

D. Hazardous & Solid Wastes/Substances

1. Benzman v. Whitman, No. 04 Civ. 1888(DAB), (S.D.N.Y. 2006): A class action suit was filed stemming from plaintiffs' exposure to hazardous substances in the interior of their residences, schools, and workplaces as a result of the dust and debris released from the collapse of the World Trade Center towers and surrounding buildings following the terrorist attacks on September 11, 2001. Plaintiffs alleged that defendants made false and misleading statements about the nature of the threat to human health posed by dust containing asbestos and other contaminants, thereby encouraging residents to return to their homes prematurely. The facts and discussion contained in this case are fascinating, if horrifying. The EPA utilized the most up-to-date method of asbestos testing, and had its own office professionally cleaned, while indicating to citizens that less than that process was necessary for their own homes. Even the EPA's own Inspector General said that EPA did not have back-up for its statement that the air was safe to breathe on September 18th. Motions to dismiss were filed by defendants and partially granted. Former EPA Administrator Christine Todd Whitman and other "EPA Defendants" were required to file answers only to the count which alleged a violation of the Fifth Amendment of the Constitution (plaintiffs alleged due process rights to bodily integrity) and to another count brought under the Administrative Procedure Act alleging that EPA Defendants' actions after the September 11th attacks were arbitrary and capricious, not in accordance with the law, and in violation of plaintiffs' Fifth Amendment rights.

E. Miscellaneous – "The End of the Innocence"

1. City of Moses Lake v. U.S. et al., 416 F.Supp.2d 1015 (E.D. Wash. 2005): In this landmark decision, the District Court held that local governments are allowed to review relevant data and participate in the planning and selection of Superfund remedies at federal facilities. Section 120(f) of CERCLA is construed to give a special role to local officials in developing the remedy for a public/federal site.

2. Cummins v. Travis County Water Control and Improvement Dist. No. 17, 175 S.W.3d 34 (Tex. App. – Austin 2005): In this case, appellant property owners argued that their ownership of land along the shore of Lake Travis meant they had littoral or riparian rights to use the Lake despite two regulations imposed by the water district to protect restricted zones around its water intake barge (used to pump raw water for treatment to drinking water). The court said no, relying in part on Tex. Water Code Ann. § 11.001(b)(2000), which requires title to have been granted prior to July 1, 1895 in order to convey any riparian rights, and pointed out that the relevant land conveyance did not convey a normal flow of water to the owners' land. Nor were the owners allowed to construct a boat dock. The Texas Supreme Court denied Cummins' petition for review on April 21, 2006.

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Since graduating from Harvard Law School, Ms. Walls has practiced law with several law firms and has served as the legal officer in charge of all environmental and safety matters for two major corporations. She has served as Chair of the Environmental, Health, and Safety Committee of the Fort Worth Chamber of Commerce, and on its Board. Ms. Walls was appointed by Texas Lieutenant Governor Bob Bullock to the Texas Small Business Assistance Panel. She has served as Chair of the Environmental Law Section of the Tarrant County Bar Association several times, and was Co-Chair of the Fort Worth Small Business Advisory Committee. She has served on the Executive Committee of the State Bar of Texas Environmental and Natural Resources Section.

Her recent awards include the YWCA Tribute to Women in Business, the Fort Worth Business Press "Who's Who in Business," "Tarrant County's Elite 100," and "Women of Influence Awards." She is featured in "Best Lawyers in America," and has been named as an "Attorney of Excellence in Texas," and a Texas Superlawyer® for several years. She speaks frequently to environmental professionals and attorneys.

Richard Greene

Regional Administrator

Since his appointment as EPA Regional Administrator by President Bush in March, 2003, Richard Greene has led the oversight of federal environmental programs throughout Arkansas, Louisiana, New Mexico, Oklahoma and Texas with a pragmatic and common sense approach to the mission of protecting human health and the environment while preserving the economic competitiveness of the Region.

Prior to this position, he served an unprecedented five terms as mayor of Arlington, Texas, during which time his city achieved more progress in the field of environmental protection than at any time in its history. At the same time, Arlington was recognized for its innovative economic development programs producing significant gains in building the commercial tax base of the city while creating thousands of jobs for the people of the community.

"Our work reminds me every day that there are 35 million people in this Region who are counting on us for cleaner air, purer water and better protected land. Knowing the dedication of the professional team I am privileged to serve with, I am confident of our collective commitment to meet those expectations."

Mayor Greene's business career includes work in the fields of higher education, the media, the Olympic movement as well as senior management roles in the automobile and banking industries. He holds a B.S. degree in business administration and is a graduate of the School of Mortgage Banking at Northwestern University in Chicago.

Current as of July 2005.

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BLAME IT ON THE RAIN
HURRICANE KATRINA – TORT CLAIMS

Eighteenth Annual Texas Environmental Superconference
August 3 and 4, 2006

Richard A. Curry
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BLAME IT ON THE RAIN

HURRICANE KATRINA – TORT CLAIMS

Introduction

No one questions the fact that Hurricane Katrina was one of the nation's worst natural disasters, but Katrina-related litigation does not focus on the "natural" aspect of the disaster. Indeed, the greatest single theme of non-insurance Katrina tort litigation is that human activity (or inactivity) greatly exacerbated the destruction wrought by Nature.

This theme has played out very differently in Louisiana and Mississippi – and the reason for the difference is geography. Mississippi presented flat beaches that were not protected – and could not have been protected – from a major hurricane such as Katrina. The Mississippi Gulf Coast absorbed a much greater storm surge and much higher winds than New Orleans. The storm simply destroyed Mississippi businesses and residences and flattened entire communities. Man could not have prevented the destruction – and the destruction was over almost immediately. There was little that Man could have done to lessen the severity or duration of the tragedy. In short, there was no one to blame. As a result, most of the Mississippi Katrina litigation involves insurance claims.

The geography of Louisiana, and New Orleans in particular, is very different. New Orleans sits in a bathtub below sea level, protected by an elaborate system of levees and flood walls and a natural buffer of wetlands. As a result of geography, Louisiana has presented much more fertile ground for creative post-Katrina litigation. Louisiana lawsuits allege that the levees and flood walls were negligently constructed and maintained by Man, that the natural buffers had been degraded by Man, and that the region endured all manner of suffering for weeks after the storm because of the deficient response of Man.

Prior to Hurricane Katrina, it was widely believed that the inundation of Orleans Parish would result in a horrific "toxic soup" that would render the City uninhabitable for years into the future. These dire predictions of environmental disaster fortunately have not come to pass. With the exception of the oil spills and releases discussed in part IV, below, the flood waters did not result in widespread toxic contamination of sediments, and most serious environmental damage appears to be a relatively brief duration.

State and federal regulatory agencies conducted exhaustive sampling and testing of the New Orleans area beginning immediately after the hurricane. In a February 2, 2006 letter to the Natural Resources Defense Counsel, Louisiana Department of Environmental Quality ("LDEQ") secretary Mike McDaniel concluded:

Based on our initial assessment and the environmental data we have gathered and reviewed since, LDEQ and its partner environmental and public health agencies continue to support the statement that there are generally no unacceptable long-term health risks directly attributable to environmental contamination resulting from the two hurricanes.

Among the agencies participating in the investigation and analysis following the hurricane were the Environmental Protection Agency (“EPA”), the LDEQ, the Centers for Disease Control, the Agency for Toxic Substances and Disease Registry, the Louisiana Department of Health and Hospitals, Federal Emergency Management Agency (“FEMA”) and the New Orleans Health Department. The data that was gathered and sampled by these agencies is described at: <http://www.epa.gov/katrina/testresults>. The agencies collected more than 800 sediment samples following Hurricane Katrina and Rita. The LDEQ posted maps on its website to disclose where each air, water and sediment sample was taken:

http://www.deq.louisiana.gov/portal/portals/0/news/pdf/surface_water_sampling111005allfullextent.pdf

http://www.deq.louisiana.gov/portal/portals/0/news/pdf/AirSamples_111005.pdf

http://www.deq.louisiana.gov/portal/portals/0/news/pdf/SedimentSamples_111005all.pdf

In fact, the following web address links to a site for each affected zip code, and the “zip code” site then discloses which sites produced sediment samples that exceeded residential levels.

<http://www.deq.louisiana.gov/portal/Default.aspx?tabid=2379>

Most of the cases discussed in this outline are not principally based on allegations of environmental damage or toxic exposure (with the exception of the oil and gas industry litigation discussed in part IV below). The lawsuits against governmental officials, contractors responsible for constructing and maintaining the levees, and others do include general allegations of personal injury, and those damage allegations certainly could include allegations of toxic exposure, medical monitoring, etc. For the most part, however, allegations of toxic exposure or specific environmental hazards have not been the principal focus of the complaints and the petitions filed in the months following the hurricane. (This may change over time. It has been suggested, for example, that allegations based on exposure to toxic mold may become prevalent as residences and businesses are brought back into service after being “cleaned up” and renovated.)

I. Blame it on ... the Rain – Limitations on the Act of God defense.

It sure *seemed* like an Act of God! The devastation caused by Hurricane Katrina would seem – at first blush – to present the quintessential “Act of God” defense. Within days after the hurricane flood waters began to subside, however, the flood of lawsuits began in earnest: lawsuits claiming that levees were improperly constructed; lawsuits claiming that government entities failed to anticipate or adequately react to the devastation; lawsuits alleging leaks and spills from refineries and pipeline facilities, etc. Given the enormity of the damage and the fundamental social and policy issues implicated in the disaster, it should not be surprising that the “Act of God” defense likely will be marginalized.

A major hurricane might or might not qualify as an “Act of God” recognized as defense in CERCLA at 42 U.S.C. 9607(b)(1). The legislative history of that section suggests:

For example, a major hurricane may be an ‘act of God,’ but in an area (and at a time) where a hurricane should not be unexpected, it would not qualify as a ‘phenomenon of exceptional character.’

H.R. Rep. No. 99-253(IV), at 71 (1985), *reprinted in* 1986
U.S.C.C.A.N. 3068, 3101.

The interplay between human negligence and the Act of God defense is not unique to post-Katrina litigation. The same issue has been played out in litigation arising out of previous hurricanes and natural disasters. For example:

- *Terre Aux Boeufs Land Co., Inc. v. J.R. Gray Barge Co.*, 803 So.2d 86 (La. App. 4th Cir.), *writ denied*, 811 So.2d 88 (La. 2002).

Defendant's barge was stranded on plaintiff's property as a result of Hurricane Georges. The court found that the Act of God defense shielded defendant from liability for damage to the plaintiff's property, but the Act of God defense did not permit defendant to abandon the barge on plaintiff's property.

- *Gabler v. Regent Development Corp.*, 470 So.2d 149 (La. App. 5th Cir. 1985)

The parish government and developer were not liable for flooding based on alleged inadequate drainage facilities because the proximate cause of the damage was a torrential rainfall – an “Act of God”.

- *Allen v. Simon*, 888 So.2d 1140 (La. App. 3d Cir. 2004)

Defendant was not liable for the damage caused when his tree fell on his neighbor's house; however, as in *Terre Aux Boeufs*, *supra*, the defendant was required to remove the tree.

- *Saden v. Kirby*, 660 So.2d 423 (La. 1995)

The “Act of God” defense did not shield the New Orleans Sewerage and Water Board from liability based on the board's alleged failure to properly maintain water pumps that would have prevented or lessened the flooding.

These and similar decisions reflect the competing policy considerations with which courts must wrestle in determining the extent of the risk that defendants should have anticipated.

Katrina lawsuits recognize the magnitude of the storm and resulting damage; however, the lawsuits also allege that humans negligently failed to anticipate or prevent the ramifications of the storm and that humans failed to respond to the disaster in a timely and appropriate fashion. The claims asserted in the Katrina litigation attempt to overcome the Act of God defense by alleging – directly or implicitly – that human fault, and not the natural disaster, was the proximate cause of the loss.

II. Blame it on ... the Folks Who Built and Maintained the Levees

Numerous class action lawsuits have been filed alleging that various individuals and entities were negligent in designing, constructing and maintaining the levee system. This negligence allegedly resulted in the failure of critical portions of the New Orleans levee system. Most of these lawsuits allege improper design and/or construction of levees while others claim damage resulting from subsequent work on the levees (such as placement of heavy equipment on the levees). Some lawsuits alleging acts or omissions that resulted in levee failure:

- *Colleen Berthelot wife of/and Jackie Berthelot, Heber Dunaway, Eric Anderson, Amy Janusa wife of/and Michael Janusa v. Boh Brothers Construction Co., L.L.C. and Gulf Coast, Inc.*, United States District Court, Eastern District of Louisiana, Civil Action No. 05-4182, and
- *Jared Vodanovich v. Boh Brothers Construction Co., L.L.C. and Gulf Group, Inc. of Florida*, United States District Court, Eastern District of Louisiana, Civil Action No. 05-4191

These two complaints allege that the use of heavy equipment in connection with work to repair a bridge over the 17th Street Canal caused or contributed to the failure of the levee at that location.

- *Frederick Bradley, et al. v. Modjeski and Masters, Inc.*, United States District Court, Eastern District of Louisiana, Civil Action No. 05-6359

Plaintiffs sued an engineering firm, alleging, among other things, that failure to “ensure the adequacy of the design, composition and construction” of the 17th Street Canal resulted in a breach during Katrina, along with widespread flooding.

- *Phillip Reed, et al v. The United States of America, et al*, United States District Court, Eastern District of Louisiana, Civil Action No. 06-2152

This class action names the United States and several dozen companies allegedly responsible for dredging the now infamous Mississippi River Gulf Outlet (MRGO) navigational channel during the decade preceding Hurricane Katrina. The 76 mile manmade waterway has been identified as a principal culprit in the flooding – both because it led to the destruction of wetlands that would have provided a buffer against the storm surge, and, more critically, because it acted as a “funnel” to deliver the storm surge into the very heart of New Orleans.

- *Anteal Jackson v. Union Pacific Railroad Company*, United States District Court, Eastern District of Louisiana, Civil Action No. 05-5458

Class action suit in federal court against Union Pacific Railroad Company claims that the company removed a floodgate along the Industrial Canal,

filled the spot with sandbags, and that this section of the canal wall failed during the hurricane. The complaint was dismissed without prejudice.

- *Mary Finney v. Boh Brothers Construction; Washington Group International; Virginia Wrecking Co.; Gulf Group Inc. of Florida; Modjeski and Masters; CR Pittman Construction Co.; Pittman Construction; Burk-Kleinpeter; B&K Construction; Miller Excavating Services; James Construction Group; Board of Commissioners for Orleans Levee District; St. Paul Fire and Marine Insurance; City of New Orleans; Sewerage and Water Board*, 2/22/2006 06-cv-0886 r (New Orleans).

Class action alleges that a number of defendants (contractors, consultants and governmental agencies) are liable for defective design, construction, and maintenance of various levee systems, resulting in flooding throughout New Orleans.

Several other lawsuits were filed against contractors, consultants, the levee district, and insurers based on alleged failure to properly maintain the levee system:

- *Frederick Bradley v. Pittman Construction; Orleans Parish Levee Board*, 12/1/2005 2005-12915 n (New Orleans)
- *Bruce Conlay v. Encompass Insurance; Orleans Levee District*, 12/2/2005 2005-12955 g (New Orleans)
- *Diane Rogers v. Encompass Insurance; Orleans Levee District*, 12/2/2005 2005-12954 h (New Orleans)
- *Brown v. Boh Brothers Construction Co., LLC*, United States District Court, Eastern District of Louisiana, Civil Action No. 05-6324
- *Ezell v. Boh Brothers Construction Co.*, United States District Court, Eastern District of Louisiana, Civil Action No. 05-6314
- *Kirsch v. Boh Brothers Construction Co.*, United States District Court, Eastern District of Louisiana, Civil Action No. 05-6073
- *Lawrence v. Virginia Wrecking Co., Inc.*, United States District Court, Eastern District of Louisiana, Civil Action No. 05-6422
- *LeBlanc v. Boh Bros. Construction Co.*, United States District Court, Eastern District of Louisiana, Civil Action No. 05-6327

III. Blame it on ... the Government

Government agencies and officials have been the target of two types of Katrina lawsuits:
(A) Government entities (particularly the Corps of Engineers and the New Orleans Sewerage and

Water Board) are frequent targets of litigation alleging fault that preceded the disaster, particularly in the construction and maintenance of the levees, and (B) A wide range of governmental entities are also targets of lawsuits based on the government's response to the disaster.

Although not a tort action, one environmental lawsuit that has received considerable public attention is *LEAN v. U.S. Army Corps of Engineers*, United States District Court, Eastern District of Louisiana, Civil Action No. 06-2020. In this case, two citizen groups sued the U.S. Army Corps of Engineers to enjoin issuance of an emergency permit for Waste Management to operate the Chef Menteur landfill. The Corps had granted an emergency permit for the facility to receive hurricane construction and demolition debris. The Court found no violation of NEPA or CWA notice and publication requirements, and the Court concluded that the Corps had acted appropriately in granting emergency authorization to operate the site.

Similarly, the Sierra Club has announced its intent to file suit in federal court in New Orleans to close one of the other two construction debris landfills in the New Orleans area. The Gentilly landfill, which reopened shortly after the hurricane, in October of 2005, is receiving enormous volumes of post-Katrina debris. The Sierra Club intends to challenge the continued operation of the Gentilly landfill under the Resource Conservation and Recovery Act.

A. Sovereign Immunity to Levee Construction Lawsuits

Governmental entities are named in many of the “levee suits” referenced in part II, above. Indeed, most of these lawsuits assign a significant portion of the blame to the Corps of Engineers’ design and oversight of the levee system. Of course, the Corps is one of the few defendants that could actually satisfy a judgment for the astronomical damages resulting from breaches of the levee system. In these cases, a central issue will be whether, and to what extent, sovereign immunity is a defense.

State of Louisiana. The Louisiana Constitution waives sovereign immunity for the State of Louisiana and its political subdivisions. La. Const. art. XII, § 10. This same Constitutional provision, however, also exempts public assets from being seized in order to execute on a judgment against a political subdivision. A judgment against the State or its political subdivisions therefore could only be satisfied by special appropriation of the Legislature. The State’s liability further is subject to a \$500,000 statutory cap on each person’s claim. La. R.S. 13:5106 (2006).

This Summer, however, the Louisiana Legislature created a “hurricane-specific” statutory immunity for State officials and political subdivisions. Acts 2006, No. 402. The new statute, La. R.S. 9:2900.16, provides that State officials and agencies:

...engaged in any operational decisions or activities in the aftermath of Hurricanes Katrina and Rita shall not be civilly liable for the death of, or any injury to, any person or damage to property as a result of such activity, except in the event of gross negligence or willful misconduct.

The Act is retroactive to the date of the hurricane – August 29, 2005.

Corps of Engineers. The Federal Tort Claims Act, 28 U.S.C.A. § 2671 (2006) *et seq.* authorizes suits against the government in limited circumstances. In particular, no claim can be based on a “discretionary function or duty . . .” 28 U.S.C.A. § 2680(a) (2006). (It remains to be seen whether the design, construction, maintenance and/or inspection of the levees are considered “discretionary” as opposed to “operational” functions (for which suit is authorized).

Most post-Katrina claims against the Corps likely also would be barred by the Flood Control Act, 33 U.S.C.A. § 702(c) (2006). This statute bars claims against the Corps for damages resulting from the failure of a flood control device designed or maintained by the Corps.

B. Governmental Response to the Hurricane.

Several lawsuits have been filed against federal, state and local government officials and agencies alleging negligence and/or malfeasance in responding to the hurricane. Following are representative lawsuits that have been filed against public agencies and officials:

- *Gary Greer v. The United States of America*, United States District Court, Eastern District of Louisiana, Civil Action No. 05-5709

New Orleans residents claim that the Corps of Engineers knew that the levees could not stand up to a “fast moving category three hurricane.” Plaintiffs claim that the federal government's failure to alert them to the inadequacies of the levees provided a false sense of security and, as a result, many homeowners did not adequately prepare for the storm and did not purchase flood insurance.

- *Rob Schmidt v. Parish of Jefferson, et al.*, 24th Judicial District Court, Parish of Jefferson, State of Louisiana, Civil Action No. 625-988

Class action lawsuit claims that the Jefferson Parish mayor ordered the evacuation of 200 Jefferson Parish pump operators just before the hurricane struck, resulting in much more extensive flooding in Jefferson Parish.

- *Milton Armstead, et al. v. C. Ray Nagin, et al.*, United States District Court, Eastern District of Louisiana, Civil Action No. 05-6438

Pro se complaint against the Mayor of New Orleans, the Governor of Louisiana, the Orleans Levee Board, the Louisiana Department of Labor, President George Bush and FEMA.

- *Leroy Banks III, et al. v. United States of America, et al.*, United States District Court, Eastern District of Louisiana, Civil Action No. 05-6853

Pro se complaint alleging that federal, state and local government officials intentionally sacrificed the lives of individuals living in poorer portions of the city in order to protect the French Quarter and the Central Business

District. The lawsuit includes allegations of racial discrimination, cruel and unusual punishment in violation of the Eighth Amendment, violations of the National Fair Housing Act, and the Fair Credit Act, wrongful death, theft, conspiracy, and violations of the Federal Tort Claims Act.

- *Tracy Dickerson, et al. v. City of Gretna, et al.*, United States District Court, Eastern District of Louisiana, Civil Action No. 05-6667

Lawsuit alleges that Orleans Parish residents were denied access to the City of Gretna immediately following Hurricane Katrina. The suit alleges violations of various United States Constitutional rights.

- *Mandy Kirk, et al. v. City of New Orleans and Ray Nagin*, United States District Court, Eastern District of Louisiana, Civil Action No. 06-0024

Former residents of the Ninth Ward in New Orleans sued to prevent city officials from demolishing their hurricane damaged homes.

- *Patricia L. Konie v. State of Louisiana, et al.*, United States District Court, Eastern District of Louisiana, Civil Action No. 05-6310

State and governmental officials violated plaintiff's civil rights when they physically removed her from her home following the hurricane and "illegally. . . transport[ed] her to South Carolina."

- *Edward E. Cherrie, Jr. v. United States of America, et al.*, United States District Court, Eastern District of Louisiana, Civil Action No. 05-6313

Plaintiff was separated from his mother when she was taken to a medical triage center. He claims that defendant agencies failed to document and track medical evacuees taken into their custody.

- *Beatrice B. McWaters, et al. v. Federal Emergency Management Agency, et al.*, United States District Court, Eastern District of Louisiana, Civil Action No. 05-5488

Katrina victims in Louisiana, Mississippi and Alabama sued the Federal Emergency Management Agency and claim that FEMA failed or refused to provide temporary housing assistance. Plaintiffs subsequently moved for injunctive relief to enjoin FEMA from terminating funds used to lodge Katrina evacuees in hotels and motels.

- *Maureen O'Dwyer v. United States of America, et al.*, United States District Court, Eastern District of Louisiana, Civil Action No. 05-4181, and

- *James L. Reynolds, et al. v. City of New Orleans, et al.*, United States District Court, Eastern District of Louisiana, Civil Action No. 05-4158

Both of these lawsuits seek damages resulting from the alleged failure of government officials to properly prepare for and respond to hurricane related emergencies.

- *Nicholson v. United States*, No. 05-1259 (Fed. Ct. Claims)

Three New Orleans property owners sued the United States and the U.S. Army Corps of Engineers, claiming diminished property values as a result of the defective design and construction of levees, which were breached by Katrina's storm surge. The plaintiffs allege that the government unconstitutionally deprived them of property without due process of law by failing to erect or maintain a levee system capable of weathering a Category 5 hurricane.

IV. Blame it on ... Exxon

Post-Katrina lawsuits against oil and gas companies fall into two broad categories: (A) "traditional" spills and releases and (B) catastrophic claims based on historical patterns of activity.

A. Katrina-Related Oil Spills and Releases

Several petrochemical facilities or pipelines experienced releases or spills during or immediately following Hurricane Katrina. The most serious releases occurred at the Murphy Oil facility near Mereaux, Louisiana; those releases alone have resulted in dozens of lawsuits. The Murphy Oil lawsuits have been consolidated in the United States District Court for the Eastern District of Louisiana under: *Patrick Joseph Turner v. Murphy Oil USA, Inc.*, United States District Court, Eastern District of Louisiana, Civil Action No. 05-4206.

The most recent Murphy Oil suit, *Marcus Henry v. Murphy Oil USA, Inc.*, United States District Court, Eastern District of Louisiana, Civil Action No. 06-3527, was filed on July 7, 2006. The plaintiff claims that he was injured while trying to rescue a victim of the releases from the Mereaux facility.

In addition to the numerous Murphy Oil lawsuits, other litigation is based on releases – or alleged releases – of petroleum products related to the hurricane. All of these lawsuits seek recovery of property damage, mental anguish, etc. under state negligence theories. Some also seek recovery under the Oil Pollution Act, 33 U.S.C.A. § 2701 (2006) *et seq.* (The Oil Pollution Act imposes what is essentially strict liability with a narrow Act of God defense). Among these suits are the following:

- *Roy Blanchard v. Sundown Energy, LP*, United States District Court, Eastern District of Louisiana, Civil Action No. 05-4198

Alleged releases from Sundown Energy storage facilities near Port Sulphur in Plaquemines Parish.

- *Timothy Danos v. Bass Enterprises Production Co., et al.*, United States District Court, Eastern District of Louisiana, Civil Action No. 05-4212

Suit filed by commercial fishermen alleges that 7,000,000 gallons of crude oil were released from storage tanks and pipelines owned or operated by six named defendants.

- *Frank Frelich v. Shell Pipeline, L.L.C. and Shell Pipeline Company, L.P.*, United States District Court, Eastern District of Louisiana, Civil Action No. 05-4199, and
- *Anna Zibilich Lincoln v. Shell Pipeline Company LP*, United States District Court, Eastern District of Louisiana, Civil Action No. 05-4197

Both of these complaints allege releases from Shell's pipeline in Plaquemines Parish.

B. Katrina Lawsuits Based on Historical Oil and Gas Practices

The post-Katrina oil and gas litigation must be considered in the context of a recent (but pre-Katrina) flux of oil and gas “legacy” lawsuits, originating with the 2003 Louisiana Supreme Court decision in *Corbello*:

- *Corbello v. Iowa Production*, 850 So.2d 686 (La. 2003), *clarified on reh’g, on remand*, 851 So.2d 1253 (La. App. 3d Cir. 2003) (legacy lawsuits; La. Acts 2006, No. 312)

In *Corbello*, the landowners/mineral lessors sued Shell Oil Corporation, which had produced oil and gas and operated an oil terminal on the leased property for many years. The Supreme Court upheld a jury award of \$33 million against Shell based on its failure to restore the leased property to its original condition upon termination of the lease. There was no dispute that the leased property was worth only \$108,000; however, the Court emphasized that the lease was “the law between the parties,” 850 So.2d at 693, and that the lease obligated Shell “to reasonably restore the premises as nearly as possible to [its pre-lease] condition.” 850 So.2d at 695. The Supreme Court did not require the plaintiffs to use the damage award to remediate the alleged contamination. The Court thus awarded an enormous remediation fund to the plaintiffs with no corresponding obligation for the plaintiffs to use the recovery to remediate the site.

The *Corbello* decision led to over 100 similar lawsuits by landowners claiming damages from decades of oil and gas activity (“legacy suits”). The impact of *Corbello*, however, may have been dramatically limited by Act 312 of 2006 Regular Session, which was originally S.B. 655. La. R.S. 30:82(6), 89.1.

- *Grefer v. Alpha Technical*, 901 So.2d 1117 (La. App. 4th Cir. 2005), *reh'g denied*, 925 So.2d 1248 (La. 2006), *stay denied*, 126 S. Ct. 2056 (2006).

The trial court found that Exxon Mobil was responsible for NORM contamination at an oilfield production pipe cleaning facility that had been operated by an independent contractor for Exxon since 1968. The trial court awarded compensatory damages against Exxon in the amount of \$56,145,000 (\$145,000 in general damages and \$56,000,000 in restoration costs). Finding that Exxon had acted wantonly and recklessly, the trial court also awarded \$1 billion in exemplary damages. The appellate court affirmed the general damages award but reduced the punitive award to “only” \$112,290,000 (twice the general damage award).

Post-Katrina “Legacy” Suits

- *George Barasich, et al. v. Columbia Gulf Transmission Co., et al.*, United States District Court, Eastern District of Louisiana, Civil Action No. 05-4161 (named defendants are: Columbia Gulf Transmission Co., Koch Pipeline Company, L.P., Gulf South Pipeline Company, LP, Shell Pipeline Company LP, Tennessee Gas Pipeline Co., Transcontinental Gas Pipeline Corp., Shell Oil Co., Exxon Mobil Corp., Exxon Mobil Oil Corp., Chevron Corporation, BP Corporation NA, Inc.)

This lawsuit was filed in federal court in Louisiana immediately following the hurricane, seeking certification of a class comprised of “all persons, businesses and entities in the State of Louisiana who have suffered damage as a result of Hurricane Katrina’s winds and storm surge.” The suit alleges that oil and gas exploration and production activity over many decades has destroyed South Louisiana marshes – particularly through canal dredging – leaving Louisiana more vulnerable to hurricane wind and storm surge.

- *Ned Comer, et al. v. Nationwide Mutual Insurance Company, et al.*, United States District Court for the Southern District of Mississippi, Southern Division; Case No. 1:05CV00436-LG-RHW.

Plaintiffs seek certification of several Defendant classes, including an “Insurance Defendant Class,” an “Oil Company Defendant Class,” and a “Mortgage Lending Defendant Class.” The Oil Company Defendant Class consists of entities that contributed to the rise of global warming as a result of their oil exploration, development, refining, and production activities. The Plaintiffs claim that these activities led to the development and increase of “global warming” which produced the conditions favorable for the formation of a storm of the size and strength of Hurricane Katrina.

V. Blame it on ... the Other Guy

Not surprisingly, Hurricane Katrina also has resulted in a great deal of more traditional tort litigation.

A. Health Care/Assisted Living Facilities.

Many people died or suffered damages when medical facilities and nursing homes failed to provide for, or timely evacuate, individuals in their care. For example:

- *Jane Dorand, et al v. Buffman, Inc. d/b/a St. Rita's Nursing Home, et al.*, 34th Judicial District Court, Docket No. 106,535 (filed June 29, 2006) (Plaintiffs claim that they were led to believe that the defendant nursing home had an evacuation plan; it did not, resulting in death of plaintiffs' mother.)
- *Napoleon Dunn v. Tenet Healthsystem Memorial Medical Center; Lindy Boggs Medical Center*, United States District Court, Eastern District of Louisiana, Civil Action No. 06-0353 (Family member died when hospital failed to adequately prepare for hurricane.)
- *Don Sauvage v. Meadowcrest Living Center; Transition Health Service*, 1/26/2006 627-606 (Gretna) (Defendant failed to evacuate plaintiff's grandmother from living center.)
- *LaCoste v. Universal Health Services, Inc.*, United States District Court, Eastern District of Louisiana, Civil Action No. 05-5556 (Plaintiffs sued a health care provider, claiming that the hospital's Katrina-related loss of power and the failure of the facility's emergency power sources interrupted life support systems and caused the death of a family member who was recovering from pneumonia and connected to a ventilator.)
- *Ronald Mineo, et al. v. Chateau Living Center, L.L.C., et al.*, 24th Judicial District Court for the Parish of Jefferson, State of Louisiana, Civil Action No. 626-291 (Lawsuit filed by the heirs of a man who died when he was not evacuated from an assisted living facility after Hurricane Katrina left the facility without power.)

B. Other Traditional Tort Lawsuits.

The variety of other tort claims arising out of Hurricane Katrina is remarkable. A few of the more interesting examples:

- *Blair Boutte, et al. v. Lafarge North America, Inc.*, United States District Court, Eastern District of Louisiana, Civil Action No. 05-5531

Plaintiffs allege that Lafarge North America, Inc. failed to secure a barge, and that poor mooring caused the barge to break loose and ram into the Industrial Canal. Plaintiffs also claim that the runaway barge caused the Industrial Canal to fail and flood New Orleans. The barge now rests in the

Ninth Ward. Plaintiffs claim compensatory and exemplary damages as well as attorneys' fees.

- *Piazza's Seafood World, LLC, et al. v. The City of New Orleans, et al.*, 24th Judicial District Court for the Parish of Jefferson, State of Louisiana, Civil Action No. 626-371

A lawsuit to recover the cost of perishable product that was spoiled when storage facilities owned by the City of New Orleans lost power during Katrina. The private entity that operated the facility on behalf of the city also was named as a defendant.

- *Ladd P. Ehlinger, et al. v. Metairie Towers Condominium Association, Inc., et al.*, 24th Judicial District Court for the Parish of Jefferson, State of Louisiana, Civil Action No. 626-251

Plaintiffs claim that they were denied access to their condominiums for several weeks following Hurricane Katrina. Plaintiffs filed suit against the owner and manager seeking injunctive relief.

VI. Blame it on ... the Insurance Company

As noted above, almost all of the Mississippi Katrina litigation involves insurance claims. Of course, lawsuits against insurers also comprise a large majority of Louisiana litigation resulting from Hurricane Katrina. The majority of these insurance claims are disputes over the amount of the loss and the delay in adjusting claims; however, this outline will focus instead on two areas of insurance litigation that are more unique to Hurricane Katrina: (A) “wind versus flood” coverage issues and (B) claims based in whole or in part on allegations that someone (agent, bank, or other representative) failed to obtain the insurance requested or required by the customer.

A. Wind v. Flood

Most standard homeowners insurance policies include some form of exclusion for damages caused by flooding (“rising water”). A typical policy excludes losses resulting directly or indirectly from flooding, regardless of whether there were concurrently contributing causes. The typical policy defines flood waters to include flood, surface water, waves, tides, tidal waves, overflow of any body of water, or their spray, all whether driven by wind or not. These same policies, however, typically do cover damages resulting from wind or wind driven rain.

Coverage for damages resulting from “rising water” normally must be purchased separately. Many New Orleanians did, in fact, carry at least some flood insurance because many lenders in the New Orleans area required flood insurance to support mortgages on property in low lying areas. Flood insurance coverage does not always end the “wind v. flood” dispute, however, in light of the lower coverage limits typically available for flood insurance (particularly FEMA backed flood insurance) and in light of other coverage disparities involving such losses as damage to personal property.

The characterization of damages as resulting from flood versus wind therefore is often critical. A number of class action lawsuits have mounted a frontal assault on the wind versus flood distinction. The first major “wind v. flood” post-Katrina case to go to trial is *Leonard, et al. v. Nationwide Mutual Insurance Company, et al.*, United States District Court, Southern District of Mississippi, Civil Action No. 1:05-cv-00475. That matter is being tried in federal court in Mississippi as of this writing. (Trial began July 10, 2006.) Following is a representative list of other post-Katrina litigation raising serious “wind v. flood” coverage issues.

1. Proximate cause was not flooding. *See, e.g.:*

- *Gladys Chehardy, et al. v. Louisiana Insurance Commissioner J. Robert Wooley, et al.*, 19th Judicial District Court, Parish of East Baton Rouge, State of Louisiana, Civil Action No. 536,451 (removed to federal court, docket number 05-1140 on the docket of the United States District Court for the Middle District of Louisiana). Named as defendants in the action are the major insurers writing homeowner’s policies in Louisiana. The Commissioner of Insurance, as well as some of the named insurers, have been released from the suit.

This class action seeks declaratory judgment that storm surge/flooding following breaches of the levee system are not within the “rising water” or “act of God” exclusions in homeowner’s comprehensive insurance policies. The lawsuit alleges, instead, that the “dominant and efficient causes of the losses due to water entering the City of New Orleans beginning on August 29, 2005 from the breaches in the flood walls along the 17th Street Canal and the London Avenue Canal were acts of negligence and “windstorm,” standard covered perils in the defendants’ homeowners insurance policies.

2. Flood exclusion against public policy/void and enforceable. *See, e.g.:*

- *Jim Hood v. Mississippi Farm Bureau Insurance, et al.*, 1st Judicial District Court, Chancery Court of Hinds County, State of Mississippi, Civil Action No. G2005-1642. This lawsuit was filed by the Mississippi Attorney General and seeks injunctive relief to prevent insurers from utilizing policy based on water or flood damage. The suit claims that such exclusion provisions are void and unenforceable as violations of the public policy of the State of Mississippi in that such exclusion provisions attempt to alter, abrogate or invalidate longstanding Mississippi law and judicial precedents governing the issue of proximate causation and attempts to immunize the Defendants from contractual liability on insured perils which may be a proximate or contributing cause of loss, all in contravention of Mississippi law. The suit also claims that these exclusions are invalid because they are unconscionable,

ambiguous, violate Mississippi Consumer Protection Act, and conflict with other provisions of the policies.

3. Anti-concurrent clauses (essentially exclude coverage – even for damages caused by covered risks – if flooding was a concurrent cause). A representative case challenging this provision is:

- *Elmer and Alexa Buente v. Allstate Property and Casualty Insurance Company*, United States District Court for the Southern District of Mississippi, Southern Division, Civil Action No. 2:05CV02166-KS-JMR. In an opinion released on March 24, 2006, the court refused to enforce certain exclusions in a policy issued by Allstate Property and Casualty Insurance Company. The court found ambiguity in policy provisions that would have excluded wind damage claims in homes that were also subjected to tidal surge. The court further ruled that Allstate bears the burden of proving that the “water exclusion” in its comprehensive homeowner’s policy applies to the particular damage incurred by the plaintiffs in that case. Finally, the judge found that the company could be liable if its agent misrepresented the terms of the policy. In a subsequent ruling, however, the same federal judge ruled that the “flood exclusions” in the policy were “clear and unambiguous” and “must be enforced as written”.

4. Valued Policy

A number of lawsuits invoke Louisiana’s Valued Policy Law to claim damages for any damage – so long as at least a portion of the damage was caused by a covered peril. Two representative cases are:

- *Babineaux v. Liberty Mutual Fire Insurance Company*, United States District Court, Eastern District of Louisiana, Civil Action No. 05-6888 (filed as class action); and
- *Huntley v. Allstate Indemnity Company*, United States District Court, Eastern District of Louisiana, Civil Action No. 05-6887 (filed as class action)

These suits (and others) seek to force insurers to pay full policy limits on any insured structures, provided that at least a portion of the loss was the result of a covered peril. Plaintiffs allege that, because the property sustained at least some damage from wind and wind driven rain (which is a covered peril), the valued policy law, La. R.S. 22:695(A) (2004), mandates coverage for the entire loss. General homeowner’s policies excluded flooding as a covered peril, and it was flooding that caused the overwhelming majority of damage to these structures; however, these structures also typically sustained at least minor damages from wind and wind driven rain as well – which would be a covered peril.

B. Failure to Procure/Misrepresentation

Many of the post-Katrina insurance lawsuits include claims based on “someone’s” failure to obtain flood insurance. These suits allege that insurance agents, bank officials, and others did not obtain flood insurance when such coverage had been promised, or that agents represented that flood insurance was not necessary. Individual cases generally accept the premise that no flood coverage was in place; however, the lawsuits claim that the defendants should have provided coverage or otherwise are responsible for failing to obtain flood insurance.

- *Gwendolyn Green Payne v. Southern Title, Inc.*, 24th Judicial District Court for the Parish of Jefferson, Civil Action No. 627-365 (Title company failed to secure flood insurance required to support loan.)
- *Mark Samuels v. State Farm Fire and Casualty*, 12/16/2006 2005-13261 g (New Orleans) (Insurer failed to notify plaintiff that insurance coverage was about to expire.)
- *Jason Bigelow v. Crescent Title; Robert Bergeron; Danny Douglass; Charles Lagarde Jr.; State Farm Fire and Casualty; Robert and Carla Rainey; Iberia Bank*, 1/8/2006 2006-00041 i (New Orleans) (Insurers cancelled coverage without notice.)
- *James Kelley v. Parish Financial Services; Parish National Insurance; Westport Insurance*, 12/28/2005 200515440 g (Covington) (Insurance agent failed to provide adequate coverage.)
- *Elizabeth A.M. Quinlan v. Hibernia National Bank et al.*, Civil District Court for the Parish of Orleans, Civil Action No. 2006-463 (Bank failed to obtain needed coverage for its customer.)
- *Rafael Rafidi, et al. v. Alpha Insurance, LLC*, 24th Judicial District Court for the Parish of Jefferson, Civil Action No. 627-397 (Insurance agent did not find coverage requested by plaintiffs.)

Other representative cases alleging that insurers (and/or their agents) failed to obtain appropriate insurance:

- *Raymond J. Pasqua v. Underwriters Insurance and Financial Institutions Agency, Inc.*, Civil District Court for the Parish of Orleans, Civil Action No. 2006-470
- *Johnny Kinloch v. Washington Mutual Home Loans, Inc.*, 22nd Judicial District Court for the Parish of St. Tammany, Civil Action No. 2005-15373
- *Jay Glazer v. Insurance Underwrites, Ltd., et al.*, Civil District Court for the Parish of Orleans, Civil Action No. 2006-427

- *Francioni Builders, Inc., et al. v. Eustis Insurance, Inc., et al.*, Civil District Court for the Parish of Orleans, Civil Action No. 2006-381
- *Thaddeus Erato, et al. v. Randall J. Juge, et al.*, 22nd Judicial District Court for the Parish of St. Tammany, Civil Action No. 2005-15263
- *Dmitri Pile Driving, Inc. v. Fireman's Fund Insurance Company, et al.*, 24th Judicial District Court for the Parish of Jefferson, State of Louisiana, Civil Action No. 626-139
- *Avondale Container Yard, L.L.C. v. Hibernia Insurance Agency, L.L.C., et al.*, 24th Judicial District Court for the Parish of Jefferson, State of Louisiana, Civil Action No. 626-036
- *Blake Nash, et al. v. Harry Kelleher & Company, Inc., et al.*, 22nd Judicial District Court for the Parish of St. Tammany, State of Louisiana, Civil Action No. 2005-14791

C. Quantum Disputes

Many Katrina insurance lawsuits include disputes over property values. Such disputes, of course, are an integral part of insurance litigation, and that general subject will not be addressed in this outline. One quantum dispute, however, is particularly noteworthy – the *Craddock* litigation involving valuation for “loss of trees”:

- *Urban M. Craddock, Sr. v. Safeco Insurance Company, et al.*, 22nd Judicial District Court, Parish of St. Tammany, State of Louisiana, Civil Action No. 2005-14157, removed to federal court (number 2:05-cv-06365 on the docket of the United States District Court for the Eastern District of Louisiana). This “loss of trees” lawsuit was filed in Louisiana state district court on behalf of a class comprised of all Louisiana residents affected by Hurricane Katrina who suffered damages due to loss of trees on premises insured by defendants. The lawsuit challenges the insurers’ position that the loss of trees on covered property should be compensated merely as “debris removal”. The lawsuit claims that damaged and/or destroyed trees should be recognized for the intrinsic value of the living trees (including diminished value of covered premises).

VII. Timing Issues

Under Louisiana law, tort claims generally prescribe (*i.e.*, are barred by statute of limitations) unless filed within one year of the loss. Hurricane Katrina struck Louisiana on August 29, 2005, and the deadline for filing most hurricane related claims therefore is imminent. Some losses, of course, did not occur until after August 29. Additionally, under the doctrine of *contra non valentum*, prescription does not run until one year from the date plaintiff discovered – or should have discovered – the loss. Nevertheless, an ever increasing number of claims – particularly claims for insurance – are being filed in order to beat the August 29 deadline.

Civil courts in New Orleans have been inundated with lawsuits arising out of Hurricane Katrina; the majority of these lawsuits involve insurance claims for damages to residences, person property and businesses. The "Hurricane Litigation Pilot Program" is designed to expedite hearing hurricane-related litigation in state district court (the Orleans Parish Civil District Court) and certain New Orleans City Courts. The goal of the program is for all lawsuits designated as "hurricane litigation" to reach trial within eight months of filing the petition. Under the fast-track program, a case management conference is scheduled within 45 days of the date the case is filed, and a further conference is held within 90 days of filing, with the intent of scheduling trial within three months of the second conference.

In light of the imminent deadline for filing claims, the Louisiana Insurance Commissioner has urged insurers to enter formal stipulations that would have the effect of extending prescriptive periods by an additional year. As of this date, however, only a handful of stipulations have been entered.

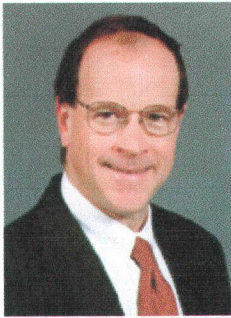
Pursuant to Emergency Rule 22, the Louisiana Commissioner of Insurance required insurers to mediate residential property damage claims arising out of Hurricanes Katrina or Rita. The demand for mediations has been so great that, by April 6, 2006, it appeared that many claims would not be mediated by August 29. In light of this deadline, the Commissioner issued an advisory letter on April 6, 2006 to require insurers to schedule and conduct mediations within 60 days of the date on which a mediation is requested.

Immediately following Hurricane Katrina, Governor Blanco issued a series of emergency orders to extend prescriptive periods in areas affected by Hurricanes Katrina and Rita. By Acts 2005, No. 67, the Louisiana Legislature ratified these executive orders and extended the duration of the limited suspension of prescription until January 4, 2006. However, these efforts to suspend prescription may not be given effect by the courts. In a June 26, 2006 ruling, Judge Tim Kelley of the 19th Judicial District State Court found that the Governor did not have authority to suspend prescription and that the Legislature had acted improperly in ratifying the suspension. A motion for reconsideration is scheduled for hearing on August 8, 2006.

Conclusion

Hurricane Katrina has produced a huge volume of environmental and other tort litigation. Much of this litigation is based on highly unusual facts and raises novel and creative legal theories. Courts are being called upon to apply traditional legal concepts to address very difficult policy issues with potentially far reaching effects. Much new law likely will be created. One thing is clear: in resolving this litigation, court will not be able to simply ... "blame it on the rain."

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ATTORNEY OVERVIEW

Rick Curry is a Member in our Baton Rouge office. His practice is concentrated in commercial litigation and environmental and regulatory matters. Rick has represented clients in trial and appellate courts in litigation involving environmental disputes, oil and gas contracts, toxic torts, Superfund, insurance coverage, and a wide variety of other commercial disputes. He has appeared as counsel in environmental permitting and enforcement actions before state administrative hearing officers, and he has represented clients before regulatory agencies in other contexts. Among other litigation handled by Rick is the defense of the State of Louisiana in class action litigation challenging the conditions of confinement in all state prisons, and the defense of a brokerage firm against a series of alleged violations of the securities laws.

Rick has authored articles and spoken at seminars for attorneys, particularly in the area of environmental law.

PRACTICE AREAS

Business Litigation
Commercial Litigation
Environmental Law
Public Law
Toxic Torts

EDUCATION

Rick received his J.D. from Louisiana State University Law Center in 1977 and his B.A. from Louisiana State University in 1973. In law school, he was a member of the Louisiana Law Review. Following graduation from law school, he clerked for Justice James Dennis of the Louisiana Supreme Court (now of the United States Court of Appeals for the Fifth Circuit).

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American Bar Association
Baton Rouge Bar Association

ADMITTED TO PRACTICE

Louisiana

Charting the Course for Rebuilding a Great American City:

An Assessment of the Planning Function in Post-Katrina New Orleans



The American Planning Association's New Orleans Planning Assessment Team

**Sponsored by the American Planning Association, the APA Planning Foundation,
and APA's City Planning and Management Division**

In Cooperation with the University of New Orleans, College of Urban and Public Affairs



American Planning Association

Making Great Communities Happen

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Management Division

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*Cover photo: World-famous St. Louis Cathedral in Jackson Square, New Orleans,
by Kelly Pollak*

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Charting the Course for Rebuilding a Great American City:

An Assessment of the Planning Function in Post-Katrina New Orleans

Presented to the New Orleans City Planning Commission
and the Louisiana Chapter of the American Planning Association (APA)

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November 15, 2005

Charting the Course for Rebuilding a Great American City

An Assessment of the Planning Function in Post-Katrina New Orleans

The American Planning Association (APA), in response to requests from the New Orleans City Planning Commission and APA's Louisiana chapter, assembled a team of six qualified urban planners to assess the capacity of the city's planning function in the aftermath of the Hurricane Katrina disaster. After gathering preliminary information about its assignment, APA's New Orleans Planning Assessment Team visited the city from October 23 to 28, 2005; conducted a tour of the city's devastation; interviewed a cross section of public officials and community leaders; and thus formulated a set of conclusions and recommendations that might assist local officials as they seek to make sound decisions about the city's restoration and redevelopment. This report presents the APA Team's general observations about the city's planning function, including activities of the City Planning Commission and the Mayor's Bring New Orleans Back (BNOB) Commission. On the basis of those observations, the report proceeds to make recommendations for addressing short—and long-term planning issues, and suggests appropriate next steps.

The APA Team thanks members of the City Planning Commission, the Louisiana chapter, and the many citizens of New Orleans who, even under conditions of extraordinary distress, hosted us with their unique brand of hospitality. We would also like to thank the University of New Orleans (UNO) and its College of Urban and Public Affairs for their research and logistical support during our visit. Lastly, we would like to acknowledge the generosity of the APA Planning Foundation and APA's City Planning and Management Division, whose timely financial support enabled us to provide assistance at no cost to our clients.

The APA Team has operated under no illusions about our own capacity to advise the city. Our team is small, our visit has been brief, and, as outsiders, our knowledge of the city and its planning activities is obviously limited. In view of these constraints, we have adopted certain principles to guide our work. First, we have focused sharply upon our mission to assess the city's planning function and have resisted the temptation to provide unsolicited advice about specific economic development, land use, and infrastructure issues. Secondly, to avoid reinventing the wheel, we have sought to take full advantage of the excellent work that has previously been performed by the City Planning Commission, UNO's College of Urban and Public Affairs, the Bureau of Governmental Research, and others who have thoughtfully studied the city's planning process. Third, we have collected factual information and insights from a diverse array of elected and appointed officials, business and neighborhood leaders, developers, preservationists, and others who care deeply about their city, yet we have exercised complete independence in evaluating their opinions and forming our own. Fourth, we have sought to leverage our limited resources by collaborating with the Urban Land Institute (ULI), the American Institute of Architects (AIA), the National Trust for Historic Preservation, and other national organizations that are also assisting the city in its recovery. Finally, we have concentrated on providing local officials with practical advice that would be financially and politically feasible to implement in a timely way.

GENERAL OBSERVATIONS ABOUT THE CITY'S PLANNING FUNCTION

By evaluating previous studies, interviewing local experts, and attending meetings of the

two local commissions with the authority to lead post-Katrina redevelopment planning—the statutory City Planning Commission and the Mayor's BNOB Commission—the APA Team has been able to make some general observations about the city's planning function. We have used these observations as the basis for an analysis by which we might classify the planning function's attributes as assets, needs, opportunities, and challenges.

Assets

The city's planning function enjoys a variety of positive attributes that can provide a foundation for future improvement. The most important of these assets may lie in the legacy of visionary planning associated with much of the city's history, from the French colonial era through the rise of contemporary preservation and urban design movements. This legacy is evidenced today in some of the city's planning activities, including efforts to promote appropriate development along the downtown riverfront. Another important asset is the active involvement of neighborhood leaders and preservationists in the city's planning process, along with the wealth of academic and nonprofit resources that support the city's planning and urban design activities. Those resources include the various education, research, and outreach programs that are sponsored by UNO, Tulane University, the Bureau of Governmental Research, the Preservation Resource Center, and other local institutions. Yet another positive attribute is the support available from various professional organizations at the local and national levels. APA, ULI, and AIA all have active chapters in Louisiana, and all have committed substantial nationwide resources to the rebuilding of New Orleans.

Needs

At this time of unprecedented demand for an effective planning function in New Orleans, the APA Team observed several significant needs that warrant immediate attention. Perhaps most glaring is the need for additional staff resources within the City Planning Commission. Before Katrina, the City Planning Commission had a staff of 24, which was not adequate for a city of New Orleans's size and complexity. (Approximately half of these positions were held by professional planners.) The disaster and resulting municipal budget cuts, however, have reduced the staff to a mere eight positions. Furthermore, the BNOB Commission also requires additional staff resources to fulfill its planning mission. Compounding this need for staff resources is the need to coordinate planning activities among various entities—particularly between the City Planning Commission and the BNOB Commission—so as to promote effective communication among participants and observers alike, and so as to increase the likelihood that local officials will make sound decisions about the city's redevelopment.

A third need involves the city's officially adopted master plan, which is not commonly recognized as influential in the city's development. The contents of the master plan, especially its guiding principles and its land-use policies, can actually provide local officials with valuable guidance in making decisions, but the master plan lacks a clear, concise, and prominent message to inspire the community. Consequently, the APA Team has found surprisingly few public officials and community leaders who rely upon the master plan as a source of guidance. Studies have found that the city council routinely over-

turns a large percentage of the City Planning Commission's recommendations, even when those recommendations are clearly consistent with the master plan. Furthermore, the city's 1970s zoning ordinance, which is one of the most important tools for implementing the master plan, is now outdated and may be ill-suited to regulate certain aspects of post-Katrina redevelopment, such as resubdivision, the establishment of nonconforming uses, and mixed-use development.

Overlying all of these needs is a popular perception that neighborhood leaders and ordinary citizens lack opportunities for regular and meaningful participation in the city's planning process. Many of New Orleans's best-informed citizens, representing a variety of interests and socioeconomic backgrounds, have expressed strong feelings about being left out of that process in the past and especially now, when the city faces many critical issues affecting their families and businesses. If the planning function in New Orleans is to regain its credibility throughout the community, then the city's redevelopment program should include a more inclusive and more effective public involvement process, beginning with citizen participation in the BNOB Commission's planning activities.

Opportunities

Even in the midst of crisis, the city's planning function can take advantage of existing and emerging opportunities to become more effective. The city's economic vitality, its cultural diversity, its pedestrian activity, and other aspects of its extraordinary urban character have served to attract a high level of national interest and support, and that support represents a valuable opportunity to

strengthen the planning function. Furthermore, the immediate need to complete the Orleans Parish Hazard Mitigation Plan provides the City Planning Commission with a specific and timely opportunity to take the lead in addressing some of the city's most pressing life safety issues.

Challenges

The APA Team has identified at least three major challenges that may impede the restoration of a strong and effective planning function, at least in the short run. The first of these challenges is the city's budget outlook. The city currently finds itself in a state of financial distress, and the short-term prospects for expanding the tax base are dampened by the catastrophic property losses and economic displacements caused by Hurricane Katrina. Unless the city can secure greater levels of financial assistance, the City Planning Commission appears unlikely to increase its staff resources to an acceptable level within the near future. A second major challenge is associated, ironically, with the urgent necessity to rebuild the city. This urgency may create pressure to disregard important policies from the master plan, and to disregard or waive land-use and historic preservation regulations that serve to implement those policies. The city should resist that pressure, but should review its land-use policies and regulations to ensure that they support post-Katrina redevelopment efforts.

Pre-Katrina, the City Planning Commission and the department did not have a key leadership role in the areas of transportation, economic development, environmental planning, and disaster preparedness. These are typically responsibilities for big city planning departments, and comprehensive planning requires coordination of these functions and

others. Post-Katrina, coordination is critical. The city should immediately, possibly through foundation funding, provide funding sufficient to support this role for planning.

SHORT-TERM RECOMMENDATIONS

The short-term recommendations are those activities that should be instituted as soon as possible and completed within six to 12 months. These are activities that are tied to disaster response and recovery and can improve the city's capabilities and regulations to respond to this disaster.

Local planning agencies' immediate customers are the citizens of New Orleans and its adjacent areas. The citizens have a number of planning-related questions that are tied directly to their short- and long-term interests and whether they will return to or stay in the city. The major questions are:

- When can I begin to repair or rebuild my structure?
- What, if any, changes do I have to make while repairing or rebuilding my structure?
- Can I obtain loans and flood insurance?

The answers to these questions depend on a number of variables. The local planners should play a major part in obtaining the answers.

Orleans Parish Hazard Mitigation Plan

The Disaster Mitigation Act of 2000 (DMA2K) requires that communities have approved mitigation plans to be able to obtain funds under FEMA's Hazard Mitigation Grant Program (HMGP) and the Pre-Disaster Mitigation (PDM) Program, which is a competitive program. Mitigation is defined

as any “sustained action taken to reduce or eliminate long-term risk to human life and property from natural hazards and their effect.” Some might say this should be a long-term recovery action. However, since the Parish does not have an approved plan, the completion of the plan to use as a guide in the recovery process should be considered a short-term action. It is expected that potentially billions of dollars will be made available to Louisiana communities through the state’s Emergency Management Agency. Further, communities with a well-prepared mitigation plan and good projects should rank high for PDM funds.

The Orleans Parish Mitigation Plan is being prepared under the management of the Office of Emergency Preparedness. We were advised that the City Planning Commission had little or no input into the preparation of the plan. Nationally, the best mitigation plans have been prepared in communities where there has been a partnership between the local emergency management agency and the local planning agency. Because the Orleans Parish Mitigation Plan is still being modified, there is an opportunity for the City Planning Commission to provide valuable input. This is important, since the implementing regulations for DMA2K require that existing pertinent planning documents be used in the preparation of the plan (Requirement 201.6 (c)(1)) and that the plan include a discussion on how the local government will incorporate the plan requirements in other local plans (Requirement 201.6 (c)(4)(ii)). It also allows the city to insert additional information into the plan based on lessons learned from Hurricane Katrina. We believe that there are other areas of the plan where the planning staff may be able to use their skills to provide additional input. The city may

wish to request that APA provide a second team to assist the city with the completion of the mitigation plan. If such a request is received, we will make a recommendation to APA’s executive director that a team be sent in the near future. Prior to the deployment of the team, APA should be provided with a copy of the latest draft and a copy of the latest review crosswalk. Provisions should be made for full access to the appropriate officials and data, prior to the arrival of the team, to expedite their completion of the assignment.

Once the city completes the areas of the Orleans Parish Mitigation Plan that need to be revised and submits the plan to the State Emergency Management Agency and FEMA for approval, three additional tasks should be started:

- The Mitigation Plan should be distributed to all interested parties as a parish-wide policy to guide development and redevelopment.
- The Risk Assessment and Vulnerability Assessment of the plan should be reviewed to determine whether changes need to be made in light of Hurricane Katrina and the levee failures and overtopping.
- Staff should begin to prepare site-specific plans for areas of the city for which they plan to request mitigation project funds.

Since the City Planning Commission and the Safety and Permits Department are the first places where most people stop when they want to develop or redevelop lands in the City of New Orleans, copies of the mitigation plan should be available in these offices. Interested individuals should be ad-

vised of the availability of these documents and advised regarding areas of the city that may be affected by the information included in the plan.

Because the revised risk assessment and the project plans are improvements to the Orleans Parish Mitigation Plan, FEMA funding should be available,

Although the regulations for DMA2K only require that a plan be updated every five years, we recommend that the revision to the risk and vulnerability assessments be started as soon as possible, since the outcome will have an effect on whether residents will repair or rebuild their structures and how they will rebuild. To facilitate the risk assessment, it is imperative that:

- FEMA release its advisory letters on the base flood elevations as soon as possible;
- The U.S. Army Corps of Engineers and the National Science Foundation complete their analyses of why the levees failed and make recommendations to Congress regarding appropriate measures to provide protection to the residents of New Orleans; and
- FEMA should expedite the preparation and release of the new Flood Insurance Rate Maps.

The Office of Emergency Preparedness should take the lead to ensure that the revised risk assessment is completed and should coordinate with the City Planning Commission on preparing the vulnerability assessment, since the vulnerability assessment deals with both existing and proposed built environments.

The City Planning Commission should take the lead on preparing site-specific

project plans. While the city may decide to target some funds to mitigate the effects of wind, we have chosen to focus this report on the effects of flooding, since the scope of the damage from the flooding component of Katrina far outweighs that from wind. Project plans are prepared for specific sites in the community where mitigation actions will be targeted. Common mitigation actions in response to flooding include:

- The purchase and demolition of severely damaged structures;
- The relocation of structures that have been damaged but may benefit by relocating further from the source of the damage;
- Elevation of structures above the base flood elevation or the flood-of-record elevation;
- Structurally dry floodproofing of nonresidential structures.

The City Planning Commission staff should take a lead on this task since much of the information used in the project plans usually resides in either the planning office or the Safety and Permits office.

- The plan is similar in composition to a plan used to guide development;
- The planning agency is traditionally the repository of the information used to guide citizens' decisions, and the staff is usually versed in the type of answers that residents may need to guide their decisions;
- Planning staffs are generally skilled in conducting the types of public meetings that will invariably be held as part of the process.

The National Flood Insurance Program (NFIP) and the New Orleans Flood Damage Prevention Ordinance

The NFIP and floodplain management work hand in hand. Flood insurance is available to citizens through licensed property casualty agents. It is available to anyone with property in a community that participates in the NFIP. The City of New Orleans participates in the NFIP. Flood insurance is available whether or not a site is located in a mapped floodplain. Regardless of whether or not residents had flood insurance before Katrina, if they are in a 100-year floodplain they will be required to obtain flood insurance in order to receive a federal grant, loan, or federally insured loan from a lender to repair their structures. We recommend that the City Planning Commission obtain free flood insurance brochures and guidance documents from the Federal Insurance Administration and make these documents available to residents. Further, we recommend that the City Planning Commission sponsor flood insurance summits for local insurance agents and lenders to educate these individuals regarding the NFIP.

The Safety and Permits Department administers the city's Flood Damage Prevention Ordinance. Currently, the department is in the midst of conducting substantial damage determinations for all structures damaged by Katrina or redamaged by Rita. We were able to review the reports that they have completed and based on the procedure as it was explained to us, the review should meet the requirements of the NFIP. We were also able to review a copy of the Flood Damage Prevention Ordinance. We recommend that the city make three changes to the ordinance to make it more effective and applicable:

- Freeboard provision
- Extra protection for critical facilities
- Variance procedures for historic properties

Based on our tour of flood-damaged areas, it appears that many of the residential structures were on elevated foundations. Unfortunately, the structures were not elevated enough to forestall damage. For this reason, we recommend that the ordinance include a freeboard provision. A freeboard is an additional level that elevates a structure above the base flood elevation. The purpose of a freeboard is to address the uncertainties of a flood study and provide an additional level of protection. While we are not recommending a specific freeboard, we recommend that a study be completed, based on current flooding, to determine the proper level. The City Planning Commission and the Safety and Permits Department should already have much of the data available to complete this study. It should be noted that the city is a participant in the Community Rating System (CRS) of the NFIP. Communities that are in CRS receive points for exceeding the minimum requirements of the NFIP. New Orleans is a class 8 community, meaning that the residents of the community receive a 10 percent reduction in their flood insurance rates. By adding a freeboard provision to the Flood Damage Prevention Ordinance, the city could receive additional points toward a class 7 rating. A class 7 rating equals a 15 percent reduction in flood insurance rates. The higher the freeboard, the greater the points that are available towards the class 7 rating.

The city tour showed that a number of critical facilities such as fire stations, hospitals, senior citizen complexes, schools that normally serve as emergency shelters, and

even the Superdome were damaged by flooding. We recommend that the city change its Flood Damage Prevention Ordinance to require that future critical facilities, as well as those critical facilities that have been substantially damaged, be elevated or floodproofed to an elevation above the 500-year flood elevation.

We also noticed that the Flood Damage Prevention Ordinance does not include variance procedures for historic structures. Per 44 Code of Federal Regulations, Part 60.6 (a), a community can “issue a variance for the repair or rehabilitation of historic structures upon determination that the proposed repair or rehabilitation will not preclude the structure’s continued designation as a historic structure and the variance is the minimum necessary to preserve the historic character and design of the structure.” In light of the city’s large number of historic structures, it is recommended that this variance be added to the ordinance. Additional information on the variance procedures and guidance on the types of mitigation activities that apply to historic structures may be obtained from FEMA.

The City Planning Commission should coordinate with the Safety and Permits Department to prepare recommendations for the appropriate oversight body to revise the Flood Damage Prevention ordinance.

Recovery and Reconstruction Ordinance

The City Planning Commission staff requested that we research the need for a Recovery and Reconstruction Ordinance (RRO). Normally an RRO is prepared by a community prior to a disaster to guide the community’s recovery and reconstruction process. A number of the activities normally covered in an RRO have already been started post-Katrina.

When excluding the normal sections that appear in most ordinances, the RRO is divided into:

- Recovery Organization
- Recovery Plan
- General Provisions
- Temporary Regulations
- Temporary and Permanent Housing
- Hazard Mitigation Program

Some of the issues that are addressed in these sections are already underway. The BNOB Commission, staffed by city agencies, arguably could be considered as the Recovery Organization and the final document prepared by the commission could be considered the Recovery Plan. The General Provisions cover Post-Disaster Operation, Coordination with FEMA and Other Agencies, and Coordination with Citizens. Again, most of the sub-sections included in this section are already underway.

Temporary Regulations are divided into a number of subsections. Damage Assessments are underway under the supervision of the Safety and Permits Department and Debris Clearance is underway under the supervision of the U.S. Army Corps of Engineers. The remainder of the subsections could possibly be put into a recovery plan for this disaster; however, additional research with full access to local officials would be needed to determine which activities are already underway and which remaining activities the departments would find useful. The subsections that may be useful are:

- A one-stop center for permit expediting
- Temporary repair permits for minor repairs to secure structures

- Deferral of fees for reconstruction permits
- Creation of a policy regarding the reestablishment of nonconforming buildings and uses that have been destroyed
- Creation of a policy regarding notices, FEMA reviews, and historic preservation agency reviews before historic structures that are an imminent hazard to health or safety or of collapsing on a public right-of-way may be approved.

The review and placement of sites for temporary housing is also underway. The city must resolve its post-Katrina public notice problems before an expedited permit program for permanent housing could be put in place.

The preparation of a mitigation plan is already underway, as noted above.

The APA Team recommends that the City Planning Commission refer to the APA Planning Advisory Service Report 483/484, *Planning for Post-Disaster Recovery and Reconstruction*. A model boilerplate ordinance can be found on pages 149-167. We believe that the City Planning Commission's existing staff is capable of adapting this model ordinance for its purposes in accordance with our recommendations. For clarification, the staff should contact Jim Schwab, AICP, Senior Research Associate for APA in Chicago. We recommend that the City Planning Commission contact UNO's College of Urban and Public Affairs regarding the coordination of a team of local experts to do research and complete the preparation of a recovery ordinance that addresses these five issues.

Streamline the Zoning and Preservation Review Processes

The present zoning and subdivision review processes can take four to six months from

submission to approval. There is a developing backlog of applications due, in part, to the recent inability to provide proper notification as a result of disruptions in city mailing services and the temporary relocation of property owners. The rebuilding effort will undoubtedly create a crush of applications requiring zoning and preservation reviews. This will be exacerbated by recent reductions in staff levels at the City Planning Commission, Historic Districts Landmarks Commission (HDLC), and Vieux Carre Commission (VCC). To facilitate critical rebuilding and avoid pressures to suspend zoning and preservation regulations, both processes need to be as efficient as possible.

In an effort to improve efficiency, City Planning Commission staff report formats should be modified to reduce them to a few pages, with minimum narrative. APA's Planning Advisory Service reports on this subject could be helpful in providing a model format. In addition, notification procedures should be amended to reflect the extraordinary circumstances by researching and implementing alternative means of notification. These might include: a toll-free call-in number for displaced persons, earlier mailings, or extended reply periods to account for slow forwarding processes. APA Research Department staff may be helpful in finding sources for other ideas.

Consider Relocation of HDLC and VCC Staffs to Planning Commission Offices

We recommend that the City Planning Commission consider extending office space to the HDLC and VCC staff to encourage cooperation, coordination, and enhancement of staff resources. This initiative could also expedite the permit process, which could serve as a step toward one-stop permitting.

Establish an Inclusive, Ongoing Public Involvement Process for Rebuilding

From discussions with community-based organizations, we ascertained that there is a need for a more broadly based, fully inclusive, and ongoing opportunity for public involvement in the rebuilding program. Such involvement will ensure meaningful feedback and make it more likely that city residents and property owners will buy in to the proposed programs.

The BNOB Commission should initiate and fund the implementation of a broad public participation process that would include the best practices employed in the last few years in regional visioning efforts in many metropolitan areas and central cities, including Birmingham, Houston, and Atlanta. These efforts sought to achieve a broad consensus about the future of the city and region, including its economy, form of development, and the preservation of its environments (natural and neighborhood). They used a number of nationally respected, experienced, and innovative consulting firms to structure and facilitate the participation process. The consultants used a range of techniques, including multiple workshops where citizens, using computer simulations, could see the impact of alternative development scenarios and vote electronically on proposed alternative programs. Citizens could participate directly or remotely by community access television or online through interactive websites. These techniques could be particularly useful to engage New Orleans residents dispersed by the storm. Such techniques would permit involvement at key decision-making points throughout the process—a key factor in ensuring satisfaction in participation and in enhancing the likelihood of consensus on a final rebuilding plan.

Encourage Full Participation in the BNOB Strategic Framework Development Process

Developing a fully inclusive public involvement process and engaging consultant assistance will take time, but the planning for rebuilding is already underway. Therefore, as an early step towards a more inclusive process that would also demonstrate a commitment to full participation, the BNOB Commission should ensure that neighborhood/preservation organizations and the City Planning Commission are sought out and involved in a visible way through open participation on the various subcommittee task forces and through the ULI Advisory Panel process that will meet in New Orleans from November 13 to 18.

Planning Commission/City Council Retreat

The City Planning Commission, city council, and representatives from the mayor's office should hold a one-day retreat to consider the implementation of the ULI—recommended strategy framework and the APA Assessment Team recommendations. The APA team could conduct the retreat after the ULI report is submitted to the BNOB Commission.

Community Workshop to Review City's Master Plan

To ensure that the short-term urgency of the rebuilding effort does not displace the city's long-term planning and development processes, it is important to review key completed elements of the city's master plan to ensure their relevance to the conditions resulting from Katrina, and to include the redevelopment strategy proposals as vetted by community feedback. To permit important

modifications in a timely manner that will contribute to the rebuilding effort, a short intensive workshop should be conducted after the BNOB strategy framework is completed and after an opportunity for community feedback on the strategy has occurred. This workshop, to be conducted over a two-to three-day period under the auspices of the BNOB Commission and the City Planning Commission, could use the capabilities of APA, ULI, AIA and any consultant assistance acquired by the BNOB Commission. It should be structured to encourage participation by community groups. The land-use element of the master plan would be the focus of the review, but the relevant aspects of the transportation, parks, preservation, and economic development elements should be considered as well.

Examples of possible modifications that could be considered include:

- Greater density, with mixed-use, mixed-income development in appropriate locations, while ensuring protection of existing neighborhoods;
- Creation of a light rail transit line connecting rebuilt residential neighborhoods with downtown employment centers and the airport; and
- Expanded parklands and greenways where rebuilding is not desirable.

One product of the workshop would be a summary of the Master Plan. The summary could be in the form of an illustrative map to be hung on the wall as a reference point at City Planning Commission meetings, in rooms where strategic decisions are made on rebuilding, in offices where the programs are implemented, and where neighborhood or-

ganizations meet to consider the impacts of proposed zoning changes.

Review and Amend the Zoning Ordinance

Since the zoning ordinance was adopted well after the building of most of the city, a significant portion of its housing stock may be nonconforming. This status could hinder rebuilding some neighborhoods to their pre-Katrina form and density. Adjustments should be made to permit "of-right" reconstruction. Provisions should be made to ease re-subdivision and permit mixed-use development in appropriate areas. Accordingly, following the completion of the master plan review workshop, the pending contract to revise the comprehensive zoning ordinance could be modified to carry out this more explicit and immediate need.

An example of the potential need for modifications is in the Lower Ninth Ward, where current zoning requires lot widths larger than the typically existing narrow lots. A remedy might include creating a provision that would allow destroyed structures built on lots platted prior to 2005 to be rebuilt without need of a variance.

LONG-RANGE RECOMMENDATIONS

Most people agree that the survival of the City of New Orleans depends largely on its ability to accomplish a number of objectives in the short term. While at times it may be overwhelming to consider the responsibilities of the planning function beyond the post-Katrina recovery process, the long-term planning function is critical to the city's sustainability.

There are five areas that should be addressed with regard to a long-term commitment to planning in New Orleans. First, all master plan elements need to be finalized by

City Planning Commission staff with neighborhood input and approved by the City Planning Commission and city council. A formal neighborhood planning program should be established to ensure meaningful and consistent inclusion of all citizens in the city's planning process. The City Planning Commission staff should expand its role in the development of the Capital Improvements Program (CIP). Planning commission staff should take the initiative in researching opportunities to increase the CRS credit for flood insurance, which will inevitably result in the reduction of flood insurance rates for the citizens of New Orleans. Finally, the City Planning Commission's staff capacity must be increased to ensure that it is equipped to accomplish its enlarged responsibilities post-Katrina.

Finalizing the Master Plan

In October 1997, the City of New Orleans Planning Commission initiated a master plan process by engaging a Technical Advisory Committee and the Master Plan Advisory Committee (consisting of citizens) to produce a framework and develop the component elements and to establish a process for scheduled review of the master plan once adopted. The advisory committees originally submitted a framework for 18 elements to be included in the master plan to the City Planning Commission. The City Planning Commission adopted the advisory committees' recommendations for the framework with minor changes, which included combining some elements and adding a tourism element, and charged the City Planning Commission staff with working with the advisory committees on the completion of the elements. Eventually, it was decided that there were to be a total of 12 component elements in the master plan. Over the next few

years, eight of the 12 elements, including the land-use element, were completed and adopted by the city council. The following four elements still need to be completed: housing; community facilities and infrastructure; natural hazards and critical and sensitive areas; and environmental quality.

In the wake of Hurricane Katrina, the BNOB Commission is charged with recommending a redevelopment strategy for the city. Presumably, this strategy will have implications for the city's master plan. It is critical that the City Planning Commission staff resume the completion of these elements as part of its long-term planning efforts, recognizing both post-Katrina conditions and any adopted redevelopment strategies resulting from the recommendations by the BNOB Commission. Ironically, the issues related to the elements that remain to be completed have been at the forefront of the post-Katrina recovery process, particularly those related to housing, natural hazards, and critical and sensitive areas. Much of the work done during the recovery process might serve as a starting point in the completion of these elements.

An immediate step once long-range planning is resumed is to prioritize the elements so that staff resources can best be utilized. It is critical that an inclusive process be outlined to ensure that the citizens of New Orleans are participants. Just as important is ensuring that the process is not unnecessarily drawn out. That could cause citizens to lose interest in the process and result in cynicism.

Create Formal Neighborhood Planning Program

There appears to be a perception among many of the organized neighborhood and preservation groups, as well as some individual citizens, that the planning process in

New Orleans is not inclusive and not inherently set up to consider or regard the public point of view. While many acknowledged that the City Planning Commission and the city council recognize their legal obligation to notify adjacent property owners of pending zoning and subdivision cases, there is a history of frustration that neighborhoods, in general, have not been included and that citizens are included too late in the process.

The October 2003 issue of the Bureau of Governmental Research's *Emerging Issues* identified the "unhealthy lack of mechanisms for citizen participation" as one of the primary problems plaguing the planning process in New Orleans. There is consensus among neighborhood groups that they lack a voice in the planning process at all levels. Cities comparable in size to New Orleans have pursued a variety of solutions to the problem of inadequate public involvement policies. One highly successful mechanism involves taking a neighborhood approach to presenting proposals to citizens. This involves dividing the planning staff among the neighborhoods or clusters of neighborhoods to serve as liaisons and to ensure that information about proposals for the area is shared in a timely way. Going beyond the letter of the law, staff should seek to encourage zoning and subdivision applicants to independently approach the neighborhoods early in the process, particularly for those proposals that are controversial in nature and that could benefit from discussion and compromise. The staff should also serve as the point of public dialogue on the annual update of the CIP.

In the late 1990s, the City Planning Commission staff used consultants to coordinate the development of Renaissance Plans for the Lower Garden District and the New Orleans East neighborhoods. In addition, Neighbor-

hood One (formerly the Division of Housing and Neighborhood Development) supported initiatives of UNO's College of Urban and Public Affairs Public Outreach component, in conjunction with community and faith-based organizations, to produce neighborhood plans in several areas including the Upper and Lower Ninth Wards, Holy Cross, and Central City's Holy Ghost neighborhoods.

While the City Planning Commission staff was not directly involved in developing the plans in either of these cases, the plans could certainly be a model for a process that would ultimately produce formal plans for neighborhoods or clusters of neighborhoods throughout New Orleans. It would be a challenge for the City Planning Commission staff, even at full capacity, to produce a neighborhood plan for each of the city's neighborhoods; however, they should continue to utilize local planning expertise such as UNO's College of Urban and Public Affairs, Tulane's Regional Urban Design Center, consultants, and nonprofit entities with experience in citizen-based planning initiatives to pursue neighborhood plans in every community.

Ideally, the neighborhood plans need some sort of formal acknowledgment by the City Planning Commission and the city council. In many places, formally acknowledged neighborhood plans are instrumental in the decision to distribute public and private resources, as well as in the decision-making process as it relates to development proposals.

Planning Commission's Role in the Preparation of the Capital Improvements Program

One of the most important functions of a City Planning Commission is to ensure that there

is proper funding for the public facilities and infrastructure improvements needed to maintain a functioning city in accordance with the goals of the master plan. The City Planning Commission collaborates with the Budget Office each year to produce a five-year Capital Improvements Program (CIP), which outlines an evaluation process for projects and establishes a priority system for funding in accordance with the master plan. In light of the requirements of the rebuilding process, the City Planning Commission staff should expand its involvement with the city's Budget Office in the development of the CIP to ensure that it becomes the financing mechanism in the rebuilding process and that there is adequate community involvement. The City Planning Commission and its staff should be expected to assume a leadership role in the City's Capital Improvements efforts, consistent with best practices in other big cities. The City Planning Commission should have sufficient additional staff positions to fulfill these obligations, and they should be filled with planners with specialized expertise in capital programming.

Identify Measures to Improve CRS Standing

The CRS allows for New Orleans to participate in various planning and regulatory activities beyond the minimum requirements of the NFIP to obtain credits that result in the reduction of flood insurance premiums for residents and property owners. The City Planning Commission should initiate efforts to obtain additional credits by reviewing the local land-use regulations and policies and comparing them against creditable activities as outlined in the CRS Manual. Ultimately, the City Planning Commission should make a recommendation to the city council regard-

ing appropriate changes to land-use regulations and policies that might result in acquiring additional credits. The CRS Manual can be obtained from the Insurance Services Office.

Permanently Increase Planning Commission Staff Capacity

Katrina's impact on New Orleans has crippled its ability to maintain employment forces at a functional level. As a result, nearly every city department has experienced a reduction of staff through layoffs. Such layoffs have reduced City Planning Commission staff to eight from 24. Ironically, even at pre-Katrina employment levels, the City Planning Commission would be understaffed to perform effectively, considering the enormous task ahead of it. The City Planning Commission staff should be equipped to fully staff the five divisions that existed pre-Katrina, including administration, comprehensive planning, land use, GIS, and zoning adjustments, as well as additional staff for a neighborhood planning division and increased responsibilities for capital programming and functional planning.

Suggested Next Steps

Nov. 8	CPC reviews APA Report
Nov. 10-12	CPC participates in Louisiana Recovery Authority Visioning Workshop
Nov. 13-18	CPC assists BNOB Commission and ULI in preparing a framework for redevelopment plan
TBD Nov./Dec.	CPC and City Council, in cooperation with the Mayor's Office, hold re-

	treat to review ULI and APA recommendations
NLT Dec. 31	CPC assists BNOB Commission in preparing redevelopment plan with citizen involvement
1Q06	CPC conducts community workshop to review and amend Master Plan so as to incorporate redevelopment plan recommendations

CONCLUSION

The City of New Orleans is one of America's great cities and a gem to be treasured. It has been devastated by a disaster that is unprecedented in recent times. A catastrophic disaster can result in a city slowly fading away due to fear, disinterest, or lack of good planning to support the recovery process. It can also result in a community that rises like the fabled Phoenix, using good planning principles to guide the recovery process and capture the imagi-

nation of the whole community.

Leaders of the community, including elected officials, appointed officials, and city staff—including the City Planning Commission staff—must remember that billions of dollars in public money will be coming to New Orleans and surrounding areas. The American people will expect these officials to be the stewards of this money and spend it in a way that will benefit the entire population of the community. This can only be accomplished by establishing a planning process that is fair and equitable to all of the residents and by creating a sustainable community. As David Reid said in *Sustainable Development: An Introductory Guide*,

"There is no myth about the central meanings of sustainability. They are rooted in perennial themes of responsibility to others, providing for the future, and dependence of life on the natural environment."

The APA Team is confident that local officials, by following these general principles and our specific recommendations, can establish a planning function that will enable New Orleans to become an even greater city in the future.

ACKNOWLEDGMENTS

This report is the result of an effort by the American Planning Association to respond to needs expressed by the City of New Orleans Planning Department and APA's Louisiana chapter for assistance in determining the best ways to move forward in rebuilding the city in view of the damage caused by Hurricane Katrina. Production of the report was underwritten by APA, the APA Foundation, and APA's City Planning and Management Division in Cooperation with the University of New Orleans, College of Urban and Public Affairs. The six-member team consisted of experts reflecting several areas of knowledge and experience essential to the assignment.

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Jane S. Brooks, FAICP, New Orleans, chairs the Master of Urban and Regional Planning program at the University of New Orleans where she has been a faculty member since 1976. She established the Historic Preservation Planning concentration in this program, serves as its coordinator, and has been actively involved in community-based historic preservation activities in support of revitalizing diverse New Orleans neighborhoods. For many years she has been an active member of the Executive Committee of the Louisiana Chapter of APA and also serves on the Editorial Board of the *Journal of the American Planning Association*. She has been involved in numerous research and profession practice activities centered on urban areas with the National Trust for Historic Preservation and the Lila Wallace Readers Digest Foundation in such areas as waterfront revival, park planning, and downtown revitalization. A native of New Orleans, she holds degrees in landscape architecture from LSU and the Harvard University Graduate School of Design.

Chandra Foreman, AICP, Lakeland, Florida, has recently served as Region III Commissioner of the American Institute of Certified Planners. She has experience in both academic fields and professional practice, serving as a researcher with the University of South Florida's Center for Urban Transportation Research and most recently senior planner for permitting and development services for Lakeland, Florida. She prepared an important report for the Florida Department of Transportation outlining ways to provide better intermodal transportation service at the neighborhood level. With areas of specialization in transportation and environmental justice, Foreman holds a master's degree in planning from Florida State University.

Bob Lurcott, FAICP, Pittsburgh, developed one of the county's most respected big city planning departments as planning director in Pittsburgh from 1977-1989 and as deputy executive director of the Philadelphia Planning Commission before that. He is recognized for building cooperation and confidence among diverse, often conflicting, interests. His innovative work in capital programming, economic restructuring, and funding of community organizations has improved the livability of large older cities, particularly his adopted city, Pittsburgh. He has also extensively advised other cities including Oakland, California, on its vision for the future, and Minneapolis on the organization of its planning function. He received his Bachelor of Architecture and master's in Regional Planning from Cornell University. Lurcott also served as an officer in the U.S. Navy and is past chair of APA's City Planning and Management Division.

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Unfortunately, due to prior commitments that required his presence out of the country, Grover was unable to participate in the site visit.

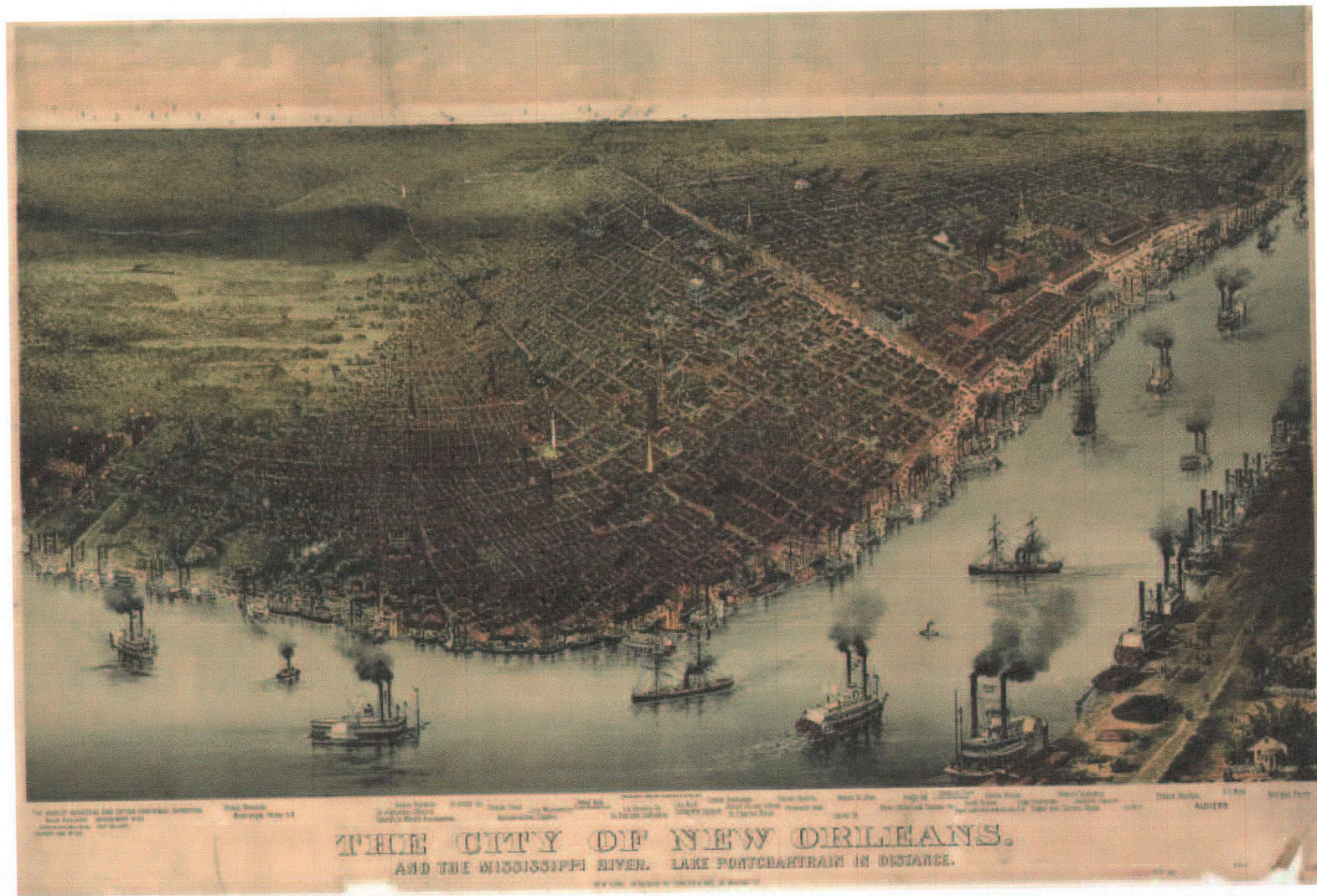
Richard Roths, AICP, Chicago, is a nationally recognized expert in floodplain management and mitigation planning. Currently Principal Planner for URS Corporation, he has also served as senior planner for FEMA Region V, where he coordinated mitigation planning activities for the region's six states. The lead instructor of mitigation planning courses and mitigation plan review courses for state and local agencies under FEMA's Hazard Mitigation Technical Assistance Program, Roths also has participated in the APA Illinois Chapter's Pro-Bono committee. During the Midwest Floods of 1993, he served as the compliance officer for Illinois and prepared the "Standard Operating Procedure for Post-flood Compliance Operations" for the region. He was responsible for ensuring that flood damaged communities were rebuilt in a way that reduced flood risk in the future. He was senior planning officer for the Northeastern Illinois Planning Commission providing technical assistance to county and municipal governments regarding the enforcement of local floodplain regulations, including both zoning and subdivision regulations. Roths has a bachelor's degree in education and a Master of Urban Planning Degree from Wayne State University in Detroit.

AN ADVISORY SERVICES PROGRAM REPORT

New Orleans Louisiana



Urban Land
Institute



Library of Congress, Geography and Map Division: Bird's-eye view of New Orleans and the Mississippi River with Lake Pontchartrain in distance. Lithograph published by Currier & Ives, N.Y., ©1885.

New Orleans, Louisiana

A Strategy for Rebuilding

November 12–18, 2005

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ABOUT ULI—THE URBAN LAND INSTITUTE

ULI—the Urban Land Institute is a nonprofit research and education organization that promotes responsible leadership in the use of land in order to enhance the total environment.

The Institute maintains a membership representing a broad spectrum of interests and sponsors a wide variety of educational programs and forums to encourage an open exchange of ideas and sharing of experience. ULI initiates research that anticipates emerging land use trends and issues and proposes creative solutions based on that research; provides advisory services; and publishes a wide variety of materials to disseminate information on land use and development.

Established in 1936, the Institute today has more than 29,000 members from 88 countries, representing the entire spectrum of the land use and development disciplines. Professionals represented include developers, builders, property owners, investors, architects, public officials, planners, real estate brokers, appraisers, attorneys, engineers, financiers,

academics, students, and librarians. ULI relies heavily on the experience of its members. It is through member involvement and information resources that ULI has been able to set standards of excellence in development practice. The Institute has long been recognized as one of America's most respected and widely quoted sources of objective information on urban planning, growth, and development.

This Advisory Services program report is intended to further the objectives of the Institute and to make authoritative information generally available to those seeking knowledge in the field of urban land use.

Richard M. Rosan, *President*

ABOUT ULI ADVISORY SERVICES

The goal of ULI's Advisory Services Program is to bring the finest expertise in the real estate field to bear on complex land use planning and development projects, programs, and policies. Since 1947, this program has assembled well over 400 ULI member teams to help sponsors find creative, practical solutions for such issues as downtown redevelopment, land management strategies, evaluation of development potential, growth management, community revitalization, brownfields redevelopment, military base reuse, provision of low-cost and affordable housing, and asset management strategies, among other matters. A wide variety of public, private, and nonprofit organizations have contracted for ULI's Advisory Services.

Each team is composed of highly qualified professionals who volunteer their time to ULI. They are chosen for their knowledge of the topic and screened to ensure their objectivity. ULI teams are interdisciplinary and are developed based on the specific scope of the assignment. They provide

a holistic look at development problems. A respected ULI member with previous experience chairs each team.

A key strength of the program is ULI's unique ability to draw upon the knowledge and expertise of its members, including land developers and owners, public officials, academics, representatives of financial institutions, and others. In fulfillment of the Urban Land Institute's mission, this Advisory Services report is intended to provide objective advice that will promote the responsible use of land to enhance the environment.

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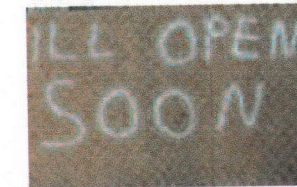
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Overview

Hurricane Katrina was the 11th named tropical storm, fourth hurricane, third major hurricane, and first Category 5 hurricane of the 2005 Atlantic hurricane season. It was the third most powerful storm of the season, behind Hurricanes Wilma and Rita, and the sixth-strongest storm ever recorded in the Atlantic basin.

After first making landfall as a Category 1 hurricane just north of Miami, Florida, on August 25, 2005, its second landfall was on August 29 along the central Gulf Coast near Buras-Triumph, Louisiana, as a very strong Category 3 storm. Soon after the hurricane passed through the New Orleans area, a breach occurred in the levee system that protected New Orleans from Lake Pontchartrain and the Mississippi River. Most of the city subsequently flooded, mainly with water from the lake.

Katrina also inflicted heavy wind and storm surge damage along the coast in Mississippi and Alabama, making this the most destructive and costliest natural disaster in U.S. history. The damage was estimated at \$200 billion to \$300 billion, at least double that of Hurricane Andrew, previously the nation's most expensive hurricane. More than 1 million

people were displaced, creating a humanitarian crisis on a scale unseen in the United States since the Great Depression.

When the levees collapsed in New Orleans on August 30, residents who had not left the city before the hurricane struck were forcibly evacuated, first by boat and helicopter from their homes and shelters, then by bus to neighboring cities and states. Federal disaster declarations blanketed 90,000 square miles, an area almost as large as the United Kingdom. The hurricane left an estimated 5 million people without power. On September 3, U.S. Department of Homeland Security Secretary Michael Chertoff described the aftermath of Hurricane Katrina as "probably the worst catastrophe, or set of catastrophes" in the country's history.

New Orleans and the entire Gulf Coast are now beginning to think about rebuilding their homes, their lives, and their futures. Doing this, however, will mean making difficult decisions and addressing harsh realities. When and where rebuilding in New Orleans can occur needs to be determined. Some areas of the city already have begun to rebuild and revitalize. Other areas will take more time.

The ULI Assignment

New Orleans is at a crossroads. Even as the initial stages of recovery are underway, experience suggests that it is essential to develop a redevelopment plan within the first 90 to 120 days following a disaster. The failure to create an immediate and forward-thinking plan can result in scattered, uncoordinated, dysfunctional redevelopment; an ineffective infrastructure policy; and a greatly impaired urban fabric. To help the city respond to the need to develop a plan now, ULI assembled expert teams and an advisory panel of economic development, financial, design, redevelopment, land use, and urban planning professionals to work with Mayor C. Ray Nagin's Bring New Orleans Back Commission, the city, and its business, community, political, and civic leaders to develop a process for the redevelopment of the city based on sound planning principles, strong economic development ideals, and a practical implementation strategy. ULI was asked to develop an overall framework for the city's rebuilding process so that the city leaders can begin to develop detailed plans and strategies for its future.

Restoration, Reform and Rebirth

"I also offer this pledge of the American people: Throughout the area hit by the hurricane, we will do what it takes, we will stay as long as it takes, to help citizens rebuild their communities and their lives. And all who question the future of the Crescent City need to know there is no way to imagine America without New Orleans, and this great city will rise again."

—President George W. Bush,
speaking in New Orleans at Jackson Square,
September 15, 2005

The ULI panel agrees with the words spoken by George W. Bush on September 15, 2005, in the aftermath of Hurricane Katrina and the subsequent flooding. It hopes that the recommendations presented in this report will ensure a stronger, more viable New Orleans.

The panel was asked to make recommendations for the rebuilding of New Orleans in the aftermath of Hurricane Katrina. It also was asked to suggest directions for positive change—recognizing the problems the city faced prior to Katrina—to provide support for local leadership to make a visible difference. To address these issues, the panel focused its recommendations on the premises of restoration, reform, and rebirth.

New Orleans is still going through a recovery phase. People are beginning to rebuild their lives. For some, this will take months; for others, it will take years. Only those who have lived through the disaster can understand the devastation, both physical and spiritual. The ULI panel's role is to help with the physical rebuilding of the city; to help it look to the future. It is imperative to think about the future while dealing with the present.



The panel commends the city for its efforts to date. However, it believes the time has come for the rebuilding effort to be more extensive and move more rapidly. This report is designed to be a guide for realistic goals and next steps.

The Process

The panel addressed five key areas: government effectiveness, economic development and culture, urban and city planning, infrastructure, and housing. The background and input for this report came from more than 300 interviews with business owners, decision makers, community activists, and citizens. Although ULI could not interview each and every resident or citizen of New Orleans, the Institute reached out to representatives of all facets of the community. ULI senior resident fellows conducted some of these interviews prior to the panel's arrival, and the panel conducted approximately 150 confidential interviews while in New Orleans. ULI reached out both to those within New Orleans and to those currently living outside of the city. In addition, the panel held a town hall meeting attended by more than 200 people. The purpose of this meeting was for the panel to hear from the citizens of New Orleans what they think should be included in a rebuilding plan for the city.

The panel toured the city and saw the devastation firsthand. The damage is more extensive than any of the panel mem-

bers imagined. Touring New Orleans truly helped them gain an understanding of what the city is going through, not just what is reported by the media.

Key Findings

The panel's key findings include the following:

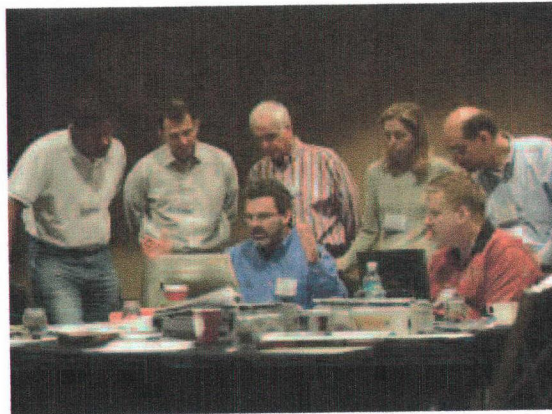
- New Orleans is a national and international treasure. The culture of the city—including its history, music, art, food, faith, and strong sense of neighborhood—must be retained and enhanced. The urge to homogenize the city must be resisted.
- The heart of the city is its people. Without them, New Orleans would be just another city.
- There must be a sense of urgency to move forward. Basic services such as electricity and health care must be restored immediately. Mold removal is essential.
- Diversity, equity, and cooperation are of critical importance. The recovery must not be held back by the racial issues that have slowed progress in the past.
- Every citizen has the right to return to a *safe* city.
- Planning for the rebuilding of each neighborhood must involve the citizens from that neighborhood.
- The city needs diverse economic development and housing. Jobs and housing will be the backbone of the city's rebirth. Job training and an improved education system are critical. In addition, the panel endorses the concept of a livable wage.
- New Orleans must be protected from future hurricanes. The city must continue to lobby for an improved levee system and enhance natural ecosystem protection.

- An organizational structure that will support the quest for federal funding is mandatory.
- Business leadership must work in partnership with government.
- Many of the city's infrastructure issues are regional in scope and should be addressed as such.

Key Recommendations

The panel makes the following key recommendations:

- The formation of a redevelopment corporation, which the panel has named the Crescent City Rebuilding Corporation, will help the city move forward in its rebuilding efforts. The focus of this organization should be on the redevelopment of the city. The panel believes the corporation will be instrumental in obtaining the federal assistance the city needs to rebuild.
- The creation of a temporary oversight committee—similar to those that were put in place in New York, Pittsburgh, Washington, D.C., and other U.S. cities—will help the city weather the current financial crisis.



- A diversified economic development strategy that takes into account and builds upon those businesses and industries present prior to Katrina, as well as those that may be appropriate in a renewed city, is critical to the city's redevelopment.
- The city should be rebuilt in a strategic manner. Areas that sustained minimal damage should be encouraged to begin rebuilding immediately, while those with more extensive damage will need to evaluate the feasibility of reinvestment first and then proceed expeditiously in a manner that will ensure the health and safety of the residents of each neighborhood.

- People who cannot rebuild should be given fair compensation for their property.
- A regional approach needs to be taken for some key issues, such as levees, transportation, environmental restoration, emergency response, and economic development. Now is the time for the city to work with its neighbors to ensure a stronger New Orleans region.

This report details the panel's findings and recommendations as presented in New Orleans on November 18, 2005. The panel hopes that it will serve as a basis for the city's rebuilding and rebirth. This report is a beginning, not an end.



CREDIT

Government Effectiveness

This section focuses on steps that should be taken to ensure that government operates as efficiently and ethically as possible in order to facilitate the rebuilding of New Orleans. The panel recognizes, however, that local government must have the resources necessary to meet the enormous challenges posed by Hurricane Katrina are provided. Only the federal government has the capacity to provide those resources. The panel is concerned that a window of opportunity may be closing soon on the prospects for the appropriation of these desperately needed federal funds. Therefore, the most immediate challenge to local government, working with the state government, is to mobilize businesses and residents, neighboring parishes, other affected states, and gulf-area elected officials at all levels to quickly establish one unified request to Congress for federal support. This is the panel's overarching recommendation.

Citizens' Rights and Guiding Principles

As part of the rebuilding process, the panel believes that New Orleans's current and future citizens have several basic rights. These include the following:

- Restored public utility service and restored levees that will enable all residents to return to the city;
- Immediate and equitable redevelopment;
- Efficient and effective government;
- Integrity and transparency in government;
- Stronger, empowered neighborhoods; and
- Fair compensation for property on which owners cannot rebuild.

In order to achieve these rights, all levels of government must be mindful of the following guiding principles.

Cooperation

The federal, state, and local governments must work as partners toward shared objectives. Within this partnership, it is imperative that local government and state government speak with one voice to Washington, and that Washington respond in the spirit of the commitment offered by Presi-

dent Bush, on behalf of the nation, in New Orleans on September 15, 2005.

Regional Challenges

The region faces many challenges that do not stop at parish boundaries. These include the repair and maintenance of the levees and wetlands systems, the redevelopment and administration of the port, mass transportation, and emergency preparedness. These issues might best be addressed through a regional, multiparish approach. The panel urges the city and the Bring New Orleans Back Commission to collaborate with neighboring parishes to solve regional problems.

The Federal Role

The federal government must be the principal source of government assistance to ensure that the redevelopment effort proceeds quickly. Neither the local government nor the state government, nor the two together, have the resources to accomplish what must be done. The city must work with the federal government to secure adequate funding.

Building Local Capacity

New local government entities will be needed to deploy federal funds effectively. Different levels of government must cooperate in ways that inspire the confidence of citizens, businesses, private capital—and, indeed, all Americans—in the future of a rejuvenated New Orleans. Beyond this, city and state government should take this opportunity to make fundamental changes in local and state laws and processes in order to provide more effective government services to the citizens of New Orleans.

Recommendations

The panel developed six recommendations to improve government effectiveness.

Restore Utility Services

Large sections of New Orleans are still without electricity in the aftermath of Katrina. The local utility, Entergy, has gone into bankruptcy because of the storm. The panel recommends that the following actions be taken to bring utilities online quickly:

- Congress should appropriate funds immediately to repair and improve the infrastructure necessary to provide power. The city should work with its congressional delegation to secure the necessary funding.
- The rate base, severely reduced from its pre-Katrina level as a result of having fewer customers, should be broadened, perhaps by folding the local power subsidiary into the parent company.
- Additional issues surrounding full restoration of water, sewer, and natural gas service must be further examined, including a comprehensive study of the desirability of privatizing or outsourcing some of these services.



- The city should continue its program to expedite the permitting process to ensure the restoration of utility services. The panel encourages the city to expand its program of precertification based upon what appears to be an excellent start.

Begin Redevelopment Equitably and without Delay

The panel recognizes that the city is beginning its rebuilding process. A critical part of that process involves ensuring that redevelopment occurs equitably and in a timely manner. The panel provides the following recommendations to facilitate and focus the rebuilding efforts in hope that federal assistance can be obtained.

As has occurred following other natural disasters, federal assistance is needed for several aspects of the rebuilding effort. These include the following:

- Rebuilding the levees and other infrastructure;
- Preparing a comprehensive plan for the rebuilding process;
- Financing and facilitating the rehabilitation of existing housing and the development of new housing;
- Assembling land for redevelopment;
- Repairing or renovating existing structures and building new ones;

- Disposing of land by sales or long-term leases;
- Supporting local businesses—especially small ones—with programs such as loan guarantees, grants, job training, technical assistance, marketing, and tax incentives;
- Providing social programs, including health, education, and other human services;
- Restoring the city's premier medical facilities;
- Restoring and enhancing the port facilities;
- Environmental remediation;
- Grants and tax credits for the renovation of historic buildings and construction in historic neighborhoods; and
- Meeting the city's short-term financial requirements.

Some of the federal approaches that have been used effectively in other cities after natural and other disasters should be applied in response to Katrina. These include infrastructure investments for transit, support for rebuilding utility infrastructure, tax credits for employee retention, housing subsidies for renters, business retention grants, expanded tax-exempt private activity bonds, and similar devices.

Form the Crescent City Rebuilding Corporation

In order to secure and administer federal funds, the panel believes it is necessary to create—most likely through state legislation—a new government entity, which the panel chose to call the Crescent City Rebuilding Corporation (CCRC). This entity should have the power, resources, and a single-minded mission to plan, oversee, and implement the rebuilding effort. The panel believes the city does not have the capacity within the existing governmental structure to undertake this responsibility.

This new corporation should be responsible for the economic stabilization and redevelopment of areas within New Orleans that were devastated or significantly distressed by Hurricane Katrina. It should be the conduit for all federal rebuilding funds.

The corporation should have no fewer than seven but no more than 15 directors. The president of the United States, the governor of Louisiana, the mayor of New Orleans, and the New Orleans City Council all should appoint these directors, using a formula that does not allow any single authority to appoint a majority of the directors. When selecting the directors, the appointing bodies should consider candidates' professional experience, civic leadership, and familiarity with local conditions and circumstances. The panel believes this governance structure will create a vehicle for all levels of government to work cooperatively; that it will ensure federal authorities that federal funds are being allocated wisely and with federal involvement, but also will ensure that the actual delivery of services takes place at the grass-roots level. This model is similar to the Lower Manhattan

Development Corporation (LMDC), which was created by the New York state and city governments after 9/11 (see sidebar on page 18). Funding for the LMDC comes from the U.S. Department of Housing and Urban Development (HUD) but is administered locally.

The CCRC should have the following powers:

- Receive and dispense public and private redevelopment funds;
- Conduct planning activities and studies;
- Enact and implement a redevelopment plan in consultation with all constituent groups;
- Assemble and dispose of property for redevelopment;
- Land bank property for future use;
- Assist property owners in the revitalization of their properties through loans, grants, and other means;
- Fund public infrastructure essential to the redevelopment effort;
- Issue bonds to finance redevelopment activities, like the Liberty Bond program, which was designed to help New York City rebuild after 9/11;
- Identify and fund appropriate not-for-profit organizations to implement redevelopment plans;
- Use eminent domain to acquire land for public ownership—such as roads, parks, and schools—and for common carriers—such as utilities and public transit—and to acquire properties in blighted areas;
- Fund personnel positions in city government, such as inspectors and planners, who are dedicated exclusively to the rebuilding effort; and
- Provide fair compensation to property owners who cannot rebuild on their land.

One particularly important element of the CCRC would be its power to compensate those who cannot rebuild on their property for environmental or other reasons. Each property owner should be entitled to full and fair compensation for



New Orleans, Louisiana, November 12–18, 2005

Lower Manhattan Development Corporation

After the terrorist attacks of September 11, 2001, New York Governor George Pataki and New York City Mayor Rudolph Giuliani worked together to create the Lower Manhattan Development Corporation (LMDC) to aid in the planning and coordination of the revitalization and rebuilding that were necessary in lower Manhattan. The LMDC is charged with rebuilding the area and revitalizing it while focusing on creating a memorial to honor those lost. It is a city/state entity governed by a 16-member board of directors, half of whom were appointed by the governor and half by the mayor. It works with partners in both the public and private sectors on the long-term job of planning for the redevelopment of the World Trade Center site and surrounding neighborhoods, while also focusing on short-term goals to improve the quality of life in the area throughout the rebuilding process. The corporation's work is grounded in ideals of inclusiveness and transparency, and the planning and rebuilding process has worked to maximize public participation through citizen advisory councils, public hearings, and community board meetings.

The LMDC's activities and programs are funded by the U.S. Department of Housing and Urban Development (HUD) through a community development block grant. Use of funds is transparent. An outline of how funds will be utilized is made public, and the public is given the opportunity to comment. Resources are made available through the LMDC for reconstruction, victim compensation, assistance for survivors, and community development initiatives. ■

his or her unusable property based on its pre-Katrina value. Using the model of the Feinberg Commission, which tailored compensation individually for World Trade Center victims, an administrative mechanism could provide expeditious compensation for those unable to build, without forcing them to wait years to litigate claims in court.

Provide Efficient and Effective Government to All

The panel heard that even before Katrina, the city's finances were precarious. The hurricane created a perfect fiscal storm. It has placed extraordinary financial burdens on city government while sharply reducing the tax base. The city cannot meet its ongoing responsibilities, much less the new ones it has been forced to absorb. The panel believes the federal government must supplement local revenue sources to provide the funding necessary to meet the city's short-term revenue crisis.

The panel recognizes that this extraordinary request for federal assistance will necessitate the creation of new financial controls. It recommends the creation, through state legisla-

tion, of a temporary financial oversight board. This has been done in several other cities facing financial crises such as New York, Pittsburgh, and Washington, D.C. In each of these cities, the oversight board successfully helped the city recover financially. The board should:

- Receive new federal and other funds, restore and maintain a decent quality of life, and avoid municipal bankruptcy;
- Oversee and approve the city budget;
- Approve major city contracts;
- Withhold or condition new revenue;
- Establish financial procedures and reporting requirements; and
- Recommend and review financing options for redevelopment.

The board should consist of seven members, three of whom should be appointed by the president of the United States, two by the governor of Louisiana, one by the mayor of New Orleans, and one by the New Orleans City Council. Mem-

bers should be exceptionally well qualified in accounting, municipal finance, and/or financial management.

There is a widespread, almost universal, perception—which was revealed through the panel's interview process and elsewhere—that the city government can be arbitrary, lacks transparency, does not provide a level playing field, and frequently is inefficient. This perception is held among virtually all races, income levels, and interest groups. Fundamental reform is required in New Orleans governance in order to provide equitable, efficient, and effective municipal services that will inspire public confidence among residents, businesses, and sources of capital. The city must:

- *Create a new tax structure that is equitably administered, in accordance with the best practices of other major U.S. cities.* The current assessment system, with its seven elected assessors, its dedicated revenue stream, and its large percentage of exempt property, has been broadly cited for its inability to meet the needs of the current New Orleans, much less a modern, growing city of the future. The tax structure issues go well beyond the property tax and include restructuring of the corporate and sales taxes.
- *Change the current city council process for reviewing and approving city planning commission decisions.* Currently, every decision by the city planning commission can be overruled or modified by a simple majority of the seven-member city council. This, in effect, makes the city council the de facto planning commission and leads to a lack of certainty and regularity in the land use process. The council's review function should be modified, perhaps by requiring a supermajority to overturn planning commission decisions.
- *Depoliticize government contracting.* There is a widespread impression that government contracting with private firms is not subject to a rigorous competitive process or clear

Pittsburgh's Oversight Board

In March 2004, Pennsylvania Governor Ed Rendell formed Pittsburgh's oversight board, the Intergovernmental Cooperation Authority, which is tasked with finding solutions to the city's financial problems. The authority has five voting members: one appointed by the governor, one by the state's majority legislative leaders, one by the minority legislative leaders, and two nonvoting members, the city's finance director and the state's secretary of the budget. The authority is responsible for approving the city's budget and five-year fiscal plan and for making recommendations. If it does not approve the city's budget, the oversight board has the authority to withhold state funding and prevent the city from collecting other revenues. The authority issued its preliminary report in April 2004.

public review. The government contracting process must be depoliticized.

- *Provide greater predictability, consistency, and fairness in the enforcement of regulations and government decision making.* This includes zoning, building codes, and historic preservation requirements.

The panel understands the political difficulty of changing these outmoded and unproductive governmental practices. Nevertheless, it urges the city to implement necessary charter changes and the state to undertake the necessary statutory and constitutional changes to ensure modern governance for New Orleans.

Changes in the cultural and operational aspects of city government also can change public attitudes and improve citizens'

objective performance data should be produced for public review and consideration.

Improve Integrity and Transparency in Government

The panel believes that transparency in government decisions and clarity in government procedures must be enhanced. Improvements will inspire public confidence in the actions and leadership of government officials. The city should establish effective audit mechanisms, including an inspector general and a board of ethics, both of which are authorized in the existing city charter.

Better communications and cooperation among elected officials are essential, as are improved communications between elected officials and the citizens of New Orleans, including

perception of government. The panel recommends that measurable performance standards—like Baltimore's CitiStats program—be instituted for city administration and services, including best practices and benchmarking. Clear and

evacuees. The city should continue to maintain, improve, and publicize its toll-free number, which provides information on jobs, property conditions, the status of service restoration, and the like. The city also should institute a more open and participatory citizen engagement process for planning and decision making.

There must be full financial disclosure of government decisions and practices. If it does not do so already, the city should provide annual financial disclosure forms that are in the public record. It also should create an open bidding and contract disclosure process.

Strengthen and Empower Neighborhoods

A nationally recognized intermediary—using funding from either the federal government or the private sector (such as the Bush-Clinton Katrina Fund)—should provide and administer planning grants and technical assistance to the city's 73 neighborhoods, so that each can work effectively with the Crescent City Rebuilding Corporation and the city to better plan these neighborhoods. The CCRC should empower neighborhood groups and associations to provide substantive input into the rebuilding strategy.



Economic Development and Culture

This section addresses the profound economic challenges facing the city of New Orleans. It presents recommendations for economic development in the context of both the immediate rebuilding effort as well as the longer-term restructuring of the local economy. Importantly, many of the panel's recommendations are founded in the belief that New Orleans's distinctive culture is integral to its economic recovery and growth.

The panel has identified a series of initiatives and recommendations designed to accomplish the following goals:

- Maximize the beneficial impact of the short-term reconstruction effort, which will be driven mainly by federal funding;
- Revive, as soon as possible, the economic sectors that showed significant strength prior to Hurricane Katrina; and
- Support stronger long-term growth and economic performance through diversification and strategic investment in order to reposition the city's economy.

Dimensions of Capacity

The challenge is to build the city's capacity for economic recovery and growth. By capacity, the panel means the fundamental building blocks of the local economy, each of which requires significant improvement to support the recovery of the city's population.

The Workforce

The starting point of any local economy is its workforce. New Orleans has well-documented issues that adversely affect its workforce: a failing public education system, concentrated poverty, and low levels of educational achievement. It is the perception of the business community that extensive job training and job readiness programs are needed in order to tap the city's grossly underutilized working-age population. It is a well-known fact that the jobs available in New Orleans before Katrina were not adequate to retain many graduates of the city's colleges and universities.

Leadership

Successful cities are those in which government and business leaders are closely aligned with respect to their priorities,

principles, and strategies, and where new leaders can emerge and grow. They seek common ground and work together constructively toward a collective vision. In the context of basic agreement on goals, the tension between the motivations and interests of business and government produces an outcome that values results. From what the panel learned in its interviews, this appears not to be the case in New Orleans, where business and government are too often at odds, and where results seem secondary to issues of power, social status, race, and class. One senses in New Orleans a long-standing division between the public and private sectors, based perhaps on obsolete ideas regarding their respective roles. For New Orleans to recover, a new attitude is required. Many of those interviewed commented on one problematic aspect of the city: a risk-averse, insular environment that permeates all sectors and is sometimes suspicious of outsiders, as well as a lack of openness to new ideas that would enable the city to diversify its economy.

Culture and Heritage

Strong cities are differentiated economically and often have a clear cultural identity. Think of San Francisco, Miami, Nashville, or Florence. In each of these cities, a strong and

distinct culture is a foundation of the economy. No city in America has a richer cultural heritage than New Orleans. Many dimensions of this distinctive environment are positively reflected in the economy. Music, architecture, art, language, food, history, religion, and a laid-back, tolerant approach to life are all aspects that New Orleanians value. This strong culture can be the foundation for expansion of the tourism industry in ways that are more likely to create higher value and higher-end jobs than the city's current dependence on mass tourism.

Equity

Given the highly uneven distribution of income, concentration of poverty, and high proportion of African Americans in New Orleans, a fundamental component of a thriving economy must be equity. Access to capital, information, political leaders, job opportunities and training, and other fundamental economic resources must reflect universal opportunity and fairly applied policies, rather than connections or family history.

Capital

Investment is the fuel that creates jobs and opportunities. New Orleans has long been unable to attract its fair share of investment capital. This reflects perceptions of high risk relative to potential returns, which can be traced back to the issues noted above and in the discussion below on economic conditions before Katrina. In addition, the city and state tax codes and fiscal structures are widely seen as uncompetitive. The legacy of Louisiana's distinctive legal structure, despite the state's adoption of the Uniform Commercial Code some years ago, is another example of lingering barriers to capital formation. Capital flows easily to the neighboring states of Texas, Mississippi, and Florida, partly because they offer far more attractive climates for business investment. In the

short term, federal sources should provide a stream of investment capital. In the longer term, however, New Orleans and Louisiana will need to find a way to become competitive in a global capital market.

Strategy

A central issue related to economic development is the ad hoc nature of economic development decision making and public investment. The city needs the capacity to identify and execute a strategic plan for economic development. Investment decisions, whether for infrastructure or incentives, should be based on rational assessments of costs and benefits and should be focused on initiatives that advance the city's and the region's strategic objectives. This means making informed and transparent choices, setting clear and rational priorities, and staying on course.

Demographic and Economic Conditions before Katrina

New Orleans is a city with a brand. Everyone knows the surface of the city, its restaurants, bars, and music. What few realize, however, is that behind the cheerful and colorful surface lies an economy that was, and certainly now is, in poor condition. The city has become increasingly less diversified through the years, as the oil and gas industry has consolidated in Houston and other employment and income-generating sectors have not taken its place.

The population of the city proper before Katrina was approximately 465,000, while the New Orleans metropolitan statistical area (MSA) had a population of 1.3 million. Like many other U.S. cities, New Orleans's population declined from 1990 to 2000—by 2.5 percent—even as the regional population increased by 4.1 percent. While at first this level

of MSA growth seems impressive, it pales when compared with the growth of the U.S. population at 13.2 percent over the same ten-year period. New Orleans's population has been looking for a better economic environment by migrating out of the area.

The city population is overwhelmingly (67 percent) non-Hispanic black, while non-Hispanic blacks make up only 12 percent of the nation as a whole. The percentage of foreign-born residents (4 percent) is much lower than the nation's 11 percent. As a result, before Katrina New Orleans had only a small population of other minorities, and its black and white populations increasingly dwelled in racially homogeneous neighborhoods. Unfortunately, poverty, too, was significant, with 27 percent of the city's households living in poverty versus 12 percent of the nation as a whole.

One demographic statistic offers some hope for the future. Before Katrina, the city's age distribution and average age both were tilted toward a younger cohort. As the nation ages and some markets literally run out of workers, cities with younger residents who can fuel future growth will have a competitive advantage.

According to the Brookings Institution, New Orleans experienced a 3 percent loss of jobs (11,000) between 1970 and 2000, a period when the surrounding parishes were enjoying dramatic job increases: 157 percent (166,000) in Jefferson Parish, 431 percent (69,000) in St. Tammany, and 148 percent (14,000) in St. Charles.

The local economy was concentrated in service employment; the New Orleans metropolitan area's share of service sector workers was 1.5 times greater than that of the United States as a whole. Another large employment category was sales and office workers, with an emphasis on sales. The city was better endowed than the nation in transportation work-

ers, wholesale trade, natural resources, education and health services and, of course, in leisure and hospitality. The high concentration of workers in the education and health area is caused by the presence of ten four-year colleges, two two-year colleges, two medical schools, two law schools, and eight vocational schools. This is complemented by the fact that New Orleans medical complexes serve not only the 1.3 million metro area population but also the greater regional area, including all of Louisiana and parts of Mississippi. Interestingly, this concentration does not translate into a high proportion of physicians per residents. The New Orleans metro area had only 24.5 physicians per 100,000 residents, compared with the U.S. ratio of 33 per 100,000. Furthermore, the strong showing of higher education facilities is not reflected in the educational environment faced by the K-12 grade set, where the city's educational quotient ranking is reported to be 1 (out of a possible score of 100), the lowest in the country.

On the bright side, state tax credits have fueled the creation of an almost \$1 billion film industry, surely a good sign for the future. And 10 million people visited the Crescent City each year before Katrina, generating more than \$5 billion in sales, about a fifth of which was generated by Mardi Gras alone. The presence of the Superdome and a 1.1 million-square-foot convention center enabled the city to attract some very large national events, including several Super Bowls. The city's cost of living was below the national average, as was the cost of housing. When all is said and done, however, the tilted employment picture and high poverty rates translated into a low per capita income of \$19,000, compared with the U.S. average of \$24,000.

Before the storm, there were 207,000 housing units in Orleans Parish, and very little new construction had occurred in recent years. In fact, 3.3 percent fewer building permits



were issued in 2004 than in 2003. This is especially meaningful, given a strong overall U.S. housing market in which permits grew by 7.1 percent over the same time period.

Small Business: The Backbone of the Economy

Small businesses were devastated by Hurricane Katrina and require immediate assistance. This section includes key recommendations to help existing businesses get back on their feet as well as to support the launch of new businesses. Small businesses often do not have significant cash reserves, are underinsured, and are at significant risk of failure if they do not receive financial support. Those businesses in need must be identified quickly and provided with assistance, including fast access to capital in the form of loans, equity, and/or grants. Also critical to the support of small businesses is the provision of incentives to help attract and retain businesses, as well as the provision of technical assistance.

The panel heard that before Katrina, the metro area was home to more than 18,000 small businesses—those with less than 50 employees—and that these small businesses employed approximately 250,000 people. Unlike other disasters, which typically disrupt businesses temporarily, Katrina already has resulted in many of these small businesses being closed for several months, and it is unclear when their customer base

will return. As a result, many businesses face a permanent loss of customers and will need not just to replace “lost sales,” but also will have to attract new customers and rebuild their customer bases. This rebuilding typically requires an upfront investment in marketing, sales personnel, new equipment, and product development. Programs targeted to support the small business community therefore will need to include patient, equity-like capital, such as grants and low-interest rate loans, as well as technical assistance.

The panel developed the following short- and long-term recommendations for bringing small businesses back to New Orleans, as well as for increasing the strength of this sector of the economy.

Short-Term Actions

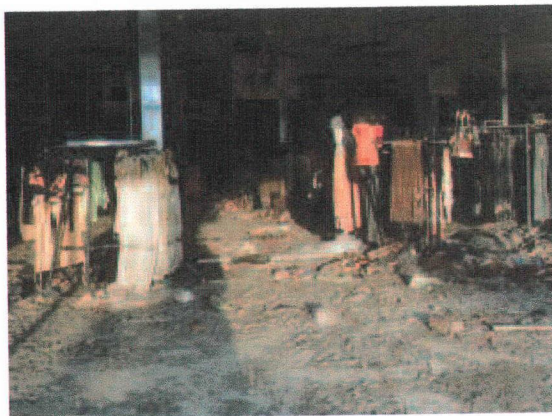
The panel recommends the following short-term actions, which it divides into two categories: access to capital, and technical assistance and other support.

Access to Capital. Most small businesses in New Orleans urgently need capital. If these businesses are going to survive, they must receive financial assistance quickly because they typically do not have significant cash reserves. This assistance also will allow management to focus on rebuilding rather than on crisis management. While the panel assumes that the federal government will provide the majority of this capital, charitable dollars from private philanthropic and corporate sources could be raised as well. The panel recommends that small business programs offering financial assistance should include the following:

- **Loan and grant funding.** Certain businesses will need to rebuild their customer bases by investing in marketing and sales personnel, which may not immediately generate cash flow that can be used to service a loan. Therefore, more

patient, equity-like capital is required to help these businesses rebuild. Loans should have long terms, low interest rates, and either be unsecured or have limited collateral requirements, given the uncertainty of how long it will take to rebuild a business. Many businesses will require grant funding, which could be structured as recoverable grants, with zero percent interest, nonamortizing, with a bullet payment in five or ten years. If a business cannot repay the recoverable grant at maturity, then it would be written off.

- *Partial government guarantees of small business loans to private sector lenders.* Additional private sector capital could be made available if the government provides partial guarantees of 50 to 75 percent on loans made to affected businesses by local banks, credit unions, and other financial institutions.
- *Flexible use of proceeds.* Businesses not only will require capital to replace destroyed assets and lost revenues, but may require additional capital for loss of intangible assets, such as client relationships and intellectual property. Their needs will evolve over time. Initially, capital may be required to replace damaged property, but later management may need marketing dollars.
- *Use of existing infrastructure to expedite delivery of these dollars.* The proposed Crescent City Rebuilding Corporation could partner with local financial institutions—banks, credit unions, and nonprofit and community financial groups—to leverage their existing distribution capabilities and evaluation expertise to ensure that these funds are distributed quickly, effectively, and equitably. These private sector partners should be selected based on their ability to reach out to the small business community, their financial expertise, and their reputations. Dollars should be allocated based on a group's processing capacity. Government then can



focus on oversight and quality control through regular reporting requirements.

- *Streamlined applications.* Organizations providing relief funds must develop responsible guidelines for making loans and recoverable grants, but these guidelines cannot be so cumbersome that it will take weeks to approve applications. They must include accountability and transparency.
- *Nontaxable government grants.* Grants from nonprofit organizations to small businesses affected by a disaster currently are likely to be exempt from federal tax, whereas grants from the government are subject to federal tax. This should be changed.

Technical Assistance and Other Support. Programs that provide nonmonetary assistance also are needed to support the rebuilding of existing businesses and the launching of new businesses. The panel recommends that these programs include the following:

- *Access and distribution.* Access to technical assistance and the effective distribution of information and services is critical to small businesses. The city, the state, a university, or another organization should create one-stop business centers that provide a host of services. These business centers could be housed at the one-stop restoration centers proposed in the City and Urban Planning section of this report. Businesses should be able to obtain techni-

cal assistance, including expertise on developing strategies to relaunch a business, setting priorities, creating new marketing strategies, and identifying the appropriate capital for growth. Another important role of these centers will be to provide information, including a comprehensive list of available loan and grant programs as well as tax incentives available to small businesses. This information also should be available on the city and state Web sites, as well as to other intermediaries that are working with small businesses.

- *A business advocate.* Business owners should have access to a business advocate who will help them identify resources and ensure that their needs are met.
- *A clearinghouse.* A central clearinghouse should be set up to connect businesses in need with any goods and services that might be donated for small businesses.
- *Contracts and expedited payment.* Government and large corporations also can help small businesses by buying from them and expediting payment to them.
- *Tax incentives.* The panel agreed that new tax incentives that would encourage investment in and growth of small businesses should be provided and could include the following:
 - Employee credits for businesses with fewer than 200 employees;
 - Tax write-offs on new office equipment;
 - Depreciation credits for property, including office equipment, new technology, and other property (but excluding tenant improvements);
 - Accelerated depreciation (to five years) for leasehold improvements;
 - Real estate tax abatements;

- Permanent elimination of the commercial rent tax; and
- Sales tax exemptions for office furniture and equipment.

Long-Term Actions

Longer-term initiatives to support small businesses should include further improvement of access to capital and technical assistance, changing the tax codes to encourage business growth, and increasing minority ownership of small businesses. The panel recommends the following:

Create an Investment Fund. This fund would mobilize the business community to help rebuild the local economy. It would invest in local businesses, with a particular focus on minority-owned companies, and in other economic development projects. The fund would provide debt, either at market rates or below-market rates, and equity. It also would be an “evergreen fund” whose returns are reinvested in other businesses. This organization would leverage the business and industry expertise of its investor network to help develop investment strategies and support its portfolio companies. While it would be privately funded, it would work closely with the city and state’s economic development groups and local academic institutions to stimulate growth and job creation. Investors could include financial institutions—which would receive Community Reinvestment Act credit—as well as oil companies, real estate firms, and other major corporations. The most likely investors would be local companies and those that have left the region—perhaps in the wake of Katrina—but still have a fondness for New Orleans. Examples of how this has worked in other cities include Cleveland Tomorrow and the New York City Investment Fund. The fund’s goal should not be to make venture capital returns, but to stimulate economic activity in New Orleans and to mobilize business leaders.

Launch an Organization that Fosters an Increase in Company Formation. Small business owners and entrepreneurs could benefit from an entity such as a business incubator that is focused on helping them develop strong business plans, connect to sources of capital, and engage experienced business mentors to provide guidance and expertise. This organization could be housed at one of the local universities, which would enhance a company’s ability to access the resident business expertise of faculty and students. The panel understands that at least one local university already was working on such a project prior to Katrina. An example of such an organization is Innovation Philadelphia, which was founded by the president of the University of Pennsylvania and the CEO of Comcast and works closely with the public sector. Another example is UCSD CONNECT, which helped drive the development of the biotech sector in San Diego. CONNECT is a globally recognized public benefits organization that fosters entrepreneurship in the San Diego region by catalyzing, accelerating, and supporting the growth of the most promising technology and life sciences businesses. Successful business entrepreneurs ran both organizations.

Both an investment fund and a business incubator should focus on supporting businesses that will help diversify the city’s economy. They should work closely with the private sector to understand market trends and growth opportunities, as well as with the public sector to leverage economic incentives.

Reform the State Tax Code. As is generally true in the New Orleans economy, small business development and growth are hindered by an archaic state tax code. This tax code needs to be reviewed and restructured to ensure the long-term survivability of business innovation in the city and state.

Provide Incentives to Encourage the Development of Neighborhood Retail Strips. Neighborhood retail and services are critical components of vibrant neighborhoods. They also provide entry-level jobs for neighborhood residents. In order to drive retail development in underserved neighborhoods, tax incentives such as tax increment financing will have to be provided. Capital incentives—such as lowering equity requirements for developers or providing grant funding to reduce construction costs and allowing more affordable rents—also will be needed. Another creative incentive to encourage retailers to locate in underserved neighborhoods would involve having tenants pay a percentage of their profits for the first year of operations versus a flat fee. The National Trust for Historic Preservation’s Main Street programs are a proven way of increasing the vitality of neighborhood retail streets, and the city should investigate participating if it does not do so already. New York City’s Alliance for Neighborhood Commerce, Home Ownership and Revitalization (ANCHOR)/Partnership Plaza Program is another example of such a program.

Physical Rebuilding

The process of rebuilding New Orleans will be a major source of economic activity and growth for the city. Many other parts of the country have experienced this process after natural disasters.

Achieving a high level of economic activity will not require much public intervention. If specific steps are not taken, however, much of this planning and physical construction likely will be carried out by national and regional companies that do not have much—if any—local presence. In addition, many jobs likely will be filled by temporary workers from outside of the city. These workers will range from migrant

laborers to skilled craftsman coming to the area for a relatively short period of time to take advantage of the job opportunities there. Furthermore, without intervention, low-income city residents who do get jobs in planning and construction may be relegated to low-wage positions that offer little opportunity to learn skills that can lead to better jobs in the future. One benefit of employing local residents is that the money they earn is likely to be spent locally, so that the “multiplier effect” of these jobs is much greater than if the jobs are filled by temporary workers from outside the area, who are likely to send much of their incomes to their homes elsewhere, or by suburbanites, who are more likely to spend money close to their homes than in the city.

It is important not to interfere with rapid rebuilding. However, a great opportunity will be lost if steps are not taken immediately to ensure that as much of the new economic activity as possible directly benefits city residents as well as existing and new businesses located in the city. It also is critical that economic opportunities, even if they arise from a need to rebuild over the next few years, generate long-term benefits. Capacity building in construction trades—carpenters, electricians, plumbers, mold remediation workers, landscapers, and so forth—will be particularly valuable because there is a great scarcity of skilled workers in this industry in the United States, the industry is not very susceptible to outsourcing to other countries, and it is one of the few remaining well-paid industries that is growing but does not require a college degree. The panel recommends the following actions to maximize these opportunities:

- All entities disbursing public funds for rebuilding activities—or benefiting from public actions in other ways, such as site assembly—should be strongly encouraged to contract with local companies and to expect companies, local or otherwise, to hire city residents.

- Priority should be given to contracting with minority-owned and women-owned business enterprises.
- A neighborhood builders program should be created to increase the participation of local and smaller contractors in the rebuilding effort. This program would match small builders with veteran builders who are successful long-term developers. The veteran builders would serve as mentors and advocates, not as partners. They would provide high-level guidance on various aspects of the development process, including financing, legal issues, and marketing. Another entity—perhaps a nonprofit organization—also should provide local neighborhood builders with technical and financial assistance. Neighborhood builders must be able to access additional debt and equity to allow them to grow. For example, they will need additional equity to be able to secure larger contracts. They also will need help developing relationships with private lenders in order to develop a credit or borrowing history. The Partnership for New York City (formerly the New York City Housing Partnership) established a successful neighborhood builders program several years ago.
- All contractors benefiting from government funding or other public actions should be required to pay at least a living wage. A living wage typically is defined as that required to support a family of four above the poverty level by one worker, which today is approximately \$9 to \$10 per hour, depending upon the number of hours worked annually. Other requirements, such as health benefits and a certain number of vacation days, also might be included in this definition. Another alternative would be to require wage levels that conform with the Davis-Bacon Act, although the panel does not recommend the widespread application of Davis-Bacon requirements more generally, because the act’s job classification requirements make it

difficult for smaller businesses to compete for construction contracts, since small businesses typically have less specialized workforces.

- One or more community colleges should be designated to offer extensive programs in construction trades, as well as planning and design, and to support these programs. The programs and courses should be tied to the specific construction needs of contractors active in rebuilding New Orleans, particularly trades required for historic preservation and building restoration. To do this, the panel recommends the following:
 - Employers should be included in the program design process;
 - Students should be required to work on relevant rebuilding projects as a form of on-the-job training during their coursework;
 - Some training should be conducted on actual work sites;
 - Students who satisfactorily complete the training for a trade should be guaranteed job placement;
 - Financial support should be provided for students, including payments in lieu of wages in addition to the cost of the training itself, and to the institution or institutions providing the training;
 - Trainees in construction trades programs should receive priority for available housing, along with other workers critical to the rebuilding effort; and
 - To the extent necessary, programs should include training in life skills such as money management and health.
- Consider the use of other training programs for high school students and young adults, including the Youth-

Build Program and the Urban League's Labor Education Advancement Program to prepare minority youth for apprenticeship programs leading to trades.

- Develop a high school magnet program oriented to the construction trades and related fields, and create linkages with the community college program so that there is a clear continuum between the two.
- Conduct an aggressive, targeted outreach effort to make displaced residents aware of the training and employment opportunities that are available, and give existing and displaced city residents preference when filling these positions.
- Promote and sponsor the development of local business capacity and capability in the planning and construction trades. Many of the small business incentives and programs discussed above will provide important means to achieve this result. In addition, the panel specifically recommends that the following services be provided for new and other small businesses in these industries:
 - Capacity-building services, such as accounting and legal services;
 - Assistance in compliance with federal contracting requirements, to the extent applicable, as well as with the living wage requirements recommended by the panel;
 - Administrative support;
 - Access to capital, both for the company as a whole and for specific construction and renovation projects; and
 - As a backup to this capital, establishment of a program that provides access to a pool of capital generated for this purpose by issuing bonds.



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Culture and Tourism

New Orleans's culture and tourism are critical to the rebuilding effort. In the words of the world-renowned jazz musician Wynton Marsalis,

"Culture is the metamorphosis of a community's personality into a way of life. It unites us and distinguishes us. The soul and spirit of a people speak through the arts, and the arts testify across epochs to the quality and vitality of a community. Culture provides solutions to problems of living in a specific time and place, and those solutions are distilled over generations to develop and maintain a unique vision of a civilized way of life. Furthermore, cultures borrow from all over because a way of life is more concerned with what works than where or whom it comes from. Culture is the greatest thing we can share with others. It provides the barometer of who we are and gives us the self-confidence to embrace things that are new or different.

"New Orleans culture is the collective expression of the varied background of our people. For all of its complex-

ity it has evolved so naturally as to seem pre-ordained. Our way of life was and is so rich in fantasy and realism, so full of striving and tension, elegance and ugliness—such a rare combination of highest and lowest—that a flowering of the arts occurred here, an explosion of creative excellence the likes of which has visited very few places in the history of the world. People from everywhere—France and Senegal and Spain, Angola and Sicily and Ireland, Nova Scotia and Haiti and all of Asia and more—have forged our identity in a symphony of integration."

Culture and tourism are critical to the rebuilding effort because they are the city's primary economic driver and catalyst, as reported by the New Orleans Metropolitan Convention and Visitors Bureau in a November 7, 2005, report. Visitors and conventioners seeking to enjoy and revel in the New Orleans cultural experience generate more than \$8 billion in total revenues annually. Furthermore, the industry supports a workforce of 85,000 employees and 2,500 companies in eight parishes. Undoubtedly, culture and tourism create New Orleans's current competitive edge. Results from the 2004 visitor intercept study indicate that the city's most frequent visitors are residents of the region, who come primarily from Louisiana (15.9 percent), Texas (15.5 percent), and Mississippi (8.8 percent), as well as from other southern states. The panel believes that it is important to build on this existing strength by appealing to those who particularly relish the city's culture, music, food, and architecture, while concurrent efforts are underway to diversify the city's economy into the other targeted industries recommended in this report.

One overarching theme of the panel's recommendations is to broaden and elevate the nature of the culture available to tourists. The panel recommends that tourism development emphasize sustainable or heritage and cultural tourism

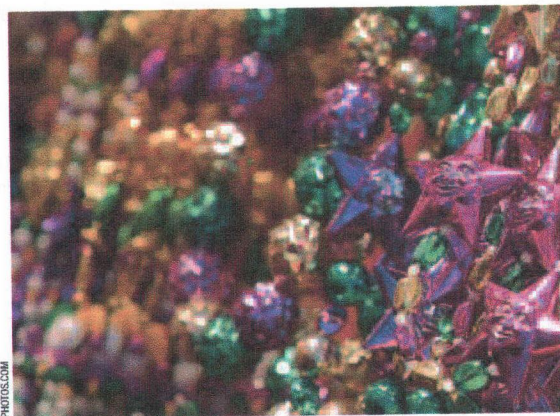
rather than mass-market tourism. In order to accomplish this, an expanded menu of tourist venues and topics should be created, featuring museums, concerts, tours, eco-tourism—including birds and bayous—lectures, educational programs, performances, architecture, art galleries, antiques, and crafts.

Short-Term Actions

To help revitalize this industry and, more importantly, rebuild the economy of the city of New Orleans, several steps can be taken immediately. The city should expand its cultural ambassador program to include additional individuals who can promote and advocate on behalf of the industry. This will spotlight the city's efforts to rebuild its cultural heritage. Well-known musicians such as Wynton Marsalis, Harry Connick, Jr., and the Neville Brothers, or sports figures like the Manning family all would be good candidates for this program.

The areas that visitors are most likely to see, such as the route from the airport to downtown, Canal Street, the French Quarter, the CBD, and the Warehouse District, should be cleaned up as soon and as much as possible. Garbage piled on the sidewalks and destroyed cars will not encourage visitors to return or convention planners to bring their conventions back to the city quickly. It also will be critically important to assure visitors and convention planners that they will be safe while in the city.

Longstanding cultural events that have branded the city's unique experience should be convinced to return to New Orleans as soon as the venues that accommodate them are ready to reopen. Encouraging and, if necessary, providing incentives to the owners and managers of those facilities to restore them quickly must be a priority for the city. Events



that the city should work hard to sustain and/or get back include the following:

- Mardi Gras, the largest and best-known single event in the city, which has a huge economic impact.
- The New Orleans Jazz & Heritage Festival, which brings nearly 400,000 visitors to New Orleans in late April and early May.
- The Bayou Classic, the annual football game between Southern and Grambling State universities, is the greatest and most distinguished sporting event in the African American community. This year, it will be held in Houston, and steps need to be taken to return it to New Orleans.
- The Essence Music Festival, known as the "party with a purpose," draws more than 200,000 visitors annually. The event combines nightly hip-hop, rhythm and blues, and soul concerts in the Superdome with daytime "empowerment seminars" featuring motivational speakers and a crafts marketplace and trade show at the Ernest N. Morial Convention Center. During the past 11 years, Essence has grown into the main event of the summer tourism calendar. While the traditional event has moved to Houston for the 2006 calendar year, Essence also is considering an event in New Orleans in late July, a sort of mini-Essence Festival, possibly at the New Orleans Arena, to benefit the producer's various recovery initiatives.

■ The jazz funeral is a unique and culturally significant event in New Orleans. When a jazz musician dies, a cadre of musicians plays sad songs on the way to the funeral. Afterwards, however, the group plays songs of celebration. This New Orleans African American tradition could be expanded. Specifically, other well-known artists who die could be similarly commemorated. The jazz funeral is a unique way to say goodbye and a concept that could be used to commemorate the lives of musicians and artists in general.

The wrath of Katrina has dispersed one of New Orleans's most valuable resources, its artistic and creative talent. Providing temporary housing for artists who want to return must become a priority for the city so that it does not experience a permanent talent drain. Opportunities to provide such housing may exist in vacant spaces above retail and commercial establishments in the French Quarter and on Canal Street. To encourage artists to return to their creative mecca, the proponents of New Orleans culture should conduct a drive to collect tools of the cultural trade—including items such as musical instruments, sheet music, and art supplies—that can be donated to local artists.

City officials and artists who call New Orleans home recently announced that they will team with Habitat for Humanity to build a village for musicians displaced by the storm, in an effort that is being supported by the Marsalis family and Harry Connick, Jr. Plans call for up to 200 units surrounding a cultural center to be named for jazz patriarch Ellis Marsalis. The Pontalba Towers project, which involves the redevelopment of historic properties as housing and studio space for artists and musicians, is another appropriate step in the right direction.

Another recommendation is a sort of WPA (Works Progress Administration) for artists, similar to the Public Works of

Art Project (PWAP) created by the federal government in the 1930s. The state and city should begin to develop and seek approval for legislation to provide employment for artists through such a project.

Medium-Term Actions

The panel supports the development of the New Orleans Jazz Orchestra (NOJO) and its facilities. In the spirit of celebrating and rebuilding the city's culture, the NOJO has developed a concept for a facility that will house three performance halls; various education spaces, including large classrooms for student bands; a professional recording studio; and rehearsal and office spaces. Each performance hall will offer the ability to alter the space for multiple purposes. The combined performance spaces and education and recording spaces will enable ongoing, daily, multiple uses within a single centralized, downtown location, and will generate continuous day and evening local and tourist traffic into the area. This center, similar to the New Jersey Performing Arts Center in Newark, would play a central role in the city's revitalization efforts. Prior to Katrina, New Orleans had no center primarily dedicated to jazz. Now, as the city focuses on reestablishing itself, such a center will be urgently needed.

This recommendation is consistent with the recently announced Ellis Marsalis Cultural Center mentioned above, which would include a performance hall, rehearsal space, and rooms where musicians could give lessons to children. This planned development is expected to cost about \$18 million, of which \$1 million in seed money already has been raised from two concerts in New York City. Organizers expect to pick a site for the village soon.

Similar to Jazz at Lincoln Center's Frederick P. Rose Hall, the NOJO would ensure that the proposed facility presents



and showcases high-quality programs that promote New Orleans culture and jazz. Truly a multidisciplinary center in concept, the facility would offer a variety of spaces that would enable the presentation of theater, small ensemble, ballet, big band, and other presentations, as well as a year-round, world-class jazz performance and education program. Funding for development of the facility should be obtainable through private philanthropy, and could grow out of the funding and planning process already evident with the proposed village and cultural center.

Another, longer-term activity is the revitalization of Canal Street, the front door and gateway to the French Quarter. Revitalizing the commercial corridor, including its retail space and streetscape, will help make it safe, clean, and spectacular and will help rebuild both the city's image and its economy. In keeping with the recommendations of a 1998 ULI panel report, this panel recommends the creation of a Canal Street business improvement district (BID) to improve the corridor's streetscape and storefronts, provide coordinated marketing, and keep the streets and sidewalks clean. These improvements also could enable Canal Street to attract more upscale retailers, such as women's apparel stores.

While music has been a critical part of the city's unique cultural scene and a strong contributor to its appeal to visitors,

the music industry in general, and the New Orleans brand of music in particular, represents a strong business in and of itself. Jazz has its origin in the city, incubating such greats as Buddy Bolden, Jelly Roll Morton, Louis Armstrong and, more recently, Wynton Marsalis and his family. Other musical artists such as Mahalia Jackson, Harry Connick, Jr., Dr. John, Antoine "Fats" Domino, and the Neville Brothers also rose to fame from this musical incubator. In order to continue this history of nurturing musical artists, the following steps—some of which also are discussed in the Culture and Tourism section—should be taken:

- Develop short-term support initiatives for displaced musicians, which could include a directed sponsorship program to channel philanthropic funds to sponsor specific affected musicians; and
- Support the numerous emerging efforts to establish national tours of displaced New Orleans musicians, analogous to Ry Cooder's Buena Vista Social Club project. This could yield a documentary film, CD, related merchandise, and other ancillary benefits.

Long-Term Actions

Once a musical arts incubation process has been put in motion, the feasibility of developing various music-based facilities should be considered, taking advantage of the three-year-old Louisiana Motion Picture Investment Act, which was amended in June 2005 to include music production and related infrastructure. In concert with New Orleans secondary schools and community colleges, the school district and other relevant organizations should develop a curriculum to train young music technicians, especially in the area of digital music.

Food

New Orleans's culture of cuisine and hospitality is world famous, and offers two important categories of economic opportunity. Most obviously, the city's diverse array of restaurants helps support the tourism industry and provides an important amenity for residents. These restaurants attract visitors from around the world and help magnify the economic impact of tourism.

Short-Term Actions

In the near term, restaurants need capital and operating assistance to rebuild, to retain their skilled workers, and to provide short-term bridge financing until their customer base rebounds. This is especially true for restaurants located outside the major tourist areas.

A cooperative promotion and marketing campaign, coupled with broader efforts to stimulate the tourism industry, could help to accelerate this recovery. "Restaurant weeks" that heavily promote fixed-price menus at a selection of the city's top restaurants are one example of such a promotion. This campaign likely will require interim funding channeled through the chamber of commerce or the local restaurant association.

Long-Term Actions

Restaurants—and the culinary arts that support them—also have the potential to make a broader economic impact. Several chefs and food entrepreneurs, including Paul Prudhomme and Emeril Lagasse, have successfully marketed a New Orleans identity nationally and internationally. It is essential that this process continue and expand, and that these growing companies be retained within New Orleans and Louisiana. At their strongest, such companies support em-



ployment in a wide range of sectors beyond restaurant service workers, such as manufacturing, distribution, printing and publishing, and others. Tax code revisions, targeted incentives, and a more supportive overall business climate can help retain these important businesses and encourage the creation of new ones.

The food and restaurant industry also can help forge linkages to the secondary education, vocational training, and higher education sectors. A school of culinary arts, with links to a hospitality-centered charter high school, for example, could help develop new generations of culinary workers and innovators in the food industry. Rhode Island-based Johnson & Wales University is actively replicating its culinary institute model, building a number of campuses across the country. These campuses have attracted up to 4,000 students each, swelling the university's total enrollment to more than 16,000 students. While culinary arts is the university's major area of educational concentration, attracting more than 50 percent of all students, the school also offers a curriculum in hotel management. Unlike the Culinary Institute of America, which seems to want to protect its brand and limit its domestic expansion, Johnson & Wales is a viable institution for New Orleans to pursue to promote, expand, and strengthen the food industry as a

part of its culture because of the school's apparently nimble entrepreneurial approach.

Other Events and Sports Marketing

New Orleans's reputation as a year-round destination and entertainment city gives it competitive advantages that it may be able to leverage and enhance. The city's extensive sports and event facilities present assets upon which it can capitalize to generate revenue in both the short and long terms.

Short-Term Actions

The utility of the Superdome and the city's other events venues should be examined immediately. When can these facilities be put back in service? The Superdome Management Group should reach out and explore opportunities to redirect scheduled events or create special events that can be held at the Superdome to help reinvigorate the city. It also should determine whether the facility could be used for additional purposes.

Although New Orleans is considered a "small market" city by professional sports team standards, the city should work with the state, the National Football League (NFL), and the National Basketball Association (NBA) to examine the efficacy of providing financial support to keep the Saints and the Hornets in New Orleans. These teams provide a sense of identity and spirit to the local market and give the city national recognition. It may be possible to accomplish this without asking taxpayers to bear the burden of building new facilities because the facilities are already there, although they may require additional capital investment. Although major events like the Superbowl do not recur annually, they provide meaningful revenue for the local and state economy as well as international recognition for the city.

Every effort also should be made to maximize the use of the convention center. It is critical that the city maintain as many bookings as possible. Opportunities to create special events throughout New Orleans also may arise. The city needs to be as aggressive as possible and use all the incentives available to it—including exploring the opportunity to bundle promotions and cross-market rooms, food, and entertainment—to retain and attract sports and other special events.

More generally, as discussed in several other sections of this report, every effort must be made to stem the attrition of special events from the city. For example, sponsors of a major volleyball tournament scheduled for late May 2006 visited New Orleans during the panel's deliberations to assess the viability of the city as a host. Such events need strong support by local leaders.

Long-Term Actions

Once initial efforts have been undertaken, over the longer term additional incentives should be designed that can be offered to attract regional and national-scale events. The panel also recommends that the city explore the opportunities offered by not-for-profit conferences, and that it consider building a media relations campaign around appropriate slogans, such as "We are coming back and so should you!"

It also may be appropriate to create an exhibit about Hurricane Katrina and/or a memorial to its victims. Such an interpretive museum could provide a hands-on way to help the ongoing, long-term recovery effort. It also could present a history of land use in New Orleans. In addition, a market may exist for a New Orleans heritage center.

The panel believes that there may be a long-term opportunity to leverage New Orleans's reputation as a leading venue for sports activities beyond football and basketball. Other



comparatively small athletic market cities have established real niches by creating world-class amateur sports facilities. In New Orleans, such facilities could consist of numerous venues, including the following:

- A natatorium;
- A velodrome;
- Track and field facilities;
- Basketball courts;
- Volleyball courts;
- Fencing facilities; and/or
- An ice-skating rink.

These types of facilities would provide a greater variety of annual revenues and generate a great multiplier effect for the local and regional economy.

Universities, Health Care, and Medical Sciences

This important cluster has three interrelated components: higher education, health care delivery, and research. The following colleges and universities, each of which serves a different clientele, are located in New Orleans:

- Delgado Community College;
- Dillard University;
- Louisiana State University (LSU) Health Sciences Center;
- Loyola University New Orleans;
- Our Lady of the Holy Cross College;
- Southern University New Orleans;
- Tulane University;
- The University of New Orleans; and
- Xavier University of Louisiana.

Together, these schools employed approximately 8,000 people and served more than 40,000 students in community college, undergraduate, and graduate education. Only two of the nine schools were able to hold classes in fall 2005. All of the schools expect to reopen for at least some classes by January 2006. The University of New Orleans, which had emerged as an important economic driver, has partially reopened. Tulane and Loyola suffered relatively little damage, while Southern, Dillard, and Xavier suffered extensive damage. In order to accommodate most of their students, Tulane and Loyola are teaming up with Xavier and Dillard to share classroom space. (Southern also is registering students for the spring semester.) The potential falloff in enrollment for fall 2006 also remains unclear. Some faculty and researchers have left the area, and housing for students and employees will be a major issue.

Positioning Dillard as the theatrical Julliard of the south is the best hope for rebuilding a university that some expected never to open again because of the devastating damage inflicted by the hurricane. Dillard is a liberal arts college with a pre-Katrina enrollment of 2,200 students. Unlike Xavier—

the city's other historically black college, which is known for its health sciences and a strong pre-med program for African American doctors, pharmacists, and other medical professionals—Dillard specializes in liberal arts.

Tulane and LSU offer medical training as a major element of their university programs. The LSU Health Sciences Center includes professional and graduate schools in medical, dental, nursing, allied health, and public health. In addition to directly educating students, these programs provided health care to New Orleans residents at Charity Hospital and University Hospital. Charity Hospital is considered too badly damaged to reopen; University Hospital is still under assessment. Seventy percent of the health care professionals in Louisiana trained at LSU. Studies show that physicians tend to practice within 150 miles of where they train. Thus, if the future of LSU and Tulane is in jeopardy, health care services throughout the state could be seriously diminished.

Research also plays a significant role in many of the city's universities. The National Institutes of Health (NIH) has estimated that about 300 federally funded projects suffered serious damage as a result of Katrina. These projects represent approximately \$150 million in research funds. Tulane receives about \$150 million in funded research annually, including a portion of the NIH dollars.

Important research initiatives that offered the prospect of major economic benefits were underway before Katrina. The New Orleans BioInnovation Center, an incubator for emerging biotechnology companies planned for a site on Canal Street, is a joint initiative of LSU and Tulane that is dependent on state funding. This funding remains intact so far, but may be threatened by other short-term state needs. The Louisiana Cancer Research Consortium, also funded by the state—through a cigarette tax—poses great potential to

continue the growth in federal research dollars flowing to New Orleans. Both the city and the state should fully commit to these projects

Short-Term Actions

Funding for faculty and administrative positions in teaching hospitals disappears when the hospitals close. LSU lost five teaching facilities as a result of Katrina. With this loss, \$79 million in funding floated away. The university currently is paying physicians and top faculty with other funds, but cannot continue to do so for long. These faculty members and scientists are being approached by other institutions and offered positions, often at higher salaries. Securing funding for the universities to retain this important asset is essential. In addition, the city should immediately fund operating budgets to retain high-priority faculty, scientists, and administrators and commit to rebuilding the New Orleans Medical District. Only when uncertainty is erased can faculty, administrators, and students make plans for the future.

In addition, the medical community should once again invigorate the New Orleans Regional Medical Center (NORMC), the primary management organization for the medical district. This type of coordinator and convener is essential for a competitive medical district and has many prototypes across the country.

The combination of research universities, health centers, and the BioInnovation Center is evidence of the potential to develop an emerging biomedical sciences sector in New Orleans. This is an industry of the 21st century and—like many other cities with similar assets—New Orleans should determine whether it can indeed compete in this highly competitive sector, particularly as it emerges from the devastation caused by Katrina. Two factors working against New Or-

leans in the biosciences sector are the city's lack of a venture capital community attuned to this sector and a workforce lacking the skills and education that this industry requires.

The panel believes that Delgado Community College needs to continue to be actively involved in training health service workers and enhancing career opportunities. Currently, one in nine employees in the New Orleans area works in health care. Improving training and educational opportunities will benefit the entire community.

On the nonmedical front, colleges and universities should be a high-priority target for assistance because they play such an important role in the local economy. This should include assistance for rebuilding damaged physical plants, assurance to parents that New Orleans is a safe place for their children to study, providing scholarships as needed to retain the best students, and approaching alumni for resources. Many of these efforts already are underway.

Long-Term Actions

In the longer term, the panel believes that New Orleans can build upon its strong position in health care and medical research to become a clear regional leader in health care. In addition, the local medical community should carefully determine whether any opportunities exist for New Orleans to become a national or international center of excellence in one or more specialties. If so, it should do all it can to maximize this potential. It also may be possible to create a boutique destination for high-quality diagnostic or treatment services, as the Mayo Clinic has done elsewhere.

Consistent with the reinvigoration of the NORMC, that consortium should consider the feasibility of creating a jointly sponsored technology incubator for entrepreneurs in the medical field. This consortium could attract and

nurture—and understand the needs of—venture capital for entrepreneurial small businesses. An improved tax environment would encourage the development of such businesses and would greatly enhance the likelihood of their success.

The Port of New Orleans

The Port of New Orleans serves two main tenants, cruise ships and cargo ships. Each year, 735,000 passengers pass through the port, and 80 percent of them spend an additional two days in the city for pre- and post-cruise vacations, making the port a significant component of the New Orleans economy. The city receives an estimated \$190 million in benefits from the cruise business annually.

In 2004, cargo handling at the Port of New Orleans consisted of predominantly break bulk rather than container shipping. It is an intermodal port, with most goods passing through the city on their way elsewhere. Approximately 70 percent of the cargo that arrives in the port is bound for points 250 miles away or more. (This distinguishes it from the Port of Houston, since most of the goods delivered there are consumed by the city of Houston.) The major goods imported through the port are coffee, steel from Japan, rubber, and carbon black. This somewhat limits the potential for cargo handling, as commodities head upriver for handling and distribution to local markets.

Short-Term Actions

For the near term, the panel recommends that the port be brought back to its pre-Katrina capacity for both cruise ship and freight business. During the panel's visit, the port was at 45 percent of capacity, and there is an urgent need for it to return to its pre-hurricane capacity.



Several of the port's tenants were damaged by the hurricane, and the panel understands that they would like to move from their present location on the industrial canal to the Mississippi River. Supporting their move will make it easier to make a balanced decision about the future uses of the Industrial Canal and the state of the Mississippi River Gulf Outlet (MRGO). With the port operational, and with its key customers' requirements more clearly understood, the industrial justification for the outlet and the canal can be clarified and determined.

Prior to Katrina, the port was planning to expand its cruise ship terminal capacity at Poland Avenue. Funding for the terminal was suspended as a result of the hurricane crisis. The panel recommends that the bond funding be reinstated to enable construction to begin. Expansion of the cruise ship business would not only bring increased revenues to the port; its multiplier effect would have a substantial impact on the city. Expansion of the cruise business could increase the total number of passengers traveling through the port to 1 million annually.

Long-Term Actions

In the long term, the port needs to explore the potential for expanded freight and value-added services. To enable this expansion, the port must increase its capacity for handling container shipping. Container handling capacity will enable the possibility of handling more—and other types of—cargo.

The region reportedly has 11 independent port authorities. This fragmentation limits collaboration. The panel recommends that a regional collaborative effort be established to coordinate efforts and enable regional marketing. In addition, the development of a team effort among the state's economic development office, Economic Development New Orleans, and the ports is needed to overcome fragmentation.

The closure of the F. Edward Hebert Memorial Center Naval Support Activity East Bank facility, immediately adjacent to the proposed Poland Avenue terminal, will provide an opportunity for housing and commercial development, particularly in the warehouses on the site. This Base Realignment and Closure (BRAC) Commission-identified site also presents an opportunity to provide parking that could be shared by cruise ship passengers, who typically arrive by car.

The port also should explore the potential for value-added services. For example, the importation of rubber to the city suggests the possibility of a tire manufacturing plant in the region.

Energy

Oil and gas exploration, transmission, refining, and energy-related services have been a traditional pillar of the New Orleans economy. Since the crash in energy prices in the 1980s, the industry has continued to consolidate in Houston and elsewhere. Because of the offshore drilling in the Gulf of Mexico and the remaining refining and pipeline operations, some 4,000 jobs in this sector remain in the region, only about half as many as in 1995.

The nation obviously is interested in recovering and expanding refining capacity and the performance of the transmission system for oil and gas. This may create an opportunity

to upgrade the energy sector's infrastructure, to expand some key facilities, and to provide better protection from the elements.

Over the long run, the magnitude of the rebuilding process in New Orleans could create another important opportunity. To the extent that the nation invests in alternative energy technologies—especially those related to building technologies and systems—R&D and manufacturing jobs could be created in a more diverse energy sector.

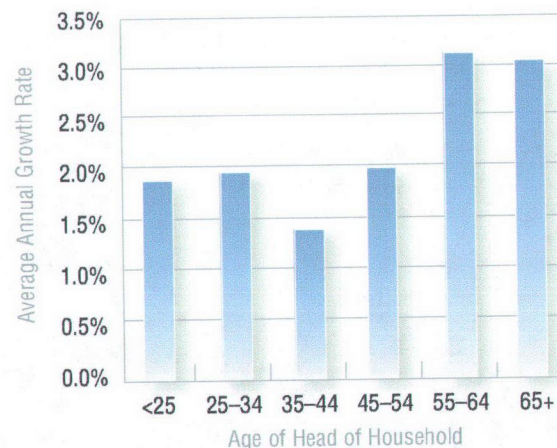
The Film and Television Industry

In 2002, the state of Louisiana passed the Louisiana Motion Picture Incentive Act. Its purpose is to spur an increase in investment in Louisiana-based film and television projects. At the time of the act's passage, there was approximately \$15 million to \$20 million of film and television production activity in Louisiana. By the end of 2003, the Incentive Act was responsible for more than \$250 million in production in Louisiana, 85 percent of it in New Orleans. In 2004, the state figure exceeded \$580 million, with 85 percent of the activity continuing to take place in the New Orleans metro area.

Since 2002, more than 70 films and television productions have used the Incentive Act each year, averaging \$6 million and employing 120 to 140 Louisiana residents per project. More than \$67 million was spent by the film and television industry on Louisiana labor in 2004, with 80 percent of that amount being paid to New Orleans area residents.

All films that were in production in New Orleans at the time of the storm—or scheduled for production thereafter—either relocated or shut down. Several of these were high-profile projects, including two major motion pictures with production budgets in the \$100 million range. In addition,

Where Is Spending Growing Fastest?



Source: U.S. Department of Labor, Bureau of Labor Statistics Consumer Expenditure Survey 2003; Property & Portfolio Research, Inc.

several television series slated for production in New Orleans and elsewhere in Louisiana were relocated.

In 2005, prior to Katrina, film and television production investment in the city was on track to exceed the 2004 level of \$580 million, with New Orleans continuing to receive the lion's share. An aggressive sales and marketing campaign needs to be mounted, under the auspices of the Governor's Office of Film and TV Development, as part of the rebuilding efforts to restore this investment to at least the 2003 level by 2007.

In June 2005, the Incentive Act was amended to include tax incentives for infrastructure development and music production. In July, two large independent film studios announced plans to create permanent film studios in New Orleans, based upon these amendments to the act. Columbia/Gower Studios planned to develop facilities on the west bank of the Mississippi, while LIFT Productions planned to develop studios in downtown New Orleans. In addition, two independent producers planned to redevelop New Orleans's Independent

Studios in the Ninth Ward as a teaching studio. This deal was to close in September 2005. These exciting initiatives have been slowed by Katrina, but remain important elements in the rebuilding process for the city.

One possible development strategy for this sector is to economically connect either the west bank studio facility or the CBD studio facility with the teaching studio in the Ninth Ward. This type of parcel-to-parcel linkage strategy has proven successful for projects such as the 36-story One Lincoln office tower in downtown Boston and the nine-story office building at Renaissance Park in Boston's needy Roxbury neighborhood.

The emerging era of digital media also represents a promising direction. Content coming out of the growing film and television industry in Louisiana and New Orleans can help feed this newly emerging entertainment sector. As with the proposed training studio in the Ninth Ward, digital media offer educational opportunities both at the university and community levels.

The Military

The military has had a presence in New Orleans for many years and has an economic impact on employment in the city. The proposed Federal City project would close the Naval Support Activity's Bywater site and move the Naval and Marine Corps Reserve headquarters into new buildings in Algiers. The Coast Guard's Eighth District headquarters and the Army Reserve's 377th Theater Support Command, both currently located in New Orleans, also could be tenants. The proposal came out of the BRAC process to realign military operations in New Orleans, and the state of Louisiana committed to fund \$100 million toward the creation of the Federal City. Essentially, the Marines and the Navy

would leave the east bank of the Mississippi and move onto 200 acres that is currently the Navy base in Algiers.

Retirement Housing

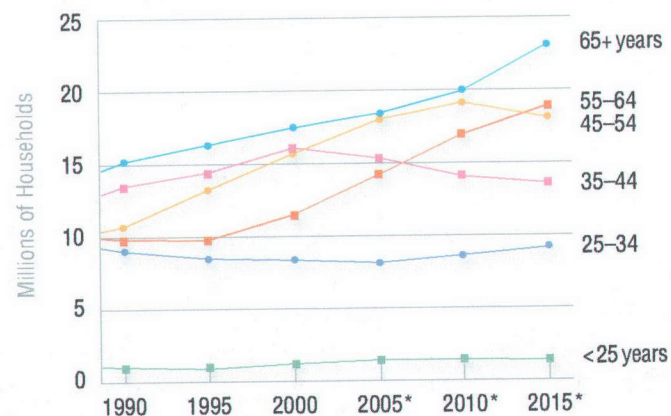
The current “age wave” can be beneficial to the New Orleans economy. People born in the post–World War II era, known as baby boomers, are finally reaching retirement age. Starting on January 1, 2006, a boomer will reach age 60 every 24 minutes. Within another five to ten years, they will be retiring in droves. What will these retiring boomers want, and how will they behave? Could a rising population of boomers be a boon to the New Orleans economy?

As shown in the graph on page 34, as people age, their previous spending patterns change. In previous generations, the older people got, the less they spent—especially after they retired. This pattern appears to be changing with the arrival of the baby boomers at retirement age. The rate of spending growth in the age cohorts that used to slow down is now accelerating. These consumers have excellent discretionary incomes and net wealth from which to draw. The very population that is growing and that has the most leisure time is spending at a higher rate than ever before.

Since retail sales and other forms of spending—such as the purchase of homes and second homes—are comprised of the simple math of bodies times dollars, and as both the number of older consumers is growing as the boomers age and the rate of spending among older consumers grows, it is easy to see that this population is a force to be reckoned with.

As shown in the graph on this page, this older cohort also has the highest level of homeownership. Consumption and homeownership spell commitment to an area and can be a wonderful source of economic growth.

Growth in Owner-Occupied Homes



*Projections.

Sources: U.S. Census Bureau; Economy.com.

New Orleans is in a good position to capitalize on this market. With its walkable urban areas, water amenities, striking architecture, superb cultural amenities, great food, excellent health infrastructure, and a solid higher education infrastructure, it could be an ideal retirement mecca. The implications are tremendous, and could result in the development of condominiums suitable to the ambiance of the market, retail geared toward older consumers, recreation and eco-tourism facilities, adult and lifelong education programs, and support for theater, dance, and art. Retirees are a perfect constituency for the New Orleans area.

There is, however, one big impediment to the idea that New Orleans should get its fair share of this pending economic sector. Relatively high income taxes make Louisiana uncompetitive with Florida and Texas, states that do not tax income. In order for this opportunity to be developed, the state tax code must be revised to be competitive with those of Florida, Texas, and Mississippi.



City and Urban Planning

New Orleans is an extraordinary American city. It has the opportunity to emerge from its post-Katrina reconstruction as a healthier, more livable, and more beautiful city while retaining its authentic character. Its remarkable urban pattern—reflected in its strong neighborhoods, historic architecture, parks, boulevards, “neutral grounds,” and a close-knit pattern of housing, institutions, shops, and workplaces—is the foundation for the future New Orleans. These urban features and the city’s unique environmental context make it an exceptional place and provide the cues for its renewal.

New Orleans needs a plan to guide its reconstruction and development after the ravages of Hurricane Katrina. Its official comprehensive plan, redrafted in 1999 but not completely adopted by the city council, must be reconsidered in light of the destruction that has occurred. The plan’s land use regulations and capital program components, in particular, must be reexamined.

Massive investments will be required to ensure safety from future storms and flood events; to reconstruct schools, medical facilities, and other essential public services; to restore or replace damaged housing; and to repair streets and infra-

structure. Guided by a thoughtful and intentional plan, these investments can be leveraged to create a true 21st-century city. This is an opportunity that few cities ever have.

Principles for Recovery

As the city charts its future course, it should keep several principles uppermost as it frames its decisions on rebuilding.

Keep New Orleans Unique

Plans should be faithful to what makes New Orleans unique. The city has a soul, which is expressed through its cultural traditions and events, historical structures and places, and urban pattern of small blocks and streets. It is a walkable city, one of very few U.S. cities where it is possible to live without owning an automobile. The city varies from block to block in a manner that allows people of all incomes and races to live near one another. While its French Quarter and Garden District are world renowned, the true heart of the city beats in all its neighborhoods, and each displays a character that is home grown, authentic, and without an ounce of artifice.

Nurture Neighborhoods and Natural Areas

Neighborhoods are the essential building blocks of New Orleans. They must continue to be nurtured as the setting for its social life. Natural and engineered solutions must be balanced to meet infrastructure needs. New Orleans must be safe from natural hazards, and nature can be enlisted to protect the city in concert with complementary built systems. The total reliance on engineered solutions—levees, sea walls, drainage canals, pumping stations, and other installed devices—left no margin for error, resulting in the unimaginable consequences recently experienced.

As New Orleans designs, rebuilds, and strengthens its flood protection systems, the performance of these constructed systems should be augmented by restoring natural areas within and around the city, and by building in accord with the city’s topography. Natural areas also can serve as recreational and leisure amenities, improving the overall quality of life in the city, particularly in neighborhoods that historically have been underserved by parks, green space, and recreational venues. If this natural and engineered approach is to be effective, it must be applied to the entire coastal region as well as within the boundaries of Orleans Parish. The

levee from the French Quarter, and eventually extended eastward downriver along the same elevation. Settlements thus were protected from flooding by either the Mississippi River or Lake Pontchartrain.

With the construction of drainage canals and levees in the late 19th century and, more substantially, in the early 20th century, the city's expansion began its northward trek into the cypress swamps on land that became habitable as it was drained. By 1940, considerable residential and commercial growth occurred in these low-lying areas bordering Lake Pontchartrain. The construction of Interstate 10 promoted even more development along the eastern edge of Lake Pontchartrain. At present, much of the city sits one to ten feet below sea level, and a complex system of levees, canals, floodwalls, and pumps is still necessary to remove stormwater from these low-lying areas. Many of the low-lying areas inhabited after 1940 were flooded following Katrina. The pattern of flooding suggests that any recovery plan must incorporate a more effective and integrated system of stormwater management and infrastructure that will account for the city's fundamental topography and hydrology.

A City of Neighborhoods

New Orleans is a city of neighborhoods, but that only begins to tell the story. Every square inch—whether residential, commercial, institutional, or industrial—falls within a neighborhood. These designations correspond not only to boundaries on a map, but also embody neighborhood history, demography, environment, architecture, and infrastructure. In a city with such a diverse population, culture, location, and condition, an appreciation of the neighborhood is fundamental to one's total comprehension of the city. Each of New Orleans's neighborhoods can claim its unique identity and its own contribution to the overall character that makes this city unique in the American landscape.



Source: Campanella, Richard, *Time and Place in New Orleans: Past Geographies in the Present Day* (Gretna, Louisiana: Pelican Publishing Company, 2002).

One remarkable aspect of New Orleans's neighborhoods is that they feature some of the most continuous occupancy by families in the nation. That is, multiple generations of more families have lived in New Orleans over many years than in most major U.S. cities. This continuity has important implications for understanding the city and fashioning a strategy for its recovery. In some cases, it may mean that the property lost to Katrina has a history of ownership by one family that spans decades; in other cases, it may mean that a family's generational association with the city as a whole is strong, even if family members lived in different residences or neighborhoods over the years.

The pattern of homeownership across the city also is instructive. A significant majority of New Orleans has an ownership rate of 25 percent or higher. Land uses in those areas where homeownership is less than 25 percent are largely commercial or institutional, implying that homeownership is still significant there. This information reinforces the care with which any recovery plan must address the collective character of neighborhoods and the prospects for individual families to reclaim property.

The city's rental market also has been strong, with students attending major educational institutions, artists of various

Historical development patterns.

media, and other transitional dwellers complementing the trend of long-term ownership. The renting segment also must be considered in the strategy for housing development and investment in the public realm to ensure that New Orleans remains a city of viable and diverse neighborhoods.

A City of History

New Orleans is a national treasure in terms of its heritage and cultural contributions, which span music, food, architecture, and historical celebrations. Its French Quarter and Garden District are emblematic of unique chapters in the history of North America. However, the city's authentic spirit also courses through lesser-known neighborhoods like Irish Channel, Mid-City, Tremé, Bywater, and Holy Cross. The array of Creole and craftsman cottages, shotgun houses, corner stores, and townhouses forms an architectural ensemble unique among U.S. cities and in the world. New Orleans contains 20 districts listed on the National Register of Historic Places, and these districts contain almost half of the city's land area. The city boasts 13 National Historic Landmarks. The Vieux Carré and 13 additional historic districts are designated and protected by the city government through local commissions that oversee exterior changes, demolition, and infill design through their authority to issue building permits.

Thus, planning and redevelopment of the Crescent City must utilize its own unique authenticity and protect the soul of New Orleans, which permeates its residences and draws visitors from around the globe to districts of all scales, demographics, and locations. While so many other U.S. cities have been homogenized almost to the point of anonymity, New Orleans has the opportunity to maintain itself as unique and special among its fellow metropolises. In New Orleans, authenticity is not restricted to a few areas or des-

River, Katrina's intensity already may have eroded the barrier islands with such force that they have been diminished to the condition projected for 2050. If this is true, erosion and land loss have reached the city proper.

The goal of the LCA study was to identify how to reverse the current trend of coastal system degradation. The study details \$1.9 billion worth of ecosystem restoration projects over the next ten years. In addition to evaluation, the report outlines recommendations for restoration goals, objectives, and long-term planning. Most of the recommendations outlined below were adapted from this report. Given the critical relationship between an effective recovery strategy for New Orleans and regional stabilization, these recommendations bear restating:

- Efforts to rebuild the Gulf Coast and reduce coastal hazards must be an integral component of the strategy to restore and protect coastal Louisiana's wetlands.
- In addition to scientific determinations, early and active input from stakeholders is a key element to establishing benchmarks for successful restoration.
- Coastal wetland restoration can be successfully achieved only through a comprehensive partnership of federal and state agencies and local parishes.
- To ensure maximum benefit from individual restoration projects, an explicit map of the expected future landscape of coastal Louisiana must be a priority.
- All water resource and environmental restoration projects must be undertaken within the context of a systemwide or regional approach.
- Individual projects must be evaluated on the basis of their ability to reduce or reverse future land loss.

- Efforts must be undertaken to restore barrier islands and their function as storm surge protectors.
- Coastal Louisiana lies between the Gulf of Mexico and the nation's largest watershed, the Mississippi River basin. No comprehensive restoration effort will be successful unless it considers the impacts of land loss in the upper part of the watershed and runoff from activities throughout the Mississippi River basin, which means a considerable study of the largest basin in the country for its runoff impacts is needed.
- Coastal Louisiana is a dynamic environment requiring continual adaptation of restoration plans and management. It is important that all restoration projects have a robust and comprehensive adaptive-management program.

Extensive and continued land loss along Louisiana's coast threatens the productivity of this unique and beautiful ecosystem, the economic viability of its industries, and the safety of its residents. Coastal wetlands restoration is an integral component of flood protection and safety within the city of New Orleans. Land losses along Louisiana's coast must be reduced or reversed in conjunction with the installation of internal systems to rebuild New Orleans. Indeed, the performance criteria of individual systems should be informed by the regional flood protection strategy.

"Givens and Goals" of Post-Katrina New Orleans

The breadth and depth of Katrina's impact on the lives, buildings, and infrastructure of New Orleans have yet to be fully measured. Certainly, this event will qualify as one of the greatest natural disasters in U.S. history. What also has been revealed in the city's initial damage assessment is that

the extent of the destruction is not uniform in degree or distribution. This critical observation underpins the panel's recovery plan, inasmuch as the impacts vary block by block and neighborhood by neighborhood.

It is important to remember that cities across the United States and throughout the world have recovered from major disasters. For many cities, these recoveries elevated the standard for local development and set higher professional thresholds in urban design and planning. The panel sees post-Katrina New Orleans at a crossroads similar to those that cities such as Chicago, San Francisco, London, and Charleston passed with vision and success as they reconstituted after their respective devastation. The following sections present the panel's recommendations, based on "the givens and goals" for post-Katrina New Orleans.

Cross-Town Connections

New Orleans is a city of distinct neighborhoods and districts. It is clear that improved connections across New Orleans for transportation and land use enhancements must be included in the city's recovery plan. Before Katrina, many such projects already were included in the city's transportation plan, which called for extended streetcar or light-rail service. The feasibility of these projects should still be explored, with an added focus on transit-oriented development along these transit corridors, which can address the need for consolidated uses that allow for more efficient investment by returning households and businesses.

In addition to transit-related enhancements, the panel suggests a prioritization of streetscape and corridor improvements for all modes of transportation, including vehicular, bicycle, and pedestrian movements. Linked by an extensive network of linear trails and civic destinations, New Orleans could improve its citizens' citywide access through a better



Source: U.S. Geological Survey.

organized, more enjoyable, and value-enhancing system irrespective of their origin, destination, or the modes by which they travel.

New Orleans streets are as celebrated as the city's neighborhoods; the hierarchy of road enhancements should leverage the unique character that complements the neighborhoods that these roads connect. The panel suggests that some of the initial streets considered for improvements should include, but are not limited to, St. Claude Avenue, Esplanade Avenue, Magazine Street, Claiborne Avenue (north and south), and Elysian Fields Avenue. An opportunity also may

exist to rethink larger transportation projects, like the interstate highway and how it might be altered in a way that is effective for population movement and also reconnects neighborhoods like Tremé that it previously dissected.

Economic and Housing Development Sites

Given the overall economic strategy to bring enough businesses back to provide a catalytic start for reinvestment and the need to house the people who will work at or buy from these businesses, the location of these initial investments is critical. The proposed redevelopment plan suggests that

Land elevations, in feet.

many of these commercial investments should take place along existing business corridors, which should be rebuilt in a manner that is consistent with the better urban character of the neighborhood. Moreover, new developments that are location sensitive also must be accounted for in the plan at this stage to ensure the best opportunities for synergy and economic contributions.

The Economic Development and Culture section of this report discusses the market strategy for each of the following developments in greater detail. The panel recommends, however, that they be located at the general clusters shown in the graphic on page 45. These investments include the following:

- The medical district;
- An amateur sports complex;
- A Canal Street initiative;
- The cruise ship terminal expansion;
- Mixed-use redevelopment at the Navy's East Bank facility;
- The port at the riverfront;
- The proposed Federal City project; and
- Various housing and mixed-use developments.

These areas depict only approximate boundaries, but they do indicate the areas that the panel feels are best suited for significant development opportunities.

The Public Realm

The post-Katrina environment affords New Orleans an unprecedented chance to redefine the relationship between the public realm and private land to create a better city. Ranging from major parks to alleyways, this public realm has the po-

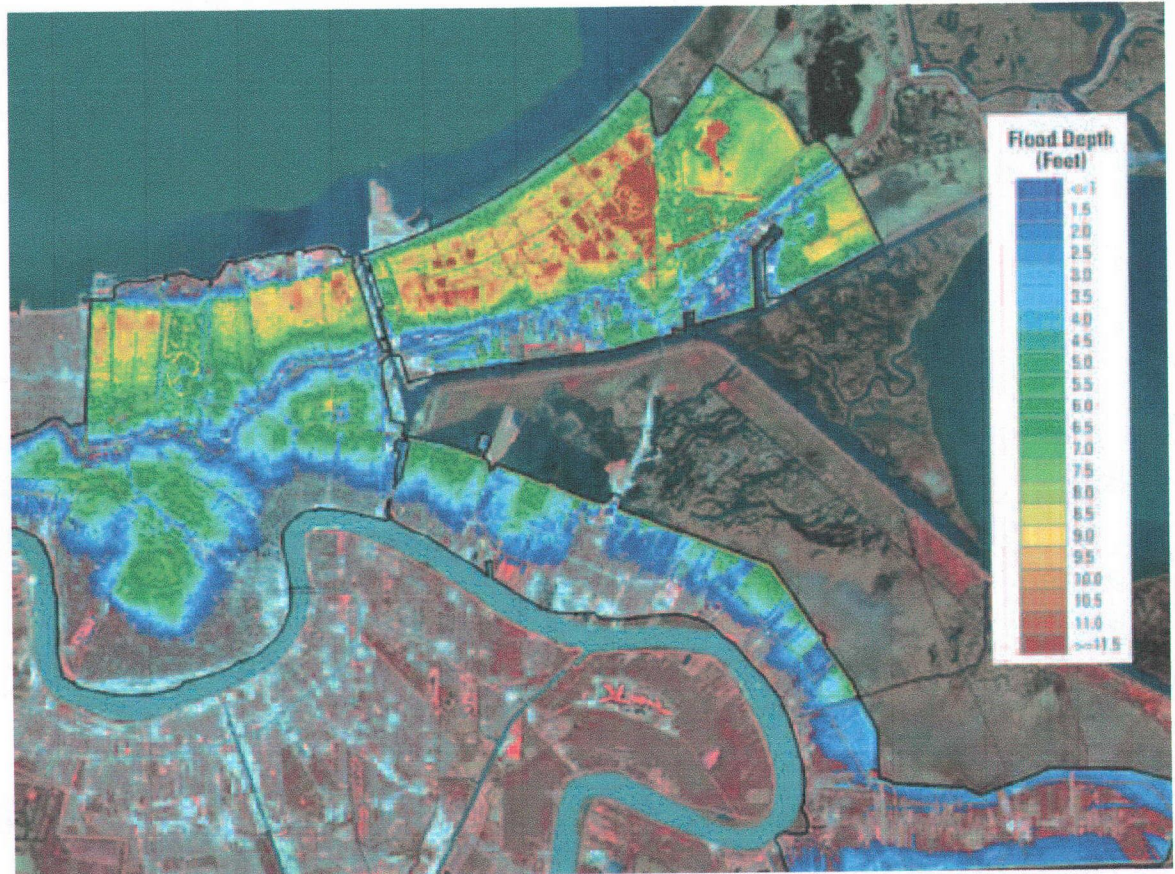
Flood depths in
New Orleans after
Hurricane Katrina.

tential to serve the citizens of New Orleans in a variety of ways that enhance safety and recreation. Moreover, the strategic commitment of funds in this arena can enhance private investment at key locations in the city.

The panel proposes the enhancement of public open space with landscaping, lighting, and improved sidewalks connecting multiple modes of movement into neighborhoods and across town. Through a deliberate and thoughtful application of these urban design elements, a clear hierarchy of public spaces can be established, complementing adjacent land uses, enhancing neighborhood identity, and beautifying major corridors for development and transportation.

The rich tree canopy that adorned many of the city's streets and parks has been severely diminished by tree loss due to hurricane winds and root contamination from the brackish water that flooded much of the city. The depletion of oak trees alone promises to radically alter the sense of place across town. The recovery of this urban forest is critical to the health and vitality of the neighborhoods, and the recovery plan must explore ways in which trees and other planted materials can be reintroduced to establish healthier microclimates and beautify the city's streets, parks, and waterways.

Significant opportunities also exist for wetland restoration within the city, as open space and parks can be integrated with wetland and pond areas. These wetland parks could provide opportunities for recreation, education, and wildlife habitat enhancement. In addition, these open-water features should be designed to detain and attenuate stormwater flows, mitigate the impacts of floods, and provide water quality treatment. Such natural and constructed wetlands have been utilized for decades to store and treat water around the world. While New Orleans's unique configuration will always require engineered flood protection, the city must strive for a



Source: U.S. Geological Survey.

balance between natural and built systems to improve safety and create value within its urban setting.

The Bayou Sauvage National Wildlife Refuge consists of 23,000 acres of fresh and brackish marshes within the city limits of New Orleans. Located adjacent to New Orleans East, this expansive wetland area is the nation's largest urban wildlife refuge. The New Orleans East area experienced some of the city's most severe flooding, with flood depths ranging from five to more than 12 feet. The deepest flood

elevations were located in the easternmost part of the neighborhood, directly adjacent to the wildlife refuge. Although additional studies are needed, evidence suggests that some eastern portions of New Orleans flooded not from the levee breaches but from the storm surge that came from the east. These extremely low-lying areas' adjacency to the wildlife refuge provides an opportunity for habitat enhancement. The creation of a combined marsh and open-water system will provide this section of the city, which currently is underserved by parks, with flood protection, open-space recre-

ation, wildlife habitat enhancement, and on-site educational facilities. Further analysis is needed and warranted to determine the feasibility of habitat restoration and stormwater management in this area.

Smaller stormwater management and habitat restoration opportunities exist throughout the city. By creating stormwater wetland parks, the city can introduce water as an amenity in the urban landscape. The panel seeks to introduce a parkway system throughout New Orleans that will combine open water, wetlands restoration, recreation, and flood management. Further study of hydrologic and geomorphic safety concerns, soil contamination or toxicity, predicted flood elevations, and existing infrastructure should be completed before specific locations and plans for additional parkland are determined.

Stormwater Management

As restoration and new development ensue, the panel also recommends that the city develop guidelines for low-impact development (LID) and enhanced stormwater management in keeping with a better environmental policy. LID methods seek to mimic the predevelopment hydrology by using specific stormwater management techniques that store, infiltrate, evaporate, and detain runoff. Use of these techniques helps to reduce off-site runoff and increase groundwater infiltration. The following list highlights some of the benefits of LID techniques. They can:

- Introduce new concepts and technologies for stormwater management, such as bioretention areas, vegetated swales, stormwater wetlands, green roofs, permeable pavement, and conservation areas;
- Reduce construction and maintenance costs for stormwater infrastructure;

- Provide guidelines that encourage environmentally sensitive development;
- Develop the full potential of environmentally sensitive site planning and design;
- Encourage public education and participation in environmental protection; and
- Help build communities that are based on environmental stewardship.

The panel suggests the city prepare a comprehensive water resource management plan to develop goals and objectives for surface water and groundwater management, water supplies, wetland restoration, and flood protection. Simply stated, the panel recommends that a new relationship be chartered between the city's waterways and the built environment.

The plan must accept and embrace the city's surrounding hydrology, establishing every opportunity for canals, rivers, lakes, ponds, and wetlands to become urban amenities from the scale of the neighborhood to the entire city. Mutual respect and the basic accommodation of the city to its environment should form the foundation of innovative redevelopment with improved safety.

Investment Zones: A Strategic Approach to Recovery

The previous section reported the panel's understanding of the "goals and the givens" for rebuilding New Orleans. However, the most critical question facing the city at the time of the panel's visit was "how do we begin?" Applying the principles for recovery described earlier to create a better city, the panel recommends a planning approach that will

determine the city's best land use patterns, initially as part of the immediate recovery, but ultimately to enhance the city's long-term sustainability. This determination should be made through practical and measurable criteria applied equally across all areas of the city affected by Hurricane Katrina.

It also is worth noting that the impact of the hurricane should not be perceived as water damage alone. In many cases, the collateral consequences for buildings, utilities, and infrastructure exceed simple water damage and reflect a combination of structural collapse, mold, water-borne contaminants, utility failure, and wind shear. Given this array of damage, the plan requires a sophisticated analysis of each area of the city and subsequent linkage to appropriate individual or collective actions. The assessment criteria for future land use policy should include, but not be limited to, the following:

- Topography;
- The extent and depth of flooding from levee breaches and storm surge;
- The extent and depth of flooding from repeated pre-Katrina storm incidents;
- Historic district designation or eligibility;
- Canals and/or levee pumping system capacity;
- Proximity to open space;
- Housing occupancy by owners and/or renters;
- Current building conditions;
- Storm sewer system capacity and plans for improvement; and
- Repeated incidents of damage.

The panel's proposed rebuilding framework.

These criteria should be studied carefully, and other valid measures may be added to assess existing conditions to project the best land uses for a safe and viable city. Even with such amendments, this methodology is founded on the premise that—even in the unprecedented case of Katrina—all damage was not consistent and therefore any detailed assessment will encounter property damage that ranges from marginal to complete.

Applying these criteria for property evaluation, the panel proposes the establishment of three zones that reflect the probable range of post-Katrina damage and the application of three corresponding strategies for individual and collective actions for investment respectively. The panel stresses that the zone boundaries implied by the graphic on this page are only diagrammatic. The precise edges of the respective zones and their transitions cannot be established without detailed on-the-ground surveys, which have yet to occur. Therefore, the panel asks readers to view the map as illustrative of the panel's investment strategy and not as a fixed boundary defining the actual limits of building and property conditions.

Investment Zone A

This zone has been most severely affected through a combination of damage and other recovery constraints, such as environmental contamination or high repair costs, and likely will require the greatest commitment of collective—local, state, and federal—and individual efforts to recover. It is probable that a block-by-block, parcel-by-parcel analysis will reveal that these areas also will require the greatest amount of parcel reconfigurations for residential, industrial, and/or commercial uses. In these areas, great care must be taken to work closely with residents to determine the exact patterns



of reinvestment necessary to restore and create a functional and aesthetically pleasing neighborhood.

In keeping with the principle of combining natural and engineered solutions, it is important that open space be programmed to reach its greatest capacity to manage stormwater retention, treatment, and flow. This approach to the use of open space has been successful in other cities, where repeated flooding has led to neighborhood parks, greenways, and flood-neutral land uses. While this report cannot speak to specific open-space allocations for wetlands, recreational parks, or open-water retention systems, all of these options should be explored in a manner that improves safety and adds needed parks and open space to areas that are severely underserved by such basic public amenities.

Investment Zone B

This zone has borne the most varied impact, ranging from individual parcels that require either repair or infill development to sections of entire blocks that may need more collective intervention. In all likelihood, these areas will not necessitate the broader conversion of entire blocks, but will require repairs that should be made within established block patterns and at the scale of adjoining buildings. The most appropriate strategy for Zone B may entail rehabilitating or developing an array of housing types for a varied market of residents who would like to return to New Orleans while Zone A is being evaluated and rebuilt.

Although this zone has not been as severely affected as Zone A, some reprogramming of open space probably will be

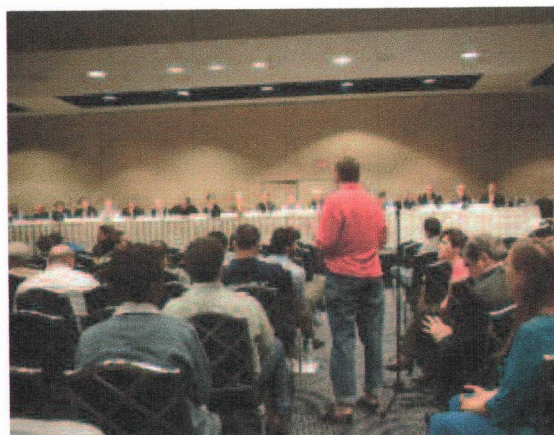
needed to mitigate the impact of flooding and account for space that may not be rebuilt for any number of reasons. These open spaces also can serve as recreational facilities and add to neighborhood identity. Moreover, open-space systems should connect and span from one neighborhood to another, to enhance the walkable nature of New Orleans.

Investment Zone C

This zone represents the areas that were least affected by damage from Hurricane Katrina. For the most part, responses in these areas will call for individual action on a parcel-by-parcel basis. Much of the damage here may not be flood related, but could stem from other consequences of the temporary abandonment that occurred throughout the city. In these areas, which largely coincide with the city's historic settlements along the natural levee of the Mississippi River, repairs already may be underway in many instances. These areas also constitute much of the city's tourism base and can help its preliminary economic recovery as well as provide housing.

In this zone, many unoccupied structures remain, despite their relatively intact condition. These unoccupied areas can serve as temporary housing for permanent residents of Zones A and B who are awaiting the recovery of those areas. Whether for initial economic recovery, historic preservation, temporary housing, or other short-term benefits, activity in this zone should move forward—and in some cases continue—with all haste. Nonetheless, some accommodation for temporary housing in this zone could be critical to the overall success of the entire city's incremental repopulation.

Finally, while open space in Zone C may not need to achieve the same stormwater management goals as that in Zones A and B, open-space amenities in Zone C still are insufficient for the area's density and potential repopulation. Therefore,



additional open space would be appropriate as a continuum from the linear systems suggested in the other zones. Moreover, opportunities exist within this zone to enhance existing open-space conditions, such as the natural levee, allowing citizens to enjoy the proximity of the Mississippi River to the downtown and historic districts. Depending on the resources applied to this effort, a complete evaluation process should take approximately three to five months. In the meantime, much activity can, and should, move forward in the city.

The panel recognizes that even the most heavily damaged areas of the city contain major economic drivers, such as the University of New Orleans in the eastern part of the city. As redevelopment and rebuilding efforts are contemplated in these areas, they need to take into account these facilities and ensure that there is adequate infrastructure—utilities, housing, and so forth—to support them. While this may seem contradictory to the discussion of the zones described above, it is supported by the fact that these zones and their descriptions are only guidelines, not definitive boundaries.

Right of Access

All property owners have the right to enter, clean up, renovate, and otherwise work on their property, at their own risk. In taking such action, an owner must comply with local

laws and ordinances, including obtaining appropriate building permits and inspections. The only exception to this right of access to repair property applies when the appropriate public authority has determined that existing conditions pose an imminent threat to the health or safety of persons entering a particular area. The Crescent City Rebuilding Corporation proposed in this report should determine whether or not its loan funds, grants, land purchases, and other assistance are available to owners in particular investment zones. The factors that the corporation should apply, with respect to each investment zone, include the following:

- The damage to properties caused by the 2005 flooding;
- The extent of flooding in the past 50 years, to the extent knowable;
- The possibility of future flooding, given the level of flood protection projected to be in place by June 30, 2006; and
- A property's listing—or eligibility to be listed—on the National Register of Historic Places, or some other such designation.

As these determinations are made, each property owner should have the right, at his or her own investment risk, to work on property as the zones are being evaluated, as long as the owner complies with all applicable building codes and with any safety-related restriction to property access.

Partners in Implementation

The emotional and physical impact from Katrina's devastation spanned demographic segments of New Orleans's diverse community, sparing no segment of race or class completely. Even as the loss was horrendous for all affected citizens, however, statistically the city's African American



neighborhoods suffered disproportionately. African American homes, churches, schools, and family networks were devastated in areas such as New Orleans East and the Lower Ninth Ward. Certain physically isolated communities also were extreme pockets of poverty, symptomatic of these communities' noninclusion in the city's pre-Katrina economy.

Equity Is Key

In creating its future, New Orleans must address the inequities of the past. The panel strongly recommends an economic strategy that yields opportunity across all segments of

the community, one that will benefit individuals with employment and neighborhoods with new investment.

More urgently, diverse business and government opportunities must be made available at all levels in the near-term rebuilding process. The number of successful opportunities for African American businesses to share in New Orleans's economic rebound will be a bellwether to the nation of the city's commitment to rebuilding a diverse city. All citizens must be treated fairly; no group should be treated as second-class citizens because of its race, class, or the degree of Katrina's impact on it. The critical theme of unity of purpose

across traditional divisions will be scrutinized at every step toward recovery; the recovery plan's economic benchmarks will be among the first measured for credibility.

Neighborhood Planning Units

The successful implementation of any plan to reinvest in New Orleans, develop a sustainable infrastructure, and enhance the public realm must begin with the city's neighborhoods, which clearly form New Orleans's cultural, political, and geographic framework. A network of inclusive, neighborhood-based planning units therefore must be created to

ensure neighborhood input and acceptance of the recovery plan. Although these planning units should correspond to existing neighborhood designations, multiple neighborhoods may be consolidated into larger planning units, based upon clear, common objectives and to increase the efficiency of execution.

Such consolidations also could help identify, engage, and resolve common issues with large institutions or public agencies. In any case, a structure that formally brings neighborhoods into the planning process will offer both short- and long-term advantages. Addressing immediate needs born of Katrina's impact certainly will be better accomplished when neighborhoods can apply the adage "strength in numbers."

For the longer term, beyond the Katrina-related recovery, the same collective neighborhood leverage can be used through formal planning units to request action for future needs, whether they be park dedications, trash pickup, or youth services programs. In this way, neighborhood planning units can become centers for greater prioritization of needs and cultivating entrepreneurial leadership for the community as a whole.

Finally, the panel notes that, even in a system of multineighborhood planning units, individual neighborhoods can retain their traditional designations for most purposes and thereby maintain their unique identities. Irrespective of the final composition of the neighborhood planning units, the panel envisions that they will work closely with city government and other public agencies in articulating, advocating, and advancing neighborhood services and plan implementation.

Churches

New Orleans has been fortunate to grow throughout its history with a strong network of churches that are physical, social, and spiritual landmarks spread across the city's diverse



neighborhoods. In many instances, the churches have been serving as a primary clearinghouse of post-Katrina information for displaced citizens, helping them to keep in touch with family and friends scattered throughout the nation and to learn what is happening in New Orleans.

During this time of recovery, the city's churches continue to fill their traditional role of assisting the needy, as their resources allow. In many cases, the churches themselves are struggling to recover from diminished staff and damaged property. As they seek to improve their current conditions, churches may play a central role in implementing the neighborhood-based planning approach that the panel advocates. In many cities across the United States, churches have taken on neighborhood redevelopment projects, building on their traditional position as community conveners and expanding into more entrepreneurial roles, such as sponsoring community development corporations (CDCs). As churches in New Orleans rebuild, they can be creative partners in "win/win" projects for neighborhood revitalization. In the short term, they may even be eligible for charitable foundation support as sponsors of CDCs that are targeted to provide specific support services.

Universities and Medical Centers

New Orleans is home to some of the nation's finest institutions of higher learning. These universities and colleges

have been major economic engines, drawing students, faculty, and resources from across the country into the city. As with so many New Orleans institutions, Katrina left many universities and hospitals either damaged or depleted of students, faculty, and staff. Many of these institutions are just beginning to project when they will resume anything like normal activity.

As discussed in this report's Economic Development and Culture section, the city's medical centers also have been unique and important economic engines as they serve the public, bring in research dollars, and train a significant portion of the nation's future physicians and medical workers. The New Orleans recovery plan should connect the development of these universities and educational institutions with enhanced opportunities for developing the surrounding neighborhoods and districts in ways that leverage mutual benefits for as many stakeholders as possible. Cities like Philadelphia, Cambridge, and Washington, D.C., have taken major strides in planning areas of their cities in tandem with vital universities and medical centers, and New Orleans should do so as well.

From an urban design perspective, New Orleans also should commit to enhancing the public realm in ways that establish a stronger sense of identity, context, and synergy between the university or other institutional campuses and their urban settings. This critical time offers a chance for innovative land uses, both as part of the post-Katrina recovery efforts and for long-term community investment, through which the city of New Orleans can help rebuild greater institutions, and, in turn, institutions can help rebuild a greater New Orleans.

One-Stop Restoration Centers

In order to facilitate reinvestment in the neighborhoods, the panel recommends that the city consider creating one-stop restoration centers throughout the community, where citizens can go for post-Katrina support services, to receive information related to official recovery efforts, and to connect with volunteer efforts across the community. These centers, in decentralized locations, also could house city services such as building permits and electrical, plumbing, and mechanical inspections—at least temporarily—until a targeted number of buildings are brought back online in the neighborhoods. These one-stop centers can—and, wherever possible, should—be coordinated with the one-stop centers recommended for small businesses in the Economic Development and Culture section of this report.

The one-stop restoration centers also may become the coordinating point for block captains who are designated by their neighborhoods as the official eyes and ears for public safety and other neighborhood requirements. Volunteer efforts also might use these centers as clearinghouses for connecting their services to local needs. Neighborhood-based public



facilities such as schools that are not yet fully operational could house these centers on a temporary basis. If convenient public facilities are unavailable or simply nonexistent, the centers could be operated out of church properties. In any case, given the city's short-term financial constraints, these centers should be structured as public/private partnerships, where some operating costs can be offset through neighborhood-based institutions that can receive private donations from foundations for this purpose. Resource allocation clearly will determine to what extent these centers can be implemented but, given the extent of the damage and recovery effort, a decentralized approach can bring many benefits, both operationally and inspirationally.

Planning Conclusion

The panel has proposed an aggressive response for New Orleans's recovery, applying criteria to assess current damage and to align resources for investment through a range of individual and collective actions. The investment zones outlined in this report set up three working categories to focus analysis and activities for beneficial short- and long-term outcomes. In addition, this plan offers the city a chance to invest in public spaces, facilities, infrastructure, natural and engineered stormwater management systems, and coastal stabilization in ways that will add value and safety for Orleans Parish and the region. The next two sections of this report discuss two basic components of implementation—infrastructure and housing—and expound on the scope and extent of the panel's recommendations for their successful application in the execution of this plan.



Infrastructure

Hurricane Katrina and the flooding that followed it devastated more than levees, homes, and businesses. The storm saturated the city's basic infrastructure, including its fire stations, emergency networks, roads, transit facilities, water and waste management systems, communications networks, and energy systems. Typically hidden from view, these networks underpin the community's economic, social, and environmental survival. Much has been written and discussed about the form, structure, and failures of the city's levee, pump, and drainage systems. Little has been revealed about the existing status of the city's infrastructure systems.

Before Katrina, the city was faced with an increasing number of urgently needed infrastructure system upgrades. One report stated that the city's water system needed \$1.2 billion in maintenance and system upgrades to meet federal standards. Like many U.S. cities, pre-Katrina New Orleans was facing the ongoing fiscal and structural question of how to maintain existing systems as it sought to enrich and expand these systems' capacity to meet new regional and global demands. This was a challenge for an active city of half a million rate customers.

Today, the city faces an even more daunting set of challenges as it operates from a much smaller customer base, suffers from damaged infrastructure systems, and has fewer service employees and a bankrupt power company. All of these systems now are operating within the dynamics of a radically changing local, regional, national, and global economy and ecology. Various estimates indicate that between 75,000 and 100,000 residents and business owners currently operate from within a patchwork of systems that survived Katrina's winds and the following saturating effects of standing floodwaters.

The city will rebuild not from the economic, social, or environmental context that existed before August 29, 2005, but from a geography whose economic form is more similar to the city's past—several people report that the current economic structure resembles that of 1963—and an ecological context in which the delta's protective ecology has deteriorated to a state that computer models predicted would not occur until 2050.

Therefore, a key infrastructure question for the city is as follows: How does it capture the assets of its existing systems,

utilizing the economic capacity of a smaller and slowly growing population, as it turns toward the opportunities of incorporating new and more sustainable urban infrastructure that supports daily economic vitality and functions during annual hurricane events? The panel considered infrastructure redevelopment in a continuum categorized by short-term (immediate), interim, and long-term (permanent) stages. The development and maintenance of state-of-the-art infrastructure should be a top priority for New Orleans and is essential for the city's survival. As such, the infrastructure redevelopment effort has both short- and long-term milestones.

Stages, Themes, and Principles

The panel believes that the following three critical stages must be completed in sequence to rebuild the infrastructure required to support a vital city:

- *Stage 1: Recovering.* This stage consists of actions that have to be completed before the emergency is declared over and federal emergency response agencies leave town.

- *Stage 2: Rebuilding.* Action in this stage should redirect and transform the existing infrastructure systems of a city of 500,000 to support and sustain the rebuilding of the city in the next five years.
- *Stage 3: Growing.* By this stage, the city should be well on its way to creating a safe, connected, and sustainable infrastructure for New Orleans's fourth century.

The recovering stage should continue at least through August 2006. The rebuilding stage would extend one to five years following the recovering stage, and the growing stage would continue beyond the rebuilding stage, with the goal of major completions and the redirection and transformation of the infrastructure system by 2018, the city's tricentennial. Infrastructure redevelopment themes entail designing and implementing improvements in a manner that respects the city's architecture, cultural heritage, human scale, and sense of community. The following themes are consistent with the statewide smart growth principles that have been endorsed by the Louisiana Recovery Authority:

- Guide infrastructure planning, design, and construction, with the goal of achieving sustainability;
- Allocate environmental risk equitably with respect to socioeconomic diversity;
- Phase infrastructure improvements, beginning with improvements to geographic areas that are most environmentally capable of redevelopment;
- Rebuild a reliable and safe regional flood control system and restore coastal wetlands;
- Develop and improve local and regional transportation systems that connect neighborhoods, expand transportation choices, and facilitate evacuation;
- Establish a regional infrastructure planning process; and



- Coordinate decision making for land use and infrastructure planning.

To make New Orleans globally competitive and to serve basic citizen needs for the future, infrastructure redevelopment efforts should incorporate three design principles: safety, connectedness, and sustainability. The infrastructure redevelopment stages, when implemented in their recommended sequence, will support recovery efforts and lead to lasting infrastructure solutions for New Orleans. Key messages that should be underscored include the following:

- *Flood protection.* In the near term, the highest priority is to repair the levee system to its pre-Katrina level and prepare for improvements. In the long term, this effort will require a complete rethinking of the system for an urban setting with links to development.
- *Critical services.* Restore now, but manage to assure reliability, sustainability, and future growth.
- *Transit.* Use redevelopment to support expanded and adaptable transit services.
- *Transportation.* Open the roads, restore traffic signals, and properly manage the system.
- *Natural systems.* Begin to incorporate natural systems into overall infrastructure planning.

Specific Infrastructure Recommendations

Considering the design principles of safety, connectedness, and sustainability, the panel developed specific recommendations for each of the three critical stages of infrastructure redevelopment.

Safety

The panel believes that the following safety benchmarks and goals should be reached during each of the three infrastructure redevelopment stages:

Recovering Stage. The panel believes that the following critical benchmarks should be reached within the next year:

- By January 1, 2006, Entergy should reestablish electrical service to all of the city's neighborhoods. Entergy should assign the highest priority to those neighborhoods in which structural and environmental conditions support immediate occupancy.
- By January 1, 2006, the city should publish safety information that advises returning citizens on the stability, risks, and future viability of the city's infrastructure systems.
- By January 1, 2006, the Federal Emergency Management Agency (FEMA) should publish updated floodplain maps for the city to determine the suitability of various areas for occupancy, including public housing as well as manufactured housing and trailers that might be located on public property.
- By March 1, 2006, the city, in cooperation with other environmental regulatory agencies, should establish benchmarks for air, water, and soil toxicity levels that might be applicable to the revitalization of neighborhoods.

- By April 1, 2006, FEMA should complete an assessment of air, water, soil, and mold pollution throughout the city. FEMA also should complete an assessment of basic public services, including water, sewerage, communication, roads, levees, and canals.
- By June 1, 2006, the U.S. Army Corps of Engineers should reconstruct the city's levee system to pre-Katrina protection levels.
- By June 1, 2006, the city, the Regional Planning Commission (RPC), the Louisiana Department of Transportation and Development (LaDOTD), and other appropriate agencies should cooperatively revise and implement the regional evacuation plan.

Rebuilding Stage. The state of Louisiana should consolidate the multiple levee boards in southeastern Louisiana into a single, regional levee board. This is necessary to ensure that the myriad of flood protection policies and procedures presented by the current, decentralized system are unified under a single regional entity. Doing so will mitigate the possibility of inconsistent—if not competing—policies and practices that may result from the various levels of government currently represented on the various levee boards. The panel believes that a consolidated regional levee board will ensure a unified and consistent approach to flood protection in southeastern Louisiana.

Growing Stage. By 2018, when New Orleans will celebrate its 300th anniversary, the U.S. Army Corps of Engineers should have reconstructed the levees as a multilayered flood protection system that conforms to urban rather than agricultural design standards. It should do so in a manner that provides the maximum protection feasible. The current levee system is a result of incremental improvements to a system that originally was intended to protect agricultural



lands and interests along the navigable waterways of the Mississippi River. The panel suggests a departure from this incremental, ad hoc approach and recommends the development of a full-scale urban protection system that safeguards urbanized lands as well as the communities and the natural, built, and social systems that function on them. The system's multiple layers would include the levees, canals, utilities, greenways, and other linear systems.

Connectedness

Connectedness means creating physical means that link the city's neighborhoods with each other as well as the city with the surrounding region. The panel makes the following recommendations for connecting New Orleans, both within the city and to neighboring communities.

Recovering Stage. The panel believes the following critical benchmarks should be reached within the next year:

- The Regional Transit Authority (RTA) should reconfigure bus routes to adapt to and accommodate post-Katrina population and activity shifts.
- The LaDOTD, in cooperation with the city and the RTA, should reconcile the current construction program with local priorities to ensure that major new infrastructure projects align with reconstruction priorities.

- The city should evaluate and, if feasible, initiate a citywide wireless fidelity (WiFi) communications system. This will be critical for the economic viability of the city.
- The Board of Commissioners of the Port of New Orleans should stabilize port and water management facilities to enable the return of port operations.
- The city should develop a temporary citizen information system, including information nodes in key recovery activity areas, to ensure universal access to critical information by residents, business owners, and recovery workers in New Orleans as well as by displaced residents dispersed nationwide.

Rebuilding Stage. As part of the city's rebuilding process, the panel believes the following actions need to taken:

- Consolidate triparish transit systems into a regional agency/transit provider.
- Reconstruct at least one major artery per year.
- Implement the Rampart Street streetcar line to facilitate and expand public transportation, extend the streetcar system, and provide a psychological lift to residents.
- The city, in cooperation with the RTA and the RPC, should update the transportation element of the city's master plan to align the transit and mobility network and facilities with the city's redevelopment strategies.

Growing Stage. To ensure the city's growth and prosperity, the panel believes the following actions will be necessary:

- Reestablish human-scale transportation systems of interconnected neighborhood open spaces, trails, bikeways, sidewalks, and streetcars.
- Develop a state-of-the-art intermodal transportation system, including port facilities.

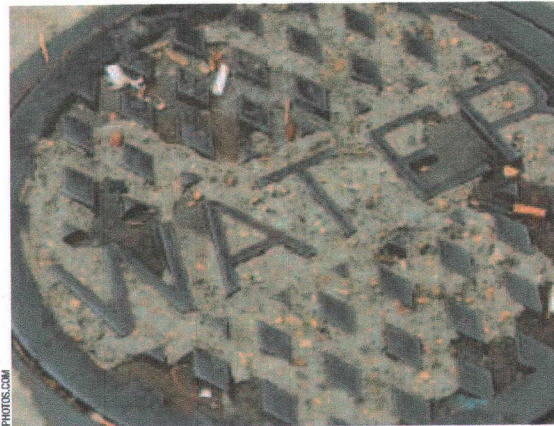
- Establish a regional transit system with local and inter-city connections that may include, but would not be limited to, rail connection between New Orleans and Baton Rouge.

Sustainability

For cities to prosper, they must be sustainable. This refers to economic as well as environmental sustainability.

Recovering Stage. In order to fully recover from the impacts of Hurricane Katrina, the panel believes that the following steps should be taken within the next year:

- By June 2006, the city should assess the existing condition and operational capacity of its urban infrastructure for the city of 500,000 in the post-Katrina era through mapping overlays.
- By June 2006, the appropriate entities, in cooperation with other appropriate state and regional agencies, should develop and implement a protection system for pumps and water treatment facilities.



Rebuilding Stage. Sustainability should be part of the city's rebuilding strategy, to help ensure that impacts from adverse environmental conditions are mitigated in the future. The panel therefore proposes the following actions:

- Realign infrastructure systems to serve a repopulating city, which will grow from an existing population of around 100,000 living in new community clusters and in remote locations across town to a larger resident population.
- Begin sustainable building design and enforcement procedures to reduce infrastructure demands and increase the generation of renewable sources, and work with the Cres-

cent City Rebuilding Corporation to link development with sustainable infrastructure.

Growing Stage. As the city celebrates its 300th anniversary in 2018, the panel believes the following benchmarks should be accomplished:

- Replant 300,000 trees to reestablish the urban forest.
- Develop bigger, wider, and multilayered systems to protect the urban area from annual Mississippi River flooding, frequent flooding from rainstorms, and infrequent flooding from hurricanes.
- Establish neighborhood-level infrastructure systems in new or restored neighborhoods, with a much higher level of protection against all three types of flooding.



Housing

The panel believes that immediate and emergency shelter is a right for every New Orleanian, regardless of race or income. Current circumstances require an adequate supply of temporary housing units, renovation of existing units, conversion of underutilized structures, and the ongoing development of new for-sale and rental structures. These activities can and should happen in ways that strengthen both the neighborhoods and the city. In addition, the production of such housing will, in itself, act as an economic force that can stimulate the markets and create jobs for residents wishing to reoccupy the city.

The process of moving from emergency shelter to long-term, permanent housing will take years, as well as a coordinated effort from a partnership that must include all levels of government, the private sector, community groups, and property owners. Such efforts will be unprecedented, but if they are accomplished correctly, the city will sustain its character and its residents will be housed in decent-quality housing that they can afford. This section of the report provides guidance on how to achieve these goals.

Urgent Recommendations

The city, through the Housing Authority of New Orleans (HANO), presently is working with FEMA to locate sites within the city for some 6,700 FEMA trailers to provide temporary housing for returning New Orleanians. HANO also is exploring other ways of temporarily housing returning residents and people coming to work on the recovery effort. The panel developed a series of additional recommendations to facilitate the supply of temporary housing. Many of these actions and activities should be the responsibility of the recommended Crescent City Rebuilding Corporation (CCRC), as discussed in the Government Effectiveness section and in more detail later in this section.

Meet General Needs

The panel suggests that the city, through HANO and/or the CCRC, should undertake the following actions to ensure that residents' basic needs are met.

Work with the Federal Government to Make National Flood Insurance Available. This insurance should be made available to all families who move back to New Orleans and

renovate their homes or build new ones, regardless of whether the homes are located on a floodplain.

Accelerate the Restoration of All Housing in Appropriate Areas. All single- and multifamily housing in appropriate areas that is in sufficiently good condition to be made habitable within the next few months should be restored, regardless of the ability of the owners to afford the repairs. Funds for this purpose can be made available through the CCRC.

Establish a Housing Ombudsman. This person would help ensure that homeowners are aware of their rights and could represent homeowners with insurance companies and contractors when needed. The ombudsman also should advocate for renters who are at risk of eviction by landlords who want to raise rents significantly.

Obtain Guidebooks on Repairing and Rehabilitating Homes. These guidebooks should be made available to all who want them, including by posting them on the city's Web site. The guidebooks must provide sufficient information to enable homeowners to fully rehabilitate their homes. A similar program is being implemented in Mississippi.

Ensure the Quality of Contracting and Restoration

The panel suggests that the following actions be undertaken to ensure the quality of all contracting and restoration efforts in New Orleans.

Prequalify Contractors to Work in Specified Neighborhoods. Both local and outside contractors should be prequalified to work in specified neighborhoods. Property owners in these neighborhoods would not be required to use these precertified contractors, but would know that they have been screened and that their fees would be at or below market rates. The contractors could expect to get significant work in a particular neighborhood, which would enable them to reduce costs and purchase materials in bulk.

Contract with Experienced Mold Remediation Firms. In the next few months, these firms should be hired to go into homes in appropriate areas that can be more easily renovated and remove all mold, regardless of the property owners' ability to afford the remediation. Funds for this purpose can be made available through the CCRC.

Facilitate the Use of Local Contractors Wherever Feasible. The panel also recommends that the city establish training facilities to teach people to become skilled crafters and contractors. This is consistent with the recommendations in the Economic Development and Culture section of this report.

Provide Temporary Housing

The panel recommends that all utilities and infrastructure repairs in areas identified as appropriate for temporary housing be expedited to allow for the prompt development of sites in these areas in accordance with ULI's principles for temporary communities. These principles call for such com-



munities to be provided with a full range of services and amenities, either by being located near them or by providing them on site. Where this is not possible, public transportation needs to be provided to allow residents to access jobs, schools, health care, parks, playgrounds, and all other necessary services and amenities. In other words, the residents of temporary communities should not be isolated from the city around them. To further encourage the provision of temporary housing, the panel recommends the following.

Waive any Requirements that Limit Access to Trailers to Former Homeowners. Everyone who lived in New Orleans prior to Katrina has the same right of return. Given the extreme shortage of rental housing in the city, FEMA trailers are one of the only ways families who formerly rented in New Orleans can return to work and live in New Orleans while the rental housing stock is gradually rebuilt.

End All Opposition to the Placement of FEMA Trailers in Appropriate Locations. The prompt return of New Orleans residents is essential to the revival of the city's economy. For this reason, the mayor must work with the city council to ensure the availability of temporary housing so people can return to work and live in New Orleans. Habitat for Humanity is proposing to build temporary communities of small, "portable" homes, which could be used on a temporary basis by any returning family. (Later, these houses would be moved and sold to low-income families.) FEMA and the city have a common goal of providing the maximum amount of temporary housing as expeditiously as possible. This can best be accomplished through a flexible program of trailers and other forms of emergency housing, including the shallow rehabilitation of marginal units for temporary occupancy.

Remove Barriers to Affordable and Workforce Housing

The panel recommends that the following actions be taken to provide affordable and workforce housing.

Repair and Reopen All Public Housing Units in Appropriate Areas. HANO is in the process of determining which of its properties to reopen and which of those that were under reconstruction prior to Katrina should continue to rebuild. The panel heard that Iberville will reopen soon, which is a positive sign.

Expand the Use of Section 8 Vouchers. HANO should seek approval from the U.S. Department of Housing and Urban Development (HUD) to allow its Section 8 vouchers to be used for families with incomes up to 120 percent of area median income, and to raise the rent limits to 150 percent of fair market rent in order to offset the impact of the rapid increase in rents caused by the extreme shortage of rental housing in New Orleans and to stimulate the production of new rental housing to ease the shortage.

Enact Ordinances and Revise Policies

The panel recommends that the following ordinances and policies be put in place.

Enact an Inclusionary Housing Ordinance. This ordinance should require 10 to 15 percent of all new housing—both for-sale and rental units—built in the city to be affordable to families with incomes of no more than 80 percent of the city's median income.

Upgrade the Building Code. The upgraded code should be modeled on the best codes nationally and should include higher standards of energy savings. The city should adopt a smart rehabilitation code, along the lines of the U.S. De-

partment of Housing and Urban Development (HUD) model code, to facilitate rehabilitation.

Amend Building and Zoning Ordinances to Allow Accessory Units. This will promote a mix of uses as well as provide much-needed housing as the city is rebuilt.

Provide Mortgage Assistance

The panel recommends that the city use the following means to provide mortgage assistance.

Work with Fannie Mae, Freddie Mac, and Other Major Mortgage Lenders. The city should work with major national lenders to develop a uniform policy of extended forbearance and, ultimately, to facilitate the transfer of all delinquent single-family mortgages to the Crescent City Trust, a subsidiary of the CCRC. This must be done soon to avoid massive foreclosures and uncertainties, since the initial 90-day period of forbearance provided by Fannie Mae and Freddie Mac ended on December 1, 2005.

Work with Local Lenders and Mortgage Brokers. The city should work with these lenders to find ways to make lending for rehabilitation an attractive business, including providing possible tax incentives and other financial benefits to offset the greater costs involved.

Continue to Work with the City's Largest Employers. Together, the city and employers should work to expand employer-assisted housing programs, including the construction of new housing by employers that is financed by the city.

Stabilize and Promote Rental Housing

The panel proposes the following actions to stabilize and promote rental housing.

Impose an Emergency Rent Stabilization Program. This program should prohibit rent increases in excess of increases in the cost of operations, maintenance, and repairs. The program should end in three years.

Establish a Rental Assistance Program. This program should supplement HANO's housing voucher program. Families with modest incomes returning to New Orleans, whether they formerly owned homes or rented, would have priority.

Release Foreclosed Properties

The panel recommends the following actions to make additional property available for redevelopment.

Release City-Owned Foreclosed Properties in Appropriate Areas. Doing so would make these properties available to returning families for rehabilitation and, in time, the properties could be sold to the families that will occupy them. Property not rehabbed immediately should be transferred to the CCRC.

Take Title to or Place in Receivership All Vacant Lots in Appropriate Areas. Doing so will make it possible to build housing on these lots by contracting with builders on a turnkey basis or by selling them to prequalified developers, as is done in Washington, D.C.'s Home Again program. Vacant lots not used immediately should be transferred to the CCRC.

The Crescent City Rebuilding Corporation

As discussed in the Government Effectiveness section of this report, the panel strongly recommends the creation—through state legislation, if necessary—of the Crescent City

Rebuilding Corporation (CCRC). This new corporation should have the power and resources to plan, oversee, and implement the rebuilding effort. It should be responsible for the economic stabilization and redevelopment of all areas within New Orleans. Redevelopment has occurred in cities all over the country, and there are many models from which New Orleans can draw upon.

Thousands of dwellings and commercial facilities are—and will remain for some time—uninhabitable as a result of Hurricane Katrina and related flooding. In addition, many land parcels and structures were unoccupied, blighted, or otherwise vacant before the storm. Such land parcels must be “collected” for effective post-storm redevelopment. The CCRC should be the intake point for all such parcels, dealing directly with the owners and serving as a “receiver” of land from the city.

The CCRC should function as a conduit for land. Other than appropriate improvements, consistent with a master plan or a hold-to-resell strategy, it should not develop unilaterally. It should acquire, hold as needed, plan, entitle, and resell land to others for development. The CCRC also should acquire debt obligations on such parcels from lenders, via a “bad bank” subsidiary.

The CCRC’s goal should be to accomplish its mission and be closed down coincident with the Crescent City’s 300th anniversary in 2018.

Powers and Duties

The CCRC should have several specific responsibilities related to the rebuilding effort. The panel anticipates that it will have the following powers and duties.

Land Acquisition. The CCRC should acquire land for redevelopment. Most of the land and structures in New Or-



leans are not experiencing a normal real estate market. Liquidity is questionable, values are suspect, supply and demand are not in harmony, and speculation is present. In addition, questions about landowners’ ability to insure, finance, and rebuild abound. In such a market, property owners would benefit from the CCRC’s ability to bring balance and provide liquidity. The CCRC should be established on the principal of providing fair compensation for all land parcels so purchased.

Neighborhood Planning. The CCRC would be responsible for re-creating and/or refining plans for every neighborhood in New Orleans. The panel expects that each planning process will involve the participation of stakeholders, including residents, small business owners, retail operators, churches, schools, public safety officials, and neighborhood organizations. Upon its completion, each plan would be submitted to the city for approval. Such plans should be used as the basis to foster development, approve projects, and channel loan and grant funds.

Land Assembly and Banking. The CCRC would bank land for future development. It could be the recipient of land from either the city and/or the private sector. It also would have the ability to acquire land with its own funds and—in cases of blight or the necessity for public infrastructure—through eminent domain. The panel expects that this entity could be the depository of all the city’s adjudicated

and blighted properties. All land would be held in trust and would be disposed of over time to fulfill economic development and housing goals according to the approved community plans.

The CCRC also would be able to receive donated land from other entities such as banks, insurance companies, and property owners. Similarly, such land could be made available to initiate development according to approved plans.

The CCRC would serve as the primary vehicle for land assembly for public/private partnerships for commercial development in neighborhoods as well as in larger, citywide or regional initiatives. The CCRC would assemble land appropriate for commercial and mixed-use development, recruit private investment, and foster partnerships that include local, neighborhood, and minority-owned businesses.

Note Purchase. Much of the real estate secured debt in Katrina-affected areas presently is in default or forbearance. The CCRC would establish a wholly owned subsidiary—to be known as the Real Estate Opportunity Corporation—to buy such notes and hold them for future disposition. Such a structure would allow for unabated forbearance. It also would provide a direct link to the acquisition of the parcels. In addition to forbearance, the CCRC would establish “pre-Katrina” land values, negotiate with owners to purchase property, and assist with credit reconstruction as appropriate. For more details, see the sidebar on page 61.

Financing. The CCRC also would serve as a financing entity for the redevelopment of New Orleans. It would receive and disburse public and private redevelopment funds in the form of both loans and grants. Such financing is not intended to replace traditional forms of primary capitalization. Rather, it is intended to augment them by providing gap financing to enable such transactions.

Bond Issuance. The CCRC would be capable of issuing bonds—Liberty Bonds are one possible model—and employing other capital-raising strategies in capitalizing itself and funding transactions.

Fostering Not-for-Profit Development Entities. The CCRC would be responsible for encouraging the formation of not-for-profit development entities that could take advantage of its offerings. This would include providing technical assistance—or ensuring that it is available—to advance the capacity of local not-for-profit developers. It also would include the recruiting of regional not-for-profit developers and national intermediaries to assist in executing its mission.

In addition, the CCRC would establish the New Orleans Housing Partnership (NOHP), a tax-exempt 501(c)(3) entity. Its mission would be to ensure that the city's low- and moderate-income individuals and families are able to obtain and retain decent, affordable housing with choice and mobility. The NOHP would work with the CCRC to create housing opportunities throughout the city for families earning between \$25,000 and \$45,000 a year.

Funding Supporting City Positions. The CCRC also would be able to provide funds and otherwise assist the city in procuring municipal personnel to support redevelopment activity. Such positions would include but not be limited to construction inspectors, planners, and zoning and entitlement personnel.

The New Orleans Housing Partnership

The mission of the New Orleans Housing Partnership (NOHP) should be to ensure that the city's low- and moderate-income households are able to obtain and retain decent affordable and workforce housing with choice and mobility. All of the

Real Estate Opportunity Corporation

The Real Estate Opportunity Corporation (REOC) should provide the following incentives for homeowners or investors whose properties have been deemed uninhabitable.

For Homeowners

In the event that a homeowner opts to relocate within the developable area, in return for deeding over his or her property, the homeowner would be entitled to receive the equity value of this property and to transfer the value of the outstanding mortgage. In the event that the acquisition cost for a comparable house exceeds the pre-Katrina value of the owner's original house, a soft second mortgage equal to the value of the excess would be provided by the appropriate entity for acquisition of the new home.

Homeowners who have no debt would be entitled to the total pre-Katrina value of their property. Those who choose to relocate away from New Orleans would be entitled to receive the pre-Katrina equity value of their homes. Homeowners who choose to retain property not in a developable area would not be entitled to compensation through the REOC.

programs and initiatives proposed by the panel are designed to encourage housing stability, increased economic self sufficiency, and an enhanced quality of life.

The NOHP would build the capacity of neighborhood businesses to develop single-family housing and manage rental housing, and to reduce the city's inventory of substandard properties. To achieve its mission and to promote efficient service delivery, NOHP would work collaboratively with a broad array of service providers and neighborhood-based organizations.

For Investors

When an investor opts to deed over his or her property in favor of relocation to a developable area, the investor, to receive compensation, would agree to provide housing at a rental rate comparable to pre-Katrina rates. In return, the investor would be entitled to the equity value and be allowed to transfer the remaining mortgage to a replacement property. In the event the acquisition cost of a comparable property exceeds the pre-Katrina value of the former property, the owner would receive a soft second mortgage equal to the difference, adjusted by any insurance collected on the original property. Investors who have no debt would be entitled to the total pre-Katrina value of their property. Those who choose not to reinvest in New Orleans would be entitled to the pre-Katrina value of the original property, minus any outstanding mortgage. Investors who choose to retain property not in a developable area would not be entitled to compensation through the REOC.

Participation in this equity transfer program also should address the property owner's tax position. Ad valorem tax values should transfer from the original property to the new property, and thus the owner's obligation would remain at the pre-Katrina amount. ■

Structure

The NOHP should be a tax-exempt 501(c)(3) organization governed by a board of directors consisting of representatives of community, private/corporate, and public constituencies. Board members would be selected to provide governance and vision in executing the NOHP's mission. The board should have nine to 15 members.

The NOHP should work with the Crescent City Rebuilding Corporation to create housing opportunities throughout the city for families earning between \$25,000 and \$45,000 a

year. The program should produce condominiums, single-family houses, and two- and three-family homes with both owner-occupied and rental units.

Developers should be selected through a request for qualifications (RFQ) issued and advertised by the NOHP. To ensure affordability, the CCRC would provide a soft second mortgage/grant, in the form of a loan that will evaporate over a designated period of time, typically five years. The NOHP also may provide land from the CCRC land bank to qualified developers. In addition, homeowners may receive a partial real property tax exemption. Homes should be marketed to prospective homebuyers by local not-for-profit organizations, which would advertise the availability of the homes and review applications.

Under a neighborhood builder program, small, locally based enterprises would be provided with assistance to develop the capacity to build, manage, and market these housing developments. Depending on the builder's requirements, the NOHP could provide financial, marketing, cost estimating, legal, and/or other types of technical assistance. The NOHP also may be able to make seed loans available for predevelopment costs.

Operating Initiatives

The NOHP should solicit outside funding from philanthropic groups, the state, and federal agencies in order to conduct its development activities. NOHP operations should be staffed by effective personnel who have a proven track record of fund and project development, in either the private or the public sector. The board would further



develop the partnership's mission and vision as well as its operating policies.

Development Initiatives

The NOHP should work with CDCs and other developers to oversee investment in and production of affordable housing. Some potential initiatives include the following:

- Soliciting community housing development organization funding to provide technical assistance to community-based organizations to build their capacity to develop and manage affordable housing;
- Seeking out public funds to build the capacity of small and minority-owned firms to construct housing units and infrastructure and to facilitate the inclusion of minority-owned firms in public contracting;
- Serving as an administrative conduit agency to fund the development of single-room occupancy housing for the homeless;
- Using HOME funds to provide homebuyer counseling and homeowner training;
- Using Section 8 vouchers; and
- Exploring the conversion of Section 8 vouchers to project-based vouchers.

Housing Design Guidelines

The panel started with the premise that New Orleans neighborhoods are priceless examples of the best traditional American urban neighborhoods. Hurricane Katrina dealt severe blows to some neighborhoods and inflicted lesser damage on others. None, however, were spared. Rebuilding these neighborhoods will involve both the rehabilitation of existing houses and the production of new housing on infill sites.

In city-designated historic districts, design review boards ensure that appropriate designs and materials are used for exterior rehabilitation and for new infill housing. Outside the city's historic districts—even in districts listed in the National Register of Historic Places—design review board approvals are not required, and no design standards are in place to regulate scale or exterior design.

Displaced New Orleans residents from severely damaged neighborhoods or those whose homes were damaged beyond repair may wish to return to the city and relocate in less vulnerable neighborhoods. Production of housing to meet that demand will require a coordinated development strategy in the receiving neighborhoods that will respect the city's historic urban design and architectural heritage.

The following guidelines provide a starting point for new regulations that initially would apply to housing produced through the auspices of the Crescent City Rebuilding Corporation but could eventually be adopted citywide.

Two Sources of Housing Production

Existing housing will be rehabilitated and new housing will be produced by individual homeowners as well as by private and not-for-profit developers working on multiple units. Each will need to meet the goal of respecting New Orleans

traditions. Individual homeowners will require design guidelines for individual house rehabilitation and/or new construction projects. Developers will require the same design guidelines as well as urban design principles and guidelines for developing aggregated scattered sites or larger cleared sites.

Design Principles of Urban Infill Housing

The appendix of this report demonstrates some concepts that can be incorporated into the design guidelines for redevelopment. They are conceptual but are included to show how the true spirit of New Orleans architecture can be reinstated into the revitalized neighborhoods.

The following principles should be used to develop design guidelines for infill housing:

- *Involve existing residents.* They are the experts on their neighborhoods and must be consulted in an open and public process.
- *Design in context.* The historic inheritance of a neighborhood's housing and streets are the keys to design.
- *Focus on the street.* Houses with porches should face the street, with uniform setbacks on each block based on historic patterns.
- *Provide linkages.* The urban neighborhood is part of the larger city. Guidelines should ensure that streets connect to other neighborhoods and city amenities and that public transit is available.
- *Supplement rehabilitation with infill.* Artfully combine new infill housing with the sensitive rehabilitation of existing housing.
- *Provide housing variety.* A combination of single-family houses, townhouses, and small apartments, including both

owner-occupied and rental units, will provide housing choices for residents of all incomes, family sizes, and ages.

- *Develop design guidelines.* Architectural and community design guidelines that contain facade and porch details as well as lot standards are useful tools in ensuring that rehabilitation and new construction are in context with the neighborhood.
- *Construct or enhance amenities.* Streets should be tree lined. Parks, recreation centers, churches, social service agencies, and schools create essential services and gathering places for community life. Neighborhood retail and service stores should be located within walking distance of all residents.

The New Orleans Design Guidelines Book

With the urgent need to restore and rebuild New Orleans neighborhoods, finding the most appropriate and cost-effective means for providing housing will be essential. There is also, however, a danger that neighborhoods could lose many of their essential qualities through the introduction of mass-produced housing, temporary housing that becomes permanent, modular units, and/or buildings of inappropriate scale and design. In addition, new standards to meet FEMA and accessibility requirements will require sensitive examination of their impact on the historic legacy of traditional New Orleans houses. A book of design guidelines for New Orleans houses and neighborhoods will be an essential tool in the rebuilding effort. This book should be prepared by a third-party architectural consultant to both the planning and historic commissions.

The *New Orleans Design Guidelines* book should include the following:

- Neighborhood patterns illustrating New Orleans street, block, precinct, and public realm configurations;

- Architectural patterns illustrating New Orleans building types—shotgun houses, cottages, townhouses, ranch houses, and so forth; architectural styles—Acadian-Creole, classical, modern, and so forth; and architectural details—for porches, eaves, windows, doors, and other elements.
- Landscape patterns illustrating New Orleans streetscape traditions, front-yard plantings, foundation plantings, and so forth;
- Sustainable and green design principles, illustrating site planning and architectural design for energy efficiency and conservation; and
- Materials illustrating appropriate building materials and manufacturers.

The *New Orleans Design Guidelines* book should be essentially a “kit of parts” that will allow individual homeowners or developers to select and tailor a variety of appropriate house designs for a particular neighborhood.

Ongoing Development

As the housing programs and strategies initiated during the emergency phase are being implemented, the city must make the transition to a longer-term housing strategy that includes significant additional solutions. Based on a realistic analysis of the actual condition and quantity of the post-Katrina housing stock and the population trends evidenced during the emergency period, the CCRC should create a housing demand model. This model should identify the need for new production of both rental and ownership housing for the full range of housing needs, from deeply subsidized affordable products to those that can be sold or rented at full market value. The panel expects that this need can be addressed by infill housing in safe neighborhoods and that the housing will be of various product types, including single-

family, attached, multifamily, and mixed-use housing. Infill sites initially will be drawn from vacant land in the CCRC land bank and from underutilized properties. Later production will occur on remediated “new brownfields” created by the flooding and drawn from the land bank. All new housing should follow the design guidelines.

The first priority for new construction will be to replace all temporary units within a predetermined period that should not exceed three years. This will be followed by continued production to address the needs created by a recovering and growing economy.

Additional supply also should be available from a continuation of the HOPE VI program or other programs that facilitate the reuse of HANO property. One priority of the CCRC will be to return property from the land bank to the open market while instituting mechanisms to ensure that inclusionary (affordable) housing needs are met. A significant amount of rental housing could be developed through an expanded 80/20 program—in which 80 percent of the units are market rate and 20 percent are affordable—that will include a workforce component and could be modeled on New York City’s 50/30/20 program, in which 50 percent of the units are market rate, 30 percent are rented to households earning between 80 and 120 percent of area median income (AMI), and 20 percent of the units are rented to households earning less than 80 percent of AMI.

Manufactured housing could play a role in addressing both the emergency and longer-term housing need, and an assessment of the quality, suitability, and economics of this production method should be an immediate priority. The most compelling aspects of manufactured housing are its speed to market and predictability of cost and quality.



Design Principles for Workforce and Affordable Housing

The need for the immediate production of workforce and affordable housing is large and is tied to the economic recovery of New Orleans businesses. Employers need workers, who in turn need housing, which now is in shorter supply than jobs. The CCRC should be committed to producing affordable housing as a central tenet of its mission to increase the housing inventory. Every development facilitated or funded by the CCRC should be required to include a specific percentage of affordable units.

In contrast to the past practice of isolating, concentrating, and stigmatizing poor and modest-income families in public housing or other rent-subsidized enclaves, New Orleans neighborhoods should become more inclusive. In order to achieve this goal, three design principles must be followed. Affordable housing units must be:

- *Dispersed.* Affordable and workforce housing should be dispersed throughout a neighborhood, not compartmentalized on one or two large sites.
- *Indistinguishable.* Affordable and workforce housing should be designed in accordance with the *New Orleans Design Guidelines* book so that it is indistinguishable in design quality and materials from market-rate units.

- *Connected.* Affordable and workforce housing should be connected to neighborhood amenities such as schools, churches, parks, and retail centers, as well as to civic uses, public transit, and jobs.

Design Principles for Interim and Temporary Housing

Because the need for housing for returning residents is so great and immediate, temporary housing, such as trailers or modular houses, will be required. Critical issues relating to temporary housing include the identification of available sites, design quality, and community acceptance.

- *Site locations.* City parks, underused parking lots, vacant lots, church and school sites, and employer-provided sites at hospitals, factories, offices, and elsewhere should be used for temporary housing.
- *Design quality.* Trailer clusters should be designed as small villages with central gathering spaces or parks, and should include utilities, landscaping, paved sidewalks and roads, parking, and access to neighborhood amenities such as schools, churches, parks, shops, and transit.
- *Community acceptance.* Neighborhood residents should be consulted and involved in the siting and design of temporary housing, including the schedule for the eventual dismantling of the units and the restoration or development of the remaining empty site.



Conclusion

This report presents many ideas and recommendations. While the panel believes that all of these are important, its four key messages are the following:

Form the Temporary Financial Oversight Board

A temporary oversight board will help the city get through the current financial crisis, which began before Hurricane Katrina and was exacerbated by the storm and subsequent floods. The board, like those that have been implemented in many other cities, will help the city overcome the current financial issues and allow city leaders to focus on rebuilding.

Form the Crescent City Rebuilding Corporation

Any major development or redevelopment project needs an entity that is focused on the efforts at hand. The panel believes that this is a redevelopment project of a scale probably never seen before anywhere in the world. It is therefore unreasonable to think that city leadership can manage both the day-to-day operations of the city and the rebuilding of New

Orleans. The panel believes that the CCRC, with a strong board and an extremely qualified staff, will be the right vehicle to transform New Orleans into an even greater city.

Begin Evaluating the Potential for Rebuilding Immediately

The city needs to identify, through the evaluation of facts and any necessary additional study, those areas where rebuilding can occur safely. To do otherwise is, in the panel's opinion, irresponsible. The panel has presented one scenario and methodology, based on facts and data, for evaluating the rebuilding effort. The city should refine this scenario and methodology as it creates its redevelopment plan. Where appropriate, rebuilding should begin immediately.

Have One Plan that Is Fair and Equitable

While the panel has presented a strategy for rebuilding, it recognizes that the city and its residents must refine and own the plan if New Orleans is to be rebuilt. It is only through people working together that this will occur. The

plan must ignore the socioeconomic lines and practices—both real and perceived—of the past.

Hurricane Katrina devastated New Orleans, but the storm also crystallized a chance for the city to write a new chapter in the book of its history. This new chapter must be written by the people of New Orleans. Their resilient spirit will prevail. The chapter will contain several pages dealing with a more diverse economy and culture; a more solid infrastructure as the basis for more livable neighborhoods, better-quality housing, healthcare, and education; and a more transparent and efficient government—and, not incidentally, more racial harmony.

Writing this new chapter will require extraordinary effort and leadership. The city faces a huge challenge. The road will be a long one; it will be arduous, difficult, and somewhat messy. The city will need patience, mutual respect and forbearance, courage, vision, and perseverance. While Hurricane Katrina caused major destruction in a short period of time, rebuilding will take a long time. This was true in San Francisco after the earthquake and in Grand Forks, North Dakota, after the floods. The panel believes that New Orleans is up to the task.



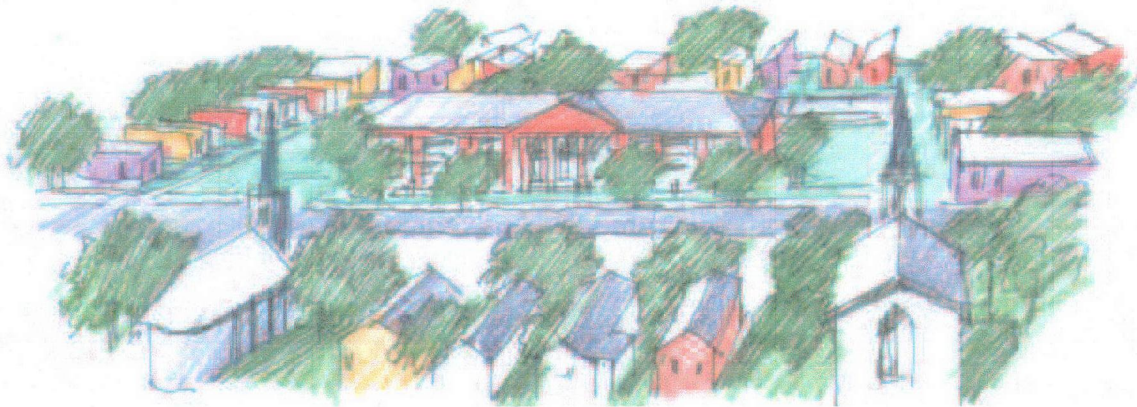
Appendix: Looking to the Future, Building on the Past

These illustrations show how the regenerated New Orleans can build on its past culture and architecture to once again become a vibrant city for its residents and visitors. The illustrations do not depict a re-created New Orleans, but rather a revitalized New Orleans.

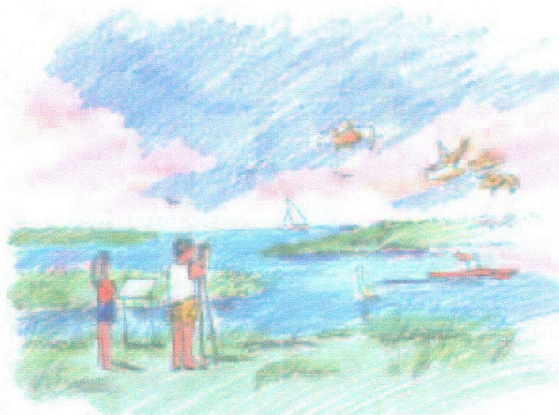
Vibrant commercial development has been and can continue to be a hallmark of New Orleans. Accessible and walkable commercial areas with retail and restaurants for both residents and visitors will be a critical component in the city's redevelopment. Areas for learning and enjoying the arts should be incorporated into neighborhood commercial developments.



ALL APPENDIX DRAWINGS: PETER WASELMAN



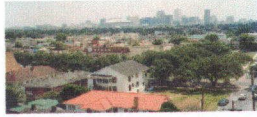
New Orleans is all about neighborhoods. Prior to Hurricane Katrina, vibrant neighborhoods with civic uses and active streets were the mainstay of the city. As part of the redevelopment, these neighborhoods will return in some form. In addition, thought needs to be given to areas of higher-density development that incorporates the look and feel of New Orleans.



The future development of New Orleans will need to respect its relationship with the water that surrounds the city. The city can improve that relationship by redeveloping in a way that allows for neighborhoods to be re-created in

harmony with the natural environment. Green space for water retention will mitigate impacts during normal flood events as well as provide areas for both passive and active recreation.

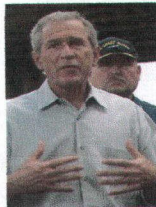
**HURRICANE KATRINA:
REBUILDING AND LAND USE ISSUES
IN NEW ORLEANS**



Presented at the Texas Environmental Superconference, Austin
By Fernando Costa, Planning Director, City of Fort Worth
August 3, 2006

**NATIONAL COMMITMENT
TO REBUILD NEW ORLEANS**

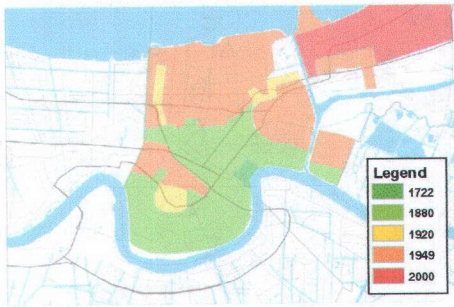
"I also offer this pledge of the American people: Throughout the area hit by the hurricane, we will do what it takes, we will stay as long as it takes, to help citizens rebuild their communities and their lives. And all who question the future of the Crescent City need to know there is no way to imagine America without New Orleans, and this great city will rise again."
— President George W. Bush,
speaking in New Orleans at Jackson Square,
September 15, 2005



A CITY OF SOUL

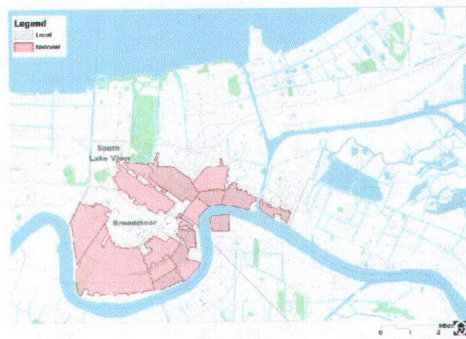


A HISTORIC CITY



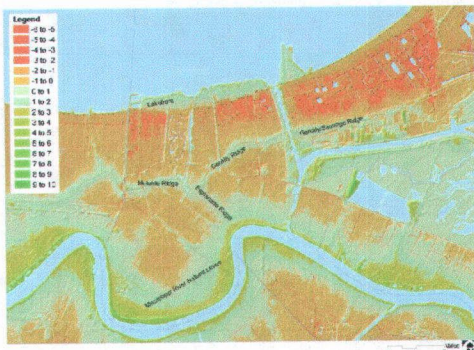
Source: Campanella 2002, ULI analysis.

HISTORIC DISTRICTS

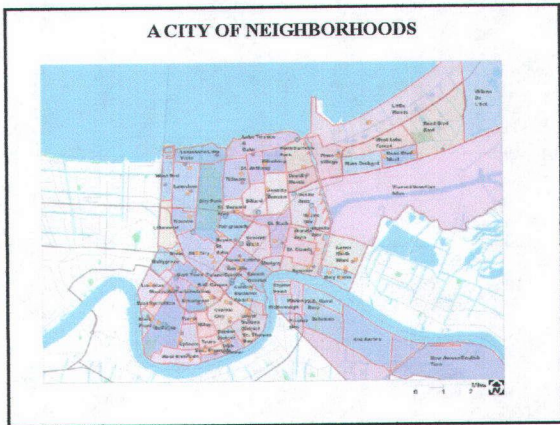


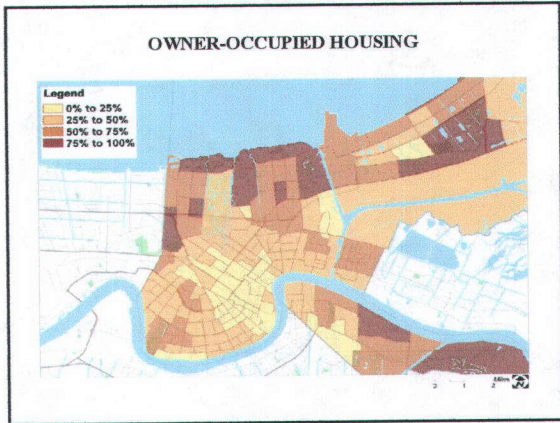
Source: New Orleans City Planning Commission.

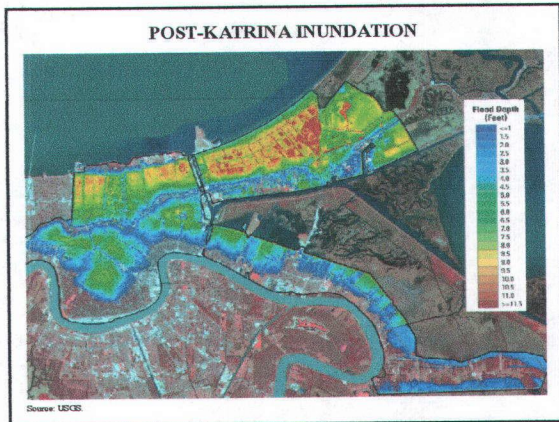
ELEVATION



Source: USGS.



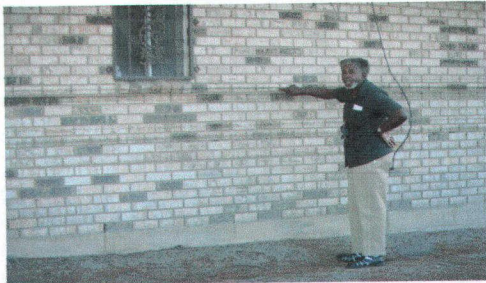




DEVASTATION



Approximately 110,000 housing units (50% of total)
had more than **four feet** of floodwater.



TIME, 11/28/05: "It's worse than you think."



WHO'S BEEN DOING WHAT?

Date	Organization	Activity	Client
9/26-10/15	ASCE, NSF & others	Assessment of levee system	U.S. Army Corps of Engineers
10/23-25	APA	Assessment of planning function	City Planning Commission APA Louisiana Chapter
October	Brookings Institution	<i>New Orleans After the Storm:</i> Analysis of socioeconomic trends	N/A
11/7-8	ACORN	Discussion of rebuilding principles	Katrina Survivors Association
11/9-11	USOBC	Discussion of rebuilding principles	Louisiana Recovery Authority
11/10-12	NIA, APA, NTHP & ASCE	Discussion of rebuilding principles	Louisiana Recovery Authority
11/15	MICD	Discussion of rebuilding principles	Mayor and City Council President
11/12-18	ULI	Formulation of redevelopment strategy	Bring New Orleans Back Commission
12/4-10	ULI & APA	Facilitation of town hall meetings	Bring New Orleans Back Commission
1/1/06	WRT	Preparation of master plan	Bring New Orleans Back Commission
1/21/06	ULI, APA, NIA, et al.	Facilitation of planning workshops	Louisiana Recovery Authority, FEMA

APA'S ASSESSMENT OF THE CITY'S PLANNING FUNCTION

- Planning Agency
- Comprehensive Plan
- Citizen Participation



APA'S PLANNING ASSESSMENT

- Planning Agency
- Comprehensive Plan
- Citizen Participation

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**ULI'S RECOMMENDED
REDEVELOPMENT STRATEGY**

- Governmental Reform
- Economic Restructuring
- Environmental Restoration
- Neighborhood Reinvestment
- Social Reconciliation

 Urban Land
Institute



New Orleans's Transition

The Urban Land Institute, in cooperation with city politicians, has issued a series of recommendations, most notably including the idea that rebuilding should take place in phases, with safer, higher districts being rebuilt first. Both Louisiana Gov. Kathleen Babineaux Blanco (D) and New Orleans Mayor C. Ray Nagin (D) appear to have signed on to that model, even though it implies that the lower, more heavily damaged parts of the city may not be rebuilt for years -- if at all.

[illegible]

Don't write us off, residents warn

**By Truck Down
Stillwater**

Even Mayor Vito Marcia, whose own commission asked the Urban Land Institute to devise the restoration plan, said he is assuming judgment on the most ethical aspect. To absolve, at least for the moment, some of the city's longstanding guilt.

10 About to be re-evaluated as potential stars for next season and from good years.

She urged Reagan and congressional members to develop a timeline for independence soon. "For next long people in Latin," she said.

Some conservative members also expressed concerns with the U.S. approach.

"We have economic drivers in these areas," he said, noting that UNDO has already received orders. "This is sending the wrong signal."

The report's intent is not to lay out a "go, no-go" list," said Nancy Ruth Conner, UJA's vice president for advisory services.

"We have the authority to modify it subject to our of hand," Legado said.

Over the years, the Commission has received many suggestions for improving the way it does its work. The Commission has taken many of these suggestions into account and has made many changes to the way it does its work. The Commission has also received many suggestions for improving the way it does its work. The Commission has taken many of these suggestions into account and has made many changes to the way it does its work. The Commission has also received many suggestions for improving the way it does its work. The Commission has taken many of these suggestions into account and has made many changes to the way it does its work.

- **Governmental Reform**

GOVERNMENTAL REFORM

- Begin redevelopment equitably and without delay: create **Crescent City Rebuilding Corporation**.
- Restore **utility services**.
- Strengthen and empower **neighborhoods**.
- Provide efficient and effective government to all: establish temporary **Financial Oversight Board**.
- Implement fundamental **reforms** in tax structure, zoning, and government contracting.
- Promote greater **integrity**, transparency, and communication.

ULP'S RECOMMENDED REDEVELOPMENT STRATEGY

- Governmental Reform
- **Economic Restructuring**
- Environmental Restoration
- Neighborhood Reinvestment
- Social Reconciliation

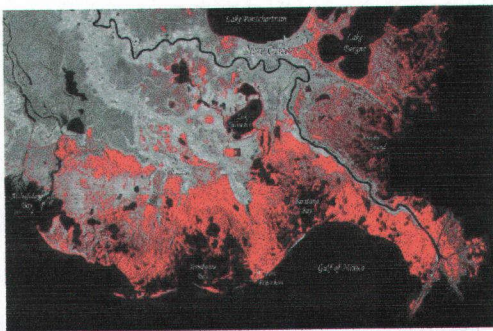
ASSIGN PRIORITY TO KEY ECONOMIC SECTORS

- | | |
|------------------------------|-----------------------|
| • Port | • Tourism and culture |
| • Film and television | • Special events |
| • Music | • Sports |
| • Healthcare and biosciences | • Higher education |
| • Food | • Energy |
| | • Retirement |

ULI'S RECOMMENDED REDEVELOPMENT STRATEGY

- Governmental Reform
- Economic Restructuring
- **Environmental Restoration**
- Neighborhood Reinvestment
- Social Reconciliation

PREDICTED LAND LOSS, 1932-2050



Source: USGS

■ Predicted land loss

POST-KATRINA LAND LOSS, 2005



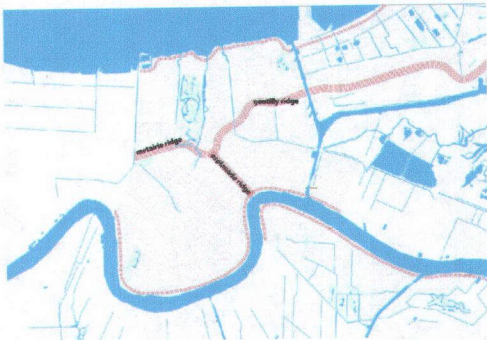
**ULI'S RECOMMENDED
REDEVELOPMENT STRATEGY**

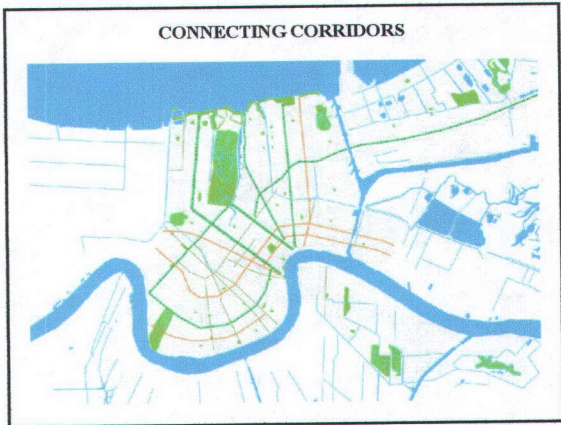
- Governmental Reform
- Economic Restructuring
- Environmental Restoration
- **Neighborhood Reinvestment**
- Social Reconciliation

NEIGHBORHOOD REINVESTMENT

- Investment zones
- Waters, levees, canals, and strategic open space
- Corridors of connection for compact and cohesive city
- Development sites

TOPOGRAPHY, RIDGES, WATER

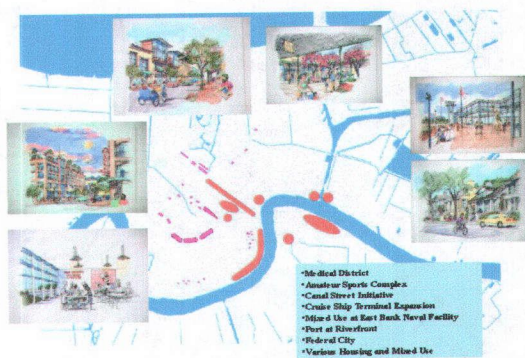




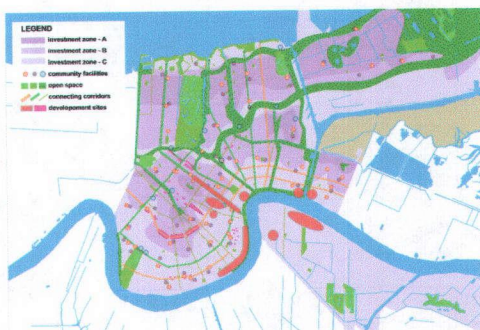




HOUSING AND ECONOMIC DEVELOPMENT SITES



CONCEPTUAL REDEVELOPMENT PLAN



ULP'S RECOMMENDED REDEVELOPMENT STRATEGY

- Governmental Reform
- Economic Restructuring
- Environmental Restoration
- Neighborhood Reinvestment
- Social Reconciliation

WASHINGTON POST ARTICLE

Thursday, January 12, 2006

Plan for city's recovery met with opposition

By MICHAEL D. COVATTA
The Washington Post

NEW ORLEANS — Angry homeowners screamed and City Council members seethed Wednesday as the city's recovery commission recommended imposing a four-month building moratorium on most of New Orleans and creating a powerful authority that could use eminent domain to seize homes in neighborhoods that will not be rebuilt.

Dozens of frustrated people lined both balconies, demanding the presentation of the long-awaited agreement with them and, behind its walls, a bitter and noisy battle of wits. The city's recovery commission, which was created by Mayor Ray Nagin, was expected to recommend a plan to rebuild the city. But it was not clear if the plan would be accepted. The city's recovery commission, which was created by Mayor Ray Nagin, was expected to recommend a plan to rebuild the city. But it was not clear if the plan would be accepted. The city's recovery commission, which was created by Mayor Ray Nagin, was expected to recommend a plan to rebuild the city. But it was not clear if the plan would be accepted.

NEW ORLEANS TIMES-PICAYUNE ARTICLE

Saturday, January 14, 2006

Blanco panel backs 4-month process State authority will control purse strings

Monday, January 14, 2006
By Louis Blum
Capital News

HOUSTON — Gov. Kathleen Blanco's hurricane recovery panel gave a warm reception Friday to the Big New Orleans Back Commission's proposal for a four-month planning process to determine which flood-damaged neighborhoods can be successfully revived.

Mayor Ray Nagin said the Louisiana Recovery Authority will back the plan, with some changes. The panel's plan is to create a new authority to oversee the rebuilding process. The panel's plan is to create a new authority to oversee the rebuilding process. The panel's plan is to create a new authority to oversee the rebuilding process.

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NEW ORLEANS TIMES-PICAYUNE EDITORIAL

Sunday, January 15, 2006

A responsible plan

Monday, January 15, 2006

Mayor Ray Nagin's plan to rebuild New Orleans is a responsible one. It is a plan that takes into account the needs of the city and its residents. It is a plan that is based on the best available information. It is a plan that is designed to be flexible and adaptable. It is a plan that is designed to be a long-term solution.

The plan is a responsible one. It is a plan that takes into account the needs of the city and its residents. It is a plan that is based on the best available information. It is a plan that is designed to be flexible and adaptable. It is a plan that is designed to be a long-term solution.

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Fernando Costa

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American Bar Association

THE CHANGING LANDSCAPE OF CERCLA POST-*AVIALL*

By:

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I. INTRODUCTION

The Supreme Court's landmark decision in *Cooper Industries, Inc. v. Aviall Services, Inc.* ("*Aviall*"), 543 U.S. 157 (2004) has forced the environmental community to reconsider seemingly well-established law on the standing of a party that voluntarily cleans up a CERCLA site to sue other potentially responsible parties. Further, the Supreme Court's decision left issues undecided that have resulted in a flurry of activity in the federal courts, the result of which is an unsettled landscape for environmental professionals to navigate. This paper will give a brief background on the *Aviall* decision, provide commentary on the case law that has developed in the year and a half since *Aviall* interpreting issues left open by the Supreme Court, and suggest possible alternative causes of action for PRPs barred from Section 113(f)(1) under *Aviall*.

II. BACKGROUND

CERCLA (the Comprehensive Environmental Response, Compensation, and Liability Act, 42 U.S.C. §§ 9601 *et seq.*) was passed as a comprehensive statute to encourage private party cleanup by providing a mechanism by which parties that assume financial responsibility for remediation can recover costs from others. *Key Tronic Corp. v. United States*, 511 U.S. 809, 819 n.13 (1994); H.R. Rep. No. 96-1016(I), at 17 (1980), *reprinted in* 1980 U.S.C.C.A.N. 6119, 6120. The three primary methods by which parties who incur environmental cleanup costs may recover from potentially responsible parties ("PRPs") are found in Section¹ 107(a), Section 113(f)(1), and Section 113(f)(3)(B). Section 107(a) permits persons who incur necessary response costs to recoup cleanup costs from PRPs. 42 U.S.C. § 9607(a)(4). This section allows governments and innocent private parties to recoup response costs. As detailed below, certain courts have found that Section 107(a) is also an avenue for PRPs to recover from other PRPs. *See id.* Section 113(f)(1) allows a PRP to seek contribution from other PRPs during or following any civil action brought under Sections 106 or 107 of CERCLA if it assumed a disproportionate share of the cleanup costs. 42 U.S.C. § 9613(f)(1). Section 113(f)(3)(B) provides a recovery mechanism for parties that have settled their CERCLA liability with the United States or a State. 42 U.S.C. § 9613(f)(3)(B).

¹ All Section references in this paper refer to CERCLA unless otherwise specified.

The Supreme Court interpreted Section 113(f)(1) in the *Aviall* case. 543 U.S. 157. In *Aviall*, the Court held that Section 113(f)(1) does not allow recovery for response costs voluntarily expended by a PRP. Instead, the Supreme Court held that a PRP must first be subject to an action by EPA or a state under Sections 106 or 107 before the PRP can seek contribution under Section 113(f)(1). *Id.* at 160–1. This issue arose from two sentences, italicized below, in Section 113(f), which are in apparent tension:

Any person may seek contribution from any other person who is liable or potentially liable under Section 9607(a) of this title, *during or following any civil action under Section 9606 of this title or under Section 9607(a) of this title*. Such claims shall be brought in accordance with this Section and the Federal Rules of Civil Procedure, and shall be governed by Federal law. In resolving contribution claims, the court may allocate response costs among liable parties using such equitable factors as the court determines are appropriate. *Nothing in this subsection shall diminish the right of any person to bring an action for contribution in the absence of a civil action under Section 9606 of this title or Section 9607 of this title.*

42 U.S.C. § 9613(f)(1) (2000) (emphasis added).

Prior to this decision, the Fifth Circuit Court of Appeals had held that parties performing a cleanup voluntarily (*i.e.*, without the impetus of a Section 106 or 107 action) could recover from other PRPs under Section 113(f)(1). *Aviall Servs. Inc. v. Cooper Indus., Inc.*, 312 F.3d 677 (5th Cir. 2002). However, the Supreme Court reversed this en banc decision, holding that a private party who has not been sued under Section 106 or 107 of CERCLA may not obtain contribution under Section 113(f)(1) from other liable parties. *Aviall*, 543 U.S. at 160–1.

In *Aviall*, the defendant, Cooper Industries, Inc. (“Cooper”), sold properties to the plaintiff, Aviall Services, Inc. (“Aviall”). *Id.* at 163. Aviall operated these sites for several years and then discovered soil and groundwater contamination caused both by its own operations as well as those of former owner Cooper. *Id.* at 163–4. Aviall notified the Texas Commission on Environmental Quality (“TCEQ”) (then known as the Texas Natural Resource Conservation Commission), which directed Aviall to clean up the site. *Id.* at 164. The TCEQ threatened to pursue an enforcement action against Aviall if it failed to remediate. However, neither TCEQ nor EPA actually took any formal action to compel cleanup. *Id.* No Section 106 or 107 action was filed against Aviall. *Id.* Still, Aviall responded to the threat and voluntarily cleaned up the site, assuming it had a contribution right under Section 113 of CERCLA to recover those costs attributable to Cooper. *Id.*

Following completion of the cleanup, Aviall sued Cooper under Sections 107(a) and 113(f)(1) seeking to recover a portion of its cleanup costs. *Id.* Aviall later consolidated its Section 107(a) and Section 113(f)(1) claims into a single, joint CERCLA claim under Section 113(f)(1), asserting that under Fifth Circuit precedent, a Section 113 claim is a type of Section 107 claim. *Id.* at 164 n.4.

The Court held that Section 113(f)(1) did not authorize Aviall’s suit because the enabling clause provides that “[a]ny person *may* seek contribution . . . *during or following any civil action*

under [S]ection [106 or 107],” and that “[t]he natural meaning of this sentence is that contribution may only be sought subject to the specified conditions, namely, ‘during or following’ a specified civil action.” *Id.* at 165–6. The Court rejected Aviall’s argument that “may” should be read permissively such that the specified conditions are not the exclusive conditions whereby a person may seek contribution. *Id.* at 166. The Court reasoned that Aviall’s interpretation that Section 113(f)(1) authorizes contribution actions at any time, regardless of the existence of a Section 106 or 107(a) civil action, would render the words “during or following” “entirely superfluous.” *Id.*

The Court also noted that the “savings clause” in Section 113(f)(1), which states that “[n]othing in this subsection shall diminish the right of any person to bring an action for contribution in the absence of a civil action under [Section 106 or 107],” simply clarifies that “Section 113(f)(1) does nothing to ‘diminish’ any cause(s) of action for contribution that may exist independently of §113(f)(1).” *Id.* The Court held that the savings clause does not itself establish a cause of action, nor does it authorize contribution actions under Section 113(f)(1) not brought “during or following” a Section 106 or 107 civil action. *Id.* at 167. The Court reasoned that, due to the specific three-year statute of limitations provided for contribution actions—one beginning at the date of judgment and the other beginning at the date of settlement—Section 113 was not intended to cover a situation where judgment or settlement never occurs. *Id.* (citing 42 U.S.C. 9613(g)(3)).

Given the Court’s findings, it seems clear only that a private party can bring a Section 113(f)(1) contribution action if:

- (1) EPA or the state initiates a civil action under Section 107 against the private party; or
- (2) EPA initiates a civil action under Section 106 against the private party.

The Court’s opinion was brief, and did not delve into discussion regarding the policies behind CERCLA. However, the Court specifically left open, explicitly declining to answer, the questions of whether Aviall could seek cost recovery under Section 107 (*Id.* at 169 (noting that the Court “declined to address the issue” of whether PRPs have a Section 107 cost recovery action because this claim “merit[s] full consideration by the courts below”)) or whether Aviall has an implied right to contribution under Section 107. *Id.* at 170–1.

III. POTENTIAL POST-AVIALl RECOVERY MECHANISMS FOR PRPs

Following the Court’s decision in *Aviall*, the obvious question became, what is a PRP who cleans a site voluntarily to do to recover costs from other PRPs? Contaminated property owners are no doubt asking themselves whether they should adopt a “come sue me” attitude in order to ensure their contribution rights under Section 113(f)(1). Otherwise, based on the precedent handed down in *Aviall*, PRPs who voluntarily remediate a site must find a legal basis independent of Section 113(f)(1) to recover costs from other PRPs. There are a number of possible alternatives including:

- (1) A Section 107 implied right of contribution;

- (2) A Section 107 cost recovery action;
- (3) A Section 113(f)(3)(B) contribution action;
- (4) State mini-CERCLA provisions; or
- (5) Common law contribution.

Therefore, parties with contaminated land can either wait to be sued under Section 106 or 107 to remediate, or they can remediate and then seek an alternative legal basis for contribution from other PRPs. Each of these potential options for recovery will be discussed individually, including relevant commentary from cases decided since the *Aviall* decision.

A. SECTION 107 IMPLIED RIGHT OF CONTRIBUTION

Prior to the enactment of Section 113(f)(1) of CERCLA in 1986 with the passage of the Superfund Amendments and Reauthorization Act (“SARA”)², several court decisions found CERCLA Section 107(a)(4)(B) to contain an implied right of contribution as a matter of federal common law. *E.g., United States v. New Castle County*, 642 F. Supp. 1258, 1265 (D. Del. 1986). It is not clear whether this implied right of contribution survives today as the Supreme Court expressly declined to decide this issue.

1. Arguments Favoring an Implied Right of Contribution under Section 107

Several arguments can be made in favor of such an implied right. First, in 1994, the Supreme Court remarked in the *Key Tronic* decision that following the addition of Section 113(f)(1), “[t]he statute now expressly authorizes a cause of action for contribution in [Section] 113 and impliedly authorizes a similar and somewhat overlapping remedy in [Section] 107.” *Key Tronic*, 511 U.S. at 816–17. While dicta, this comment suggests that there may exist an implied right to contribution embodied in Section 107 that might allow recovery for a PRP denied access to Section 113. However, the *Aviall* Court specifically remarked with regard to its earlier decision in *Key Tronic* that it did not address “the relevance, if any, of Key Tronic’s status as a PRP or confront the relationship between §§107 and 113.” *Aviall*, 543 U.S. at 170. Further, the Court noted that “[i]n discussing § 107, we did not even classify it precisely as a right of cost recovery or a right of contribution.” *Id.*

In addition, the SARA amendments themselves did not expressly overrule the prior case decisions allowing an implied right of contribution under Section 107. While the Supreme Court noted those decisions in the *Aviall* opinion, it did not opine on whether there were correctly decided. *Id.* at 162.

Further, Section 113(f)(1) includes a “savings provision” that provides: “Nothing in this subsection shall diminish the right of any person to bring an action for contribution in the absence of a civil action under Section 9606 of this title or Section 9607 of this title.” 42 U.S.C.

² Pub. L. No. 99-499, 100 Stat. 16131 (1986).

§ 9613(f)(1). This sentence would seem to suggest that an action for contribution of some type is available even if a PRP has not been sued under Section 106 or 107. However, the provision does not specifically refer to Section 107 as an available avenue for an implied contribution action. Moreover, the *Aviall* Court specifically noted that the savings clause “does not itself establish a cause of action; nor does it expand §113(f)(1) to authorize contribution actions not brought “during or following” a §106 or §107(a) civil action; nor does it specify what causes of action for contribution, if any, exist outside §113(f)(1).” *Aviall*, 543 U.S. at 167.

Finally, some post-*Aviall* case law has specifically allowed an implied right of contribution under Section 107(a) for PRPs that would have otherwise been left with no relief from voluntary remediation and assumption of response costs greater than their proportional share. *Metropolitan Water Reclamation District of Greater Chicago v. Lake River Corp.*, 365 F. Supp. 2d 913, 918 (N.D. Ill. 2005) (allowing implied right to contribution under Section 107 because SARA explicitly preserved preexisting state and federal contribution rights and because any other outcome would seem to be contrary to the underlying policies of CERCLA to promote prompt cleanup); *Raytheon Aircraft Co. v. U.S.*, Case No. 05-2328-JWL, 2006 U.S. Dist. LEXIS 34316, at *36 (D. Kan. 2006) (following pre-SARA Tenth Circuit precedent allowing implied contribution rights under Section 107 for PRPs); *Aggio v. Estate of Aggio*, No. C 04-4357 PJH, 2005 U.S. Dist. LEXIS 37428, at *14 (N.D. Cal. 2005) (holding that “Ninth Circuit authority recognizes that a PRP has an implied right to seek contribution under § 107(a)), *stayed pending resolution of an interlocutory appeal*, 2006 U.S. Dist. LEXIS 3183, at *5 (N.D. Cal. Jan. 18, 2006) (holding that the case should be stayed pending the Ninth Circuit’s ruling on the question of whether Section 107(a) implies a right of contribution); *Adobe Lumber, Inc. v. Taecker*, No. CV S-02-186 GEB GGH, 2005 U.S. Dist. LEXIS 15374, at *5–6 (E.D. Cal. 2005), *Kotrous v. Goss-Jewett Co.*, NO. CIV. S-02-1520 FCD JFM, 2005 U.S. Dist. LEXIS 18013 at *13 (E.D. Cal. 2005), and *Ferguson v. Arcata Redwood Co.*, No. C 03-05632 SI, 2005 U.S. Dist. LEXIS 18015, at *16–17 (N.D. Cal. 2005) (holding that under prior Ninth Circuit precedent, Section 107 provides an implied right to contribution).

2. Arguments Against an Implied Right of Contribution

Conversely, there is a significant body of authority that supports the position that Section 107 does not provide an implied right of contribution.

First, the Supreme Court noted in *Aviall* that it had visited previously the issue of implied rights of contribution. *Aviall*, 125 S. Ct. at 581. These cases, while not decided under CERCLA, set a pattern that would suggest a general disfavor for implying contribution rights where none are specifically stated. *Texas Indus. v. Radcliff Materials, Inc.*, 451 U.S. 630, 638–47 (1981) (holding that there is no implied or common law right to contribution in the *Sherman* or *Clayton Acts*); *Northwest Airlines, Inc. v. Transport Workers*, 451 U.S. 77, 90–99 (1981) (finding no implied or common law right to contribution in the Equal Pay Act of 1963 or Title VII of the Civil Rights Act of 1964). *Aviall* also noted that it was “debatable” that Section 107 provided an implied right to contribution due to this earlier Supreme Court precedent. *Aviall*, 543 U.S. at 162. As no explicit contribution rights are set forth in Section 107, the Supreme Court precedent would favor not implying any such rights.

Further, the whole purpose of the addition of Section 113(f)(1) in the 1986 SARA amendments was to codify the federal common law right of contribution that existed prior to its passage. Once enacted, “SARA amendments, including [S]ection 113, codified the federal common law right of contribution.” *OHM Remediation Servs. v. Evans Cooperage Co.*, 116 F.3d 1574, 1581 (5th Cir. 1997); *see also United States v. Colorado & E. R.R. Co.*, 50 F. 3d 1530, 1535 (10th Cir. 1995). The legislative history of the SARA amendments also supports that the new contribution provision set forth in Section 113 was added to “clarif[y] and confirm[]” the scope of the CERCLA contribution right. S. Rep. No. 11, at 44 (1985).

Case law decided after passage of SARA supports the idea that those courts believed that Section 113 was enacted to govern contribution claims under CERCLA. *Pinal Creek Group v. Newmont Mining Corp.*, 118 F.3d 1298, 1300 (9th Cir. 1997) (noting that Section 113(f)(1) explicitly recognizes and regulates contribution claims under CERCLA); *see also Sun Co. v. Browning-Ferris, Inc.*, 124 F.3d 1187, 1190 (10th Cir. 1997); *Clear Lake Props. v. Rockwell Int’l Corp.*, 959 F. Supp. 763, 767 (S.D. Tex. 1997) (noting that claims between PRPs are Section 113 contribution actions). Some courts went even further, and made it clear that the SARA amendments completely superseded any implied right of contribution that may have existed pre-*Aviall*. *E.g., In the Matter of Reading Co.*, 115 F. 3d 1111, 1119 (3rd Cir. 1997). Still others indicated that an implied right of contribution still exists; however, Section 113(f)(1) completely controls use and extent of the right. *E.g., Pinal Creek*, 118 F.3d at 1301, 1302 (9th Cir. 1997). The Fifth Circuit in *Geraghty & Miller, Inc. v. Conoco, Inc.* seemed to adopt this latter option by finding that 113(f)(1) claims are a subset of 107(a) claims. 234 F.3d 917, 924–25 (5th Cir. 2000).

In addition, the Supreme Court has commented that Congressional action on a topic supersedes federal common law. *Milwaukee v. Illinois*, 451 U.S. 304, 314 (U.S. 1981) (noting that federal common law is subject to the paramount authority of Congress and is resorted to only in absence of an applicable Act of Congress) (holding that the Federal Water Pollution Control Act Amendments of 1972 preempted federal common law more stringent than the effluent limitations contained within the Act); *Mobile Oil Corp. v. Higginbotham*, 436 U.S. 618, 623–24 (U.S. 1978) (holding that Congressional action in the Death on the High Seas Act superseded federal maritime common law on the subject). Therefore, one could argue that in enacting Section 113(f), Congress has spoken to the issue of contribution under CERCLA thus eviscerating the need for and existence of a federal common law implied contribution action.

Another consideration that works against an implied right of contribution is the question of a statute of limitations for such actions. There is no statute of limitations for an implied right of contribution under Section 107. Section 113(f)(1)-(6) carefully sets forth limitations periods for types of actions authorized by CERCLA, none of which include implied right of contribution actions under Section 107. Therefore, to recognize an implied right of contribution under Section 107 could provide the savvy party with an unlimited amount of time to bring its claim, and create an inconsistency between the party’s implicit and explicit rights to contribution.

As of the date of this paper, there has been no Supreme Court or post-*Aviall* Fifth Circuit decision regarding whether an implied right to contribution for a PRP exists under Section 107. Further, many (but by no means all) courts seem reluctant to recognize implied rights under Section 107 in light of *Aviall*’s statements on implied rights. *Blue Tee Corp. v. Asarco, Inc.*, No.

03-5011-CV-SW-FJG, 2005 U.S. Dist. LEXIS 15360, at *21, 23 (W.D. Mo. 2005); *Mercury Mall Assoc. Inc. v. Nick's Market, Inc.*, 368 F. Supp. 2d 513, 520 (E.D. Va. 2005) (“[N]o federal right to contribution exists unless Congress creates one. Until Congress explicitly creates one, or until the [Fourth Circuit or Supreme Court] unequivocally holds that § 9607(a) implicitly provides for a contribution suit as a matter of federal common law, this Court will not unilaterally divine one.”); *Adobe Lumber, Inc. v. Hellman*, 415 F. Supp. 2d 1070, 1076, 1078 (E.D. Cal. 2006) (“Until the Ninth Circuit cuts the implied right to contribution under section 107(a) loose from the moorings of section 113(f), PRPs in this circuit . . . will want for a clear right to seek contribution from other PRPs.”) (footnotes omitted), *appeal granted by* 2006 U.S. Dist. LEXIS 8564 (E.D. Cal. Feb. 14, 2006); *City of Realto v. U.S. Department of Defense*, Case No. EDCV 04-00079-VAP (SSx), Consolidated with EDCV 04-00759 VAP (SSx), 2005 U.S. Dist. LEXIS 26941, at *18–19 (C.D. Cal. 2005) (holding that there is no implied right to contribution under Section 107 for PRPs who cannot meet the requirements of Section 113(f)(1)), *appeal to Ninth Circuit granted and action stayed by* 2005 U.S. Dist. LEXIS 25179, at *13–14 (C.D. Cal. 2005).

Still, until a definitive ruling is made by the Supreme Court regarding this issue, a safe CERCLA PRP plaintiff will include an implied right to contribution under Section 107(a) if it cannot meet the prerequisite conditions for bringing a Section 113(f)(1) action.

B. SECTION 107 EXPLICIT RIGHT OF COST RECOVERY

1. The History

Section 107(a) was enacted long before the SARA Amendment addition of Section 113. The language of Section 107(a)(4)(B) provides that responsible parties “shall be liable for . . . any other costs of response incurred by any other person consistent with the national contingency plan.” 42 U.S.C. § 9607(a)(4)(B). Nothing in the language of Section 107(a) explicitly prohibits PRPs from using it as a mechanism for recovery. This provision does not state that responsible parties shall be liable for costs of response incurred by *innocent parties*, but by “any other person.” The fact that many circuit court opinions decided prior to *Aviall* held that Section 107(a) is only available to so-called “innocent” parties was a judicial construct occasioned by the addition of Section 113 in an effort to harmonize the two seemingly overlapping provisions with different limitations periods. The Supreme Court noted these opinions but declined to decide whether they had been decided correctly. *Aviall*, 543 U.S. at 161–2. Therefore, the issue of whether a PRP may bring a Section 107(a) action for cost recovery is unsettled.

2. The Policy

The *Aviall* decision both precluded recovery under Section 113(f)(1) for PRPs who voluntarily remediate and expressly declined to decide whether a PRP so barred from a Section 113(f)(1) action could instead maintain a Section 107 action. In light of this decision, many courts have opted to find that such PRPs may utilize Section 107(a) actions for cost recovery since they are barred from recovery under Section 113(f)(1). This trend is potentially problematic due to the unintended incentives that could be created if a Section 107 claim is permitted for PRPs.

First, Section 107 has a 6 year statute of limitations, whereas Section 113 has only a 3 year statute of limitations. Therefore, a PRP that chooses a Section 107 potentially has more time to initiate the action.

More importantly, the possibility of joint and several liability for a PRP creates the potential for inequity. The *Aviall* Court left this issue open as well, noting that if it had to decide whether a Section 107 cost recovery action was open to PRPs, it would also have to decide whether they were entitled to joint and several liability. *Id.* at 169–70. It has long been held that joint and several liability can be imposed on defendants in a Section 107(a) action (unless, in some courts, the harm is divisible). *E.g., In re Bell Petroleum Servs.*, 3 F.3d 889, 903 (5th Cir. 1993). In contrast, a defendant’s liability in a Section 113 action is only several. This distinction was historically part of the basis relied upon by those courts holding that the joint and several liability offered by Section 107 should not be available to PRPs as this could result in recovery of more than the PRPs proportional share of the costs of response. Now, the very inequity those courts sought to avoid is practically the only option left for PRPs that cannot maintain an action under Section 113(f)(1) for failure to meet the procedural prerequisites (assuming that a court will not imply a right of contribution under Section 107).

3. The Case Law

Despite the potential inequities associated with PRPs bringing Section 107 actions, a number of opinions handed down after the *Aviall* decision was rendered have held that Section 107 contains an explicit cause of action for any person who has incurred necessary costs of response (including PRPs). *E.g., Consolidated Edison Co. v. UGI Utilities, Inc.*, 423 F.3d 90 (2d Cir. 2005) (other courts in the Second Circuit have followed the holding in this decision); *McDonald v. Sun Oil Co.*, 423 F. Supp. 2d 1114, 1133 (D. Ore. 2006); *Viacom, Inc. v. United States*, 404 F. Supp. 2d 3, 7 (D.C. Dist. 2005); *Vine Street, LLC v. Keeling*, 362 F. Supp. 2d 754, 764 (E.D. Tex. 2005).

a. The Con Ed Decision

Since *Aviall*, the only Circuit Court of Appeals to consider the issue of whether a PRP that has voluntarily cleaned up a contaminated site can sue another PRP for cost recovery under Section 107 is the Second Circuit. *Consolidated Edison*, 423 F.3d at 90. Distinguishing its own earlier seemingly contrary precedent, the Second Circuit ultimately held that under the literal language of Section 107(a), a PRP that has not been sued or made to participate in an administrative proceeding, but that, if sued, would be held liable under Section 107(a) has a cause of action under Section 107(a) if it can demonstrate that it is a “person” that has incurred “costs of response” as defined in CERCLA. *Id.* at 99, 101.

By way of background, Consolidated Edison Company of New York (“Con Ed”), the former operator of certain contaminated properties, sued UGI Utilities, Inc. (“UGI”), another former operator of contaminated property for contribution under CERCLA Section 113 (among other claims) to recover costs to remediate. *Id.* at 92. The district court granted UGI’s motion for summary judgment on Con Ed’s CERCLA claims against UGI for certain properties. *Id.* at 93. Following Con Ed’s appeal of the district court’s decision, the Supreme Court rendered its decision in *Aviall*. *Id.* at 94. Thereafter, the Second Circuit requested additional

briefing on whether it had subject matter jurisdiction over Con Ed's claims against UGI under CERCLA Section 113.

Rather than just limit itself to an examination of subject matter jurisdiction under Section 113, the Second Circuit evaluated whether it had subject matter jurisdiction to hear Con Ed's claims under Section 113(f)(1), Section 113(f)(3)(B), and Section 107(a). *Id.* at 94–103. First, the court noted that in light of the holding in *Aviall*, Con Ed's claim under Section 113(f)(1) could not stand because there was no Section 106 or 107 action. *Id.* at 95.

Second, the court considered whether Con Ed could maintain a claim under Section 113(f)(3)(B). *Id.* at 96–97. Section 113(f)(3)(B) provides that “a person who has resolved its liability to the United States or a State for some or all of a response action or for some or all of the costs of such action in an administrative or judicially approved settlement may seek contribution from any person’ that has not itself settled with the United States.” *Id.* at 95 (quoting 42 U.S.C. § 9613(f)(3)(B)). The remediation of the Con Ed properties was effectuated pursuant to a “Voluntary Cleanup Agreement” with the New York Department of Environmental Protection (“NYDEP”). *Id.* at 92. However, this agreement did not specifically resolve Con Ed's CERCLA liability; therefore, the court held that Section 113(f)(3)(B) did not apply. *Id.* This portion of the court's decision will be discussed further in Section V of this paper.

Finally, the court found that it had subject matter jurisdiction to hear Con Ed's claim under CERCLA Section 107(a). *Id.* The court cited the plain language of Section 107, which “makes parties liable for the government's remedial and removal costs and for ‘any other necessary costs of response incurred by any other person consistent with the national contingency plan.’” *Id.* at 99 (citing 42 U.S.C. § 9607(a)(4)(B)). Therefore, the court held that in order to maintain a cause of action under Section 107(a), Con Ed need only show that it is a “person” who has incurred “necessary costs of response” as defined in CERCLA. *Id.*

This holding required some justification following the Second Circuit's earlier holding in a 1998 case that a PRP could not maintain a Section 107(a) action. *Bedford Affiliates v. Sills*, 156 F.3d 416, 423 (2d Cir. 1998). However, the *Con Ed* court distinguished this opinion on the basis that the plaintiff in *Bedford* remediated the site at issue pursuant to a consent order from the NYDEP. *Consolidated*, 423 F.3d at 102. The court claimed to “clarify” its earlier decision, stating that *Bedford* actually stood for the proposition that “a party that has incurred or is incurring expenditures under a consent order with a government agency and has been found partially liable under [S]ection 113(f)(1) may not seek to recoup those expenditures under [S]ection 107(a).” *Id.* The court also justified its decision from a policy standpoint, noting that to hold otherwise would “impermissibly discourage[] voluntary cleanup[s].” *Id.* at 100.

Given the fact that recovery under Section 107(a) can be joint and several, a plaintiff PRP could be unjustly enriched if awarded a greater than proportional recovery from a defendant PRP. Obviously aware of this potential for inequity, the court sought to reduce the sting of the imposition of joint and several liability by noting that a defendant sued by a plaintiff PRP under Section 107(a) could file a Section 113(f)(1) counterclaim. *Id.* at 100 n.9. However, this does not entirely balance the equities, as the defendant under the *Con Ed* decision bears the burden for showing that joint and several liability is not appropriate, rather than the plaintiff having to prove

that it is. Further, under the Third Circuit's analysis, the defendant rather than the plaintiff bears the risk of insolvent or unfindable PRPs.

UGI filed a petition for certiorari with the Supreme Court in April of 2005. UGI Utilities, Inc., v. Consolidated Edison Co. of New York, Inc. No. 05-1323 (Cert. Filed April 16, 2006). As of now, the Supreme Court received Con Ed's brief in opposition and UGI's reply and has distributed for conference on September 25, 2006. It will be important to see whether the Supreme Court will speak to the issues set forth in the *Con Ed* case in either this lawsuit or another.

4. District Court Decisions Disallowing Section 107 Actions for PRPs

There is also a substantial body of case law that does not allow PRP recovery under Section 107. The majority of these cases base their holdings on prior precedent that allows cost recovery only for innocent parties despite the *Aviall* holding (which, in most cases, was decided after the precedent upon which the cases rely) precluding PRPs that do not meet the statutory prerequisites for Section 113(f)(1) recovery. Therefore, in some cases, PRPs have been denied any recovery under CERCLA unless they meet the requirements of 113(f)(3)(B). See, e.g., *Montville Township v. Woodmont Builders, LLC*, CV No. 03-2680(DRD), 2005 U.S. Dist. LEXIS 18079, at *35–36 (D. N.J. 2005) (citing *New Castle County v. Halliburton NUS Corp.*, 111 F.3d 1116, 1120–24 (3d Cir. 1997) for the proposition that there can be no Section 107 action for a PRP); *Atlantic Research Corp. v. United States*, Case No. 02-CV-1199, 2005 U.S. Dist. LEXIS 20484, *9 (W.D. Ark. 2005) and *Blue Tee*, 2005 U.S. Dist. LEXIS 15360, at *18 (following Eighth Circuit precedent handed down in *Dico, Inc. v. Chemical Co.*, 340 F.3d 525, 530–31 (8th Cir. 2003) that there can be no Section 107 action for a PRP); *Mercury Mall*, 368 F. Supp. 2d at 520 (following Fourth Circuit precedent holding that Section 107 actions cannot be maintained by PRPs in *Pneumo Abex Corp. v. High Point*, 142 F.3d 769, 776 (4th Cir. 1998)); *City of Waukesha v. Viacom Int'l Inc.*, 362 F. Supp. 2d 1025, 1027 (E. D. Wis. 2005) (following prior Seventh Circuit precedent that PRPs cannot maintain a Section 107 action); *Champion Labs, Inc. v. Metex Corp.*, Civ. No. 02-5284(WHW), 2005 U.S. Dist. LEXIS 37068, *8–11 (D.N.J. 2005); *Boarhead Farm Agreement Group v. Advanced Environmental Technology Corp.*, 381 F. Supp. 2d 427, 435 (E.D. Penn. 2005) (following *New Castle*, 111 F.3d at 1120–24); *Raytheon*, 2006 U.S. Dist. LEXIS 34316, at *22 (following prior Tenth Circuit precedent that PRPs cannot maintain a Section 107 action for cost recovery); see also, e.g., *Kaladish v. Uniroyal Holding, Inc.*, Civ. No. 3:00 CV 854 (CFD), 2005 U.S. Dist. LEXIS 17272, at *16 (D. Conn. 2005), *Benderson Development Co., Inc. v. Neumade Products Corp.*, 98-CV-0241Sr, 2005 U.S. Dist. LEXIS 14943, at *30–31 (W.D.N.Y. 2005), and *Elementis Chems., Inc. v. TH Agriculture and Nutrition*, 373 F. Supp. 2d 257, 272 (S.D. N.Y. 2005) (holding that under *Bedford Affiliates*, one PRP may not pursue a Section 107 claim against another PRP) (decided before the *Con Ed* decision).

IV. SECTION 113(F)(3)(B)

Section 113(f)(3)(B) creates a contribution right for a “person who has resolved its liability to the United States or a State for some or all of a response action or for some or all of the costs of such action in an administrative or judicially approved settlement.” 42 U.S.C. § 9613(f)(3)(B). While courts have been slow to recognize these claims, due to the

unavailability of Section 113(f)(1) to many PRPs post-*Aviall*, this provision will be of increasing importance and subject to much more scrutiny in the courts.

Most of the controversy surrounding the applicability of this provision arises when a plaintiff asserts that an agreement other than a clear settlement of its CERCLA liability with the United States EPA under Section 122 (governing settlements under CERCLA) constitutes resolution of its CERCLA liability such that it can maintain an action for contribution under Section 113(f)(3)(B). Some courts are more flexible in construing what agreements constitute “settlements” under this provision than others. In general, a settlement that resolves CERCLA liability is sufficient to constitute a settlement under Section 113(f)(3)(B). *Benderson Development Co., Inc. v. Neumade Products Corp.*, 98-CV-0241Sr, 2005 U.S. Dist. LEXIS 14943, at *33 (W.D.N.Y. 2005) (holding that an administrative order on consent that specifically provided that “the provisions of 42 U.S.C. Section 9613(f)(3) shall apply” to the plaintiff was sufficient to establish the plaintiff’s right to recover under Section 113(f)(3)(B)). Settlement agreements that do not settle a party’s CERCLA liability have been held insufficient to support a Section 113(f)(3)(B) action. *E.g., ASARCO v. Union Pacific Railroad*, No. CV 04-2144-PHX-SRB, 2006 U.S. Dist. LEXIS 2626, at *27 (D. Ariz. 2006); *Consolidated Edison*, 423 F.3d at 96; *Solvent Chemical Co. v. E.I DuPont de Nemours*, 2005 U.S. Dist. LEXIS 16573, at *32 (W.D.N.Y. 2005).

Further, cases that did not allow a Section 113(f)(3)(B) action to stand on an administrative order did so because the order was not a settlement of CERCLA liability. *Pharmacia Corp. v. Clayton Chemical Acquisition, LLC*, 382 F. Supp. 2d 1079, 1086 (S.D. Ill. 2005) (holding that an Administrative Order on Consent with EPA under Section 106 was not sufficient without a settlement meeting the requirements of Section 122 of CERCLA); *Blue Tee*, 2005 U.S. Dist. LEXIS 15360, at *19 (holding that a unilateral administrative order that is not an administrative settlement under Section 122 is not sufficient.); *Raytheon*, 2006 U.S. Dist. LEXIS 34316, at *19 (unilateral administrative order not sufficient); *W.R. Grace & Co.—Conn v. Zotos International, Inc.*, 98-CV-838S(F), 2005 U.S. Dist. LEXIS 8755, at *18–25 (W.D.N.Y. 2005) (holding that a non-judicially approved Administrative Order on Consent with a state agency that settles only state law claims is not sufficient); *Ferguson v. Arcata Redwood Co.*, No. C 03-05632 SI, 2005 U.S. Dist. LEXIS 18015, at *14 (N.D. Cal. 2005) (letters exchanged between the party and the California and federal agencies were not sufficient as they did not contain a settlement under CERCLA); *City of Waukesha v. Viacom Int’l*, 404 F. Supp. 2d 1112, 1115–6 (E.D. Wis. 2005) (cost share pilot program contract that the City entered with the Wisconsin Department of Natural Resources was an administrative settlement with the state that did not resolve the City’s CERCLA liability with EPA).

EPA’s web site contains a number of model settlement agreements for various phases of a CERCLA cleanup including (1) Revised Model Administrative Settlement Agreement and Order on Consent for Removal Actions; (2) Revised Model Administrative Settlement Agreement and Order on Consent for Remedial Investigation/Feasibility Study; and (3) Model Administrative Settlement Agreement and Order on Consent for Remedial Design. These model agreements were revised in August of 2005 and contain language discussing what CERCLA liability is settled in each agreement. A PRP should be careful to comply with the provisions of Section 122 (including any notice provisions) to ensure that a court has no reason to dismiss its claims under Section 113(f)(3)(B).

V. STATE MINI-CERLCAS

Many states have enacted statutes similar to the federal CERCLA statute, often generically termed mini-CERCLA (or mini-Superfund) provisions. While not by any means an exhaustive list, a few examples include the Texas Solid Waste Disposal Act (Tex. Health & Safety Code § 361.001 *et seq.*), the Pennsylvania Hazardous Sites Cleanup Act (35 Pa. Cons. Stat. § 6020 *et seq.*), and the Oregon mini-Superfund (Or. Rev. Stat. § 465.250 *et seq.*). Such state statutes frequently have provisions that mirror parts of CERCLA and are sometimes construed using established CERCLA law for the relevant jurisdiction given the fact that the body of case law for any given state mini-CERCLA is often undeveloped. (For example, there is only one Supreme Court of Texas decision interpreting the Texas mini-CERCLA cost recovery provision.)

Given the recent uncertainty surrounding the application of CERCLA to PRPs, such state statutes have become increasingly important. CERCLA does not preempt passage or enforcement of such mini-CERCLA statutes. Only double recovery or circumvention of CERCLA provisions would be impermissible.

Under some circumstances, it may seem preferable to bypass CERCLA altogether when a state mini-Superfund statute is available given the recent uncertainty following the *Aviall* decision. However, a party seeking cleanup costs should be aware of some of the following issues (which could weigh in favor of an attempt at recovery under state or federal law, depending on the specific facts and circumstances of the case).

Due to the differences between CERCLA and state mini-CERCLA statutes, there is a potential for inconsistent results for identical fact patterns (for example, the definition of a PRP might not be identical in both statutes). States may offer a jury trial for mini-CERCLA claims where a federal CERCLA court probably does not. The state statutes may identify different substances as triggers for liability (*i.e.*, solid waste or hazardous waste vs. hazardous substance as in CERCLA). The limitations periods available in state actions could differ from those in a federal CERCLA action, allowing a plaintiff to choose a more favorable forum for its claims. An action in state court might not offer protection against a federal action against the site, thus subjecting the parties to additional lawsuits and potential liability. These are only to illustrate a few examples.

Therefore, it is crucial for a CERCLA plaintiff to evaluate the pros and cons of both the state and federal causes of action to determine which would be most favorable for a given contaminated site.

VI. COMMON LAW CLAIMS

While every state's common law is different, the following general types of claims are potentially available to PRPs to recover response costs from other PRPs (depending on the facts and circumstances of the particular case). Such claims include negligence, trespass, nuisance, and abnormally dangerous activity. PRPs can ask the court for damages for these torts, which may or may not be directly based on cleanup costs. Further, a PRP could resort to an equitable action claim, seeking recovery for unjust enrichment or equitable indemnity.

If using a common law claim, it is important to note that while CERCLA's limitations period is generally triggered by remedial activities, many (if not most) state common law tort causes of action accrue when contamination occurs unless the discovery rule or the continuing tort doctrine might apply. One example of the application of the continuing tort doctrine is found in the *Champion Laboratories* case. Civ. No. 02-5284(WHW), 2005 U.S. Dist. LEXIS 37068 (D. N.J. 2005). The *Champion Laboratories* Court found that no statute of limitations began to run until the wrongful act of which plaintiff complained had ceased, so plaintiff's claims were timely filed even though the plaintiff had known about the contamination for more than 10 years because the contamination was still migrating onto its property. So, while the tort statute of limitations may tend to begin accruing before a CERCLA cause of action, it may be possible to argue that the tort continues until the migration of contamination is contained.

VII. SECTION 113(f)(1) CONTRIBUTION

While the previous sections have discussed those legal bases that could assist a PRP barred from seeking contribution under Section 113(f)(1), since *Aviall*, several decisions have further interpreted Section 113(f)(1) itself.

The limiting language of Section 113(f)(1) is deceptively simple. In order to maintain an action for contribution, a PRP must seek such contribution "*during or following* any civil action under" Section 106 or Section 107. This analysis seems straightforward on first reading. A court should review the record to see whether there is or was a civil action against the party seeking contribution under Section 106 or 107 of CERCLA. If there is, contribution is available. However, there is more to the analysis.

First, what does the phrase "during or following" a Section 106 or Section 107 action mean? Further, who must have been subject to the required action? What type of "action" is sufficient. Must the action be for the same site for which the PRP seeks contribution? Must the costs the subject of the 106 or 107 action be the same costs for which the PRP seeks contribution?

It is these questions that further muddy the waters of the availability of Section 113(f)(1) post-*Aviall* to certain PRPs. Recent cases have discussed what constitutes a civil action under Section 106 or 107, but many questions remain unanswered.

A. CIVIL ACTION UNDER SECTION 106 OR 107

For many PRPs, the question of whether an administrative order under Section 106 (as opposed to a judicial civil action under Section 106) qualifies as a "civil action under Section 106" is crucial as it is sometimes preferable to avoid a civil lawsuit and just proceed with remediation pursuant to administrative order. The Supreme Court expressly declined to decide whether such an administrative order constitutes a "civil action under Section 106", but remarked that *Aviall* had not been subject to an administrative order under Section 106. *Aviall*, 543 U.S. at 168 n.5.

Other courts have weighed in on what constitutes a "civil action under Sections 106 or 107," mostly finding in the negative, particularly with regard to administrative orders. *Blue Tee*, 2005 U.S. Dist. LEXIS 15360, at *8, 12 (administrative order insufficient); *Pharmacia*, 382 F.

Supp. 2d at 1091 (administrative order insufficient); *Raytheon*, 2006 U.S. Dist. LEXIS 34316, at *14 (holding that a Section 106 administrative order is insufficient) *Cadlerock Properties Joint Venture v. Schilberg*, 3:01cv896 (MRK), 2005 U.S. Dist. LEXIS 14701, *6–18 (D. Conn. 2005) (state administrative pollution abatement order is not an administrative order under Section 106 of CERCLA) (declining to decide whether an administrative order under Section 106 is a “Section 106 action” for purposes of Section 113(f)(1)); *Montville*, 2005 U.S. Dist. LEXIS 18079, at *33 (memorandum of agreement with the state department of environmental protection with no judicial or administrative measures to compel cleanup insufficient for predicate to action under 113(f)(1)); *Vine Street*, 362 F. Supp. 2d at 761 (participation in a voluntary cleanup program was insufficient grounds to state a claim for contribution under Section 113(f)(1)); *But see Boarhead Farm Agreement Group v. Advanced Technology Corp.*, 381 F. Supp. 2d 427, 437 (E.D. Pa. 2005) (allowing plaintiffs leave to amend their complaint to add a Section 113(f)(1) claim when remediation was performed under two consent decrees with EPA following its suit of all but on member of the agreement group PRPs).

In summary, aside from a clear Section 106 or Section 107 action, courts have not allowed the following types of action to meet the Section 113(f)(1) prerequisites: administrative orders; state pollution abatement orders; memoranda of agreement; and voluntary cleanup program agreements.

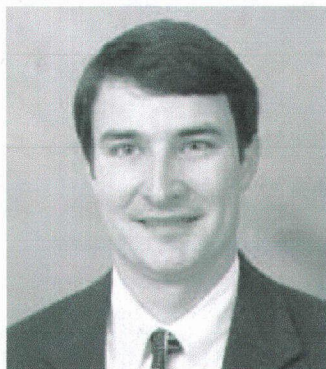
VIII. CLOSING THOUGHTS

As the cases discussed make plain, there are a number of unanswered questions relating to the impact of *Aviall* and the interpretation of Section 107 and Section 113 in light of the inability of PRPs who voluntarily undertake remediation to sue for contribution under Section 113(f)(1). Due to the differing opinions as to whether a Section 107 action is available to PRPs, a potential for forum shopping exists, especially for PRPs suing companies over whom most states would have personal jurisdiction.

Further, many of those unlucky souls embroiled in CERCLA litigation at the time *Aviall* was decided had to amend pleadings in order to avoid dismissal for failure to state a claim. The good news is that for those parties to file motions for leave to amend their pleadings, Federal Rule of Civil Procedure 15(a) requires that leave to amend be “freely given when justice so requires.” The Supreme Court has limited this provision only to deny leave to amend in circumstances such as when the amendment would be futile, would result in undue delay, if occasioned by bad faith or a repeated failure to cure, or would result in undue prejudice to the other party. *Foman v. Davis*, 371 U.S. 178, 182 (1962). But, several of the cases discussed above were decided in the context of a motion to amend pleadings when the court found that allowing the pleading of a Section 107 action would be futile as no such action was available.

It still remains to be seen whether all of the legal maneuvering occasioned by the *Aviall* decision will really result in any change in the outcome of litigation other than to delay actions while the defendants file motions to try to avoid CERCLA liability on what seems like a technicality. In the end, will courts just try to ensure that justice is done by allowing leave to amend complaints and granting dismissals without prejudice?

Even before *Aviall* it was possible for PRPs to attempt to sneak in under the radar and sue under Section 107 by having its parent corporation or affiliated entity perform the cleanup and then claim to be an innocent party that incurred response costs. The incentive to try is even greater now. Further, other plaintiffs have attempted to bootstrap their way into a Section 113 action by filing a Section 107(a) action simultaneously and claiming that this satisfies the requirement in Section 113 that the action was filed during a Section 107 action. Such blatant legal maneuvering is made possible only by the gaping holes and ambiguous text of CERCLA. The courts can only do so much to try to alleviate these problems. Congressional intervention may be necessary to eliminate the confusion and uncertainty that surrounds CERCLA.



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PUBLICATIONS

- Contributing author, Texas Environmental Law Handbook (3rd, 4th, and 5th eds.)
- Aviall Litigation – Where Courts Stand, April 2006
- Co-author, Global Warming Litigation, October 2005
- Environmental Liabilities for the Energy Industry, Energy Law Institute, 2005
- Environmental Considerations in the Acquisition and Operation of Oil and Gas Properties, Advanced Oil and Gas Short Course, 2001, 2002, and 2004
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- Senate Bill No. 1126 - "Implementing the Qualified Facility Flexibility and the Flexible Permitting Program," Texas Environmental Law Journal, Summer 1996

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All Appropriate Inquiries—Are They Appropriate?

This article, the second in a series on EPA's final "all appropriate inquiries" rule, takes a critical look at the newly promulgated rule and suggests AAI may not be the appropriate means to conduct environmental due diligence for real estate transactions. Because AAI only focuses on CERCLA liability protections, the authors suggest strict adherence to AAI may prevent a prudent purchaser from considering other environmental issues that could impact a real estate transaction.

231.1685 Introduction *

On Nov. 1, 2005, the U.S. Environmental Protection Agency issued its final rule¹ establishing standards and practices for conducting "all appropriate inquiries" (AAI) under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA or superfund).² Although the new rule has given rise to much hoopla and likely will set a new industry standard for environmental due diligence, AAI should set neither a floor nor a ceiling for the level of inquiry prudent parties to real estate transactions should conduct to identify, quantify, and manage environmental risks.

To understand why AAI is of limited utility, it is important to understand how it fits into the framework of CERCLA. This article briefly describes what AAI is, AAI's place in the CERCLA scheme, practical concerns with AAI, and why prudent parties will want to look at the big picture in scoping their environmental due diligence.

(a) All Appropriate Inquiries

AAI is a statutory prerequisite to taking advantage of certain superfund defenses. EPA explains AAI is similar to but legally distinct from "environmental due diligence"—a process for assessing properties for the presence or potential of environmental contamination. The Small Business Liability Relief and Brownfields Revitalization Act (Brownfields Amendments), signed Jan. 11, 2002, established

statutory elements for AAI and required EPA to promulgate regulations fleshing out those elements.³

The Brownfields Amendments required EPA to address each of the following: (1) results of an inquiry by an environmental professional; (2) interviews with past and present owners, operators, and occupants; (3) reviews of historical sources; (4) searches for recorded environmental cleanup liens; (5) reviews of governmental and other records; (6) visual inspection of the facility and adjoining properties; (7) specialized knowledge or experience on the part of the defendant; (8) the relationship of the purchase price to the value of the property if the property was not contaminated; (9) commonly known or reasonably ascertainable information about the property; and (10) the degree of obviousness of the presence or likely presence of contamination of the property, and the ability to detect the contamination by appropriate investigation.⁴

The Brownfields Amendments provided that until EPA promulgated final regulations, ASTM International's E1527-97 *Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process* would serve as the interim standard to satisfy AAI. EPA by rule authorized use of ASTM's 2000 standard—E1527-00—as well.⁵ ASTM, formerly called the American Society for Testing and Materials, an international standards-setting body, first published its voluntary standard in 1993. Although not officially sanctioned, E1527 became the generally accepted standard for performing environmental due diligence for real estate to satisfy AAI absent any statutory definition or formal guidance. EPA recognized this when it set forth its proposed rule in 2004.

When the final rule becomes effective Nov. 1, 2006, parties must use the new rule if they want to qualify for the pertinent CERCLA defenses. In the meantime, parties may use either ASTM E1527-00 or the new rule to satisfy AAI. ASTM has published a new standard, ASTM E1527-05, which conforms with and satisfies the requirements of the new rule. It should

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¹ 70 FR 66070, 11/1/05. EPA had proposed rules on Aug. 26, 2004, based on input from a Negotiated Rulemaking Committee, comprising a range of stakeholder groups assembled by EPA (69 FR 52542).

² 42 USC 9601 et seq.

³ 42 USC 9601(35)(B).

⁴ 42 USC 9601(35)(B).

⁵ 68 FR 24888, 5/9/03.

[§231.1685(a)]

be noted both the present and new ASTM standards go beyond AAI in requiring the investigation of petroleum products as well as superfund "hazardous substances."⁶

EPA's final AAI rule provides the details regarding each of the ten statutory criteria noted above. Key elements of the new rule include the following requirements:

- An environmental professional must supervise the investigation and preferably should perform the onsite portion of the investigation.
- The environmental professional must declare in their report that they meet the prescribed qualifications for an environmental professional and that the investigation satisfies AAI.
- The investigation must include interviews with the current property owners and occupants; interviews, if necessary, with current and past facility employees, managers, and occupants; and possibly interviews with owners and occupants of adjacent properties if the property is abandoned.
- The investigation must include a review of recorded engineering controls, e.g., maintenance of a cap; environmental cleanup liens; and institutional controls, e.g., deed restrictions.
- The investigation must include a review of local as well as federal and state records.
- The investigation must include, in addition to visual inspection of the subject property, a limited visual inspection of adjoining properties.
- The party commissioning the investigation is authorized and at least in one instance required to utilize its specialized knowledge for certain aspects of the investigation, and the environmental professional is authorized to rely upon that knowledge.
- The environmental professional must identify data gaps and the information reviewed to address those gaps and provide comments on the significance of those gaps to the environmental professional's ability to identify conditions indicative of releases or a threat of releases.
- Parties seeking to rely on an investigation must meet shelf life and update requirements, i.e., the report generally must be conducted within one year prior to acquisition, but certain

⁶ ASTM E1527-05 explains "petroleum products are included because they are of concern with respect to many parcels of commercial real estate and current custom and usage is to include them."

aspects must be conducted within 180 days prior to acquisition, e.g., environmental professional declarations, lien and record searches, visual inspections of the property and adjacent properties, and specialized knowledge of the party commissioning the study if that party is using previously collected information.

(b) Statutory Context for AAI

To evaluate whether and to what extent to conduct AAI, it is important to understand the statutory context in which it first arose—as an element of the innocent purchaser defense created by the 1986 Superfund Amendments and Reauthorization Act (SARA). To explain that context, some background information is helpful.

Before CERCLA, environmental statutes generally regulated conduct prescriptively, providing penalties for violations. In CERCLA, Congress created a new regulatory scheme, imposing liability based not on a violation of law, but rather on a person's relationship to a site from which there has been a release or threat of release of a "hazardous substance."⁷

Potentially responsible parties (PRPs) under CERCLA include present owners and operators of a site contaminated with hazardous substances, owners and operators of the site at the time hazardous substances were disposed, transporters who selected the site, and those who arranged for disposal of hazardous substances at the site.⁸ CERCLA liability is strict and generally joint and several.⁹ CERCLA liabilities include the costs of investigation and remediation of contaminated properties, as well as associated natural resource damages from the contamination.¹⁰ These costs often run into the millions of dollars. Unlike liabilities arising from violations, there is no limit on the monetary exposure, which easily could exceed the value of the subject property.

CERCLA contains a number of defenses, some of which were added specifically to provide protection to

⁷ Although superfund broadly defines the term "hazardous substance," it excludes from that definition petroleum and petroleum products, and thus sites contaminated by gasoline and other petroleum products do not fall within its ambit. 42 USC 9601(14). As noted, however, both the present and new ASTM standards require the investigation both of petroleum products and hazardous substances.

⁸ 42 USC 9607(a).

⁹ Courts will not impose joint and several liability if there is a rational basis for allocating liability. See *In re Bell Petroleum Services Inc.*, 3 F.3d 889, 37 ERC 1601 (5th Cir. 1993). In addition, in contribution actions, as opposed to cost recovery acts, liability is several but not joint.

¹⁰ 42 USC 9607(a)(2).

prospective purchasers and to encourage transactions involving brownfields. The concept of AAI was included as an element of the transaction-related defenses. Because the relationships among the various CERCLA defenses and their prerequisites are confusing, a chart is attached that provides a useful framework for the discussion that follows.

(1) *Original Liability Defenses*

When originally enacted, CERCLA provided three defenses to liability: an act of God, an act of war, and an act or omission of a third party. To claim one of these defenses, a PRP must show the release or threat of release of hazardous substances and the resulting damages were caused solely by one or a combination of these three acts.¹¹ Of these three original defenses, the most frequently asserted was the third-party defense.

To claim the third-party defense, the defendant not only must show the release or threat of release was caused solely by the act or omission of a third party, but also: (1) the third party was not the defendant's employee or agent, or one whose act or omission occurred in connection with a contractual relationship existing directly or indirectly with the defendant; (2) the defendant exercised due care with respect to the hazardous substances; and (3) the defendant took precautions against the foreseeable acts or omissions of the third party and the consequences that foreseeably could result from the acts or omissions. Case law is split on the contractual nexus necessary to preclude use of the third-party defense, with some courts ignoring the requirement of an act or omission "in connection with" a contractual relationship and finding that merely being in the chain of title creates the prohibited contractual relationship.¹²

(2) *Innocent Landowner Defense*

In 1986, Congress enacted SARA, which modified the third-party defense with the innocent landowner (ILO) defense—the first defense to focus on parties to a real estate transaction. Under this defense, even if the proscribed contractual relationship were present, the PRP nonetheless could take advantage of the third-party defense if it could show it satisfied the requirements for being an innocent purchaser: the PRP acquired the property after disposal of the

hazardous substances and, at the time of acquisition, the PRP did not know and had no reason to know any hazardous substances were disposed at the facility.¹³ SARA placed the defense in a carve-out from the definition of "contractual relationships" and defined contractual relationship to include land contracts, deeds, easements, leases or other instruments transferring title or possession, without addressing the nexus requirement.¹⁴

AAI is an alternative formulation for the innocent purchaser prerequisite of "had no reason to know." To show at the time of the acquisition that a party "had no reason to know," the party must prove it "carried out *all appropriate inquiries* . . . into the previous ownership and uses of the facility in accordance with generally accepted good commercial and customary standards and practices."¹⁵

(3) *New Protection Under Brownfields Act*

In 2002, the Brownfields Amendments added to CERCLA two new defenses for purchasers of brownfields—the bona fide prospective purchaser (BFPP) defense and the contiguous landowner (CLO) defense.¹⁶ These two defenses, like the ILO defense, require the performance of AAI. The attached chart is helpful in clarifying relationships among the three transaction-related defenses and their various elements.

To help the regulated community understand each of the three transaction-related defenses, EPA published a *Common Elements Guidance* (the guidance).¹⁷ The guidance explains the common elements comprise both threshold criteria and continuing obligations.

The Brownfield Amendments establish two threshold criteria: (1) demonstrating no affiliation with a liable party (applicable only to the BFPP and

¹¹ 42 USC 9607(b).

¹² See Civins, Mendoza, and Fernandez, "The Third Party and Transactional Related Defenses of CERCLA," ABA SEER Environmental Litigation and Toxic Torts Committee Newsletter, July 2005.

¹³ 42 USC 9607(b)(3) and 9601(35)(A)(i). Also included within the ILO defense were governmental entities who acquired property involuntarily or through the exercise of eminent domain, and those who acquired property by inheritance. These parties were not required to demonstrate they had conducted AAI.

¹⁴ 42 USC 9601(35).

¹⁵ 42 USC 9601(35)(B)(i)(I) (emphasis added).

¹⁶ See Civins and Phillippi, "Who's Liable Now? New Federal Brownfields Legislation," Texas Bar Journal, December 2002; re-printed in Minnesota Real Estate Law Journal, March/April 2003, and Real Estate Issues, Winter 2003-2004.

¹⁷ Memorandum from S. Bromm, Office of Site Remediation and Enforcement, U.S. Environmental Protection Agency, *Interim Guidance Regarding Criteria Landowners Must Meet in Order to Qualify for Bona Fide Prospective Purchaser, Contiguous Property Owner, or Innocent Landowner Limitations on CERCLA Liability* (March 6, 2003), EDDG Section 501:1931.

CLO defenses)¹⁸ and (2) performing AAI. The statute and guidance require conducting and completing the inquiry before acquisition of the property.¹⁹ If AAI uncovers contamination, then the ILO and CLO defenses no longer are available because they require the purchaser to have no knowledge of the contamination, and therefore the purchaser is left only with the BFPP defense. Given the fact actual knowledge does not preclude use of the BFPP defense, the ILO and CLO defenses should be superfluous for transactions occurring after Jan. 11, 2002—the effective date of the BFPP defense.

The continuing obligations purchasers must satisfy consist of five specific requirements: (1) complying with land-use restrictions and not impeding institutional controls; (2) implementing reasonable steps with respect to hazardous substances on property to stop and prevent releases and prevent or limit exposure; (3) providing access, assistance, and cooperation to persons authorized to conduct response actions; (4) complying with EPA information requests and subpoenas; and (5) providing legally required notices regarding the discovery of hazardous substances.

The guidance provides some indication of EPA's position regarding the various continuing obligations. In discussing a landowner's obligation concerning institutional controls, EPA would require a landowner seeking a defense not only to comply with land-use restrictions and institutional controls in place at the time of purchase, but also to implement institutional controls in the future. EPA also requires a landowner to look at all places where CERCLA-type land-use restrictions might be documented, such as in orders or consent decrees, permits, remedy decision documents, remedy design documents, risk assessments, and other documents developed in conjunction with the response action. EPA further states that a failure to grant an easement or a covenant necessary to implement a response action in some cases could constitute a failure to satisfy the continuing obligations.

The guidance is not particularly helpful on the issue of a landowner's obligation to stop continuing releases, prevent threatened future releases, and prevent or limit exposure to hazardous substances. The guidance states that EPA views the requirement

as "consonant" with common law principles and CERCLA's existing "due care" requirement. While acknowledging legislative history and statutory requirements indicating that absent "exceptional circumstances" a landowner would not be required to investigate or remediate contamination, EPA states Congress "did not intend to allow a landowner to ignore the potential dangers associated with hazardous substances on its property." EPA goes on to state that because a BFPP buys with knowledge, as opposed to an innocent purchaser and CLO who purchase without knowledge, a BFPP may have a greater "reasonable steps" obligation.

The guidance certainly suggests a landowner, even if a BFPP, CLO, or ILO, must take "some positive or affirmative steps" in relation to contamination on its property, regardless of source or culpability. EPA's examples of reasonable steps include repairing damaged containment systems, maintaining elements of an existing response action to prevent migration, and repairing a damaged institutional control, such as a cap over contaminated soils. When addressing the question of whether remediation of ground water is a "reasonable step," EPA equivocates. If remediation of ground water is a reasonable step, the requirement to stop or prevent a release therefore could be a costly one.

The lack of clear guidance from EPA and the significant potential costs associated with continuing obligations should cause prospective purchasers of brownfields to question whether the effort to attempt to obtain any of the transaction-related defenses is worthwhile. This uncertainty and these potential costs undermine the objective of the Brownfields Amendments to encourage redevelopment of brown-field properties.

(c) Practical Concerns with AAI

Although the new AAI rule is likely to set an industry practice, blind reliance on that standard is inadvisable. For a number of reasons, prudent purchasers instead should consider each particular transaction in light of their own risk management objectives.

The AAI procedures entail a measure of subjectivity and therefore create uncertainty whether the specific requirements have been satisfied. Although developed through a regulatory negotiation involving numerous stakeholders, some of the requirements also may create practical difficulties. For example, the so-called shelf-life requirement concerning the freshness of the investigation can create transaction

¹⁸ Statutory language, however, dictates the ILO comes into play only if the act or omission giving rise to the contamination occurs in connection with a contractual relationship with the third party, rendering the third party defense unavailable.

¹⁹ 42 USC 9601(40)(B).

timing issues. The interview requirement can compromise the confidentiality of a transaction. And the strong suggestion to use an environmental professional to perform the onsite inspection, in addition to the requirement to use an environmental professional to supervise the investigation, is likely to drive up the costs of the investigation significantly despite EPA's suggestion to the contrary.

The rule requires the prospective purchaser to perform one aspect of the investigation and authorizes it to perform others, and it allows the environmental professional, to whom that information has been provided, to rely upon it.²⁰ Aspects of the investigation the purchaser may conduct include searches for liens, assessment of any specialized knowledge or experience of the purchaser, assessment of the relationship of the purchase price to fair market value of the property if not contaminated, and assessment of commonly known or reasonably ascertainable information about the property.²¹ Presumably, the assessment of any specialized knowledge of the purchaser cannot be delegated to the environmental professional and must be supplied by the purchaser. Because the AAI requirement ultimately is the purchaser's responsibility, the purchaser does not have to provide information it has to the environmental professional. However, the purchaser's failure to provide such information to the environmental professional may result in a data gap upon which the environmental professional must comment.

EPA's AAI rule identifies the procedures a prospective purchaser must follow to satisfy only one of the prerequisites to taking advantage of the transaction-related defenses under superfund. The burden is on the purchaser to prove it satisfied all of the prerequisites of the defense, including the continuing obligations as well as AAI. As noted, at least one of those obligations—the requirement that the purchaser take reasonable steps with respect to hazardous substances on the property to stop and prevent

releases and prevent and limit exposure—may cause the purchaser to incur significant expense to establish the defense.

In some instances, there may be no need to establish the transaction-related defenses. Although court opinions are split on this issue, the better view is that the third-party defense should be available unless the act or omission giving rise to the contamination occurs in connection with a contractual relationship with the defendant. If the third-party defense is available, it is unnecessary to prove AAI was conducted.

Because the transaction-related defenses only apply to purchases of land, as a practical matter they provide no protection in mergers, stock acquisitions, or other transactions with the potential for successor liability. Nor do they provide any protection against claims for petroleum contamination because petroleum and petroleum products are excluded from the CERCLA definition of "hazardous substance." Similarly, because the defenses only relate to federal superfund liability, they do not protect against liability under other federal laws, including other federal environmental laws; state environmental laws; or the common law, such as negligence, nuisance, and trespass, which may include claims for diminution in property value, personal injuries, and property damages.

Although the new rule generally does not require addressing petroleum or petroleum products,²² which are excluded from the CERCLA definition of "hazardous substance," both the present and new ASTM standards do. However, because the investigation that AAI contemplates is focused on hazardous substances, it does not address other concerns that should be addressed as part of a meaningful environmental due diligence, including, among other things, asbestos; ongoing compliance; endangered species; historical sites; indoor air quality, including mold issues; lead in drinking water; lead-based paint; and wetlands.

(d) Looking at the Big Picture

Because of these practical concerns with AAI, a prudent purchaser in a transaction involving real estate will look at the unique circumstances of its particular transaction to ensure all potential significant

²⁰ The AAI rule requires the person seeking the defense to perform the inquiry into the relationship of the purchase price to the fair market value of the property if uncontaminated. 40 CFR 312.22(a)(3). Section 312.22 does not provide an exception when this inquiry is conducted by the environmental professional, as it does for inquiries into liens and commonly known information. *Id.* Sections 12.22(a)(1), (4). The preamble, however, indicates a purchaser either can perform the inquiry itself, have it performed by a qualified third party, or have it performed by the environmental professional. 70 FR at 66099.

²¹ Discussing the ascertainable information criterion, EPA suggests a court might conclude sampling and analysis, although generally not required, may be required in particular case. 70 FR at 66101.

²² The new rule draws a distinction between those performing AAI to obtain a defense and those performing AAI as a condition of a grant and requires the investigation of petroleum only in the case of a grant. 70 FR at 66108, to be codified at 40 CFR 312.19(c)(2).

[§231.1685(d)]

environmental concerns are addressed and not focus only on AAI. Pertinent considerations in scoping an environmental due diligence investigation are suggested below.

A critical factor in determining potential environmental liabilities, and thus the appropriate due diligence that should be conducted, is how the transaction is structured. In a stock acquisition, the company essentially is unchanged, so the liabilities are unchanged as well and superfund defenses are not available. The prospective purchaser, therefore, should look at past as well as present liabilities, e.g., instances of noncompliance, and offsite as well as onsite liabilities. Offsite liabilities include liabilities related to formerly owned or operated facilities, as well as superfund liabilities for offsite disposal. Of course, the purchaser always retains the protection of the corporate shield, absent a merger or some grounds to pierce the corporate entity to reach it.

In an asset acquisition, the liabilities relate to existing conditions of the acquired assets, specifically, the risks of contamination being present and the current compliance status of the assets. Generally liabilities of the seller, other than those relating to onsite conditions, are not of concern. But even in an asset acquisition, if there is the potential for successor liability, e.g., based on de facto merger, mere continuation, or continuing business enterprise, these other liabilities of the seller become relevant and should be investigated and accounted for.²³

When the properties contain buildings, the prudent purchaser will want to look at indoor air quality, including the potential for mold. The prudent purchaser also will want to look for, among other things, asbestos, lead paint, lead in potable water, and radon. For properties with ongoing operations, the prudent purchaser will want to conduct a compliance assessment to be sure the facilities are in compliance with

pertinent requirements, including having all necessary permits, and, if they are not, to have those instances of noncompliance cured before closing.

For properties that are to be developed and facilities that are to be expanded, the purchaser will want to identify pertinent land-use restrictions, indirect as well as direct, to determine how those might affect future development. Pertinent programs include those related to air quality endangered species, historical sites, protected watersheds, and wetlands. For permitted facilities, the purchaser will want to look at limitations that may hinder expansion or modification.

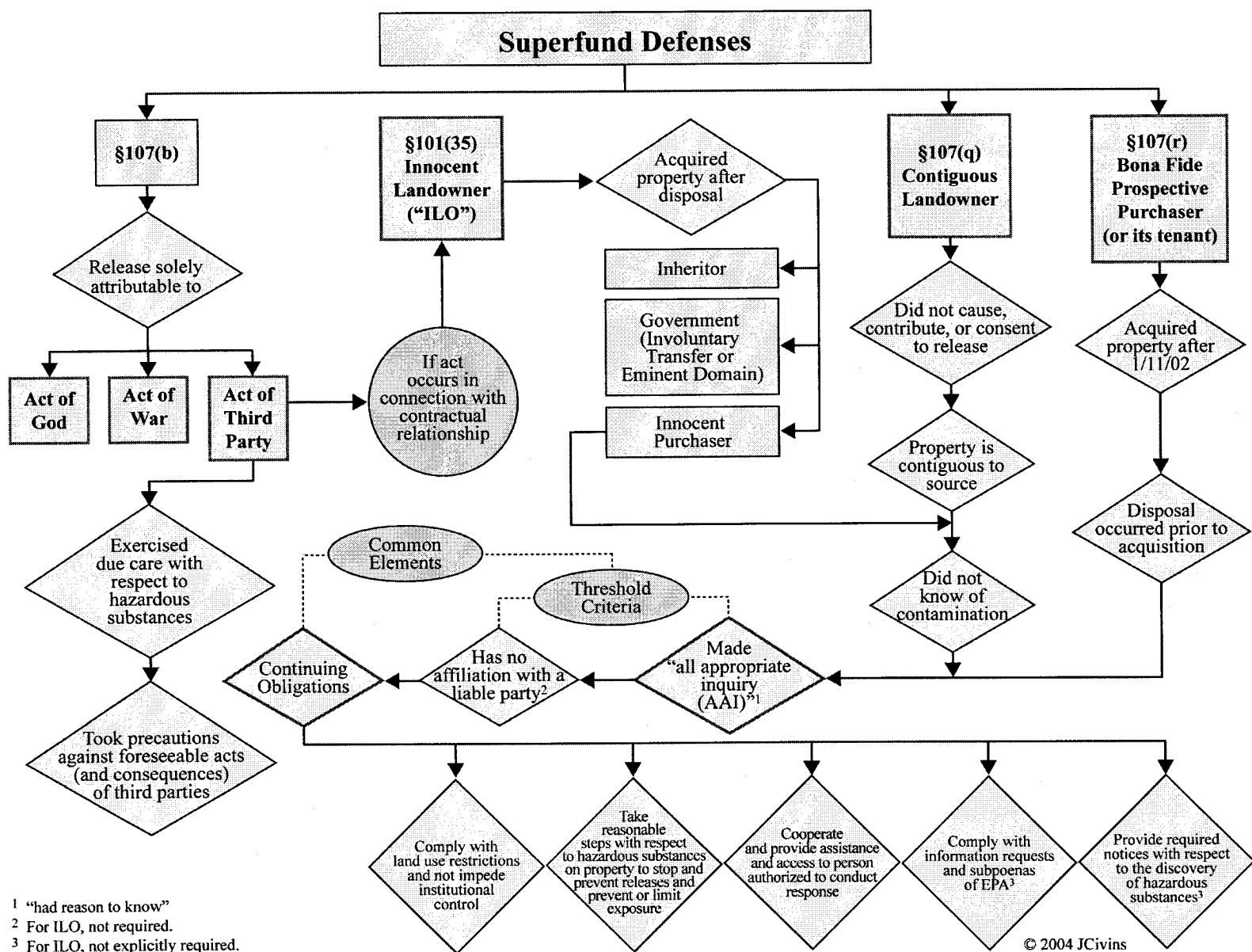
For real estate generally, purchasers will want to consider AAI. All things being equal, the various transaction-related defenses of superfund are worth taking advantage of. But the availability of those defenses should be weighed against the burdens associated with AAI, such as issues relating to confidentiality, cost, and timing.

(e) Conclusion

Although it creates a benefit—satisfying one of the prerequisites to taking advantage of the transaction-related defenses of superfund—AAI also entails a detailed set of practices that may not be appropriate, taking into account considerations such as confidentiality, cost, and timing. Additionally, AAI is but one prerequisite to use of the superfund defenses; there are significant continuing obligations, especially the obligation to address releases, that must be satisfied as well. More significantly, CERCLA defenses, even if available, provide no protection against other environmental risks and concerns. Furthermore, the procedures of AAI fail to address significant non-CERCLA concerns.

The bottom line is that AAI, although useful as a starting point, should not drive an environmental due diligence investigation. A prudent purchaser, in scoping its environmental due diligence, will instead consider the potential environmental concerns associated with each transaction in light of that purchaser's own risk management objectives.

²³ The U.S. Court of Appeals for the Third Circuit recently decided to apply federal common law rather than state law in determining whether to impose successor liability under CERCLA. *U.S. v. General Corporation Inc.*, 423 F3d 294, 61 ERC 1001 (3d Cir. 2005).



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**CERCLA -All Appropriate Inquiry –
Is There Something I Should Know?**

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18th Annual Texas Environmental Superconference
August 3, 2006

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Where does AAI come from?

Superfund – The Comprehensive
Environmental Response,
Compensation and Liability Act
("CERCLA")

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"AAI" – What is it?

- AAI is a statutory prerequisite to taking advantage of certain Superfund defenses.
- According to EPA, AAI is similar to but legally distinct from "environmental due diligence."

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To understand relevance of AAI, must understand CERCLA

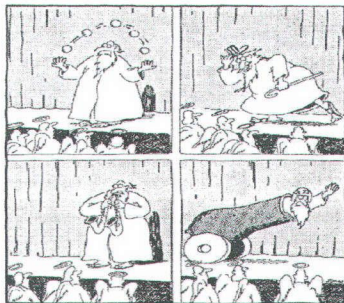
- CERCLA imposes liability for the cost of:
 - Investigation
 - Remediation
 - Natural Resource Damages
- Liability is strict - without fault
- Liability is generally joint and several
- Liability is retroactive

**CERCLA
Potentially Responsible Parties
(PRPs)**

- Present owners and operators of a facility from which there is a release or threat of release of a hazardous substance
- Past owners and operators of a facility (at the time of disposal)
- Arrangers
- Transporters (who selected the facility)

Traditional CERCLA defenses are limited

- Act of god
- Act of War
- Act of Third Party



Acts of God

Where does AAI fit in?

- **1980-Superfund**
 - provided a third party defense
 - defense was precluded if the act of the third party causing the contamination occurred in connection with a contractual relationship with the defendant
- **1986-Superfund Amendments and Reauthorization Act (SARA)**
 - added an innocent purchaser defense so even if there were a contractual nexus the purchaser would be protected if the purchaser did not know and had no reason to know of contamination
 - "Had no reason to know" was embodied in AAI

Where does AAI fit in? (continued)

- **2002 Brownfields Amendments**
 - provided guidance regarding AAI
 - added 2 new defenses -- Bona Fide Prospective Purchaser and Contiguous Land Owner -- which also required AAI
- **Nov. 1, 2005** -- new EPA rules implement AAI
- **Until Nov. 1, 2006** -- prospective purchasers may use either the new rule or the present one
- **November 1, 2006** -- prospective purchasers must use the new rule
- **AAI Rule sanctions use of ASTM E1527 Standards**

What is ASTM E1527?

- ASTM, formerly called the American Society for Testing and Materials, is an international standards-setting body.
- ASTM E1527 is the *Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process*, first published in 1993.

What was the relationship of ASTM standard to AAI?

- Although not officially sanctioned, E1527 became the generally accepted standard for performing environmental due diligence for real estate to satisfy AAI.
- E1527 was amended in 1997 and in 2000.
- The 2002 Brownfields Amendments sanctioned the use of ASTM guidance and provided that until EPA promulgated final regulations, E1527-97 would satisfy AAI.
- By rule, EPA authorized use of the then-current 2000 version as well the 1997 version.

What is the relationship of the ASTM standard to AAI?

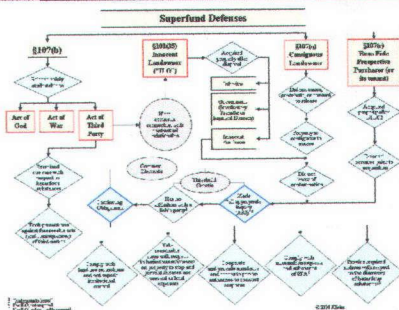
- EPA's final AAI rule contemplated promulgation of E1527-05.
- Until Nov. 1, 2006, E1527-00 or E1527-05 can be used
- On Nov. 1, 2006, only E1527-05 can be used.

Is AAI required?

Only if you want to take advantage of:

- CERCLA's transaction defenses
 - Innocent Purchaser
 - Bona Fide Prospective Purchaser
 - Contiguous Land Owner
- CERCLA's Brownfields site characterization and assessment grant programs

What is relationship of AAI to Superfund defenses?



Common Elements of CERCLA Transaction Defense

- Before Acquisition – AAI
- Post-acquisition – Continuing Obligations, including:
 - Stop and prevent continuing releases and threatened future releases
 - Prevent or limit any human, environmental or natural resource exposure to any previously released hazardous substances

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What does AAI entail?

- Inquiry by "environmental professional"
- Interviews with past and present owners
- Reviews of historical sources
- Searches for environmental cleanup liens
- Review of federal, state & local records
- Visual inspection of facility and adjoining properties
- Specialized knowledge or experience
- Relationship of purchase price to value of the property
- Commonly known or ascertainable information about the property
- Degree of obviousness of the presence or likely presence – and ability to detect by investigation

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What are concerns with AAI procedures?

- Materiality
- Confidentiality – Interviews
- Time required to complete
- Shelf life (180 days life for certain information; one year for other)
- Data gaps identification and resolution
- Opinions and recommendations
- Purchaser obligations
- Cost

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What are shortcomings of AAI?

- Subjective - don't know for sure if you've gotten it
- A defense - burden of proof is on purchaser
- Only one of a number of requirements -- also must prevent release- could be costly
- Limited protection – No protection for
 - Petroleum contamination
 - Stock deal
 - Liabilities arising under other statutes or the common law
- Fails to identify many of the pertinent concerns and potentially significant risks

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What concerns should you address?

AAI v. Comprehensive Environmental Due Diligence

Concerns	AAI	Comprehensive Environmental Due Diligence
Potential Liabilities <ul style="list-style-type: none"> • Superfund-Type Onsite • Superfund-Type Offsite • Third Party • Non-compliance 	✓	✓ ✓ ✓ ✓
Potential Obligations - Costs of Compliance		✓
Effect on Value	?	✓
Restrictions on Planned Use		✓

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How do you develop a tailored, comprehensive approach?

Consider nature of deal and underlying assets:

- Stock v. Assets
- Brownfields v. Greenfields
- Ongoing Operations
- Existing Structures
- Expansion or Development
- Change of Land Use

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Due Diligence Elements to Consider

☐ Formerly Owned/Operated Facilities
 ☐ Contractual Obligations
 ☐ Offsite Disposal
 ☐ Phase I
 ☐ Phase II
 ☐ Asbestos Containing Materials (ACM)
 ☐ Indoor Air Quality
 ☐ Mold
 ☐ EHS Compliance
 ☐ Lead-based Paint
 ☐ Lead in Drinking Water


☐ Wetlands
 ☐ Endangered species
 ☐ Radon
 ☐ Floodplain
 ☐ Utilities - quality and quantity (e.g., water, wastewater, power)
 ☐ Local Zoning/Growth Plans
 ☐ Potential Restrictions on Development and Operations
 ☐ Post-Acquisition Integration
 ☐ EHS Management Systems
 ☐ Ongoing Environmental Costs

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The Bottom Line

AAI ≠ Tailored, comprehensive environment due diligence



- AAI may be too much
- AAI may be too little
- AAI may be just right

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CERCLA -All Appropriate Inquiry –
Is There Something I Should Know?

by

Jeff Civins

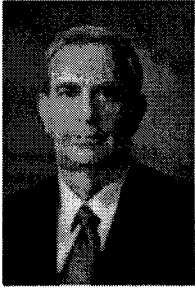
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Mr. Civins has practiced all aspects of environmental law since 1975. He advises clients on regulatory requirements, he assists them in the evaluation and negotiation of corporate transactions, and he represents them in environmental and toxic tort litigation.

As an adjunct professor at the University of Texas School of Law, Mr. Civins taught a seminar on Environmental Law Concerns to Business in 1987, and has taught a seminar on Environmental Litigation each Spring since 1992. He is co-editor of the Thomson West Texas Practice 2-volume treatise on Texas Environmental Law (1997 and 2005 editions).

Mr. Civins recently has represented:

- An airline in settling litigation with another airline regarding contamination at JFK Airport.
- A major energy company in private party Superfund litigation and in negotiating a settlement in a RCRA enforcement action brought by EPA Region 6 involving contaminated ground water.
- A national real estate company in its sale of office buildings in downtown Dallas and Houston and of a major development near Houston, and its acquisition of an apartment complex in Massachusetts and office building in Las Vegas.

Honors

- Top environmental lawyer in Texas (tied) -- Chambers USA America's Leading Lawyers (2003-2004, 2004, 2005, 2006)
- Best Lawyers in America (1989-present)
- Texas Super Lawyer -- Texas Monthly (2003, 2004, 2005)
- Top 50 Lawyers in Central and West Texas -- Texas Monthly (2003, 2004, 2005)
- Austin Business Journal Best of Business Attorneys -- Environmental (2005)
- Who's Who Legal: USA -- Environment 2006

Education

J.D., University of Texas, 1975, with honors; Order of the Coif
M.S., in Chemistry, Pennsylvania State University, 1970
A.B., in Chemistry, Brandeis University, 1967

Memberships

Environmental and Natural Resources Law Section, State Bar of Texas, Past Chair, and Chair, Annual Texas Environmental Superconference; Administrative Law and Litigation Sections, State Bar of Texas; American Bar Association, Sections of Environment, Energy, and Resources, and of Litigation and Administrative Law; Air and Waste Management Association, Central Texas Chapter, Past Chair; American Chemical Society -- Environment Division; Environmental Law Institute; Texas Law Foundation; University of Texas Law School Alumni Association Executive Board, Keeton Fellow, and Dean's Roundtable; President, Communities-In-Schools, Central Texas Chapter

Selected Recent Publications and Presentations

- "All Appropriate Inquiries -- Are They Appropriate?" with M. Mendoza, BNA Environmental Due Diligence Guide (Jan. 19, 2006, No. 167) and BNA EHS Strategies (Jan. 2006, No. 1)
- "New Rule Affects Landscape For Real Estate Purchasers," Austin Business Journal (Jan. 6, 2006)
- "New AAI Rule: All A Matter of Perspective, Attorney Says," On The Cutting Edge: An Insider's Perspective, BNA Environmental Due Diligence Guide (Feb. 16, 2006), interview
- "EPA's All Appropriate Inquires Rule: How appropriate is it?" BNA national audio conference (February 21, 2006), participant

- “Transactional Environmental Due Diligence – What diligence is due?” with M. Mendoza, Natural Resources & Environment, ABA Section of Environment, Energy, and Resources (SEER) (Winter 2006)
- “Public Participation in Environmental Permitting and Enforcement Proceedings,” with Iris Gibson, University of Texas Administrative Law Conference (June 28-29)
- “The Third Party and Transaction-Related Defenses,” with M. Mendoza and C. Fernandez, ABA-SEER Environmental Litigation & Toxic Torts Committee Newsletter (July 2005)
- “Environmental Management Systems,” with A. Strong and C. Fernandez, Chapter 31, Volumes 45-46, Thomson West Texas Practice (2005)
- “Environmental Aspects of Business Transactions,” with B. Phillippi, Chapter 32, Volumes 45-46, Thomson West Texas Practice (2005)
- “Fundamentals of Environmental Law,” State Bar of Texas Ten Minute Mentor
- “Cleanup Help Not Available,” with J. Eldridge, Texas Lawyer (Jan. 10, 2005)
- “Proper environmental due diligence should be part of a stock acquisition,” Austin Business Journal (Dec. 3-9, 2004), Dallas Business Journal, Birmingham Business Journal
- “Who's Liable Now? New Federal Brownfields Legislation,” with B. Phillippi, Texas Bar Journal (Dec. 2002), reprinted in Real Estate Issues (Winter 2003-2004)
- “Practical Advice for Defense Counsel in Mass Toxic Tort Cases,” with M. Mazzone and E. Kohn, Texas Lawyer (Nov. 2001)
- “Water Issues for Oil & Gas Producers,” Southwest Legal Foundation (2001)

PRE-AGREED PROCESS FOR REMEDIATION AND ALLOCATION

RESOURCE ENVIRONMENTAL LLC

AN INDUSTRY BUSINESS MODEL

George A. Phair

Vice President & General Counsel

Eighteenth Annual Texas Environmental Superconference

August 3, 2006

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BACKGROUND

MTBE (methyl tertiary butyl ether) was first blended into gasoline in small quantities in the late 1970s as an octane enhancer after lead was removed from gasoline formulas. Later, as a result of the Clean Air Act amendments of 1990 which required an added molecule of oxygen to be blended into gasoline to improve combustion in vehicle engines, the industry utilized MTBE. MTBE is an ether which is made by combining isobutylene (from various refining and chemical processes) and methanol (a by-product of natural gas processing). Because it was plentiful, accessible, relatively inexpensive, and could be blended at the refinery and transported by pipeline, it was the logical oxygenate choice of refiners and marketers in the early 1990s.

It is now well understood that MTBE behaves very differently in groundwater than its “host” BTEX compounds. When gasoline containing MTBE is released into the environment from surface spills, UST system failures, or pipeline or storage tank releases, the resulting plumes can and often do reach groundwater. Because of MTBE’s high solubility in water, it can, depending on hydrogeology and sub-surface conditions, leave the pure gasoline plume and travel with the groundwater for hundreds of feet and often off the real estate occupied by the source. When this occurs, there is an enhanced risk of impact to surface and groundwater receptors to include private and public water supply wells.

The extent to which exposure to MTBE is a health risk and affects property values has been a topic of debate for over ten years in academia and legislative branches of state and federal government. Moreover, MTBE in gasoline has been the subject of substantial litigation in courthouses around the country commencing in 1995 in *Peters v. Brants Grocery* in federal court in Montgomery Alabama.¹ The definitive answer to these questions, if there is one, is beyond the scope of this paper. It is sufficient for this discussion that the litigation MTBE has spawned since 1995 was the circumstance that originally drove the development of Resource Environmental LLC (“RELLC”) which is this paper’s topic.

RELLC was organized to provide its members (and other’s in the industry who may want to utilize it) with a business model alternative to litigating their way through joint liabilities from petroleum fuel releases. All tort litigation, whether it is with governmental entities, municipalities, water purveyors, local residents, or non-governmental environmental organizations, is reactive by definition. Large companies have come to appreciate that lawsuits, while sometimes essential to good business, are nevertheless costly in terms of time, financial and human resources, and good will. It is a

¹ *Peters* purported to be a national class action seeking property damages allegedly associated with leaking UST systems around the entire United States and included counts relating to MTBE contamination. A class was never certified. Other MTBE cases of note in this time frame included *City of Santa Monica v. Shell Oil Co., et al.*, Cause No. 01 CC0433, Superior Court of the State of California, County of Orange; *South Tahoe Public Utility v. Atlantic Richfield Company (“ARCO”)*, Cause No. 999128, Superior Court of the State of California, County of San Francisco; and, *In Re: MTBE Product Liability Litigation*, MDL NO. 1358, Master File No. 00 CIV 1989 (SAS), United States District Court for the Southern District of New York.

“win-lose” exercise in which it is often difficult to discern who “wins” at the end of the day.

In the wake of multiple lawsuits involving MTBE contamination, RELLC was formed by some visionary business figures within five major oil companies and their forward thinking in-house legal counsel. The original idea which emerged in July 2000 was to turn the conventional management of multi-party MTBE release sites on its head. Farming such sites out to a newly created organization that would allow rapid or accelerated response and remediation as a first step rather than the end result of protracted negotiation and/or litigation between or among parties. Accordingly, RELLC’s underpinnings are three major pillars derived from the collective lessons learned from both successful and unsuccessful MTBE litigation:

Preventative Law – behavior which anticipates and avoids conduct which might otherwise become the basis for damages in tort, especially punitive damages.

Total Liability Management – addressing both regulatory compliance issues as well as common law duties so that when a site is closed, there are no loose ends or “shoes to drop.”

Alternative Dispute Resolution – utilizing a pre-agreed liability allocation process backed up by contractual commitments to binding arbitration in order to avoid the courthouse, thereby abbreviating the process of resolving what are essentially business disputes.

Originally, from 2000 to 2003, Conoco, ExxonMobil, Chevron, and Marathon began studying the formation of a business entity that might perform this difficult task within the concept described above. By 2002, Shell/Motiva made a corporate decision to participate in the LLC. As a result of oil company mergers, the LLC which became Resource Environmental is today comprised of ConocoPhillips (including heritage Toco), ExxonMobil, Marathon Petroleum Company LLC, Shell/Motiva, and Chevron (including heritage Texaco). The door remains open to additional membership²

Since its formation, and upon the Board’s recommendation, the member companies expanded the scope of RELLC’s purpose to include remediation of all petroleum fuels whether they contain MTBE or not.

² As of this writing, Valero management has indicated an intent to formally join RELLC as its sixth member. A Joinder Agreement and other formation documents are being prepared for review by Valero’s legal department. These formalities should be completed within the 3Q 2006

FUNCTION

Member companies each have well developed environmental remediation programs and highly skilled environmental professionals who ably manage the vast majority of health, safety and environmental issues to include compliance, prevention, assessment and remediation. The challenge, however, occurs when environmental responsibilities for environmental contamination and liabilities are joint and several due to the close proximity of different companies' assets to the contaminated area. Petroleum fuel pipelines often occupy the same corridor, transportation terminals are often adjacent or in close proximity, and retail marketing facilities are typically across the street from each other or at the same intersection. When an underground plume of petroleum fuel contamination is discovered, it is frequently difficult to quickly discern with any certainty who is responsible for what and in what proportions. Disputes over the issue of proportionate responsibility have been common and not easily resolved, especially with incomplete or conflicting historical and technical data.

RELLC's function is simple and straightforward. By pre-agreement to the management approach and consolidation of site management into one body, the life cycle of the remediation site referred to RELLC can be substantially shortened and the objective of good environmental stewardship can be realized earlier and better. Moreover, by providing a mechanism of internal financial allocation which takes place after historical and current technical information has been assembled and supplemented if necessary, remedial work can commence almost immediately thus eliminating the need for litigation between responsible parties and the delays attendant to it. This acceleration of remedial work also serves to mitigate personal injury and/or property damages, which either eliminates third party litigation or reduces its scope.

RELLC's member companies believe that centralized management, aggressive remediation and dispute avoidance achieves better environmental stewardship and conserves financial and human resources not only for themselves, but for all affected stakeholders.

COMPANY STRUCTURE

The Limited Liability Company Agreement which created RELLC was filed on April 25, 2003 with the Secretary of State of the State of Delaware. The Company Agreement (loosely analogous to Articles of Incorporation for a corporation) is the organizational document that provides for all governance of the Company. Parties to the Company Agreement (ConocoPhillips, ExxonMobil, Chevron, Marathon and Shell/Motiva) are referred to as "Member Companies".

The Service Agreement is a separate document under and through which Member Companies contract with RELLC to provide its environmental managerial services. Parties to the Service Agreement are the LLC, Member Companies and any other industry member PRP that might want to utilize its services "a la carte". Such parties are

referred to as “Contracting Entities.”³ The Services Agreement also contains the framework for the allocation by the Board of financial responsibility between and among contracting entities who are PRPs at a given site. Allocation by the Board is a customized form of ADR since the only alternatives are agreement (rarely easily achieved) or litigation. Since the entire Board makes allocation determinations (based upon a comprehensive and reasoned recommendations of the President), fairness and objective decision-making are built into the process. Moreover, as a deliberative body, the Board members are more sophisticated in environmental science and engineering than most judges, arbitrators or mediators are likely to be.

Any dissatisfaction with the Board’s approval of a given remedy, project budget, or allocation is resolved through binding arbitration as the exclusive contractual remedy. This serves to keep the parties out of court in favor of non-litigated dispute resolution.

Day to day management and oversight of the LLC’s business is vested in a President and other company officers the Board might authorize. Currently serving as president is John Englehardt, an experienced chemical engineer retired from Chevron who has significant project management and environmental remediation experience.

Because the LLC is a manifestation of preventative law principles, total liability management, and ADR, the Board also created the Office of Vice President and General Counsel. These two officers are the only employees of the LLC. All other corporate functions are out-sourced including information technology, accounting and environmental engineering and consulting. In this manner, RELLC’s overhead is kept to a minimum. To the extent that outsourced services are project related, the costs are paid by those Contracting Entities involved at the site in their respective allocated shares. Purely corporate overhead costs are shared equally by all member companies.

In addition to the governance provided by the Company Agreement and the Services Agreement, the Board of Directors has, over time, adopted a formal business plan and promulgated a host of written policies, procedures and processes. Such policies and procedures run the gamut from housekeeping issues (records management and travel) to more substantive subjects (waste management, allocation, rapid response, communications and ADR). In this way, member companies and other industry members that might refer sites to RELLC, know in advance the specific method and manner by which RELLC will manage the site. These policies, procedures and processes have been developed and approved by the Board members as representatives of their respective member companies. When a site goes into RELLC, there is little ambiguity about how it will be managed.

³ PRPs that are not RELLC members may become contracting entities by execution of a Third Party Service Agreement under which the non-members are afforded the same decision making rights as Board Members regarding the site in question

THE ALLOCATION PROCESS

Central to the RELLC business model is the process of allocating financial responsibility between or among contracting entities. This unique form of customized ADR was designed to ensure a credible and objective allocation of financial responsibility by qualified environmental managers (Board Members) in accordance with available technical data. All Board members vote on allocation decisions including members whose companies are not involved at the site. A simple majority rules with the President voting only in cases of a tie.

Allocation occurs in three stages – initial, interim, and final. The initial allocation is almost always *per capita* when the site is first referred to RELLC because comprehensive and integrated information and data is not then usually available, regardless of how old the site is. Accordingly, all contracting entities fund the assessment and preliminary remedial work on an equal basis while the President and the consultants analyze existing data, generate new data, and integrate additional data from regulators and other public sources. When this is completed (classic “Phase II” information), the President prepares an Interim allocation recommendation for presentation to the Board.

Upon request of one or more contracting entities that were assigned an initial allocation percentage, the Board meets to consider the recommendation of the President, the basis for the recommendation and the underlying data that supports it. After a new allocation (or re-allocation) is determined by the Board, the President conducts a financial reconciliation or “true-up” so that contracting entities’ overpayments are refunded with interest (retroactive to the date the site was referred to RELLC) and underpayments are made with interest (retroactively). For example, at a two party site, the initial allocation would be 50% for company A and 50% for company B. If the interim allocation is changed to 65% for Company A and 35% for Company B, Company A would pay in the deficit with interest and company B would be refunded its overpayment with interest, all retroactive to the date the site came into RELLC. If new data triggers a second interim allocation resulting in 60% for Company A and 40% for Company B, the reconciliation is recalculated. In this way, contracting entities are made whole throughout the process, at least to the extent the allocation percentages are fair and reasonable.

Subsequent interim allocations may occur every 24 months or more frequently if all interested contracting entities agree. Circumstances that could trigger a subsequent interim allocation are newly discovered information or new or additional data that would have a material effect on the allocation decision.

A final allocation takes place when RELLC’s response activities permanently end, RELLC receives a closure notice from the governing agency, or when all interested contracting entities agree, whichever is earlier. The Board can make the final allocation

either on its own initiative or upon a request by an interested contracting entity along with a determination that the requirements for a final allocation have been met. The final allocation is based upon all information known to the RELLC at the time of the allocation. In the event the Board is unable to agree on a final allocation within ninety days of when the requirements for a final allocation have been met, then the last allocation in effect upon expiration of such ninety days becomes the final allocation unless agreed to otherwise.

HYPOTHETICAL

Given the foregoing explanation of the structure and mechanics of RELLC, its specific approach to an environmental remediation site is best understood by contrasting it with the more conventional and historical approach. Consider a typical petroleum release site which would have at least some of the following characteristics:

- a) petroleum fuel release discovered at or near fuel handling facilities (marketing sites, terminals, pipelines, etc.);
- b) multiple potentially responsible parties have operations in the vicinity;
- c) one or perhaps multiple plumes are in the ground, some of which may have commingled;
- d) receptors such as private or public water wells, surface water bodies, or the soil or groundwater itself are impacted;
- e) state or federal regulators are alerted to the situation and are in the enforcement mode;
- f) Third party stakeholders (municipalities, water purveyors, property owners and non-governmental organizations) are interested and engaged in the issue.

Conventional Approach

Historically, given this somewhat typical site profile, the response of major oil company gasoline marketers has been guarded and measured, primarily because the facts are unclear at the beginning and sometimes completely unknown. The tort system has conditioned large companies with deep pockets to deny liability at least until the point in time that it becomes clear they have liability.

Voluntarily funding and conducting a clean-up when liability is uncertain is counter-intuitive to corporate counsel, senior executives, Boards of Directors and even shareholders. Indeed, it is counter intuitive for anyone to assume a liability before it is reasonably clear that they are at least partially responsible. Accordingly, oil companies might deny liability initially, not because they are irresponsible or poor environmental stewards, but because it would be imprudent to admit liability for an environmental spill until it becomes evident it has some responsibility. In essence, oil companies in this situation behave just as any prudent person would in the same circumstances.

When oil companies are in the “denial mode”, justified though it may be, cooperation among these PRPs is inhibited, much for the same reason. With whom does one cooperate? With incomplete and conflicting “facts,” an innocent company may inadvertently align itself with a liable party or even a wrong doer. The tort system is very unforgiving of this approach since once committed and aligned, it is not easy to disassociate from the responsible parties in the eyes of the adversary or average fact-finder. As a result, the level of cooperation to address the problem proactively is either superficial or non-existent.

Non-cooperating PRPs in denial can result in delay in taking proactive measures to address the environmental issues and immediately assessing and remediating the environmental impacts. Real environmental stewardship may not happen swiftly and legal damages may not get mitigated in time. Indeed, regulators may begin the enforcement process and third party stakeholders may seek counsel to explore their remedies. Individual property owners who may live near or on top of a plume of petroleum fuels are anxious and fearful about their health and their property values. Fear can easily turn into anger which motivates plaintiffs and energizes regulators, especially when nothing is happening to clean up the release.

We have seen during the mid 1990s and early 2000s that this sequence repeats itself and inevitability leads to litigation in some form. Litigation, by definition, is reactive and occurs after the fact. Third party claims, governmental enforcement actions and cross claims among PRPs effectively become the dominant activity and co-opt the remedial process. As a result, the exigencies of an environmental spill are not well served with this approach.

The RELLC Approach

If the same scenario is referred to RELLC, this sequence is turned upside down and works from the desired result backward. Once a site is in RELLC by the submittal of an “Investigation Notice” by a member company, the President is given \$100,000 in authority to immediately do whatever is necessary to protect human health and the environment. If human health is at risk, that issue is addressed immediately and can include distribution of bottled water, installation of carbon filtration systems on public or private water wells, or addressing vapor intrusion into buildings. If human health is not immediately at risk, the President immediately begins a preliminary assessment of the site conditions, determines the regulatory status, and assesses any already existing remedial programs in place and reports to the Board. Based on this preliminary report, the Board decides whether to retain the site for further remedial management or whether to turn it back. The latter course can occur if it is determined that no RELLC contracting entity is involved in the site or that the contaminants of concern do not include petroleum fuels. If the site is retained, an accelerated remedial response continues under the supervision of the President.

RELLC provides the corporate shield behind which the contracting entities can respond aggressively to petroleum fuel spills without stepping out on the limb of liability. Since RELLC is not a PRP, it can do whatever is necessary to address the site conditions without pre-maturely subjecting the members to liability. RELLC's first objective is to protect human health and the environment. Determination of proportionate responsibility thorough pre-agreed RELLC processes is deferred so that the clean-up can have priority. If human health is immediately protected, plumes are assessed and arrested without delay, sources are cut off, and remedial programs are put in place, then the life cycle of the site is shortened, remediation dollars are better spent at a faster pace, damages are mitigated, and litigation is avoided or minimized. Moreover, regulatory compliance is accelerated reducing the need for agency action.

Some sites that have come into RELLC are not "new" in the sense that member companies may have independently been managing remedial activities on their own sites prior to referral. Nevertheless, in such situations, RELLC's management of the site still adds value by looking at all the sites regionally and talking a holistic approach to the remedial program. A significant value that the RELLC approach provides is integrating remedies and treating the individual sites that comprise the area of contamination as one regional site. Regional remedies are designed which ignore property lines. Individual remedial systems and technologies, which often work at cross-purposes, are replaced by a remedial design for the whole area of contamination.. This approach allows for a more effective regional remedy that helps ensure site closure at an earlier point in time. It is also more effective at damage mitigation and regulatory compliance. It is preventative law in its highest technical form.

CAPITALIZATION AND FUNDING

Member companies have agreed to fund RELLC by making commitments for both capital costs and remediation costs. Each of the five charter member companies made commitments for capital costs of up to \$500,000 (or \$2.5 million in the aggregate) over the life of the LLC. In like manner, each company made financial commitments of up to \$9.6 million (or \$48 million in the aggregate) for remediation costs over the life of the LLC. In other words, once a member company spends half a million dollars as its share to keep the company operating, or spends \$9.6 million dollars for its allocable share of remedial work performed by the LLC, its financial obligations are ended. At this point it can either withdraw from RELLC or renew its commitment.⁴ The member companies' financial commitments are guaranteed by the deposit with the LLC of letters of credit, payable to the LLC, in the amount of \$1million. These letters ensure that RELLC can pay its financial obligations since it does not maintain a large cash reserve.

In the first two years of operation, RELLC has operated on an annual budget of approximately \$500,000. This budget is funded in two ways. The Board has established a service fee of 15% that is applied to all the costs expended on a site and paid by the

⁴ These caps were originally put in place so that the companies that formed RELLC would not have an open-ended financial obligation on their books.

participating contracting entities in their allocable shares. Service fees cover about half of the annual budget. The balance is provided by annual cash calls from the member companies that go against their \$500,000 commitment. Annual cash calls are generally in the range of \$50,000 per member. As the number of sites increases over time, the amount and frequency of cash calls is expected to drop dramatically and eventually be eliminated. Furthermore, as the need for cash calls is eliminated, further success of the company will put downward pressure on the service fee as well. The Board's ultimate objective is to make RELLC as cash neutral as possible.

ANCILLARY ADR SERVICES

During RELLC's first two years of operation, member companies expressed the need for a process by which member companies might deal more effectively with "vertical ownership" disputes. Vertical ownership of a gasoline marketing asset by multiple companies describes successive ownership of the same asset over time. Sales or other transfers of a retail site or terminal facility from one owner to another, followed perhaps by yet another transfer, are accomplished by sales agreements and real estate transfer documents containing a host of provisions governing indemnification for environmental liabilities. The complexity of these documents (often packaging numerous assets in one sale) coupled with the uncertainty of underground conditions often lead to disputes over which party is responsible for environmental conditions that manifest years after the sale.

Even though RELLC's core services do not address vertical disputes, the Board of Directors has adopted a voluntary process by which vertical disputes can be addressed, managed and resolved. Parties wishing to avail themselves of the Vertical ADR simply execute a separate ADR agreement, which contractually binds them to follow the process as their exclusive remedy. Moreover, because the process is voluntary, non-members of RELLC that are involved in the dispute may also take advantage of it.

The vertical ADR process is a tiered approach designed to escalate gradually. As in any business dispute, especially between or among large, sophisticated companies, it is critical to involve business representatives of the companies who have the authority to settle the matter. Settlement is encouraged at any point in the process. There are 5 phases with an understanding that the dispute can be settled at any time:

- In Phase I, each company gathers all relevant information and prepares case statements along with key documents that support their positions.
- In Phase II, the informal meeting with RELLC staff takes place to discuss the issues and impediments to settlement, identify common ground, and the respective positions of the parties.
- In Phase III, the staff will prepare a non-binding advisory opinion. This recommendation will set out the rationale of the opinion and designed to foster meaningful settlement discussions between the parties.
- In Phase IV, formal mediation is conducted with RELLC staff facilitating the selection of an agreed mediator and assists with logistical support.

- In Phase V, the parties submit the matter to binding arbitration. Arbitration can be either conventional arbitration or “baseball” arbitration in which each side prepares a proposed solution and the arbitrator simply picks the one he or she believes is the most fair. Arbitration is conducted under the AAA rules.

The design of this process is to conclude the entire process (if necessary) within one calendar year. Even in extreme cases that go to arbitration, the savings in terms of time, litigation costs, and internal personnel drain are significant when compared to the litigation model. The RELLC Board believes that pragmatic businessmen can resolve most business disputes if they can focus on the right issues in a controlled environment with all the facts on the table and without the interference of the legal community. This process is designed to maximize settlement opportunities through leveraged communication.

The ADR Agreement contains confidentiality provisions and provides for payment to RELLC of \$5000 per party whether the matter settles on the first day or with an arbitration ruling. RELLC’s out of pocket expenses are shared by the parties equally.

Two member companies have already availed themselves of this process. In that instance, the matter settled at the end of the meet and confer stage (Phase II).

ACCOMPLISHMENTS

When RELLC came into legal existence in April 2003, the charter company’s optimism that the concept was viable was admittedly cautious. Though the business model was viable on paper, it was fraught with uncertainty about the people that would staff it and whether the commitment of the charter members would be sustained. Not every major oil company joined the LLC. Some expressed interest but have taken a “wait and see” approach. Nevertheless, after three years of existence, RELLC has been able to demonstrate that the business model works effectively to manage joint liabilities and that it adds value to its member companies. Consider the following specific achievements:

- RELLC is currently managing seven joint liability oxygenate and petroleum fuel release sites with three more actively under consideration by the Board.
- RELLC is demonstrating added value at multi-member sites by reducing conflicts, integrating remedies, leveraging assets, improving agency relations, and accelerating remedial activities.
- The Board has conducted seven initial allocations and four interim allocations to date without significant controversy or dispute. This part of the business model works especially well.
- The Board has appointed and now has in place a Technical Advisory Committee composed of a technical representative from each member company. This committee provides technically based policy input and serves as a privileged peer review panel (under the supervision of the General Counsel) for each project. This

tool has proven to be a valuable resource and helps ensure the efficacy of proposed remedial approaches and the technical credibility of management decisions.

- State regulators have uniformly expressed enthusiasm for this industry initiative to deal with joint environmental responsibilities. They have been impressed that when multi-party sites have been transferred to LLC management, aggressive clean-up begins taking place, deadlines get met or beaten, and they deal with one person instead of several. In addition, the inter-company issues or conflicts inherent in separate remedial approaches ends. This favorable feedback has been received from the Texas, California and New Jersey agencies.
- At a site in California, RELLC has made application to the commingled plume fund (a special UST fund) for reimbursement of past and future response costs. This application is expected to be approved with cash reimbursement to the member companies in 3Q, 2006. Prior to RELLC's involvement, adversarial relationships then existing among the companies at this site were an impediment to a successful reimbursement application and as a result, one was not pursued. This reimbursement amount will exceed these member companies' entire financial investment in RELLC to date.
- The Board has approved a comprehensive Rapid Response Plan and a Communication Plan. Member companies each participated in and helped develop both of these plans. In addition, the Board has adopted an extensive Business Plan that serves as the blueprint of how RELLC conducts its business. A complete Waste Management Plan has been prepared and will be formally considered by the Board at its Summer 2006 meeting.
- One member of the original board of Directors retired and has been replaced. This transition was seamless and the Board continues to effectively manage the LLC. Great care is taken that the antitrust line is not crossed. The Board's meetings and conference calls are carefully memorialized with complete sets of minutes or notes.

THE FUTURE

The member companies and the Board of Directors expect RELLC to continue to grow both in terms of its portfolio of sites, membership, and its ability to add value to its member companies and contracting entities. In its first three years of operation, RELLC has demonstrated that the business model works effectively and is clearly a preferable alternative to the tort system in managing joint environmental liabilities. RELLC has given legs to authentic environmental stewardship at all the sites it has managed. And, as a business model, it is easily adaptable to other industries that struggle with similar issues of allocating common liabilities.

Appendix

Board of Directors

Bill Kitchen, Director and Chairman of the Board

Representing ConocoPhillips Company

William A. Kitchen (BS Mechanical Engineering 1973) is currently Manager of the Risk Management and Remediation Department for ConocoPhillips. He has thirty-one years of professional experience including work related to capital projects, refinery maintenance and operations, and remediation management.

John Sexton, Director

Representing Shell Oil Products US & Motiva Enterprises LLC

John R. Sexton (BS Civil Engineering, Texas A&M, 1987) has 17+ years environmental engineering and management experience. He joined Texaco as an Environmental Engineer in 1987 and held a number of assignments in Environmental Engineering, Marketing Operations and Marketing. He then joined Equiva Services in 1998 in the Safety, Health, and Environmental organization. He has managed the Product Stewardship Group and since May, 2002 he has been Director of Science and Engineering in the Health, Safety and Environmental organization

J. I. (Jon) Bloom, Director

Representing Exxon Mobil Corporation

Jon Bloom (BS Geology, Rutgers, 1980; MS Geology, University of Florida, 1982) has 23+ years of geoscience and environmental remediation project management experience with Exxon Mobil Corporation. After graduation, he joined the Exxon Upstream Exploration Department where he held numerous geologic assignments until 1990 when he was assigned to Downstream Marketing. In Marketing, he has held positions ranging from Northeast US Retail Remediation Manager to US Remediation Manager for terminals, lubes and pipeline facilities. Following an assignment as a government affairs lobbyist in ExxonMobil's Washington office, he was assigned to his current position as a Senior Advisor for Global Retail Remediation where he oversees worldwide retail remediation processes.

Bob Wilkenfeld, Director
Representing Chevron Corporation

Robert Wilkenfeld (Phd Toxicology, University of Vermont, 1981) has over 23+ years of technical and management experience in both toxicology and environmental issues. Initially, he managed ChevronTexaco's toxicology laboratory and directing epidemiology and biomedical surveillance programs for the Corporation and its operating companies. He has been involved in environmental remediation since the 1990's to include management responsibilities in RCRA and Superfund. Currently, he is the Retail and Terminal Environmental Remediation Business Unit Manager for ChevronTexaco focused on domestic liabilities associated with marketing of fuels and asphalt products.

Randy Lohoff, Director
Representing Marathon Ashland Petroleum LLC

Randy Lohoff (JD, University of Louisville School of Law, 1977) has legal, management and executive management experience with Marathon Ashland Petroleum LLC (MAP), as well as with former Ashland Petroleum Company. He has functioned in various legal capacities, was director of Human Resources, as well as oversaw corporate health and safety initiatives since the early 1990's. He has served as Compliance Officer for MAP since 1999. In 2003, Mr. Lohoff assumed the duties of Senior Vice President, Corporate Responsibility, with responsibility for Health, Environment & Safety and Business Integrity for MAP.

Officers

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RESOURCE ENVIRONMENTAL L.L.C. ("RELLC")

AN INDUSTRY INITIATIVE

EXXONMOBIL CONOCOPHILLIPS CHEVRON
SHELL / MOTIVA MARATHON

WHAT RELLC IS NOT

- NOT A COMMERCIAL ENTERPRISE
- NOT A GENERAL ENVIRONMENTAL SERVICE PROVIDER
- NOT AN ENVIRONMENTAL CONSULTANT

FOUNDATION

- PREVENTATIVE LAW PRINCIPLES
- TOTAL LIABILITY MANAGEMENT
- ALTERNATIVE DISPUTE RESOLUTION

PURPOSE

- CONSOLIDATE MANAGEMENT OF REMEDIATION AT MULTI-PARTY SITES
- ACCELERATE REMEDIAL PROCESS
- PROVIDE FAIR ALLOCATION OF FINANCIAL RESPONSIBILITY
- EMPLOY LESSONS LEARNED FROM MTBE LITIGATION EXPERIENCE
- PROVIDE FOR ADR TOOLS TO AVOID LITIGATION

MANAGEMENT

- LLC IS "MANAGER MANAGED" UNDER DELAWARE LAW
- DIRECTORS (ONE PER MEMBER)
- PRESIDENT
- VICE PRESIDENT / GEN. COUNSEL

LLC STRUCTURE

- COMPANY AGREEMENT
- SERVICES AGREEMENT
- POLICIES
- PROCEDURES
- WORK PROCESSES
- BUSINESS PLAN

HYPOTHETICAL

- PETROLEUM FUEL RELEASE
- MULTIPLE PARTIES IMPLICATED
- MULTIPLE PLUMES - MAYBE COMINGLED
- RECEPTORS THREATENED
- REGULATORY CONCERN
- THIRD PARTY INTEREST

HISTORICAL MODEL

- "IT WASN'T US"
- LACK OF COOPERATION
- REMEDIATION GRIDLOCK/DELAY
- UNMITIGATED DAMAGES
- REGULATORY FRUSTRATION
- PATCHWORK REMEDIAL EFFORT
- INCREASED RISK OF LITIGATION (3rdPARTY OR GOVERNMENT)

L.L.C. MODEL

- ONCE IDENTIFIED, PROBLEM ADDRESSED IMMEDIATELY BY LLC
- INTEGRATED REMEDIAL EFFORT
- CONTRACTUAL PROCESS IN PLACE FOR MEMBERS
- FINANCIAL RESPONSIBILITY ALLOCATED INTERNALLY BY BOARD OF DIRECTORS
- PROCESS STAYS AHEAD OF REGULATORS' DEMANDS
- DAMAGES MITIGATED OR MINIMIZED
- LITIGATION ELIMINATED OR MINIMIZED

ALLOCATION BY BOARD

- INITIAL – USUALLY PER CAPITA
- INTERIM
 - HISTORICAL AND “NEW” DATA
 - COMPLETED PHASE II LEVEL INFO.
 - SITE CONCEPTUAL MODEL
 - ANALYSIS BY PRESIDENT/CONSULTANT
- FINAL

RECONCILIATION

- AFTER EACH RE-ALLOCATION, PAYMENTS ARE TRUED-UP
- PARTIES THAT OVERPAID ARE REFUNDED THEIR OVERPAYMENTS WITH INTEREST
- PARTIES THAT UNDERPAID MAKE ADDITIONAL PAYMENTS TO THEIR ACCOUNT WITH INTEREST

FUNDING

- CAPITAL COST COMMITMENT OF \$500K PER MEMBER (\$2.5MM) SECURED BY LOC
- REMEDIAL COSTS COMMITMENT OF \$9.6MM PER MEMBER (\$48MM)
- SERVICE FEE OF 15%

ACCOMPLISHMENTS

- PREVENTED TWO LAWSUITS AND THREE N.O.V.s
- SHORTENED LIFE CYCLES OF SITES
- INTEGRATED REMEDIES
- MAXIMIZED UST FUND CLAIMS
- VERTICAL ADR PROCESS
- CREDIBILITY WITH REGULATORS

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Experienced in litigation and complex litigation management. Licensed to practice in the State of Texas, the Eastern, Southern, and Northern Districts of Texas, the Fourth, Fifth, and Eleventh Circuit Courts of Appeal, and the United States Supreme Court. Retired from the ConocoPhillips Legal Department February, 2003.

- 1988-2003 Counsel, Conoco Inc. Legal Department, Houston, Texas. Managed national docket of toxic tort and environmental claims and suits for both Conoco and parent DuPont. Promoted to Senior Counsel 1992. Handled high profile matters including Superfund cost recovery litigation, R.C.R.A litigation, other government enforcement actions, NORM litigation, UST litigation and MTBE class actions. Promoted to Corporate Counsel (highest professional rank) 2002. Served as Legal Advisor to corporate records manager; supervised technology/litigation risk assessments for General Counsel; championed environmental criminal defense preparedness plan; speaker at 2001 A.B.A. Environmental Section Fall Meeting (New Orleans); recipient of Conoco "Litigation Excellence Award," 2000. Created in 2000 the MTBE Global Joint Defense Group. By numerous presentations to individual companies at Global Joint Defense Group meetings and before the API General Committee on Law and at the Petroleum Marketing Attorneys Meeting over a two and a half year period, successfully organized industry members in the creation of **Resource Environmental L.L.C.** as a business model to manage certain multi-party oxygenate releases.
- 1981-1988 Assistant United States Attorney, Eastern District of Texas (Beaumont Division). Docket consisted primarily of condemnation cases for the Corps of Engineers (Lake Ray Roberts), Department of Energy (Strategic Petroleum Reserve Big Hill salt dome), and U.S. Park Service (Big Thicket National Preserve). Tried approximately twenty-five cases to Commission or Court, prepared and settled over fifty others. Conducted title hearings before special master. Instructor/lecturer, Attorney General's Advocacy Institute, Washington D.C.
- 1972-1981 Senior Assistant City Attorney, City of Beaumont, Texas. Served as in-house legal advisor for Police and Fire Departments. Later represented City in various lawsuits, provided legal advice to city planning and zoning departments. Briefed, argued, and prevailed in *Jones v. City of Beaumont*, Beaumont Court of Appeals (560 S.W.2d 710). Served as chief condemnation counsel. Represented City in 1980 census undercount class action against U.S. Department of Commerce.
- 1971-1972 Assistant Criminal District Attorney, Smith County, Texas. Prosecuted a variety of misdemeanors and felonies in a small six-person office; handled probation revocations and juvenile court matters.

1969-1970 Assistant City Attorney, City of Beaumont, Texas. Responsible for Municipal Court prosecution, general municipal legal issues.

STEPHANIE BERGERON PERDUE

Stephanie Bergeron Perdue was appointed Deputy Director of the Texas Commission Environmental Quality's (TCEQ) Office of Legal Services in May 2006 after serving as Acting Deputy Director since November 2005. She joined the Environmental Law Division as Director in September 2001. She previously served as Executive Assistant to former Chairman Robert J. Huston from August 1999 thru September 2001 which afforded her the opportunity to participate in the Sunset Review Process of what was then the Texas Natural Resource Conservation Commission. Her introduction to water issues, including TMDLs, Section 401 Certification, creation of the North Harris County Regional Water Authority and State/Regional Water Plans, occurred in 1997 when she joined the staff of Senator Lindsay's Office. She worked for Senator Lindsay for two sessions prior to joining the agency.

Stephanie received a Bachelor of Science in Communications from University of Texas at Austin in 1990 and Doctor of Jurisprudence from South Texas College of Law in 1995.

Water Quality: Recent Developments
L'Oreal Stepney, P.E.

Texas Water Quality Standards

Section 26.023 of the Texas Water Code directs the Texas Commission on Environmental Quality (TCEQ) to set water quality standards by rule. The federal Clean Water Act in Section 303(c), 33 U.S.C. § 1313(c), directs each state to hold public hearings on the water quality standards at least once every three years and revise as appropriate. The Environmental Protection Agency (EPA) is directed to review the revised standards and to approve within 60 days or disapprove within 90 days. States cannot use revised standards until the EPA approves them. The Texas Surface Water Quality Standards (30 TAC §307) have been substantially revised in 1967, 1973, 1976, 1981, 1984, 1988, 1991, 1995, 1997, and 2000.

The EPA has been reviewing and approving the 2000 Texas standards revision in a number of separate approval actions over the last five years. By September 2005, most of the substantive standards revisions had been approved. Some significant revisions are still under the EPA review, such as revisions to toxic criteria to protect freshwater aquatic life and site-specific toxic criteria for five water bodies (four of which are for selenium). The approval times at the EPA can be long because the revisions are complex with hundreds of site-specific additions or changes, and the EPA coordinates with the United States Fish and Wildlife Service (USFWS) to conduct extensive evaluations of endangered species concerns.

The TCEQ has postponed the three year schedule for the next standards revisions until most of the previous revisions have been reviewed by the EPA. The TCEQ intends to publicly review and revise both the Texas Surface Water Quality Standards, and the Procedures to Implementation the Texas Surface Water Quality Standards, over the next year and a half. The EPA sent the TCEQ extensive recommendations for standards revisions on December 22, 2005. In addition, the TCEQ got substantial initial public comments on existing standards (Tex. Reg. 01/27/06). The next steps in the revisions to the Water Quality Standards include preparing a request to initiate rulemaking in August 2006 and convene an advisory workgroup. The revision process is expected to continue through most of calendar year 2007.

The major standards revisions under consideration include:

- Nutrient criteria for Texas reservoirs.
- Numerous new site-specific standards for aquatic-life uses and toxic criteria based on recently completed studies.
- Evaluating numerous new EPA guidelines for toxic criteria – including mercury.
- Revising how bacterial indicators for recreation are structured and applied.
- For implementation procedures - considering EPA's new policies for whole effluent toxicity testing; especially (1) using sublethal effects and (2) imposing toxicity effluent limits whenever there's "reasonable potential" for toxicity.
- Numerous updates, clarifications, resolutions of new issues, and improvements from the TCEQ staff's ongoing "wish list."

Nutrient Criteria

Nutrient enrichment from nitrogen and phosphorus can cause several kinds of excessive aquatic vegetation: large rooted aquatic plants in shallow waters; algae attached to the bottom; algae floating in mats on top of the water; and microscopic algae that are suspended in open waters. The major sources of nutrients due to human activities in Texas come from municipal wastewater discharges and storm water runoff, agriculture runoff from concentrated animal feeding operations and runoff from cultivation.

Texas does not have numerical criteria for nutrients in the Texas Surface Water Quality Standards. Like many states, Texas currently has a narrative water quality standard that prohibit controllable sources of nutrients from causing excessive growth of aquatic vegetation that could impair water quality uses. Under the narrative standards, the TCEQ has required controls on phosphorus in wastewater discharge permits on a case-by-case basis, and nutrient concerns have been identified in the biennial Texas Water Quality Inventory. Only the North Bosque River has been listed as impaired by nutrients in the Texas 303(d) list of impaired water bodies.

In 1998, the EPA established a national strategy that required states to demonstrate progress in developing numerical criteria for nutrients by December 31, 2004. Flexibility in the schedule has since been allowed if states are showing substantial progress in developing criteria. In addition, states have been requested to establish and update a nutrient development plan that can explicitly allow for more flexibility. The EPA has

adopted “default” regional criteria as concentrations of nitrogen and phosphorus in water. These criteria are extremely stringent; and up to half of Texas water bodies and water bodies in other states would not meet the EPA’s criteria. The national criteria might be used to promulgate water quality standards for a state that doesn’t develop sufficient state water quality standards to address nutrients.

The TCEQ submitted a nutrient development plan to the EPA in November 2001, and a more detailed plan was provided to the EPA in December 2004. The TCEQ staff since have developed nutrient criteria options for the agency to consider as potential new water quality standards. Options for nutrients were developed in close coordination with an advisory workgroup that was convened in 2002. The United States Geological Survey (USGS), using supplemental funding under Section 106 of the federal Clean Water Act, has substantially assisted in assessing available data, developing nutrient-related databases for Texas, and calculating nutrient criteria for individual water bodies. The USGS is also working with the TCEQ to conduct studies to improve sampling of aquatic vegetation and nutrients in selected streams in East and Central Texas.

The TCEQ has focused initially on the development of numerical criteria for selected individual reservoirs. One alternative is to base criteria on natural conditions using historical data, with a statistical allowance for natural variability. This approach is one way to protect existing conditions for those reservoirs that are still “relatively unimpacted.” The criteria for this approach can be set on a measure of allowable aquatic vegetation or algae, such as chlorophyll *a* in water; or the criteria can be set directly on

allowable concentrations of nutrients such as total phosphorus and total nitrogen. An alternative approach is to set criteria that are determined to be necessary to support water quality uses such as recreation and public water supply. Some members of TCEQ's advisory workgroup, such as the Texas Water Conservation Association, have conducted studies to develop criteria using a use-protection approach. After the initial consideration of criteria for selected reservoirs, TCEQ will conduct similar evaluations of rivers and estuaries are underway for later consideration.

TCEQ sent draft criteria based on historical levels of chlorophyll *a* for 30 reservoirs to EPA on November 14th, 2005. In addition, the TCEQ advisory workgroup requested consideration of draft criteria for a substantially larger group of reservoirs; and TCEQ has now developed draft criteria for 110 reservoirs. These reservoirs are grouped according to the extent of potential extra loadings of nutrient in their watersheds from urban and agricultural land use, and from municipal wastewater discharges. Selected draft criteria can be considered for the next major standards revisions that are anticipated to take place during 2007. In addition to addressing rivers and estuaries, future work on nutrient criteria will focus on (1) improving procedures by which nutrient criteria are implemented, and (2) improving criteria for water bodies that are already considered to be impacted by excessive nutrient loading.

Storm Water Program

The storm water program is part of the National Pollutant Discharge Elimination System (NPDES) program that was delegated to the TCEQ by the EPA and is covered by the September 14, 1998 Memorandum of Agreement (MOA) between the two agencies.

Phase I of the Storm Water Permit Program

Phase I of the storm water program addressed three types of sites: 1) Medium and large municipal separate storm sewer systems (MS4s), 2) Large construction activities, and 3) Certain categories of industrial activities. Phase I of the MS4 permit program addresses medium and large MS4s, which are those MS4s operated by a municipality with a population of 100,000 or more based on the 1990 U.S. Census. The EPA originally issued individual NPDES storm water permits authorizing the discharge of storm water and certain non-storm water from these MS4s. These permits were issued according to the federal requirements for Phase I of the NPDES storm water regulations, for terms not to exceed five years. These permits are being reissued upon expiration as Texas Pollutant Discharge Elimination System (TPDES) individual storm water permits. To date, the TCEQ has reissued 15 of the 26 permits. Under the permit, MS4 operators are required to implement a comprehensive storm water management program (SWMP), which consists of 12 program elements and a wet weather characterization program.

Large construction activities were also originally permitted by an NPDES general permit, until the TCEQ issued a general permit for Phase I large construction activities and Phase II small construction activities in March, 2003. Large construction activities are those

that disturb 5 or more acres or are part of a common plan of development that will disturb more than 5 acres. Large construction activities must develop and implement a storm water pollution prevention plan (SWP3) covering their construction site prior to submitting a notice of intent (NOI) for authorization under the construction general permit. TCEQ currently receives approximately 1,000 large construction site NOIs per month.

Phase I also identified certain industrial activities using standard identification codes (SIC) that were required to obtain storm water discharge authorizations. Again, EPA originally issued an NPDES multi-sector general permit (MSGP) to authorize discharges from these facilities, until the TCEQ issued a TPDES MSGP in August, 2001. That permit will expire later this month. The TCEQ has proposed to re-issue the MSGP and the permit is set for commission consideration on the August 9th agenda. Currently, the TCEQ has processed approximately 10,000 NOIs for coverage under the TPDES MSGP.

Phase II of the Storm Water Permit Program

Phase II of the MS4 permit program addresses two types of sites: 1) Small MS4s and 2) Small construction activities.

Phase II small MS4s are those that are located in an “urbanized area” as defined by the U.S. 2000 census and are not within a medium or large MS4. An “urbanized area” is one with a population of 50,000 or more, plus a minimum population density of 1,000 persons per square mile. The TCEQ has proposed TPDES general permit TXR040000 to

regulate these MS4s. Under the proposed permit, small MS4s will only be authorized to discharge following the development and implementation of a SWMP. Each SWMP must develop six minimum control measures (MCMs) according to the provisions of the permit. The six MCMs are: 1) Public education and outreach on storm water impacts, 2) Public involvement and participation in the SWMP, 3) Illicit discharge detection and elimination, 4) Pollution prevention and good housekeeping practices for municipal operations, 5) Construction site storm water runoff control, and 6) Post-construction storm water management in new development and redevelopment. TCEQ originally planned to issue this general permit in 2003, but was interrupted by a challenge to the Phase II regulations relating to small MS4s. In September, 2003, the Ninth Circuit issued its opinion in *Environmental Defense Center, Inc. v. U.S. EPA*, 344 F.3d 832 (9th Cir. 2003). This case was a consolidation of three separate cases from the Fifth, Ninth, and D.C. Circuit Courts of Appeals that challenged a portion of the EPA's Phase II rules. The Ninth Circuit remanded a portion of the Phase II rules relating to small MS4s. The court found that the statutory criterion of pollution reduction by the "maximum extent possible" required of small MS4s by the Clean Water Act was not met because the rules did not: 1) Provide for review of NOIs by the regulatory entity, 2) Specifically provide for public availability of NOIs, and 3) Provide for the opportunity for a public meeting on NOIs submitted by small MS4s. The EPA recommended that states proceed with general permits where they can address the statutory shortcomings noted above, for example, by modifying general permits so they address these issues. The TCEQ revised and re-published a draft general permit in the last quarter of 2005 that addressed the Ninth

Circuit ruling. The TCEQ is finalizing the response to comments and is seeking to issue the permit before the end of 2006.

Phase II small construction activities are those that disturb more than one acre or are part of a common plan of development that will disturb more than one acre. As noted in the Phase I discussion, the TCEQ issued a general permit covering these activities in March, 2003. Small construction activities are not required to submit an NOI to the TCEQ if they: 1) Develop and implement a SWP3, 2) Sign and post a construction site notice at the construction site, and 3) Provide a copy of the signed and certified construction site notice to the operator of any MS4 that receives a discharge from the construction site prior to posting a site notice.

Cooling Water Intake Structures -Section 316(b) of the Clean Water Act

These federal regulations establish technology-based performance requirements designed to protect aquatic life from being impacted by cooling water intake structures.

Requirements are implemented in three phases. Phase I affecting new facilities was effective January 17, 2002. The phase is applicable to power generation/manufacturing facilities constructed *after* January 17, 2002, whose intake structures withdraw .2 MGD .25% for cooling) from waters of the United States, and are required to obtain a TPDES permit. Compliance with the rule requires: (1) flow reduced to a level commensurate with that attained by a closed-cycle recirculating cooling water system; (2) maximum through screen velocity of 0.5 ft/sec or less; and (3) other flow/impingement/entrainment technologies specific to the water body. Currently, the Water Quality Division has two

permitted facilities that may be subject to this rule, dependant upon final plant configuration. Most new facilities are designed so that they are either not subject to the rule, or so that they meet the technology requirements of the rule.

Phase II was effective September 7, 2004 and affects existing large power generation facilities. This phase is applicable to power generation facilities constructed *prior* to January 17, 2002, whose intake structures withdraw .50 MGD (25% for cooling) from waters of the Unites States and are required to obtain a NPDES permit. There are several compliance alternatives available that include: (1) reduction in the maximum through-screen design intake velocity to 0.5 ft/sec or less; (2) construction/design technologies, operational measures, or restoration measures (or some combination thereof) which reduce impingement mortality by 80 to 95% from baseline and reduce entrainment (if applicable) by 60 to 90% from baseline; (3) construction/design technologies, operational measures, or restoration measures (or some combination thereof) which reduce impingement/entrainment to site specific performance standards; (4) or reduction in flow commensurate with a closed cycle recirculating system.

There are currently 55 permitted facilities in Texas subject to the Phase II rules. As the information collection phase of these requirements ends and the TCEQ begins reviewing compliance alternatives, the work load associated with this project is anticipated to escalate exponentially. Additionally, several issues concerning implementation and compliance with Phase II remain unanswered pending the outcome of Phase II litigation.

The applicability of Phase II rules and compliance alternatives for power plant reservoirs is one of the issues awaiting resolution, which is anticipated in October 2006.

The Phase III requirements were effective July 17, 2006 and address new offshore oil and gas extraction facilities withdrawing 2 MGD or more from waters of the United States.

These facilities are not permitted by the TCEQ.

Regulation of Quarries in the John Graves Scenic Riverway - 30 TAC §311.71-

311.82

In 2005, the Texas Legislature enacted Texas Water Code sections 26.551 through 26.562, regarding Quarry Regulations. The TCEQ prepared rules to implement this legislation and they are scheduled for adoption on the Commission's July 12, 2006 agenda. If adopted, the rules will be codified in chapter 311, subchapter H of title 30 of the Texas Administrative Code. Financial assurance responsibilities for quarries will be found in chapter 37, subchapter W.

Texas Water Code section 26.552 established a 20 year pilot program for quarries within the John Graves Scenic Riverway. The John Graves Scenic Riverway is defined by statute as the Brazos River Basin, and its contributing watershed, located downstream of the Morris Shepard Dam on the Possum Kingdom Reservoir in Palo Pinto County, Texas, and extending to the county line between Parker and Hood Counties, Texas. The rules, if adopted, would be applicable to the portion of the John Graves Scenic Riverway located

within Palo Pinto and Parker Counties and designated by the rules as water quality protection areas.

Operation of a quarry within 200 feet of a perennial water body is prohibited. For the remainder of the water quality protection area, these rules would establish tiered permit requirements according to a quarry's location relative to a perennial water body. Below is a summary of the specific regulations.

Location of Quarry Relative to a Perennial Water Body	Chapter 311, Subchapter H Requirements
200 feet - 1,500 feet	INDIVIDUAL PERMIT Additional performance criteria Technical Demonstration Reclamation Plan (including financial assurance) Performance criteria Restoration Plan (including financial assurance)
1,500 feet - 1.0 mile	INDIVIDUAL PERMIT Performance criteria Restoration Plan (including financial assurance)
>1.0 mile	GENERAL PERMIT* Performance criteria Restoration Plan (including financial assurance)

*The general permit is currently in development.

If adopted, section 311.82 would provide that those quarries required to obtain an individual permit must submit an application within 180 days from the effective date of the rules. Depending upon the circumstances outlined in section 311.82, some quarries

may have to cease operations that occur within 1500 feet of specified water bodies until an individual permit is issued. For those quarries required to obtain a general permit, the general permit will address application deadlines.

Federal Initiatives

Recently, the EPA has proposed two major changes to its regulations. The first change is the “[NPDES] Water Transfers Proposed Rule” and the second is the “Revised [NPDES] Permit Regulation and Effluent Limitation Guidelines for Concentrated Animal Feeding Operations in Response to *Waterkeeper* Decision.”

NPDES Water Transfers Proposed Rule

On June 7, 2006, EPA proposed to amend its Clean Water Act regulations to exclude water transfers from regulation under NPDES. 71 Fed. Reg. 32887 (Jun. 7, 2006) (to be codified at 40 C.F.R. pt. 122). EPA is proposing to amend section 122.3, title 40 of the Code of Federal Regulations. The public comment period ended on July 24, 2006.

Currently, section 122.3 excludes certain discharges from the NPDES permit requirement. “Discharges from a water transfer” would be added to the section 122.3 exclusions. The federal rulemaking would add paragraph (i) and would define water transfers as “an activity that conveys waters of the United States to another water of the United States without subjecting the water to intervening industrial, municipal, or commercial use.” 71 Fed. Reg. at 32895. The exclusion would not apply to pollutants “added by the water transfer activity itself to the water being transferred.” *Id.*

EPA stated that water transfers occur routinely in different forms throughout the United States. *Id.* at 32888. These water transfers can be relatively simple involving the movement of small amounts of water over a short distance or they can be complex involving the movement of large quantities over very long distances. Water transfers are used for water supply, flood control, power generation, irrigation, and environmental restorations. Many governmental bodies regulate water transfers, including federal, state, and local entities. *Id.*

In August of 2005, the EPA issued an “agency interpretation” addressing several cases where courts have required NPDES permits for various water transfers. *See South Fla. Water Mgmt. Dist. v. Miccosukee Tribe of Indians*, 541 U.S. 95 (2004) (vacating and remanding an 11th Circuit decision that held an NPDES permit was required for transferring water from one navigable water to another); *Catskill Mountains Ch. of Trout Unltd. v. City of New York*, 273 F.3d 481 (2d Cir. 2001) (*Catskills I*) (requiring an NPDES permit for discharge from a tunnel to a trout stream used for flyfishing); *Dubois v. U. S. Dept. of Ag.*, 102 F.3d 1273 (1st Cir. 1996) (requiring NPDES permit for a water transfer related to a ski resort expansion). In this interpretation, the EPA concluded that a “holistic” approach was needed to address the question of whether the Clean Water Act required an NPDES permit for water transfers. *Id.* at 1287. EPA reviewed sections 101(g) and 510 (33 U.S.C. §§ 1251(g) & 1370) of the Clean Water Act and concluded that water transfers did not require an NPDES permit because Congress had left allocation of water quantities to the states. *Id.* at 1299-1300.

This 2005 agency interpretation was analyzed in *Catskill Mountains Ch. of Trout Unltd. v. City of New York*, 2006 WL 1612695 (2d Cir. Jun. 13, 2006) (*Catskills II*). The

City of New York had asked the Second Circuit to revisit its opinion in *Catskills I*. The court in *Catskills II* did not give the 2005 agency interpretation the considerable weight and deference for agency regulations as required under the standard set forth in *Chevron U.S.A., Inc. v. Natural Res. Def.*, 467 U.S. 837, 844 (1984). Instead, the *Catskills II* court reviewed the 2005 agency interpretation under the standard of its “power to persuade.” *Catskills II*, 2006 WL 1612695, at *4 (quoting *United States v. Mead Corp.*, 533 U.S. 218, 235 (2001)). *Catskills II* held that EPA’s “holistic” approach was not supported by *Miccosukee*. *Id.* at *6. Also, “[t]he power of states to allocate *quantities* of water within their borders is not inconsistent with federal regulation of water *quality*.” *Id.* (emphasis in original).

In Texas, water transfers between basins are called interbasin transfers. The TCEQ issues permits for interbasin transfers after extensive public notice and participation procedures. TEX. WATER CODE 11.085. Currently, no interbasin transfers in Texas have an NPDES permit authorizing the discharge of water transferred from one basin into another.

Proposed Revisions to Concentrated Animal Feeding Operations (CAFOs) NPDES Rule

In response to *Waterkeeper Alliance v. EPA*, 399 F.3d 486 (2d Cir. 2005), EPA has proposed rules to address the findings of the Second Circuit. 71 Fed. Reg. 37743 (Jun. 30, 2006) (to be codified at 40 C.F.R. pts. 122 & 412). The *Waterkeeper* decision affirmed and overturned several EPA regulations regarding NPDES permitting of CAFOs. CAFOs include large pigs, veal, poultry, and beef farms, as well as dairy operations. EPA must receive comments on this proposed action by August 14, 2006.

EPA proposes to revise the NPDES permit system and effluent limitations guidelines (ELG) for CAFOs found in Parts 122 and 412 of title 40, Code of Federal Regulations. Specifically, EPA has proposed the following major revisions to its CAFO regulations:

- Duty to Apply: EPA's regulations prior to *Waterkeeper* required that all CAFOs had to apply for a permit. 40 CFR §§ 122.23(d)(1) (2006). EPA assumed that all CAFOs either discharged or had the potential to discharge. *Waterkeeper* held that the Clean Water Act only regulated facilities that actually discharged a pollutant, not those that had the potential to discharge. *Waterkeeper*, 399 F.3d at 505. According to EPA, *Waterkeeper* only invalidated the duty to apply requirement found in section 122.23(d), not the NPDES regulation found in section 122.21(a) that applies to all point sources, including CAFOs. 71 Fed. Reg. at 37747. Section 122.21(a) specifies that point sources that discharge or propose to discharge have a duty to apply for an NPDES authorization. EPA states that "[w]hile the CAFO provision in section 122.23(d) would have required all CAFOs to apply for a permit, section 122.21(a) requires only a person who 'discharges or proposes to discharge pollutants' to apply" for NPDES coverage. *Id.* Therefore, EPA proposes to continue to require CAFOs to apply for an NPDES permit if they discharge or propose to discharge pollutants other than agricultural storm water. *Id.* at 37747-48.
- Agricultural Storm water. A discharge from land application areas is not a point source discharge regulated under the NPDES program if the discharge is agricultural storm water. 33 U.S.C. § 1362(14). Agricultural storm water is

runoff from land application areas during a rainfall event if the manure, litter, or process wastewater is applied in accordance with appropriate agricultural nutrient utilization practices. Under the proposed rule, while large CAFOs no longer have a duty to apply, EPA opines that “precipitation-related discharges from CAFO land application areas would be considered agricultural stormwater only where the CAFO land applies in accordance with nutrient management practices that meet the requirements of 40 CFR 122.42(e)(1)(vi)-(ix).” 71 Fed. Reg. at 37750. The *Waterkeeper* decision upheld EPA’s definition of agricultural stormwater and EPA is not proposing to amend that definition in this proposed action. However, EPA is seeking comment on whether it should explicitly require large, unpermitted CAFOs to comply with in the requirements in section 122.42(e)(1)(vi)-(ix) in order to qualify for the agricultural stormwater exclusion. Also, EPA states that “[u]npermitted CAFOs that land apply manure, litter, or process wastewater must document that they are land applying in accordance with [40 CFR § 122.42(e)(1)(vi-ix)] to qualify for the statutory exclusion for agricultural stormwater.” *Id.* An appropriate approach for unpermitted CAFOs to document agriculturally sound nutrient management practices in order to qualify for the agricultural storm water exclusion is to prepare a comprehensive nutrient management plan in accordance with USDA guidance. EPA asserts that whatever documentation is used, EPA finds it “crucial” to keep the documentation onsite to determine whether the CAFO is land applying manure, litter, and process wastewater in a manner to ensure utilization of the nutrients so that they are not discharged from the land application areas during storm events. *Id.*

- Nutrient Management Plans (NMPs) and Availability to Public. The proposed changes would alter various sections relating to NMPs. A NMP is a EPA's regulations prior to *Waterkeeper*, provided that CAFOs must develop and implement an NMP and a copy of the NMP must be on site and available to the permitting authority. 40 C.F.R. §§ 122.42(e)(1), 122.42(e)(2)(ii) (2006). *Waterkeeper* held that these provisions violated the Clean Water Act since section 122.42 did not provide that the NMPs were available to the public. *Waterkeeper*, 399 F.3d at 503. Under the proposed regulation, applicants would have to submit the NMP with its permit application and the NMP would be subject to public notice and review.

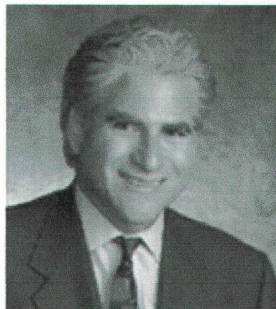
- NMPs and Enforceable Permit Provisions. The EPA has proposed that the NMPs would be included as enforceable elements of the permit. This change was also necessitated by the *Waterkeeper* decision. *Waterkeeper* held that the terms of the NMPs were effluent limits under section 1362(11), title 33 of the United States Code. *Id.* at 502. Therefore, EPA's failure to require that the terms of the NMPs be included in NPDES permits was a violation of the Clean Water Act. The EPA is proposing to require that: (1) permitted CAFOs must submit the NMP for review by the permitting authority prior to the issuance of an individual permit or granting coverage under a general permit; (2) adequate opportunities for public participation be provided before authorization is issued; and (3) the permitting authority must incorporate the terms of the NMP into the NPDES permit or authorization. 71 Fed. Reg. at 37751.

- Other Issues on Remand. The EPA is also addressing some other issues raised by *Waterkeeper* in this proposed rulemaking. The EPA is explaining its prior regulatory actions regarding water quality based effluent limitations. The EPA is also proposing changes to various sections in Part 412 to amend its new source performance standards and to delete section 412.46(d) regarding superior alternative performance standards for new swine, poultry, and veal sources. 71 Fed. Reg at 37760, 37762.

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L'Oreal Stepney is the Division Director for the Water Quality Division. L'Oreal started with the Agency in 1991 and worked eight years in the Air Permitting Division. She was a permit engineer for two years in the New Source Review Division. She later became a technical specialist and team leader responsible for the development and implementation of many aspects of the Title V permitting program. She was Section Manager of the Wastewater Permitting section for three years before becoming Division Director in 2003 for the Water Quality Division. Her Division is responsible for implementation of the Texas Pollutant Discharge Elimination System program including issuing wastewater, storm water, CAFO, and sludge permits. The Division is also responsible for Water Quality Standards Development and 401 Certification of United States Corps of Engineers 404 Dredge and Fill permits. She has a Bachelor's Degree in Aerospace Engineering and a Master's Degree in Environmental Engineering from the University of Texas. L'Oreal is also a professional engineer in the State of Texas.

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Mr. Ramirez specializes in Texas water law, assisting corporations and municipalities in acquiring, managing and planning water supplies. By appointment from the EPA administrator, Mr. Ramirez currently serves on the EPA's federal advisory committee regarding environmental issues on the U.S. border with Mexico. Mr. Ramirez is also an adjunct professor of law at The University of Texas Law School where he teaches environmental law.

Education

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Professional Licenses

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- Bracewell & Giuliani, Partner
- The University of Texas Law School, Adjunct Professor
- Texas Natural Resources Conservation Commission (TNRCC), Deputy Director for Legal Services, 1992-1995
- Texas Natural Resources Conservation Commission (TNRCC), Deputy Director, 1991-1992
- Environmental Protection Agency (EPA), Attorney
- Texas Water Commission, Attorney

Speeches and Publications

- *Update on Water Developments*, AGC Conference, August 1998, Speech
- *The Current Status of Environmental Equity: Why the Future is Still Uncertain*, Environmental Law Journal, Winter 1996
- *International Issues Impacting the Oil and Gas Industry*, November 1995, Speech

Professional Memberships and Activities

- American Bar Association of Natural Resources, Energy and Environmental Law

- Toxic Tort and Environmental Litigation Committee, vice chair, 1997-1998

- State Bar of Texas

- Environmental Mexican American Bar Association, Executive Committee

Honors

- Super Lawyer*, Administrative Law, named by Law and Politics Media, Inc. and published in *Texas Monthly*, 2003, 2004 and 2005

Practice Areas

- Environmental Law

Texas Environmental SuperConference
Water Quality Panel

“Nutrient Criteria; Discharger and Water Supplier Perspective”

Glenn C. Clingenpeel
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In 1998 President Clinton signed the Clean Water Action Plan directing the EPA to develop numeric nutrient criteria. Over subsequent years, the EPA produced several “guidance documents” with proposed nutrient-ecoregion specific criteria for total nitrogen and total phosphorus. The published numbers were based on two statistically-based methodologies. The first involved ranking water quality data by ecoregion and taking the 25th percentile of the entire dataset for a given water body type as the criterion for each parameter. The second involved taking only data from pristine or un-impacted water bodies, ranking, and using the 75th percentile as the criterion. Both methods resulted in extremely conservative numbers that were in many if not most cases unachievable. In lieu of facing promulgation of these conservatively low numbers, the State of Texas, via the Texas Commission on Environmental Quality, has endeavored to derive more appropriate criteria for Texas surface waters.

TRA owns and operates the largest regional wastewater treatment plant in the state, the Central Regional Wastewater Treatment Plant, located in Grand Prairie Texas. TRA also owns and operates Lake Livingston, through which return flows from the Central plant and the balance of the D/FW metroplex flow. This reservoir further serves as a source of potable water for three water treatment plants also owned and operated by TRA. As such, TRA has a vested interest in the topic of nutrient criteria, and has the dubious distinction of seeing the issue from a variety of different angles. TRA has therefore been active in this issue at both the State and EPA regional levels. Specifically, this has included the TCEQ Nutrient Criteria Development Advisory Work Group (Work Group) and the EPA Regional Technical Advisory Group (RTAG).

The current direction being pursued by the Work Group is to develop criteria for reservoirs, and then address rivers, wetlands and estuaries at a later date. Accordingly, the Work Group has heretofore concentrated on reservoirs, which have been divided into two groups: impacted and least-impacted (though that nomenclature has changed from time to time). There has also been a consensus that numeric criteria be adopted for chlorophyll *a* in lieu of nitrogen or phosphorus. This consensus has developed in recognition that chlorophyll *a*, a surrogate for algae, is the parameter of true interest. It is also supported by exhaustive work, conducted both individually and collaboratively by numerous agencies, that points to the complications, or better stated, the inability, to directly relate algal concentrations to nutrients. This difficulty is the result of the fact that

algae are living organisms, whose growth and reproduction is affected by a multitude of factors, not simply two (i.e. nitrogen and phosphorus). For instance, as photosynthesizing organisms, algae need access to light. In turbid reservoirs, light, and not nutrients, are limiting. The utility of nutrient criteria in a reservoir, where light and not nutrients is regulating growth, is therefore questionable.

It is anticipated that numeric criteria for least impacted reservoirs will be proposed for the forthcoming 2006 stream standards review. There has been discussion about using the least impacted reservoirs as reference reservoirs for impacted reservoirs, however this has not been formalized and will in all likelihood not be addressed in the 2006 review.

The criteria being proposed for least impacted reservoirs center around a statistically-based method. The method uses a "t" statistic for a given confidence level (e.g. 95%) that is then multiplied by the standard error of a reservoir's dataset to produce a confidence interval, with the upper limit of the interval becoming the numeric criterion. Only data from the main pool are to be used. This process results in an anti-degradation form of protection. While it might be argued that such a method is appropriate for reservoirs without existing nutrient issues, it ignores the possibility that such reservoirs have additional assimilative capacity before designated uses are impaired. In fact, this and any other statistically-derived method wholly avoids the issue of linking numeric criteria to use protection. Although protecting beneficial uses is the charge of the Clean Water Act, upon which stream standards are based, using statistically-derived numbers is the path of least resistance that allows the development of criteria within the time and resources available. This is largely due to the fact that it is extremely difficult if not impossible, except in the most egregious examples, to link elevated nutrients to use impairments. For example, how does one define an appropriate level of aquatic life protection when every reservoir in Texas (with the possible exception of Caddo Lake) is artificial? Further, these reservoirs are managed by the Texas Parks and Wildlife Department as sport fisheries, which by and large benefit from higher algal populations. Similar complications are true for the other designated uses, including contact recreation and potable water supply. The former is not applicable in the conventional sense, or if made to be, becomes highly subjective, while the latter is a question of aesthetics (taste and odor) that can be addressed at water treatment plants.

Recently, the EPA has suggested that before they would approve the use of chlorophyll *a* as a surrogate for nutrients, a "translator" would be required. That is, the State would need to demonstrate that it is possible to correlate chlorophyll *a* concentrations back to nutrient concentrations. The irony here should be at once obvious, in that if chlorophyll *a* is being used as a surrogate for nutrients because there is a lack of evidence to support a link between nutrients and chlorophyll *a*, working the equation backwards will yield similarly inconclusive results; if one cannot prove that the chicken came before the egg, how is one to prove that the egg came after the chicken, when it is the very relationship between the two that is unknowable?

Once numeric criteria have been developed and implemented in the stream standards, they will be used to assess water quality during the State's biennial evaluation of Texas surface waters. Water bodies that are determined to be in violation of the stream standards will be placed on the 303(d) list of impaired water bodies. This listing carries with it immediate regulatory repercussions, including a moratorium on any activities that would further the impairment. In the case of nutrients, this would include increasing existing flows from municipal discharges. This would place a serious burden on municipalities needing to expand capacity. In addition, point sources are traditionally a minor component of the nutrient loadings to a reservoir. Non-point sources, from agricultural and urban overland-flow, are typically the largest source. Unfortunately, there exists no viable regulatory mechanism for controlling non-point sources. This inevitably means that the burden for reducing loadings will fall inequitably on permitted facilities such as municipal wastewater treatment plants. Incorporating nutrient removal in a wastewater treatment train is an expensive proposition that would cost millions of dollars in the D/FW area alone. In addition, due to the major contribution of non-point sources and other complicating factors, it is possible, even likely, that a reduction in nutrients from point sources would have no measurable effect on reservoir water quality. Given the specious need for state-wide nutrient criteria, the difficulty in obtaining buy-in from the regulated community is perhaps understandable.

Another issue has to do with localized effects. As mentioned previously, the proposed method for developing nutrient criteria for least-impacted reservoirs only includes consideration of the main pool. This leaves open the question of how or if to address localized effects in headwaters and coves; areas of reservoirs that are more likely to be typified by naturally occurring eutrophic conditions. However it is precisely into these areas that many municipalities discharge their return flows. The question of how the State should permit these facilities thus becomes complex. Specifically, how should permit limits for nutrients be determined when the numeric criterion is for the main body? The optimal solution would be to develop a comprehensive water quality model that would consider loading to, and assimilation throughout, the entire reservoir. However the path of least resistance would be to use a local or otherwise simplified model. If this avenue is pursued, the propensity of coves and headwaters to be naturally eutrophic would need to be recognized and incorporated into any such model. If the past is precedent, this issue will not be adequately addressed, leading to a situation similar to the implementation of 5mg/L DO criteria (derived for open waters) in backwater areas and the subsequent permitting complications of a predicted failure to meet the overly stringent standard. In terms of nutrients or a surrogate chlorophyll *a* criterion, it would not be appropriate (for obvious reasons) to apply a main-body number to backwater areas. However using any other number would be to circumvent the efforts of the Work Group and the entire standards setting process. Accordingly, great care should be exercised in determining how to approach this issue. Specifically, permit limits should not be derived without the benefit of a comprehensive water quality model that accounts for municipal sources as

loadings to the entire reservoir as opposed to localized effects. This approach is in keeping with the intent of the proposed method for developing numeric nutrient criteria at main-body sites.

In summary, it is not at all clear that Texas is in need of state-wide numeric nutrient or chlorophyll a criteria when the relationship between nutrients and/or chlorophyll a and use impairment is subjective and difficult to demonstrate. Regardless, the process to develop nutrient criteria is well underway. While a clear path for developing nutrient criteria for least impacted reservoirs appears charted, uncertainty remains regarding the development of similar criteria for impacted reservoirs. Likewise, it is not clear how the State will employ nutrient criteria in permitting dischargers whose return flow enters coves and other backwaters. To be succinct, the benefits of numeric nutrient criteria are in many cases questionable and temporally distant, while the costs in all cases will be immediate and cumbersome.

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**THE CLOUD ON THE HORIZON
WHOLE EFFLUENT TOXICITY
EXPANDED LETHAL AND SUBLETHAL PERMIT LIMITS**

Presented To

**EIGHTEENTH ANNUAL
TEXAS ENVIRONMENTAL SUPERCONFERENCE
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By

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The Cloud on the Horizon
Whole Effluent Toxicity
Expanded Lethal and Sublethal Permit Limits

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Attachment - EPA Region 6 WET Permitting Strategy, May 2005

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LIST OF ABBREVIATIONS

7Q2	seven-day average low flow with a recurrence interval of two years
CWA	Clean Water Act
DO	dissolved oxygen
EPA	U. S. Environmental Protection Agency
MGD	million gallons per day
NOEC	No Observable Effect Concentration
NPDES	National Pollutant Discharge Elimination System
TCEQ	Texas Commission on Environmental Quality
TRE	Toxicity Reduction Evaluation
WET	Whole Effluent Toxicity
WQBELs	water-quality-based effluent limits

The Cloud on the Horizon

Whole Effluent Toxicity

Expanded Lethal and Sublethal Permit Limits

One of the goals established in the Federal Water Pollution Control Act Amendments of 1972 (Clean Water Act or CWA) is to provide for the protection and propagation of fish and shellfish [Section 101(a)(2)]. To protect aquatic life, quality limits are established in National Pollutant Discharge Elimination System (NPDES) permits for discharges from wastewater treatment facilities. Initially, the limits addressed protecting dissolved oxygen (DO) concentrations in receiving waters. Later, limits were established, as deemed necessary on a case-by-case basis, for specific substances that can be toxic to aquatic life: for example, heavy metals.

However, the protection of aquatic life from toxic effects cannot be fully addressed by substance-specific limits:

- There are hundreds of thousands of natural and man-made substances produced, used, and present in the environment. There are not data for all of these substances defining the concentration that exerts a toxic effect on each of the types of organisms that comprise an aquatic environment.
- Combinations of substances can be either less or more toxic than the sum of their individual toxicities.

To control the potential for toxic effects more completely, the U. S. Environmental Protection Agency (EPA) developed the Whole Effluent Toxicity (WET) test. Provisions related to WET testing have been included in permits since the early 1990s.

EPA Region 6 is currently encouraging the Texas Commission on Environmental Quality (TCEQ) to make major changes in the permit provisions related to WET. The changes are set forth in a document titled, "EPA Region 6 WET Permitting Strategy." (Region 6 WET Strategy) The document (although dated May 2005) was received by TCEQ in March 2006. A copy of the document is attached to this paper.

The proposed changes could affect a large number of permittees. Following is a summary of the nature of the WET test, current permit requirements, proposed requirements, concerns about the proposed changes, and the status of the proposed changes.

WHAT IS WET TESTING?

In WET testing, living organisms are exposed to effluent and observed to determine whether they exhibit lethal or sublethal responses as a result of the exposure. In Texas, testing is performed using two different types of organisms, a vertebrate and an invertebrate. Permittees who discharge to freshwater water bodies test their effluent using fathead minnows and water fleas (typically, Ceriodaphnia dubia or Daphnia pulex).

The types of chronic and/or acute WET tests required depend on the characteristics of the receiving waters. Acute tests have a duration of 24 or 48 hours, and chronic tests typically last seven days. The acute test measures lethality. The chronic test measures

both lethality and sublethality. The sublethal responses that are measured are growth for the fathead minnows and reproduction (number of babies) for the water fleas.

In all of the WET tests, controls are run in which the organisms are placed in water that is believed to be non-toxic. The responses of the organisms placed in the effluent are judged by comparing their responses to the responses of the organisms in the controls.

WHAT ARE THE CURRENT REQUIREMENTS?

Any permittee that is in one of the following categories is required to conduct WET testing:

- Domestic
 - Permittees with an average permitted flow that equals or exceeds 1 million gallons per day (MGD).
 - Permittees with a pretreatment program that regulates significant industrial users.
 - Permittees deemed by TCEQ to have potential to cause toxicity in the receiving water.
- Industrial
 - Permittees that are classified as "majors," which have continuous-flow outfalls.
 - Permittees with a continuous-flow discharge that are deemed by TCEQ to have potential to cause toxicity in the receiving water.
 - Permittees discharging once-through cooling waters, if any of the following apply:
 - The permittee applies water treatment chemicals or biocides.
 - The permit requires water-quality-based effluent limits (WQBELs) to protect aquatic life because effluent analyses have exceeded the screening criteria.
 - The permittee commingles other potentially toxic waste streams with the once-through cooling water.
 - The cooling water source and the receiving water are different water bodies.

The types of tests required are as follows:

- All permittees are required to conduct a 24-hour acute test and demonstrate that at least 50% of the test organisms survive in a 100% effluent solution.
- Permittees that discharge to intermittent streams without perennial pools are also required to conduct 48-hour acute tests and determine whether there is significant lethality when the organisms are exposed to 100% effluent. Typically, the death of more than 10% of the organisms is deemed significant.
- Permittees that discharge to perennial waters perform both the 24-hour acute test and a chronic test to determine whether the organisms exhibit significant lethal or sublethal effects at the critical dilution. In the chronic test, typically, the death of more than 20% of the organisms is deemed significant lethality. The critical dilution is the percent effluent that would be present in a receiving stream if the facility were discharging its full permitted flow and the stream were at the 7Q2 low-flow (seven-day average low flow with a recurrence interval of two years).

If the organisms exhibit a lethal response at the applicable effluent percentage (100% or critical dilution) in a test and one of two required retests, the permittee is required to conduct a Toxicity Reduction Evaluation (TRE). The objectives of the TRE are to determine the cause of the lethal response, the measures needed to reduce or eliminate the lethal response, and a schedule for taking corrective action.

A TRE is a complex study that frequently requires 1-to-2 years to complete. It can cost \$50,000 - \$100,000 per year. At the conclusion of the TRE, the permit is amended to include a chemical-specific limit, a WET limit, or a Best Management Practice, the objective of which is to reduce or eliminate the lethal response. The type of limit established is based on the findings of the TRE.

If a WET limit is established, every WET test that exhibits a lethal effect at the applicable effluent percentage is a permit violation. In the event that a lethal response is exhibited, the permittee is required to accelerate the testing schedule (which is typically performed quarterly) and test monthly for three months. If lethality is exhibited a second time during the accelerated testing, the permittee is referred to the Enforcement Division.

Thus, a WET limit is established only after testing demonstrates significant lethality, and the subsequent TRE determines that a WET limit is the best way to reduce or eliminate the lethal response. At the present time, there are 835 permittees performing WET testing. Of these, 65 have WET limits for lethal effects.

WHAT IS DIFFERENT IN THE PROPOSED STRATEGY?

There are several major differences between the WET requirements currently being implemented by TCEQ and the WET requirements set forth in the recently released Region 6 WET Strategy. Some sections of the Region 6 WET Strategy are somewhat ambiguous, but the document clearly sets forth an approach that would have the following characteristics:

- Substantially more permittees will have WET limits in their permits, rather than just WET monitoring requirements.
- The WET limits will be for both lethal and sublethal effects, rather than just lethal effects.
- Permittees will be required to do TREs for sublethal effects, as well as for lethal effects.

At the present time, TCEQ does not require a TRE when only sublethal effects are exhibited; and permits with a WET limit are the exception rather than the rule. A WET limit is only established when there is a demonstration of a potential problem, (i.e., a lethal effect at the applicable effluent percentage) and when other control measures are not expected to correct the problem.

The Region 6 WET Strategy would place WET limits in permits prior to a demonstration of a potential problem. In fact, the Region 6 WET Strategy appears to require that limits be included in all permits that currently require WET testing except those that meet all of the following conditions:

- The critical dilution is 90% or greater.
- The facility has not demonstrated any lethal or sublethal effects in WET testing during the previous five years, and testing has been performed at least quarterly.
- The facility is requesting a straight renewal; i.e., no change in the quantity or quality of the discharge.

TCEQ is reviewing how many permittees could be expected to have WET limits based on the Region 6 WET Strategy approach. Their preliminary estimate is that at least 50% of permittees would have WET limits.

WHAT ARE THE CONCERNS WITH THE REGION 6 WET STRATEGY?

Two basic concerns with the Region 6 WET Strategy are as follows:

- The reliability of WET tests is not consistent with the regulatory purposes for which they are proposed to be used. The situation is somewhat analogous to doing surgery with a sword. It might be acceptable for amputating a limb, but you would not want to do eye surgery with it.
- The technology does not exist that would enable a permittee to consistently eliminate sublethal effects.

Further, there are significant questions about whether the fundamental basis for requiring chronic WET limits, especially sublethal limits, is sound.

Basis for Imposing Limits

The regulatory basis cited by EPA for requiring WET limits is 40 CFR Part 122.44(d)(1). This regulation states that effluent limits must be established to control any pollutants

that have a reasonable potential to cause an excursion above a State water quality standard. The Texas water quality standards, like most State standards, have a prohibition against toxicity to aquatic life [30 TAC Section 307.4(d) and several paragraphs in Section 307.6]. The EPA position is that the WET limits are required to meet this regulatory requirement. However, there is significant professional disagreement regarding whether there is any relationship between a demonstration of lethal or sublethal effects in a chronic WET test and an adverse effect on aquatic life in the receiving stream.

Characteristics of WET Test

The WET test relies on the responses of living organisms to determine the test result. As with all living organisms, different individual organisms used in WET tests respond differently to the same stimulus. Consequently, test results are variable. The variability becomes more pronounced as one moves from acute tests, to chronic tests for lethality, to chronic tests for sublethality.

The sublethal chronic test is not sufficiently accurate or precise to be used to determine regulatory compliance. The lethal chronic test is not sufficiently reliable to be used as it is currently, where every chronic test that exhibits lethal effects at the applicable effluent percentage is a permit violation. It is worth noting that, in the Edison Electric Case¹, while affirming that the WET test could be used for regulatory purposes, the Court also stated that permitting systems must account for the imprecision in WET data.

Following are examples of the variability of WET testing results, which demonstrate why WET limits for chronic lethality, if applied, should be applied very differently than the present approach and why WET limits for chronic sublethal effects are not appropriate.

Inter-laboratory Variability

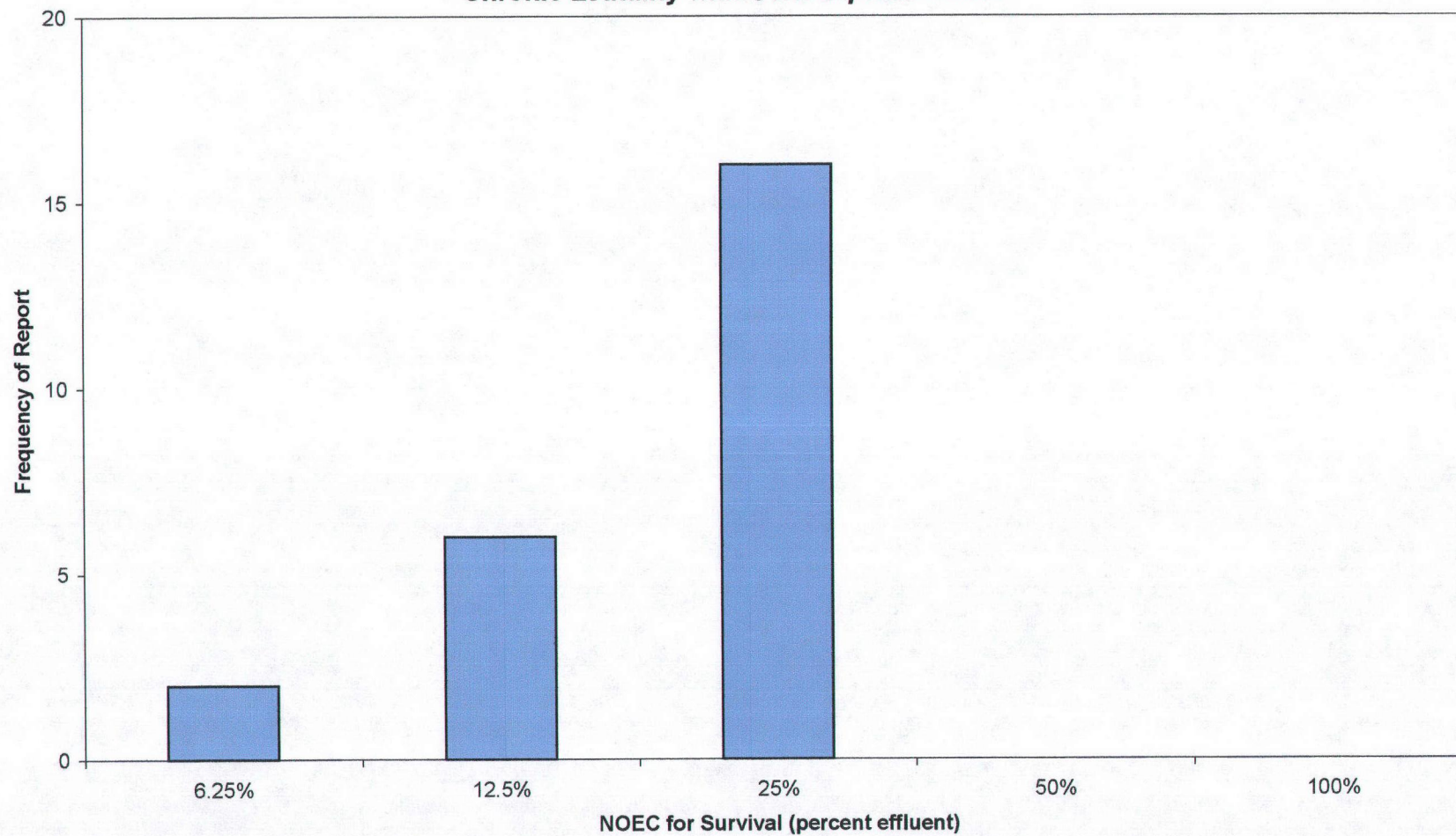
Test results vary significantly from laboratory to laboratory and, at times, even in the same laboratory, if a sample is re-analyzed. It is not unusual for two laboratories analyzing the same sample to reach different conclusions regarding whether or not there is chronic lethality or sublethality at the applicable effluent percentage.

In 1999 EPA conducted a study to determine the variability of test results between laboratories. All of the participating laboratories were established facilities that conduct WET testing for permittees. In the study emphasis was placed on rigorous adherence to method protocols (although there were quite a number of significant lapses during the study – as is true, in general, with this complex test).

Figure 1, developed from data generated by the EPA study, illustrates the variability of test results. An effluent sample was split and distributed to 17 laboratories for analysis. In some cases, a laboratory received duplicates of the sample for analysis. There were 28 chronic WET tests performed on this effluent sample. Four tests were rejected as invalid, inconclusive, or outliers (permittees do not have the ability to reject a test as an

¹ Edison Elec. Inst., NACWA, et al. vs. EPA, et al., No. 96-1062 (D.C. Cir. Dec. 10, 2004).

Figure I
Results of EPA Inter-laboratory Variability Test
Effluent Sample
Chronic Lethality with *Ceriodaphnia Dubia*



outlier). The findings of the remaining 24 tests with respect to the effluent percentage that did not produce a significant lethal effect (the "NOEC") are summarized on Figure I.

If this permittee had a permit limit of a NOEC = 25%, 33% of the laboratories would have declared this sample noncompliant with permit limits, and 67% of the laboratories would have declared the sample compliant.

Reference Toxicant Variability

Intra-laboratory variability can be determined by reviewing the WET testing control charts that laboratories maintain. Whether or not a sample is deemed to exhibit a lethal or sublethal response is determined not by a comparison to an absolute standard of performance but by a comparison of the responses of organisms in an effluent sample to responses of organisms in a non-toxic control sample. Therefore, laboratories have to determine if the organisms in the control samples are responding appropriately. Because test organisms respond differently over time, each laboratory conducts periodic tests of the responses of their organisms to a known concentration of a reference toxicant. The results are plotted on a control chart. So long as the organism response does not differ dramatically from historical performance at the laboratory, the organism response is considered acceptable for use in effluent testing. However, substantial variability is allowed.

Figure II is an actual control chart from a WET test laboratory. This chart plots the concentration of copper that was lethal to 50% of the test organisms (LC_{50}) during each test. As can be observed, over an 18-month period, the concentration varied from approximately 15 micrograms per liter (ug/L) to 75 ug/L, a factor of 5. All of these tests were deemed to be within an acceptable performance range. Therefore, whether a sample that consistently contained 35 ug/L of copper would "pass" or "fail" the test on any given day (if the permit limit were based on the LC_{50}) would vary depending on the sensitivity of the organisms on that particular day.

Figure III is a control chart from another WET testing laboratory. This laboratory used chloride as the reference toxicant and tracked the concentration that reduced *Ceriodaphnia dubia* reproduction by 25% (IC_{25}). As can be observed, the concentration varied from 250 mg/L to 850 mg/L, a factor of over 3. The dramatic increase in sensitivity from approximately 800 mg/L to 300 mg/L occurred when the laboratory changed the supplier of their test organisms.

Natural Variability

The range of variability of reproductive response in non-toxic samples has been documented Moore, et al.². Figure IV is an excerpt from that paper. This figure summarizes the number of babies produced by *Ceriodaphnia dubia* in non-toxic samples. While the typical number for a chronic test is 20-25, reproduction as low as 1 and as high as 57 was observed.

² Moore, Timothy F, S.P. Canton, and Max Grimes, "Investigating the Incidence of Type I Errors for Chronic Whole Effluent Toxicity Testing Using *Ceriodaphnia dubia*," Environmental Toxicology and Chemistry, 19 (2000), 118-222.

Figure II
Control Chart
***Ceriodaphnia dubia* LC₅₀**
Reference Toxicant Copper (ug/L)

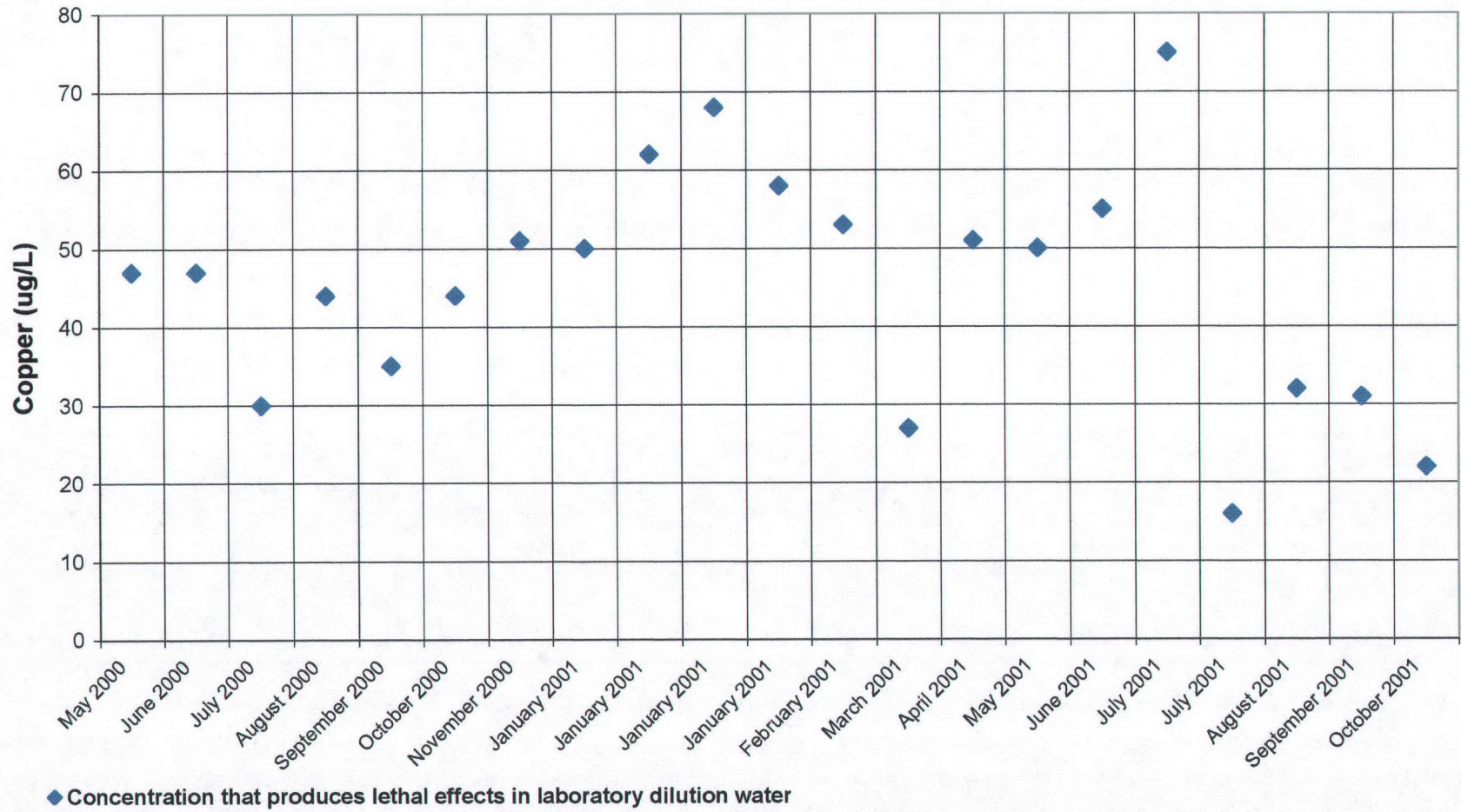


Figure III
Control Chart
***Ceriodaphnia dubia* IC₂₅**
Reference Toxicant Chloride (mg/L)

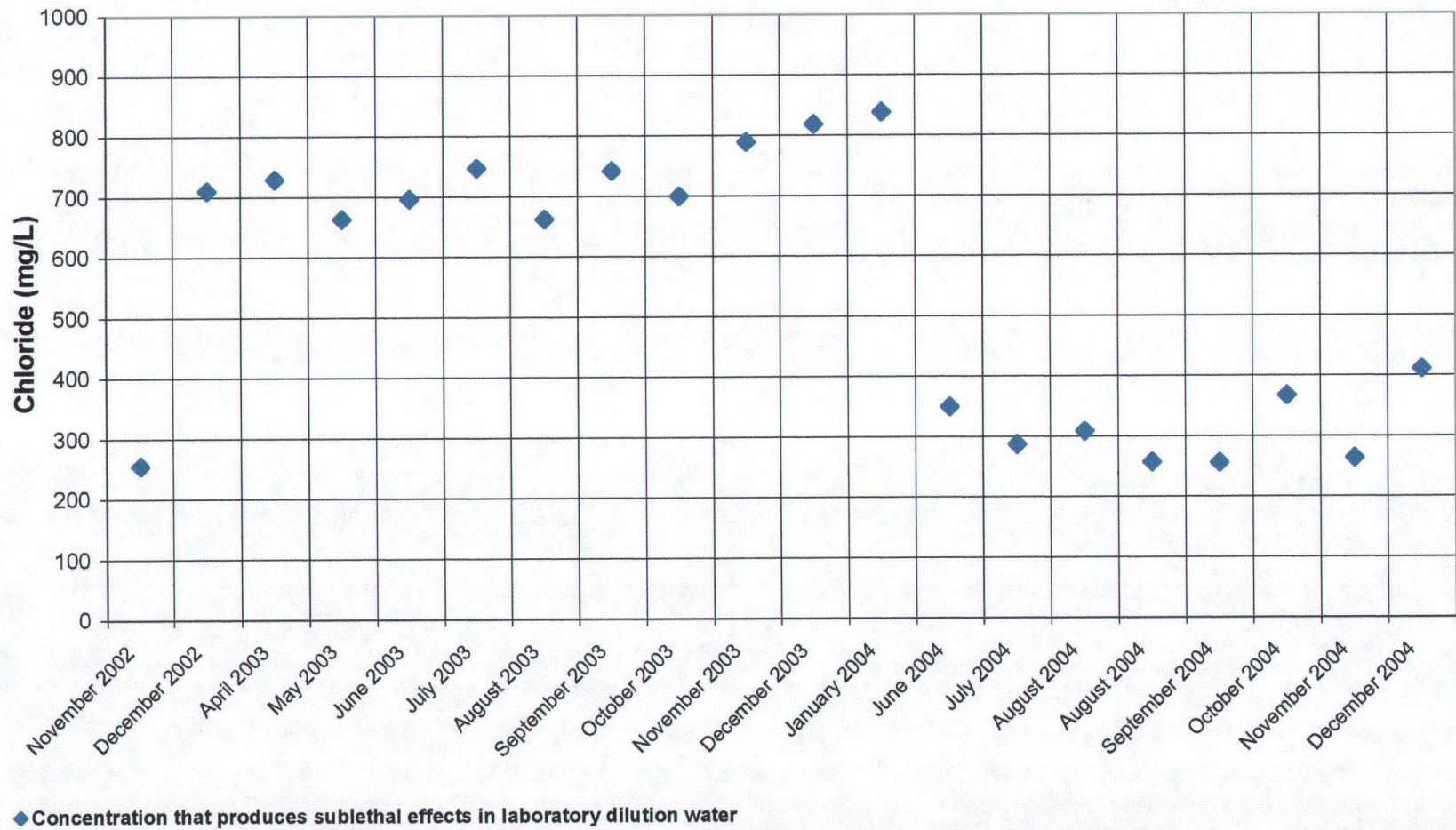
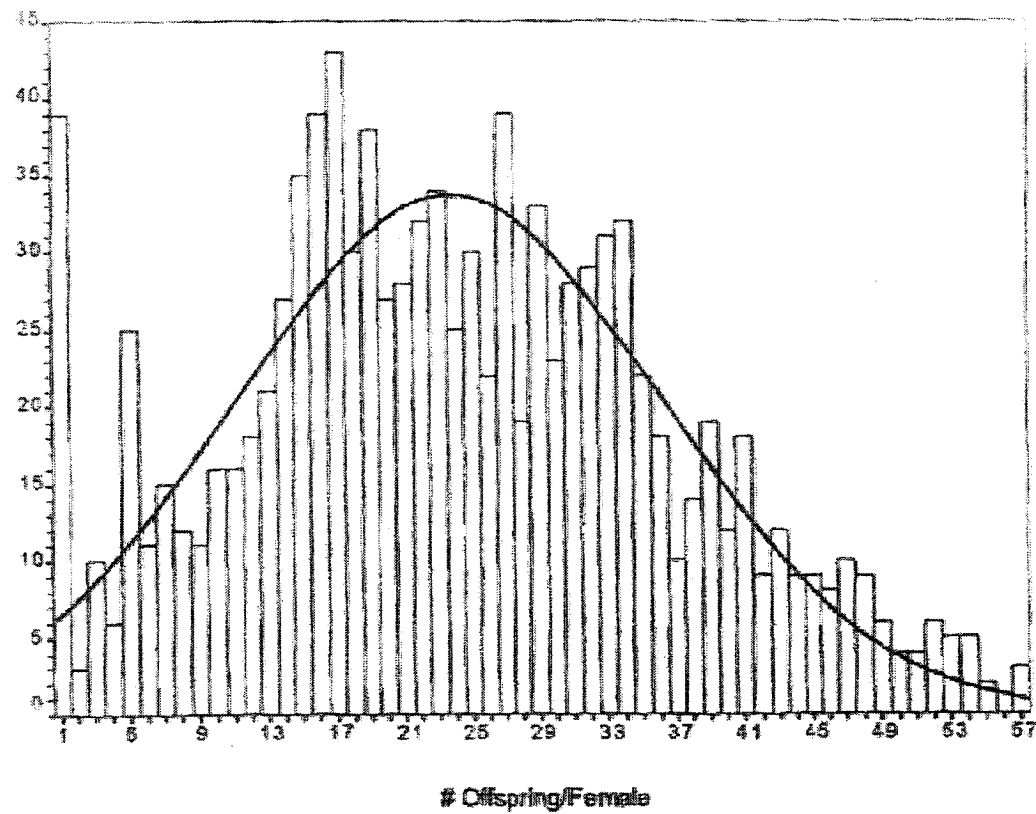


Figure IV

Variability of Organism Response

Number of Offspring Per Female

Ceriodaphnia dubia



Data Interpretation Variability

Even the statistical interpretation of the data is subject to variability. When EPA reviewed the laboratories' calculations for the Inter-laboratory Variability Study, EPA got a different result 74% of the time for the *Ceriodaphnia dubia* tests and 83% of the time for the fathead minnow tests. The differences ranged from 0.1% to 100%.

In a study conducted by the Water Environment Federation, staff personnel from 22 state agencies were given an identical data set and asked to calculate the NOEC. The average NOEC calculated was 22% but the values reported ranged from 3% to 100%.

Ability To Take Corrective Measures for Sublethal Effects

If a permit contains WET limits, each test that exhibits an effect at the applicable effluent percentage is a permit violation. Therefore, for permittees with WET limits it is crucial that, if effects are occurring, the cause be identified and corrected as soon as possible. However, even when the effects are lethality, this is a relatively slow process, especially if the effects are not consistently exhibited – as is often the case. It frequently takes a year or more to conduct a TRE for lethality in order to identify the problem. The time required to correct the problem, after the cause is identified, depends on the nature of the cause.

However, when the effects are sublethality, difficulty in even identifying the cause is much greater. Some of the reasons for this are as follows:

- The methodologies for TREs were developed for samples that exhibit acute lethal effects. These methodologies have been modified by testing laboratories over time to address chronic lethal effects and, to a lesser degree, to address sublethal effects. However, there has been no update to the methodologies documents, and research is needed to develop more effective techniques for conducting TREs on effluents that exhibit sublethal effects.
- The TRE protocols include adding chemicals to aliquots of the effluent being studied. These additions, in and of themselves, can produce sublethal effects.
- Because of the high variability of sublethal test results, the causative agent can produce effects in some TRE tests and not in others. This lack of consistency makes it difficult to have confidence that the proper substance(s) has been targeted for control.

One of the leading national laboratories that conducts TREs estimates that the causative agent for sublethal effects can be successfully identified only about 50% of the time.

STATUS OF THE PROGRAM

In March 2006, EPA Region 6 sent a letter encouraging TCEQ to implement the Region 6 WET Strategy by January 2007. TCEQ responded, by letter, that changes in the way WET testing is incorporated in permits are more appropriately addressed by revising the Procedures to Implement the Texas Surface Water Quality Standards (Implementation Procedures); TCEQ noted that the review of both the Implementation Procedures and the associated Texas Surface Water Quality Standards has been initiated. TCEQ stated that they expect the review to be well underway by January 2007, but not to be complete

until much later in 2007. The TCEQ letter also expresses concerns regarding requirements to conduct sublethal TREs. Finally, the letter notes that in the past, EPA has allowed flexibility with respect to how the Implementation Procedures address EPA guidance and expresses anticipation that similar appropriate flexibility will be exercised in the future.

There will be an ongoing dialogue between EPA and TCEQ in the coming months regarding how lethal and sublethal WET limits, and sublethal TRE requirements, will be addressed in the Implementation Procedures (which determine the provisions that will be placed in permits). The results of these discussions will be available to stakeholders as TCEQ provides drafts of proposed revisions of both the water quality standards and the Implementation Procedures to the public for review and comment. Permittees should review these provisions closely and comment as appropriate.

EPA Region 6 WET Permitting Strategy

May, 2005

This strategy is designed to implement regulatory requirements established in 1989 and guidance developed since that time. The Clean Water Act and federal regulations at 40 CFR § 122.44(d)(1) establish the basis for whole effluent toxicity (WET), or biomonitoring, requirements for wastewater discharge permits issued under the NPDES permitting program. The applicable federal regulations require that the permitting authority determine, during the permit development period, whether the reasonable potential exists for an effluent to cause or contribute to an excursion above a State's narrative or numeric criterion for the protection of aquatic life. If reasonable potential is found to exist, WET limits must be included in the permit. A chemical-specific limit may be established in lieu of a WET limit where the permitting authority demonstrates, in the fact sheet, that the chemical limit will preclude toxicity at unacceptable levels. All available, valid and relevant information will be used in making permitting decisions. EPA Region 6 WET permitting practices follow the current agency policy on independent applicability.

References to sub-lethal effects in this document apply only to chronic testing. Where the permit establishes 7-Day Chronic test requirements, the reasonable potential analysis will be performed for both lethal and sub-lethal effects. Where the permit establishes 48-Hour Acute test requirements, the reasonable potential analysis will be performed on lethal effects.

Applicability

WET requirements are established for all Region 6 discharges classified as majors (e.g., POTW \geq 1.0 mgd design flow) with the exception of once-through, non-contact cooling water discharges to which no chemical treatment is added. WET requirements will also be applied on a case-by-case basis to minor discharges with known or suspected toxic potential, or which are designed to discharge \geq 0.5 mgd with a chlorine residual. As an option in such cases, WET testing may not be required if the permittee agrees to a compliance schedule to install dechlorination to meet a non-detect total residual chlorine limit.

Reasonable Potential

As applicable, reasonable potential to cause or contribute to an exceedance of State narrative criteria for the protection of aquatic life will be determined by the method established in EPA's Technical Support Document for Water Quality-based Toxics Control, EPA/505/2-90-001, second printing (see Box 3-2, page 53). This approach is also provided in federal regulations pertaining to wastewater discharges into the Great Lakes, at 40 CFR § 132, Appendix F, Procedure 6. Where a facility does not intend to significantly alter the effluent quality or quantity during the permit term, has a critical dilution of 90% or greater, has performed quarterly testing and has demonstrated no significant lethal or sub-lethal effects during the previous five-year period, a finding of no reasonable potential may be made.

WET Limits

A WET limit is a permit control required where the reasonable potential exists for an exceedance of the State water quality criteria for protection of aquatic life and a specific toxicant has not been identified and controlled via a toxicity reduction evaluation (TRE). If, during permit development, reasonable potential is found to exist for lethal and/or sub-lethal effects, WET limits will be included in the permit. A compliance schedule of up to three years duration can be included. The minimum monitoring frequency for species under a WET limit is once per quarter for the life of the permit. WET limits may be removed from a permit after the first five years in effect, based on a demonstration of no lethal or sub-lethal affects during that period.

Monitoring Frequencies

Facilities with WET Limits

Normally, the minimum monitoring frequency for species under a WET limit is once per quarter for the first five years after a WET limit goes into effect.

Major Dischargers

For major dischargers, the *minimum* monitoring frequency for WET is once per quarter for the invertebrate and vertebrate test species, with a potential reduction in testing frequency after completing one year of testing with no lethal or sub-lethal effects (see Region 6 WET Monitoring Frequency Guidance, 06/30/00). Some facilities pose a more significant concern (e.g., POTWs ≥ 20 mgd and petroleum/chemical refineries) and have historically been required to perform WET monitoring on a quarterly basis, for at least one test species, for the life of the permit. The minimum WET monitoring frequency reduction option does not apply to these discharges.

Minor Dischargers

Testing frequencies for minor dischargers and dischargers with a critical dilution of $<1.0\%$ will be established on a case-by-case basis.

All Dischargers

When a test failure occurs, the monitoring frequency will automatically increase to once per month for the next three months. The purpose of this testing is to determine whether toxicity is present at a level and frequency that will provide toxic samples to use in performing a toxicity reduction evaluation (TRE). The additional tests are not performed for the purpose of confirming whether the original test failure was 'real.' If no additional test failures occur during the three-month period, the testing frequency will return to once per quarter for the life of the permit or until another test failure occurs. If multiple intermittent test failures occur, a TRE may be required, and the testing frequency may be increased for the affected test species.

Toxicity Reduction Evaluations / Toxicant Identification Evaluations (TREs/TIEs)

Where reasonable potential is not demonstrated and the permit is issued with WET monitoring requirements only, the permit will contain trigger language to require a TRE. A TRE is a 28-month study to identify sources and controls for toxicants in effluents. A TIE is a set of effluent manipulations that is used to identify specific toxic compounds in a sample known to be toxic. EPA does require TREs but does not typically require TIEs. Generally, permittees are allowed latitude in choosing how they proceed through a TRE and come into compliance. A TRE will usually result in either WET limits (if a specific toxicant is not identified, confirmed and controlled), or chemical limits. In some cases a best management practice (BMP) may be included as a permit control. If additional testing indicates that a chemical-specific limit or a BMP does not result in controlling toxicity, and reasonable potential exists; the permit then will be revised to include WET limits.

Lethal Effects

Region 6 will implement TREs and limits for lethal effects as it has historically. A TRE for lethal effects is triggered by failure in a scheduled test followed by failure in one or more tests performed during the following period of increased frequency.

Sub-Lethal Effects

Due to the potential difficulty of resolving toxicity related, in some cases, to identifying toxicants responsible for sub-lethal effects, EPA Region 6 will take a graduated approach to TREs and implementation of WET limits where significant sub-lethal effects are demonstrated only in effluent concentrations greater than 75% effluent. Where significant effects are demonstrated at effluent concentrations of 75% or less, aggressive TREs have demonstrated a high degree of success. While TREs may still be required, Region 6 will implement limits for sub-lethal limits at the 80% effluent level at this time. A TRE for sub-lethal effects is triggered by failure in a scheduled test followed by sub-lethal failures in two or more tests performed during the following period of increased frequency.

IN ADDITION:

1. Where WET testing has demonstrated a significant toxic effect within two years of the RP determination made during permit development, and the facility has not completed significant relevant improvements, a WET limit will be incorporated into the permit because that data would still be valid and representative, and would indicate that reasonable potential continues to exist.
2. Where there are < 10 test results per species at the time of permitting, and RP is found to exist based solely on the paucity of data, the Agency and permittee may agree to include a permit condition to allow up to twelve months to develop the additional test data necessary to perform another RP determination, using all the data, to determine whether a WET limit is necessary or not.

3. State agencies authorized to administer the NPDES permitting program will decide whether to change results reporting from NOECs to Toxic Units (TUs). EPA Region 6 recommends the use of TUs to simplify the reasonable potential calculation.
4. EPA will consider an alternative WET reasonable potential determination procedure should an agency authorized to administer the NPDES permitting program formally submit one for review. EPA anticipates no basis to delay permitting decisions pending such reviews/revisions.

BIOGRAPHICAL INFORMATION

PEGGY W. GLASS, Ph.D.

EDUCATION: B.S., Texas State University
Ph.D., University of Texas at Austin

CURRENT POSITION: Executive Vice-President with Alan Plummer Associates, Inc.

EXPERIENCE:

- Project Manager for WESTCAS Task Group on WET Permit Requirements.
- Thirty years of experience with water quality issues, including water quality standards, primarily as a consultant.
- Participated in Toxicity Reduction Evaluations for 21 facilities.
- Participated in Pellston Workshop on WET testing and permits.
- Directed numerous studies to assess the quality of surface waters and, when appropriate, identify management programs to improve quality.
- Assisted in development of wastewater discharge permits for over 100 facilities.
- Member of current State of Texas Work Group on Nutrient Criteria.
- Served on Water Environment Federation (WEF) national work groups on (1) EPA's proposed revisions to the national regulations on water quality standards, and (2) wet-weather issues.
- Former President of Texas Water Conservation Association.
- Member of Board of Directors of WESTCAS.

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EXPERIENCE

Saitas and Arenson

2002-Present

Managing partner of the firm which specializes in environmental consulting and government affairs.

Texas Commission on Environmental Quality
EXECUTIVE DIRECTOR

Austin, Texas
1998-2002

Managed operations of an agency with over 3,000 employees and a budget of \$400 million; represented agency before Congress and the Texas Legislature on programmatic (air and water quality, waste management, water and wastewater utilities and water rights) and budget issues; acted as spokesman for the agency on major media issues; provided information and recommendations to commissioners and state leadership on budget and programmatic matters.

DEPUTY DIRECTOR, OFFICE OF AIR QUALITY

1995-1998

Managed day to day operations of the Office; resolved policy questions relating to New Source Review and Title V permitting; represented agency on air quality issues before the Texas Legislature; provided media interviews on air quality matters.

DIRECTOR, NEW SOURCE REVIEW DIVISION

1993-1995

Managed the processing and issuance of permits for new construction and changes at facilities in Texas; ensured consistency and timeliness of reviews in division.

MANAGER/PERMIT ENGINEER, CHEMICAL/RCRA HAZARDOUS WASTE SECTION

1989-1993

Reviewed permit applications for chemical facilities, including analysis of best available control technology for reducing the emission of air contaminants.

Exxon Company USA/Brighton Industries/RioTek, Inc.
DRILLING ENGINEERING AND OIL AND GAS OPERATIONS

Houston, Texas
1982 - 1988

Designed and engineered oil and gas drilling and drilling fluid programs; managed oil extraction operations.

EDUCATION

MASTER OF SCIENCE, ELECTRICAL ENGINEERING
University of Texas

1994
Austin, Texas

BACHELOR OF SCIENCE, MECHANICAL ENGINEERING
Georgia Institute of Technology

1981
Atlanta, Georgia

ACTIVITIES

Member, 2000 Bush-Cheney transition team on environmental matters
Enjoys spending time with family, running and biking



ENVIRONMENTAL DEFENSE

finding the ways that work

Testimony of
Ramón Alvarez, Ph.D.
Scientist

Before the
Senate Natural Resources Committee

July 13, 2006
Dallas, TX

Thank you for the opportunity to testify today. My testimony focuses on the Dallas/Fort Worth area's challenge of meeting the 8-hour ozone standard, the air quality impacts of existing Texas power plants, and the implications of 18 proposed coal-fired electric generating units. It also challenges certain public statements made by TXU regarding its proposal to build 11 new coal units.

Air Pollution Exacts A Major Toll On The Health Of Texans

For many Texans – especially children, the elderly and those with respiratory disease – high pollution levels restrict or altogether preclude outdoor activity because the very air they breathe can make them sick. Indisputably, air pollution causes or aggravates myriad health problems, the most visible of which is asthma.

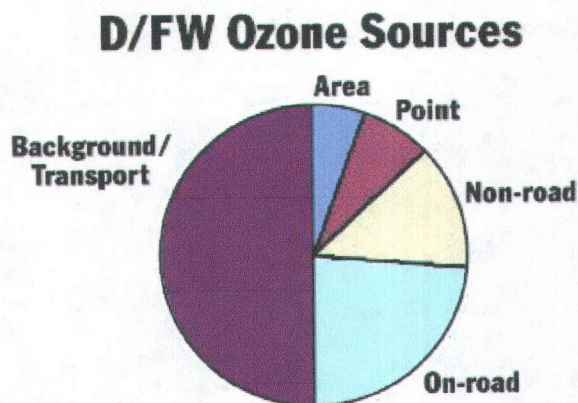
Asthma, now afflicting 25 million Americans, has become the nation's fastest growing chronic disease. The increase in asthma among children under the age of 4 over the past two decades has been most severe: 160% between 1980 and 1996. For those with the disease and their loved ones, asthma creates a tremendous burden – physically, emotionally, psychologically and economically.

Asthma attacks sent Americans to emergency rooms over 1.8 million times in 2000, including 728,000 visits for children under 17. Moreover, asthma is a life-threatening disease: in the U.S., over 5,000 people lose their lives to asthma each year. The economic burden of asthma has been estimated at \$14 billion in 2002, and an estimated 10 million children missed school in 1995 due to the disease.

Environmental pollutants including ozone and fine particles are clearly linked to asthma attacks. Controlling air pollution is therefore an important step we can take to help people with asthma lead normal lives. Strong evidence for the benefit of reducing ozone on the incidence of summertime asthma comes from a study of Atlanta during the summer Olympics of 1996. Reductions in highway traffic during the Olympics were shown to reduce peak ozone concentrations by 28% and asthma-related hospitalizations by almost 20%.

DFW's Daunting Ozone Challenge

A rough rule of thumb is that approximately half of the peak ozone levels measured in the Metroplex comes from sources that can be as far as hundreds of miles away (in Texas, other states, and beyond). Only half of the DFW area's ozone pollution comes from local sources (see chart). A balanced strategy that addresses both local and regional pollution sources is thus needed to meet the federal ozone standard of 84 parts per billion (ppb). An ozone reduction of 6 ppb is needed at the Frisco monitor, where the region's highest ozone levels are registered.¹ To date, however, the TCEQ and local air quality planners have only identified emission reduction measures that would reduce DFW ozone by 2-3 ppb (one-third to one-half of the total needed).



Sufficient Local Ozone Control Strategies Have Not Been Identified

Developing a plan to meet the 8-hour ozone standard in the Metroplex is a zero-sum game: the more pollution that is cut from power plants and other sources outside the nonattainment area boundaries, the lower the reductions that must be made from sources within the region. The opposite is also true. Failing to reduce emissions from power plants -- existing *and* new -- will increase the burden that the Metroplex will have to bear to meet EPA's 8-hour ozone standard.

The TCEQ estimates that a 42% NO_x reduction, or 166 tons per day, from emissions sources inside the 9-county area is needed to achieve the required 6 ppb reduction at the Frisco monitor.² This estimate assumes that no reductions are made in the amount of ozone transported into the Metroplex from power plants and other sources.

After extensive review of potential control strategies to reduce NO_x emissions from on-road and non-road mobile sources, the TCEQ with assistance from NCTCOG have, to date, only been able to identify 16-33 tons per day of reductions (10-20% of that required) that were considered "eligible" for implementation.³ The high scenario of local mobile source controls (33 tons per day) only reduced peak ozone levels by less than 1 ppb. Control strategies from local industrial and commercial sources have also been considered, but they only reduce ozone levels by about 0.5 ppb.

¹ "DFW Future Case Modeling: 2009 Update and Recent Sensitivity Tests," Pete Breitenbach, TCEQ, Presentation to the Photochemical Modeling Technical Committee, April 7, 2006

² Id.

³ We have identified many other strategies to employ in DFW, but the gap remains large.

Since identified local measures afford, at most, 1.5 ppb of the needed 6 ppb reductions, it is clear that, by themselves, local controls will be insufficient to bring the DFW area into compliance. Therefore, local controls will need to be accompanied by regional emissions controls for the region to attain the ozone standard.

The State's Existing Power Plants Contribute Significantly to DFW Ozone Levels

The impact of remotely located power plants on downwind areas has been well accepted in the scientific and policy communities for more than a decade. In response to this knowledge, the TCEQ in 2000 promulgated rules that required significant emissions reductions from power plants and cement kilns across central and eastern Texas due to their impacts on the Dallas-Fort Worth area. The control region included sources in the entire area roughly east of I-35 and I-37, extending as far to the southeast as Corpus Christi. In the rulemaking, the TCEQ concluded that "a body of evidence from aircraft measurements, seasonal modeling, back trajectories, and statistical studies indicat[ed] that electric generating facilities and cement kilns in central and eastern Texas contribute to the background level of NO_x which impact the DFW area."⁴

The TCEQ has recently updated its analyses of the impact of Texas power plants on DFW air quality. The TCEQ has concluded that all Texas power plants currently contribute on average 2.3 ppb to DFW ozone levels, with 1.7 ppb coming from power plants located outside of the DFW nonattainment area.⁵ The TCEQ's modeling analysis resulted in the following apportionment of power plant impacts:

• Power plants inside the 9-county DFW area	0.6 ppb
• Power plants inside 200 km of DFW area	1.2 ppb
• <u>Power plants beyond 200 km of DFW area</u>	<u>0.5 ppb</u>
Total impact on DFW of Texas power plants	2.3 ppb

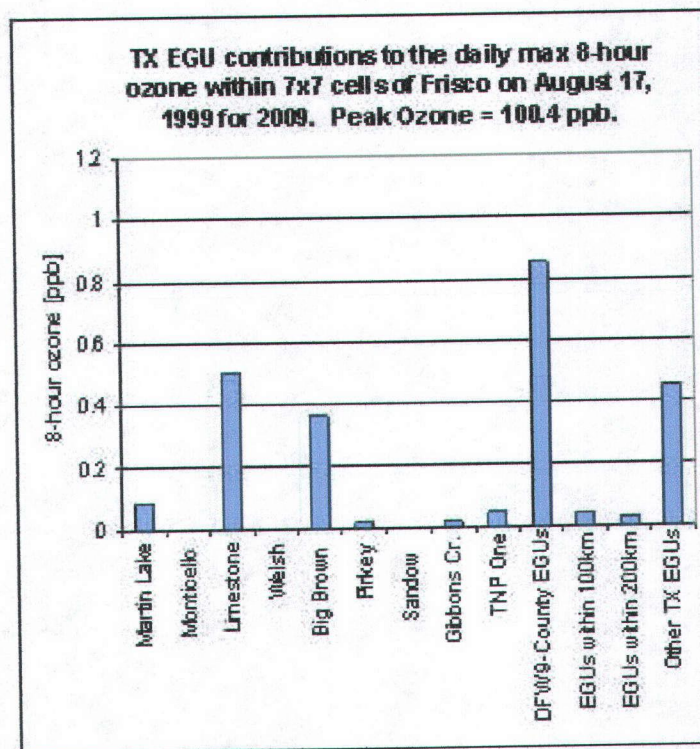
The TCEQ has further apportioned the ozone found in the DFW area to specific power plants. As shown in the chart on the next page, TCEQ reported that individual plants like Big Brown and Limestone can on some days contribute as much as 0.5 ppb to the DFW area's ozone levels.⁶

Considering the DFW region's ozone reduction goal of 6 ppb, the ozone contributions from upwind power plants – up to 0.5 ppb individually, and 1.7 ppb cumulatively – are clearly significant.

⁴ 25 Tex. Reg. 4102 (May 5, 2000)

⁵ "DFW Modeling Update," Pete Breitenbach, TCEQ, presentation to DFW Photochemical Technical Modeling Committee, July 6, 2006.

⁶ Id.



Source: TCEQ

Reducing Existing Power Plant Emissions Could Markedly Improve DFW Air Quality

Available control technologies installed on just those plants located inside 200 km of the DFW area can reduce their contribution by 0.85 ppb.⁷ Even greater reductions could be achieved by applying controls to power plants further out. Not only is an 0.85 ppb reduction significant in comparison to the DFW region's target reduction of 6 ppb, it gains additional importance in light of the fact that all of the measures being actively considered by the TCEQ do not even add up to 2 ppb. In fact, this single control strategy could reduce ozone by an amount roughly equal to the reductions possible from the most beneficial controls evaluated by TCEQ to date (see chart below).

<i>Modeling Scenarios Evaluated by TCEQ</i>	Ozone Reduction at Frisco Monitor (ppb)*
Local mobile sources - NCTCOG high control case (33 tpd NOx + 8 tpd VOC)	0.85
9-County high combination run (total of 56 tpd NOx and 8 tpd VOC from cement kilns, major sources, minor sources, and NCTCOG local controls – low)	0.95
East Texas engine controls	0.29
Controls on power plants inside 200 km from DFW area	0.85

*To achieve attainment, the ozone design value at the Frisco monitor needs to be reduced by 6.2 ppb.

New Emissions From Proposed Power Plants Make Attainment Even More Difficult

⁷ Id.

While air quality modeling of all of the proposed power plants has yet to be completed, an estimate is available of the air quality impacts of selected proposed coal plants on DFW air quality.⁸ Emissions from the eight new coal power units that TXU proposed in April were not modeled, nor was NRG's proposed Limestone expansion. These omissions are significant because the new proposals result in nearly double the emissions of those that were modeled in Central Texas, and adds three new sources to the north and east of the Metroplex, which are important transport direction where no plants had been previously proposed.

Maximum daily ozone increases from the original eight proposed power plants at individual DFW area monitors ranged from 0.3 to 0.7 ppb on August 17th, the day when the transport conditions were most favorable to blow the emissions into the DFW area. Ozone increases of 0.3 to 0.7 ppb on any given day are significant when considered in light of the target reduction of 6 ppb that must be achieved.

In other words, the increases from just the first round of proposed plants may on some days be as much as 10% of all the reductions the region is required to make. The recently announced plants by TXU and NRG would make that number even higher.

DFW Residents And Businesses Will Shoulder An Increased Pollution Cleanup Burden

Even though new power plants will be sited outside the Metroplex, their emissions will increase ozone levels inside the Metroplex by the equivalent of the daily emissions of several hundred thousand cars. This means that DFW area drivers and businesses will have to shoulder an even heavier emission reduction burden so the region can meet clean air standards. Unfortunately, the state is not even considering the potential impacts of new power plants on regional ozone levels before issuing new air permits to these facilities.

TXU's "Voluntary" 20% Reduction Is Required By Federal Law

TXU has trumpeted that its proposal will result in a 20% reduction of NO_x, as well as sulfur dioxide (SO₂) and mercury. The U.S. Environmental Protection Agency's Clean Air Interstate Rule (CAIR) and the Clean Air Mercury Rule (CAMR), adopted in 2005, already require significant reductions in emissions of NO_x, SO₂ and mercury from existing power plants. EPA's CAIR program requires NO_x emissions from TXU's fleet of existing plants be reduced by 20% to a level comparable to the proposed emissions from its so-called "voluntary emissions reduction program." Moreover, under CAIR and CAMR, SO₂ and mercury emissions must be reduced to levels much lower than TXU's "voluntary" reduction.

⁸ Texas Environmental Research Consortium, Project H60, Phase I, April 3, 2006

Comparison of TXU commitment to federal requirements for TXU's 9 existing coal units

	NOx (thousand tons)	SO ₂ (thousand tons)	Mercury (tons)
2005 Emissions	42.1	273.1	2.5
Proposed "voluntary" NOx limit	33.7 ⁹	218.5	2.0
Clean Air Interstate Rule allocation after 2014 (estimated)	36.0 ⁹	93.0	-
Clean Air Mercury Rule allocation after 2017 (estimated)	-	-	0.83

The CAIR and CAMR programs offer power plant owners an option of reducing emissions at their plants or paying other power generators to acquire enough additional allowances to equal their total emissions. However, compliance with the program and any associated financial obligations are not voluntary. It is misleading for TXU to characterize the reductions required by federal law as voluntary initiatives.

The goal of Texas air quality planners should be to bring about those actions that will result in the achievement of healthy air quality throughout the state and not simply to maintain the status quo already established through federal law.

TXU's Proposed Offsetting Reductions Should Go Towards Improving the SIP¹⁰

TXU's proposal to offset the NOx emissions from its proposed coal units, while laudable under different circumstances, interferes with the DFW region's chances of attaining the ozone standard. This results because there is a shortfall between the ozone reduction required to reach attainment – 6 ppb – and the roughly 2 ppb of benefits from all of the ozone reduction strategies for DFW that have been identified by state and local officials to date.

As discussed earlier, reducing power plant emissions from the power plants within 200 km of the DFW area would yield an additional ozone reduction of 0.85 ppb. Even greater reductions could be achieved by applying controls to power plants further out. Thus, an additional ozone reduction in DFW of 1 ppb or more could probably be achieved by requiring emissions reductions at existing plants in Texas.

It would be bad public policy for the state to trade away this air pollution reduction opportunity to aid TXU and a small number of other electric power companies making extraordinary short-term profits. The emissions reductions that TXU proposes as offsets would be better used to help meet the region's target reduction 6 ppb, rather than imposing more draconian air pollution controls on local businesses and drivers.

⁹ TXU's "voluntary" commitment applies only to its coal plant emissions, while the CAIR allocation also includes allowances for TXU's gas units, which reported NOx emissions of 2,870 tons in 2005 but receive a much larger allocation of allowances. Adding the gas plants' 2005 emissions to the 33,700 tons from the coal plants yields total emissions of 36,600 tons, which is slightly higher than the 36,000 ton allocation that TXU would receive under CAIR.

¹⁰ In the absence of a specific, binding proposal from TXU that identifies the offsetting reductions that would be made at each unit, it is impossible to ascertain the benefits of the offset proposal.

At the same time, the state should conduct a genuine evaluation of alternatives to new coal plants and, to the extent that some new coal capacity needs to be built, require a rigorous review of the best available coal technologies to minimize the increment of new emissions that will be released into our state's already unhealthy air.

TXU Appears To Now Embrace the Technology That It Blasted in December

When the TCEQ announced late last year that it was considering new regulations that would require power plants in eastern Texas to reduce NO_x emissions to the levels required in the Houston SIP (nominally 0.05 lb/mmBtu for coal-fired plants), TXU and others complained bitterly. TXU claimed the controls required (Selective Catalytic Reduction, or SCR) would pose technical problems and would not be economically reasonable to achieve:¹¹

“TXU believes there would be significant technical problems that would prevent SCR from being installed and properly operated on existing lignite-fired EGUs.... Moreover, even if lignite-fired EGUs could be retrofitted with SCR, they would still not be able to meet the very stringent NO_x emissions limits the TCEQ is considering.”

“For the foregoing reasons, the imposition of stringent NO_x emissions limits the TCEQ is considering would force owners/operators of lignite-fired EGUs to convert them to fire western coal.... [T]here is not much representative operational history for western coal-fired EGUs equipped with SCR. However, the operational history that does exist shows that the use of SCR on western coal-fired EGUs has resulted in technical and operational problems.”

“Finally, experience in the electricity generation industry has been that operation of SCR on an EGU will decrease that EGU's electric generation (megawatt) capacity and its on-line reliability.”

“In addition to the technical problems of EGUs being able to meet the NO_x emissions limits being considered using SCR, it would not be economically reasonable for EGUs to meet such limits. In fact, the imposition of such NO_x emissions limits on EGUs in East Texas would have a huge negative impact on the economic viability of such EGUs and their owners/operators, and on the Texas mining industry, and, thus, would hurt Texas consumers and businesses and the entire Texas economy.”

“A rough estimate of such costs assuming imposition of the least stringent of the NO_x emissions limits the TCEQ is considering would be about \$10 billion... It is critical to note that the \$10 billion estimate does not even include estimates of the very significant annual operating and maintenance costs that would be associated with SCR, the higher prices of western coal that would result because of increased demand for it due to the conversion of lignite-fired EGUs to fire western coal, and other costs that would result due to such fuel conversion or to shutdowns of gas-fired EGUs. Moreover, the experience of EGU owners/operators is that the actual costs to comply with NO_x emissions reduction requirements exceed, often significantly, the estimated

¹¹ Letter from Shawn Glacken, TXU Power, to Karen Hill, TCEQ, December 2, 2005

costs. Nevertheless, even if the \$10 billion estimate is not lower than the actual capital costs for SCR would be, \$10 billion is an absurdly high cost and is clearly economically unreasonable.”

In April 2006, less than five months after harshly tearing down the feasibility of SCR for their coal-fired units, TXU announced that it would be retrofitting its existing plants to make reductions sufficient to offset the emissions from its proposed plants. In June, TXU provided additional information indicating that emissions rates at its existing coal plants would be reduced by 69% from 2005 levels.

In sum, TXU now says that it can – and will – reduce emissions at its coal fired units down to 0.05 lb/mmBtu – the same level that TCEQ initially said it was considering in December 2005 before being blasted by TXU and others.

Finally, it is worth noting that TXU has allocated \$500 million to achieve their promised, offsetting NO_x, SO₂ and mercury reductions at their existing coal units. This amount is much smaller than would have been expected given TXU’s earlier claim of \$10 billion in compliance costs for Texas power plants to comply with the NO_x reductions being contemplated by TCEQ.

Texas Legislators Should Be Skeptical of TXU’s Negative Assessment of Coal Gasification

While 24 coal gasification-based (IGCC) electric power plants have been proposed around the country and two have been in commercial operation for years, TXU dismisses the technology. In a striking parallel to the rebuke of TCEQ’s consideration of further NO_x controls for Texas coal plants, TXU’s chairman, John Wilder, stated recently that “[c]oal-gasification plants are a gleam in someone’s eye.”¹²

All of TXU’s 11 proposed coal-fired units rely on the same basic pulverized-coal technology used by previous generations of power plants. Their air permit applications do not even weigh any alternatives, including coal gasification, as a way to achieve lower emissions than those proposed.

Had TXU done a fair and rigorous evaluation of IGCC, they would likely realize that much lower emissions of NO_x, mercury and other key pollutants could be achieved. Indeed, a report prepared for EPA and released this month shows just that.¹³ The following table compares the NO_x emissions proposed for TXU’s 8 units designed to run on Western Coal to the emissions of new IGCC units.

Comparison of NO_x emissions from proposed TXU plants with IGCC plants

	NO _x Emissions Rate (lb/mmBtu)
TXU’s Proposed Plants w/ Western Coal	0.05
New IGCC plant (EPA) ¹⁴	0.044

¹² “Committing itself to coal: New plants will help power shortage, TXU says,” by Dan Piller, Fort Worth Star-Telegram, May 20, 2006

¹³ Environmental Footprints and Costs of Coal-Based Integrated Gasification Combined Cycle and Pulverized Coal Technologies, EPA-430/R-06/006, July 2006.

¹⁴ Id.

New IGCC plant with NOx controls	0.01
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As can be seen from this chart, NOx emissions from IGCC units could be 10% to 80% lower than those proposed for TXU's plants.

Conclusion

In the interest of protecting the health of Texans, we urge Texas policy makers to insist on the following from TCEQ and permit applicants:

1. Before new air permits are issued, the air quality impacts of new power plants must be determined, individually and cumulatively, and considered in the context of the DFW area's SIP challenge, as well as Early Action Compact areas and vulnerable communities like Waco.
2. TXU and other air permit applicants must thoroughly evaluate, with public input, coal gasification as an alternative to pulverized coal for any new coal plants.
3. The TCEQ should initiate a rulemaking to reduce power plant emissions in eastern Texas due to their contribution to the high levels of background ozone that routinely enter the DFW area.

Ramón Alvarez, Ph.D. is a senior scientist in the Texas office of Environmental Defense, where he has been since 1994. At Environmental Defense, he has promoted cleaner air in Texas cities, with an emphasis on reducing emissions from electric power plants, diesel vehicles and chemical plants. He also worked with industries on the US-Mexico border to find cost-effective methods of reducing waste and pollution.

Dr. Alvarez currently serves on the Board on Environmental Studies and Toxicology of the National Research Council, the Texas Vehicle Inspection and Maintenance Advisory Committee, the Science Advisory Committee of the Texas Environmental Research Consortium and various technical advisory committees on air quality issues around the state. He has previously served on the Pollution Prevention Advisory Committee of the Texas Commission on Environmental Quality, the boards of the American Lung Association of Texas and the Texas Center for Policy Studies, the Editorial Board of *Environmental Engineering Science*, and the Environmental Board of the City of Austin.

Dr. Alvarez obtained a B.S. degree in chemistry from Duke University and a Ph.D. in physical chemistry from the University of California at Berkeley, where he carried out research on atmospheric and combustion processes. At UC Berkeley he was a National Science Foundation Predoctoral Fellow and a lecturer in Environmental Chemistry.



EXECUTIVE SUMMARY

The overarching goal and mission of the Blue Skyways Collaborative (BSC) is to improve the quality of life in North America's Heartland, including the border areas with Canada and Mexico, by reducing air pollution through voluntary collaboration and innovations in fuel and energy use. Objectives envisioned to help achieve this goal include: (1) develop Federal, tri-national, State, and local partnerships, (2) market the Collaborative's message, (3) promote the sharing of new renewable energy technologies and innovations, (4) leverage resources, and (5) implement projects that utilize both proven and innovative technologies for diesel engines, alternative fuels and renewable energy. To execute this mission, six subcommittees were developed to identify priorities, and establish and implement goals. The six subcommittees include: (1) On-Road, (2) Non-Road, (3) Air/Water/Rail, (4) Fuels, (5) Energy, and (6) Communications and Outreach.

The On-Road Subcommittee work plan is highlighted by five projects:

- Encourage anti-idling policies from 25 private and public sector partners
- Increase truck stop electrification sites to 30 by 2010
- Target 50 retailers/shippers to take an On-Road Challenge
- Increase Clean School Bus funds from \$1.2 million to \$3 million
- Retrofit 10 vehicles on the U.S./Mexico border and increase Free and Secure Trade lanes at border crossings from 5 to 8 by 2008

Work plan details of the Non-Road Subcommittee entail two major areas of emphasis:

- Decrease emissions reduction from metropolitan area construction projects
- Establish a variety of agriculture sector projects pertaining to biodiesel and agricultural practices to reduce air emissions

Previously successful projects are targeted by the Air/Water/Rail Subcommittee for duplication, in addition to new projects such as:

- Voluntary Airport Low Emission project for Houston airports
- "Green Goat" rail project
- An innovative port project with the Port of Houston Authority
- Several future project opportunities are also highlighted

The Fuels Subcommittee focuses on three main project areas:

- Introduction of E85 into the fuel supply in collaborative areas where it does not exist
- Showcasing a biodiesel project within the agriculture community
- Sharing of information about alternative renewable fuels

Seven project areas are identified by the Energy Subcommittee including:

- Funding for energy efficiency loan programs
- Development of GIS-based wind resources
- Templates for ground source heat pumps and solar hot water heaters
- Methane to energy project
- Installation of renewable energy at E85 and truck stop electrification sites
- Facilitation of new wind farms
- Capitalizing on developing opportunities

The Communications and Outreach Subcommittee work plan is highlighted by:

- Development of the BlueSkyways.org website
- Recruitment of 100 BSC Communities
- Establishment of a sponsorship program
- Marketing of the BSC message



The Blue Skyways **COLLABORATIVE**

June 2006 Update

Mission

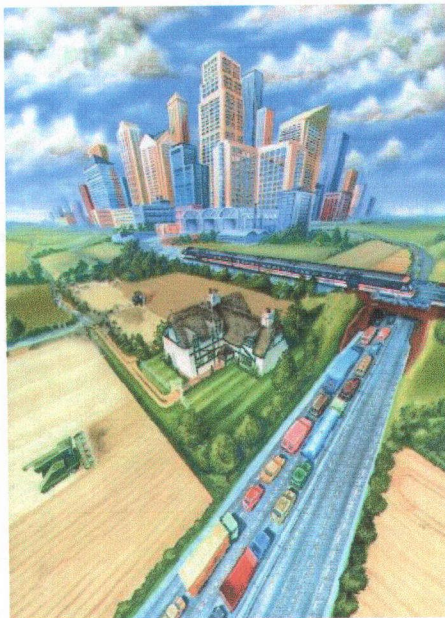
To improve the quality of life in North America's Heartland by reducing air pollution through collaboration and innovations in fuel and energy use.

What is it?

Blue Skyways is a voluntary, public-private partnership currently comprising 10 States representing over 52 million people, six federal agencies, two EPA Regions (6 and 7), 10 major companies, the Central States Air Resources Agencies (CenSARA), NGOs, local government representatives, and representatives of Canada and Mexico.



Why is it important?

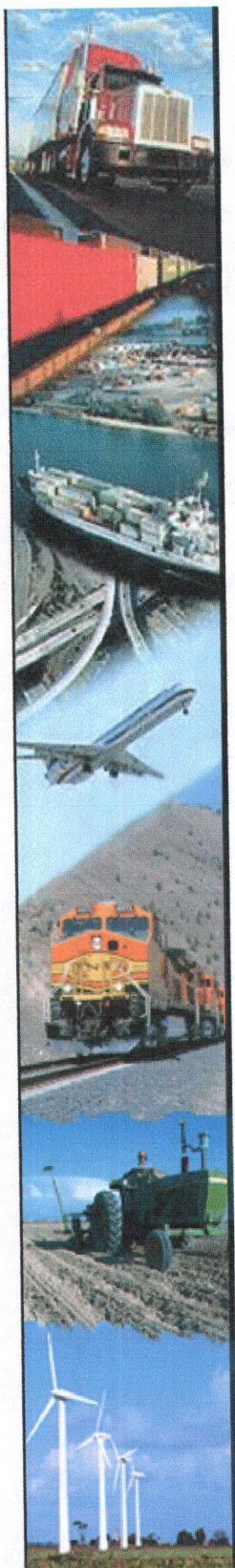


Diesel engines and power-producing facilities emit Nox, PM-2.5, VOC, and air toxics that negatively impact public health, including those in 14 nonattainment areas in the Blue Skyways area. Traffic and population are expected to increase dramatically in Blue Skyways, including the expected increases in trade-related transportation spurred by the North American Free Trade Agreement.

What are the integral parts of the Collaborative?

- Quicker phase-out of the over 11 million older, legacy diesel trucks and off-road equipment
- Expanding energy efficiency and the use of renewable energy
- Focusing on emissions reductions in important transportation nodes such as airports, ports, and rail centers
- Expanding the use of alternative fuels
- Pursuing a vigorous outreach and funding identification program

To that end, Blue Skyways is organized into six subcommittees: **On-road** (diesel trucks), **Non-road** (construction and agriculture equipment), **Fuels** (ethanol and biodiesel), **Airports/Rail/Ports** (reducing emissions at these congested nodes), **Energy** (expanding energy efficiency and effecting more renewable energy projects) and **Outreach** (education, attracting partners, and funding identification).



What has happened thus far?

Blue Skyways held its kick-off meeting in Kansas City, February 15-16, 2006, with over 80 participants. Subcommittees were formed, personnel volunteered to serve, and milestones for actions were agreed upon.

The six Subcommittees have held approximately 50 meetings and conference calls since February to develop action-oriented workplans for the first year of the Collaborative. The Subcommittees and overall supervisory Task Force of the Collaborative will meet June 19-20, 2006 in Dallas to confirm these workplans, report progress, discuss partnering on specific projects, and recognize new communities and partners at a press event.

What are some of the specific projects we are planning?

- Work with States, private sector to expand idle reduction (truck stop electrification, truck APUs)
- Encourage participation in SMARTWAY program
- Work with States to expand ethanol infrastructure
- Encourage large construction projects to require low-emitting construction equipment
- Encourage use of hybrid locomotives in rail yards in nonattainment areas
- Work with partners to speed international truck traffic across congested international bridges
- Provide technical support to farmers/ranchers and small businesses to assist them in getting federal funds for wind, solar and landfill/CAFO/biomass methane projects in rural areas
- Complete technical templates for SEPs for solar hot water heaters and ground source heat pumps to share with enforcement personnel in States and EPA Regions 6 and 7

Some projects already underway or completed

- \$1.2 million for a hydrogen fuel cell in Galveston, Texas, displacing 20 tons/year of Nox in the Houston-Galveston O3 severe nonattainment area.
- Announcement by HEB, Inc. of 100+ E-85 pumps across Texas
- Creative funding to speed emission reduction (SMARTWAY) upgrades on diesel trucks; up to 18% reduction in Nox and PM-2.5 emissions and 18% improvement in fuel efficiency
- SMARTWAY Challenge to encourage carriers to implement a combination of on-road emissions reduction strategies, including an idle reduction component and installation of truck-related emissions reduction equipment
- Since May 2006, have signed up 15 new Blue Skyways communities & partners
- Applications of small scale fuel cells (2-25 kw) in nonattainment areas within Blue Skyways 10-state region
- Interagency agreement with the National Renewable Energy Laboratory to provide technical consulting services to States in wind, solar, landfill/CAFO/biomass methane, and renewable fuels projects
- Use of aircraft-based multispectral scanners to identify and voluntarily reduce undetected barge emissions at critical ports in Blue Skyways area
- Installation of auxiliary power units by Wal-Mart in all its trucks
- Leases by Texas General Land Office for offshore wind farms totaling over 500 mega watts

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THE CHALLENGE OF MANAGING EMISSION EVENTS AND START UP/SHUT DOWN AND SCHEDULED MAINTENANCE EMISSIONS

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Four Seasons Hotel
Austin, Texas**

Background

- \$ Midstream gas processing facilities are complex industrial processes
- \$ Natural gas that is extracted from wells is collected and transported using an expansive network of pipelines
- \$ At various points in the gathering process, the pressure in the gathering lines is increased by compressors driven by large engines
- \$ Ultimately the gas is routed to an industrial processing plant where the natural gas is separated from other compounds
- \$ Those other compounds often are condensed in the form of natural gas liquids
- \$ If the gas that is produced is sour, meaning that it contains appreciable quantities of hydrogen sulfide, then additional steps are put in place to ensure the safe transport of the gas to the processing plant
- \$ At the processing plant, the vast majority of hydrogen sulfide is removed from the gas stream before it is sent to the end users

Unexpected Emissions

- \$ As with all complex industrial processes, there are times when events occur that are unplanned
- \$ In many cases these events occur regardless of the reasonable precautions put in place to prevent them
- \$ For example, it is fairly common for remote gas processing plants or compressor stations to have weather related power loss. When the power is interrupted some of the equipment is unable to function properly.
- \$ At other times, equipment fails notwithstanding the proper application of routine maintenance to prevent such failures from occurring
- \$ Sometimes events occur at a processing plant or compressor station that are caused by actions upstream or downstream from the plant or station and completely beyond the control of the operator
- \$ The end result is that some of these unplanned events require that large portions or even the entire plant be shut down while repairs are made

Expected Emissions

- \$ Emissions also frequently occur when maintenance is performed on the equipment
- \$ In some instances the maintenance can be planned well in advance
- \$ In other instances, equipment needs to be taken offline quickly and maintenance performed without previous planning
- \$ As with some unexpected events, planned maintenance may require that large portions or even the entire plant be taken offline for repair
- \$ In all of these cases, a key component of the planning process is putting in place personnel and equipment to make sure that resulting emissions are minimized during the maintenance process

Unique Challenges to the Midstream Gas Processing Industry

- \$ The challenge to the midstream gas processing industry is our relative inability to shut off the incoming gas
- \$ In some cases, producers are capable and willing to shut in their gas
- \$ In other cases, the gas continues to be produced
- \$ In those instances the gas either needs to be managed at the wellhead or downstream at the compression station or processing plant
- \$ Frequently the gas is routed to a flare while the equipment is repaired
- \$ If the plant is undergoing a major turnaround effort, a substantial amount of gas is flared
- \$ If the gas is sour, then the amount of sulfur dioxide released by flaring can be very large

Affirmative Defense

- \$ The TCEQ rules allow an affirmative defense for violations of the state implementation plan requirements
- \$ The TCEQ rules do not allow an affirmative defense for violations of federally promulgated performance or technology-based standards
- \$ An affirmative defense is only available for emissions that have been properly reported or recorded
- \$ In order to assert an affirmative defense to all claims in an enforcement action, the

- regulated entity must prove that certain requirements are met
- \$ For non-excessive upset events, there are eleven requirements
 - \$ For unplanned maintenance, startup, or shutdown activity, there are nine requirements
 - \$ For planned maintenance, startup, or shutdown activity, there are eleven requirements
 - \$ For excess opacity events, there are ten requirements
 - \$ For opacity events from unplanned maintenance, startup, or shutdown activity, there are ten requirements
 - \$ To claim an affirmative defense, the regulated entity must prove that the emissions or opacity were caused by a sudden, unavoidable breakdown of equipment or process beyond the control of the owner or operator
 - \$ In addition, the regulated entity must prove that the period of opacity or emissions could not have been foreseen or prevented through planning, design, better operation or maintenance practices
 - \$ These requirements are subjective in nature and given the broad scope of the requirements they will be very difficult to satisfy.
 - \$ For example, unauthorized emissions can always be avoided by the addition of some practice or redundant process or piece of equipment, even if the problem is created by a third party
 - \$ One of the key concerns is the reasonableness of including the additional practice or redundant process or equipment especially given that businesses are required to be competitive in order to survive
 - \$ The net result is that while the rules allow for an affirmative defense, in practice an affirmative defense may be eliminated
 - \$ The outcome is that regulated entities are repeatedly subject to enforcement despite the application of reasonable measures to prevent or minimize emissions

Authorizing Maintenance, Start up and Shut Down Emissions

- \$ The path forward includes authorization of planned maintenance, start up and shut down emissions in permits
- \$ If the emissions are properly represented in the application and thoroughly reviewed by the TCEQ during the permitting process, then they can be authorized by the permit

- \$ Therefore, when they occur, the TCEQ can compare the facts surrounding the emissions release to the permit conditions and underlying permit representations to determine if they are authorized
- \$ If the facts associated with the emissions release are consistent with the permit conditions and permit representations, no enforcement related action is initiated by the TCEQ

Time Line for Permitting Maintenance, Start up and Shut Down Emissions

- \$ The first challenge for the midstream gas processing industry is the time line for permitting contained in the recently adopted TCEQ rules
- \$ In an effort to manage their workload the TCEQ inserted into the rules a schedule for regulated entities to submit applications for the permitting of planned maintenance, start up and shut down emissions
- \$ The time line for SIC codes 1311 (Crude Petroleum and Natural Gas) and 1321 (Natural Gas Liquids) is six years after the effective date of the rules which would be in January 2012
- \$ Until the midstream gas processing industry is allowed to submit an application for a permit, the industry will be regulated by the existing Chapter 101 Rules for Emissions Events and Scheduled Maintenance, Start up and Shut Down Activities
- \$ What that means is that for the next five plus years the industry will continue to struggle with affirmative defense demonstrations in order to avoid enforcement for well managed, planned maintenance, start up and shut down activities

Satisfying the Permitting Requirements

- \$ A second challenge for the midstream gas processing industry is demonstrating to the satisfaction of the TCEQ that the pollution control equipment and processes utilized at a compressor station or gas processing plant satisfy best available control technology
- \$ The difficulty with making the demonstration is that the maintenance, start up and shut down emissions occur over a short period of time
- \$ In addition, in the case of a turnaround at a large sour gas processing plant, the amount of flared gas and the resulting emissions can be large
- \$ Since the volume of flared gas is similar in amount to the gas normally flowing into the plant, arguments will be made that the type and size of pollution control equipment should be similar to that used during normal gas plant operation

- \$ While the cost of installing substantial pollution control equipment may make sense for year round operation of a gas processing plant, it is hard to justify when the emissions occur over the course of a few days a year or in some cases a few days every other year

Suggestions for an Improved Regulatory Process

- \$ The types of activities and equipment that can be permitted should be expanded beyond planned maintenance, start up or shut down activities
- \$ A regulated entity should also be provided the opportunity to permit unplanned maintenance, start up and shut down activities as well as other types of episodic emissions
- \$ If an applicant can demonstrate that the unplanned activities meet the statutory and regulatory requirements for employing the best available control technology, protectiveness of human health and the environment and notice to the public, then a permit authorizing those activities should be granted by the agency
- \$ Similarly, the regulatory process should allow more flexible and greater use of site wide caps
- \$ If the permit cap is established at a level protective of public health, then activities conducted at emission rates below the specified cap should be considered authorized
- \$ Such a cap could authorize both normal operations as well as planned and unplanned maintenance, start up and shut down activities

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ETHICS FOR ENVIRONMENTAL PROFESSIONALS

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I. INTRODUCTION

Environmental professionals are often asked by clients to act as the client representative when involved with working with the Texas Commission on Environmental Quality ("TCEQ"). While so engaged, it is important to know where the line can be crossed and the environmental professional be engaged in the unauthorized practice of law or engineering. The purpose of this paper is to help clarify this issue.

II. THE PRACTICE OF ENGINEERING

Texas defines the practice of engineering as follows:

In this chapter, "practice of engineering" means the performance of or an offer or attempt to perform any public or private service or creative work, the adequate performance of which requires engineering education, training, and experience in applying special knowledge or judgment of the mathematical, physical, or engineering sciences to that service or creative work.¹

The Occupation Code further states that the practice of engineering includes:

- (1) consultation, investigation, evaluation, analysis, planning, engineering for program management, providing an expert engineering opinion or testimony, engineering for testing or evaluating materials for construction or other engineering use, and mapping;
- (2) design, conceptual design, or conceptual design coordination of engineering works or systems;
- (3) development or optimization of plans and specifications for engineering works or systems;
- (4) planning the use or alteration of land or water or the design or analysis of works or systems for the use or alteration of land or water;
- (5) responsible charge of engineering teaching or the teaching of engineering;

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¹ TEX. OCCUPATIONS CODE ANN §1001.002(b) (Vernon 2004 & Supp 2005).

- (6) performing an engineering survey or study;
- (7) engineering for construction, alteration, or repair of real property;
- (8) engineering for preparation of an operating or maintenance manual;
- (9) engineering for review of the construction or installation of engineered works to monitor compliance with drawings or specifications;
- (10) a service, design, analysis, or other work performed for a public or private entity in connection with a utility, structure, building, machine, equipment, process, system, work, project, or industrial or consumer product or equipment of a mechanical, electrical, electronic, chemical, hydraulic, pneumatic, geotechnical, or thermal nature;
- (11) providing an engineering opinion or analysis related to a certificate of merit under Chapter 150, Civil Practice and Remedies Code; or
- (12) any other professional service necessary for the planning, progress, or completion of an engineering service.²

In general, the practice of engineering is quite broad and includes numerous tasks. In the environmental context, this has led to a number of cases involving either the unauthorized or unethical practice of engineering.

The Board of Professional Engineers, in the case involving Daniel Hejl,³ fined Mr. Hejl \$8,500 and gave him a three-year probated suspension for preparing and submitting two permit applications to the TCEQ's Municipal Solid Waste Permits Section on behalf of two Texas counties, in which the text appeared to have been copied from a different permit application for a different project in a different county. The Board found that the applications contained misleading and inaccurate information which were not supported by adequate modeling, calculations or analysis. The Board further found that Mr. Hejl did not consider the environmental impact of his actions; failed to meet all applicable professional practice requirements of federal, state and local statutes, codes, regulations, rules or ordinances in these

² TEX. OCCUPATIONS CODE ANN §1001.002(c) (Vernon 2004 & Supp 2005).

³ Tex. Bd. Prof. Engineers, *Matter of Daniel P. Hejl, Jr.*, File Nos. D-26967 and 27887 (Nov. 30, 2005).

instances; failed to act as a faithful agent for his client and involved parties; and his actions constituted gross negligence with a potential for endangerment of the health, safety or property of the public which were not in keeping with generally accepted engineering standards or procedures.

III. THE PRACTICE OF LAW

Texas defines the practice of law as follows:

In this Chapter, the "practice of law means the preparation of a pleading or other document incident to an action or special proceeding or the management of the action or proceeding on _____ on behalf of a client before a judge in court *as well as a service rendered out of court, including the giving of advice or the rendering of any service requiring the use of legal skill or knowledge, such as preparing a will, contract or other instrument, the legal effect of which under the facts and conclusions involved must be carefully determined.*"⁴

One article, in explaining what constitutes the practice of law before workers' compensation matters, provides the following summary:

The key factor in determining if an action constitutes the unauthorized practice of law is whether performance of that action involves the application of legal knowledge, skill and expertise. Courts have generally held that purely mechanical functions, such as filling out forms provided by the workers' compensation authority, do not require knowledge or skill beyond that possessed by a layman of average intelligence and experience and, thus, can be performed by nonlawyers. When the act goes beyond the mechanical, however, or when it is performed under circumstances which require or suggest the application of legal knowledge or skill, the work must be handled by a properly licensed attorney.⁵

In *Green v. Unauthorized Practice of Law Committee*,⁶ Green was the owner of a company that assisted individuals in settling personal injury and property damage claims with insurance carriers. The court noted that "[T]he practice of law embraces, in general, all advice to

⁴ TEX. GOVT. CODE ANN §81.101 (Vernon & Supp. 2005) *emphasis added*.

⁵ Michelle A. Pinkowski, Annotation, *Handling, Preparing, Presenting or Trying Workers' Compensation Claims or Cases as Practice of Law*, 58 A.L.R. 5th 449 (1998).

⁶ 883 S.W.2d 293 (Tex. App. – Dallas, 1994).

clients and all action taken for them in matters connected with the law."⁷ Green claimed that he was only acting as a public adjuster, but the court found that he engaged in the unauthorized practice of law as he had contracted with clients to represent them with regard to causes of action for property and/or personal injury damages; advised clients of their rights and that they make claims; negotiated the claims with the insurance companies; and advised the clients concerning the proffered settlement amounts.

In *Crain v. Unauthorized Practice Committee*,⁸ Crain's debt collection business prepared and filed mechanic's liens and/or lien affidavits and released same upon payment. The court noted that the preparation and filing, wherein Crain and his company impliedly advised their clients of their legal rights and entitlement under the law, constituted the unauthorized practice of law. The court noted that the courts inherently have the power to determine whether other acts and services not enumerated in the statute constitute the unauthorized practice of law.

IV. APPEARANCE BEFORE A STATE AGENCY

Representation before the various Texas state agencies is handled in a variety of ways. The TCEQ's rules regarding representation at a hearing state that a "representative of record is one who has appeared in a proceeding or whose name is subscribed to any application, petition or other pleading or to some agreement of the parties filed in the proceedings. The representative shall be the representative of record until the end of the proceeding unless there is a statement to the contrary appearing in the record."⁹ While there is no requirement in the rule that the representative of record be an attorney, the "representative shall observe the letter and spirit of the Texas Lawyer's Creed . . ."¹⁰. This provision seems to suggest that only attorneys

⁷ *Id.* at 298.

⁸ 11 S.W.3d 328 (Tex.App.–Houston, 1999, *rehearing denied* 2000).

⁹ 30 TEX. ADMIN. CODE §80.9(a) (2006).

¹⁰ 30 TEX. ADMIN. CODE §80.9(c) (2006).

should represent a party at a hearing, yet it also seems to be written for non-lawyers with admonishment to follow the Texas Lawyer's Creed, which attorneys are familiar with. The lack of clarity in the TCEQ rules is confusing and seemingly contradictory, especially when contrasted with the TCEQ rule that also states "[A]ny person may appear at a hearing in person or by *authorized representative*. A person appearing in a representative capacity may be required to prove his authority."¹¹ Authorized representative is not defined however.

The case of *Carr v. Stringer*¹² provides the underpinning for Texas' approach to regulating practice before state agencies. In that matter, Carr had contracted with Roy Tennant, a non-lawyer, to procure permits from the Railroad Commission to drill oil wells on certain property. When Carr sued Gulf Oil Corporation to recover about \$2,224.00 for oil run payments, Stringer, who claimed an interest in Gulf's funds, countersued and sought recovery of the funds. Carr claimed that Stringer couldn't maintain his countersuit as his contract was void as it entailed the unauthorized practice of law. The court looked at the definition of law, then found in article 403 of the Texas Penal Code, and described article 403 as:

Applying to any person appearing in a representative capacity as an advocate or performing any act in connection with proceedings pending or prospective before a *court* or justice of the peace, or a body, board, committee, commission or officer constituted by law and having authority to take evidence in or settle or determine controversies *in the exercise of the judicial power of the State*.¹³

In looking at the scope of article 403, the court, having looked at article 5, section 1 of the Texas Constitution, felt that article 403 applied only to representation before courts, boards and commissions that exercised the "judicial power of the state"¹⁴ and that the Railroad

¹¹ 30 TEX. ADMIN. CODE §113(a) (2006).

¹² 171 S.W.2d 920 (Tex. App. – Fort Worth, 1943, rehearing denied).

¹³ *Id.* at 922.

¹⁴ *Id.*

Commission was an administrative body whose ability to summon witnesses and hear evidence was not the "exercise of the judicial power." In light of this interpretation, the Court ruled that Carr's contract with Tennant therefore was not void.

Keep in mind that the *Carr* decision took place before the modern administrative state in which we now practice. In its 1999 report on unauthorized practice of law in environmental matters, the Executive Committee of the State Bar of Texas, Environmental and Natural Resources Law Section, acknowledged that particularly with scientific or technical issues there is a legitimate role for consultants, engineers or other professionals in providing "valid technical, consulting engineering, analytical and design activities."¹⁵

V. CONCLUSION

While engineers and other environmental professionals are allowed to practice before the TCEQ, they need to be aware of the thin line about what constitutes the practice of engineering and law. The safest practice, should the client ask for advice or where the environmental professional find that a discussion of the client's rights are at issue, would be to suggest a consultation with the client's attorney concerning the matter to avoid the unauthorized practice of law. Engineers should also be mindful of the Hejl matter discussed above in regards to the unauthorized practice of engineering and take care when practicing before the Commission to avoid misleading and inaccurate information.

¹⁵ Executive Committee, Environmental and Natural resources Law Section, State Bar of Texas, *Practice Makes Perfect: Unauthorized Practice of Law Issues in the Environmental Practice Field*, 29 STATE BAR TEX. ENVTL. L.J. 129 (1999).

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Accountability for Environmental Professionals
The Licensing Dilemma

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Accountability for Environmental Professionals

The Licensing Dilemma

Keith Linton, URS Corporation*

I. Accountability Through Licensure

Professional licensing is widely accepted as an effective means to promote ethical behavior within a profession.¹ The ability of a board to revoke a license for unacceptable professional conduct provides a sense of accountability, particularly where other laws are silent or ambiguous. The concept of imposing a legal system of accountability through licensure is highly evolved in a variety of well-established occupations, including the medical, engineering, and legal fields.² The primary basis cited for most professional licensing programs is to protect the public from unqualified or unethical practitioners.³

A. Accountability for Environmental Professionals

As a result of recent technological advancements, the shift to a services-oriented economy, and increasing concern for the environment, numerous new fields of professional practice have arisen to meet modern society's needs.⁴ Many of these developing occupations have the potential to significantly impact public welfare yet are not regulated through existing licensing programs simply because they do not fit into traditional occupational categories. It has been noted for some time that the "environmental profession does not have a uniformly recognized licensing or registration process".⁵ As a result, many environmental professionals are not accountable to any authority having incentives to promote ethical professional conduct.

B. The Licensing Domino Effect

Although the legal rationale for professional licensing is typically related to protection of the public interest, licensing initiatives are generally left to the efforts of professional trade groups to initiate since the profession also benefits from the increased public trust associated with licensure.⁶ However, many newer professions that might fit the criteria to qualify for licensure are not large enough, organized enough, or motivated

* The views expressed in this paper are those of the author only and do not represent the views of URS Corporation or its management.

¹ Joseph C. d'Oronzio, "Practicing Accountability in Professional Ethics", *The Journal of Clinical Ethics*, Volume 13, Number 4, p. 359.

² "The History of Licensure", National Council of Examiners for Engineering and Surveying.

³ Texas Sunset Advisory Commission, "Occupational Licensing Model", July 7, 2005. American Institute of Professional Geologists (AIPG), "Policy Regarding State Registration/Licensing of Geologists", October 6, 1989.

⁴ White House Office of Management and Budget (OMB), "1998 Standard Occupational Classification Notice of Final Decisions", *Federal Register*, September 30, 1999, pp. 53136-53163.

⁵ Lisa B. Gossett, J.D., and Susan Wilder, "Certification and Registration of Environmental Professionals", *University of Houston Clear Lake Environmental Institute of Houston Annual Report*, 1996.

⁶ Peter R. Rose, "Is Licensure Good Business?", *American Association of Petroleum Geologists (AAPG) Explorer, the Business Side of Geology*, January 2003. Soil Science Society of America (SSSA), "Steps to Achieving Soil Science Licensing in Your State."

to pursue licensing programs on their own behalf. Professionals (and the general public) appear content to allow many professions to be regulated only by market forces and many unlicensed professions would rather not be subjected to a licensing authority that is, until a similar licensed profession begins to usurp their practice area based on its licensed status. Such territorial disputes are generally the impetus that leads to the creation of additional licensing entities, not concern on the part of (or on behalf of) the general public.⁷ However, this reactive approach, if continued into the future, would ultimately lead to an unmanageable patchwork of licensing programs for a myriad of similar and overlapping disciplines, requiring a string of memoranda of understanding (MOUs) between agencies and attorney general opinions to address conflicting practice areas. Such a result would be a classic example of inefficient and ineffective government bureaucracy.⁸

C. The Texas Geoscience Practice Act Example

This scenario is taking shape currently in Texas with the recent passage of the Texas Geoscience Practice Act.⁹ The Texas Geoscience Practice Act was initiated in response to concerns among geologists that regulators were relying on engineers to perform or oversee geological work simply because the engineers were licensed and the geologists were not.¹⁰ The legislature's analysis states, however, that the reason the legislation was enacted was to "show its commitment to the public safety".¹¹

The administrative record indicates that a dozen geologists representing five different geological trade organizations registered or testified in favor of the Bill in legislative committee hearings during the 77th legislative session and that no one testified against the Bill. According to the record, no members of the general public were present at the hearings voicing a concern for public safety, nor were any stakeholders from other academic backgrounds represented.¹²

Although the statute has been in place since 2001, licenses were not actually required until September 2003. In August 2004, the Texas Commission on Environmental Quality (TCEQ) issued a policy guidance memorandum on geoscience

⁷ Henry Wise, "Texas Signs New Law: Geologists' Work Must Be Approved by Engineers", *Houston Geological Society Government Update Bulletin*, May 1, 2000.

⁸ "Memorandum of Understanding Between the Texas Board of Professional Engineers and the Texas Board of Professional Geoscientists", February 7, 2005. Dan Morales, "Texas Attorney General Opinion DM-161, Construction of Section 16 of article 249a, V.T.C.S. the act regulating the practice of architecture (addresses the overlap of the professions of architecture and engineering)", August 27, 1992.

⁹ Texas Geoscience Practice Act, *Texas Occupations Code*, Title 6, Chapter 1002 and *Texas Annotated Code* 22, Part 39 Chapters 850-851. SB-405 was authored by Senator J.E. "Buster" Brown (Senate District 17, retired), co-authored by Jeff Wentworth (Senate District 25), and sponsored by Representative Tony Goolsby (House District 102). A companion House Bill, HB 1012, was authored by Representative Goolsby.

¹⁰ See Wise, *supra* note 7.

¹¹ Representative Tony Goolsby, "Analysis of H.B. 1012", Texas House of Representatives Licensing and Administrative Procedures Committee, February 16, 2001.

¹² Texas House Committee Report for SB-405, March 12, 2001 and Texas Senate Committee Report for SB-405, February 12, 2001.

licensing and document seal requirements.¹³ In 2006 the Texas Board of Professional Geoscientists (TBPG), which was created by the Act, initiated its enforcement program in earnest and published new rules for various aspects of the program.¹⁴ Therefore, the effects of the program are only recently beginning to have a noticeable impact on the environmental services industry and realization of the program's ramifications beyond the confines of the geological community has raised new concerns.¹⁵

The Act prohibits an unlicensed person from engaging in the public practice of geoscience. Geoscience is defined in the Act as:

*the science of the earth and its origin and history, the investigation of the earth's environment and its constituent soils, rocks, minerals, fossil fuels, solids, and fluids, and the study of the natural and introduced agents, forces, and processes that cause changes in and on the earth.*¹⁶

The Act requires that to be eligible to practice geoscience a person must have graduated with a degree in a discipline of geosciences acceptable to the TBPG.¹⁷ The TBPG specified in subsequent rules that the only disciplines that meet their criteria to practice geoscience are geology, geophysics, and soil science.¹⁸

Therefore, the Act combines a very broad definition of what constitutes geoscience with a very narrow list of academic backgrounds considered eligible to engage in the practice. Most egregiously, the Act essentially mandates that only geologists can engage in *investigation of the earth's environment*.¹⁹ As discussed in the following section, however, investigation of the earth's environment is much broader than geology.

II. Defining the Environmental Profession

A. Job Function vs. Academic Discipline

The Council on Licensure, Enforcement and Regulation indicates that, for purposes of licensure, a profession should be defined in terms of the actual tasks performed and that job analysis is critical to determine the most appropriate way to regulate the profession.²⁰

¹³ TCEQ, "Remediation Division Regulatory Notice Re: Professional Geoscientist Seal", August, 2004.

¹⁴ §851.28 License Renewal and Reinstatement, §851.30 Firm Registration, §851.31 Temporary License, §851.80 Fees, §851.32 Continuing Education Program, §851.152 Firm Compliance, §851.156 Geoscientist's Seals, *Texas Register* pp. 3152-3153, 3256-3257, April 14, 2006.

¹⁵ North Texas Association of Environmental Professionals Board of Directors, "Position Paper on the Texas Geoscience Practice Act", March 16, 2006.

¹⁶ Texas Geoscience Practice Act, *supra* note 9, §1.02(3).

¹⁷ Id. §6.05(a)(2)(A).

¹⁸ 22 TAC Part 39 §851.25.

¹⁹ Geologists, geophysicists, and soil scientists are referred to collectively as geologists for the remainder of this paper. Texas P.G.s are approximately 80% geologists, 18% geophysicists, and 2% soil scientists per Michael Hess, TBPG Executive Director, November 2005 TBPG Board meeting.

²⁰ Roberta Chinn and Norman Hertz, "Job Analysis: A Guide for Regulatory Boards", Council on Licensure, Enforcement and Regulation (CLEAR).

Analysis of the environmental field indicates that it is inherently interdisciplinary and that those who work in the field generally adapt their varied educational backgrounds to the needs of the job. The U.S. Department of Labor's description of the environmental field acknowledges that environmental professionals originate from various academic backgrounds, including:

*life science, chemistry, geology, geophysics, atmospheric science, or physics and then, either through further education or through their research interests and work experience, apply their education to environmental areas. Others earn a degree in environmental science. A bachelor's degree in environmental science offers an interdisciplinary approach to the natural sciences, with an emphasis on biology, chemistry, and geology.*²¹

The U.S. Standard Occupation Classification system also states that classification of occupations should take into account the actual work performed on the job, not just academic background.²² The occupation of most environmental professionals is described more by job function than academic background, yielding academic-based licensing programs ineffective in the environmental field.

B. EPA Definition of an Environmental Professional

The Environmental Protection Agency (EPA) recently defined what constitutes an environmental professional in its All Appropriate Inquiry (AAI) rule that establishes the process for evaluating a property's environmental conditions in order to qualify for certain landowner liability protections.²³ EPA determined that in addition to licensed engineers and geologists, professionals from other academic backgrounds also qualify as environmental professionals, provided they have adequate experience.

While the AAI rule specifically pertains to certain types of environmental assessments, the definition included in the rule is significant in its own right since it is the first time EPA has developed such a definition for regulatory use and it provides a precedent for adoption into other regulatory programs. The EPA definition was developed through a negotiated rulemaking committee process with significant stakeholder involvement, including multiple trade organizations, consultants and industry representatives. The American Society of Testing and Materials (ASTM) revamped its standard for environmental site assessments to be consistent with the new AAI rule and the AAI rule references the revised ASTM standard as being compliant with the rule.²⁴ The ASTM standard gives even more credence to the new EPA definition since the

²¹ U.S. Department of Labor, Bureau of Labor Statistics, *Occupational Outlook Handbook 2006-2007* Environmental Scientist description.

²² See OMB, *supra* note 4.

²³ USEPA, "All Appropriate Inquiry (AAI) Rule", *Federal Register*, November 1, 2005. pp. 66070-66113.

²⁴ Julie Kilgore, "Working Together, The Recent History of the Practice for Phase I Environmental Site Assessments", *ASTM Standardization News*, June 2006. ASTM Designation: E 1527-05 Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process.

ASTM standard is recognized internationally as the accepted protocol for environmental assessment.²⁵

EPA received numerous public comments on the environmental professional definition resulting in publication of over 250 pages (in summary form) of comment/response on the definition.²⁶ EPA stated that the final definition balanced the merits of setting a high standard through establishment of minimum qualifications while ensuring that it did not displace competent individuals currently performing environmental assessment work. Most significantly, the EPA definition supports the concept that environmental assessment work is interdisciplinary in nature involving the interaction of overlapping academic fields.

The following sections summarize some of the major issues discussed in the comment and response, providing insight into the various stakeholder positions and EPA's intent for the new environmental professional definition.

1. Non-P.G.s Qualified?

Geologist trade groups commented that professionals from academic backgrounds other than geology were often not capable of drawing informed conclusions about a property's environmental conditions because they do not understand the principles of subsurface groundwater flow and contaminant migration, etc. However, EPA responded that the environmental professional overseeing the investigation could consult a geologist as appropriate for such matters and did not have to be a geologist himself to be qualified to oversee an assessment.²⁷

2. P.G.s Qualified?

Conversely, others commented that simple possession of a P.E. or P.G. license provided no assurance that a person had appropriate experience to draw conclusions regarding environmental conditions of a property. Many P.G.s, for example, are trained and experienced in petroleum exploration and may not be familiar with environmental applications of geology such as hydrogeology, and therefore should not be considered qualified to perform environmental assessments based solely on their possession of an engineering or geology license.²⁸ EPA responded however, that P.E./P.G. licensed individuals should be allowed to qualify as environmental professionals with less experience than that required from unlicensed individuals.

3. Certified Individuals Qualified?

Others commented that certifications such as the Certified Hazardous Materials Manager (CHMM) and Certified Environmental Professional (CEP) from accredited private organizations should be included in the qualifications for an environmental

²⁵ Jacob W. VanHouten, ASTM International Phase I and II Environmental Site Assessments International Implications, Prague 2003 Sixth International Symposium on Environmental Contamination in Central and Eastern Europe and the Commonwealth of Independent States, September 2003, Prague, Czech Republic.

²⁶ USEPA, "Definition of an Environmental Professional", *Response to Comment Document, All Appropriate Inquiries Regulation*, Section 2, pp. 103 – 373, October 2005.

²⁷ Id. Section 2.3.9, Comment number 0203 Excerpt No. 2, Jim Ferguson.

²⁸ Id. Section 2.3.1.

professional.²⁹ EPA responded that it did not have the resources to evaluate the various available environmental certifications but noted that

any individual with a certification from a private certification organization where the organization's certification qualifications include the same or more stringent education and experience requirements as those included in today's final regulation will meet the definition of an environmental professional for the purposes of this regulation.

A comparison of selected third party certification requirements to the EPA environmental professional definition and the Texas P.G. requirements (as provided in Table 1) demonstrates that several of the most widely recognized environmental certifications in use today do in fact meet or exceed the EPA requirements. While a non-certified individual might also meet the EPA minimum qualifications, possession of a certification that meets the EPA criteria provides the added defensibility that an accredited third party has verified the qualifications of the individual - a factor that responsible parties should take into consideration when selecting consultants to perform environmental assessments to establish legal liability protection.

III. The Dilemma

The coexistence of professionals from both licensed and unlicensed academic backgrounds performing the same or overlapping job functions within a single occupation poses several logical problems that present a dilemma for lawmakers, regulators and environmental professionals, including the following:

- Licensed professions taking on liability for work outside the area of expertise for which they are licensed;
- Creation of a professional monopoly on the part of the licensed professions;
- Erection of bureaucratic barriers between academic disciplines inhibiting effective interdisciplinary environmental problem-solving; and
- Many environmental professionals remaining without accountability to a governing body to enforce minimum qualifications, continuing education and a code of ethics.

The following discussion describes these general issues as they apply specifically to the situation in Texas.

²⁹ Environmental certifications that meet the minimum requirements in EPA's/ASTM's environmental professional definition include (but are not limited to) the Certified Hazardous Materials Manager (CHMM) master level certification offered by the Institute of Hazardous Materials Management, the Certified Environmental Professional (CEP) offered by the American Board of Certified Environmental Professionals (ABCEP) and the Qualified Environmental Professional (QEP) offered by the Institute of Professional Environmental Practice (IPEP). Each is accredited by the Council of Engineering and Scientific Specialty Boards (CESB).

A. Professional Liability

The scope of responsibility associated with a P.G. seal on documents submitted to TCEQ is a source of confusion in the industry. For example, when a document is P.G. sealed, it is not clear whether the P.G. is taking responsibility and liability for the entire report or only geological portions of the report. If it is only the geological portions, where exactly does the geology end and the chemistry, ecology, statistics and toxicology begin, and who *is* responsible for these other aspects of the submittal if not the P.G.? The current implementation of the program appears to place responsibility for submittals containing more than just geology on the P.G..³⁰ The ambiguity of the scope of the seal leaves the P.G. vulnerable to legal challenge for work they were not actually in responsible charge of or in some cases qualified to perform. This could make P.G.s attractive targets for litigation due to their apparently expanded liability.

B. Professional Monopoly

Licensure programs that limit an interdisciplinary profession to those from a particular academic background have been accused of restraining competition in the market through the creation of a professional monopoly.³¹ As one commentator observed:

*regulations that restrict entry into an occupation reduce competition and violate constitutional guarantees of liberty and equal protection of the laws when they bear no rational relationship to a legitimate government objective.*³²

The Department of Justice, the Federal Trade Commission and the courts have all sought under certain circumstances to eliminate such professional practice restrictions held to be in violation of antitrust laws.³³ The American Antitrust Institute states that “there has been no questioning of the relevancy of antitrust to the learned professions” and that professional licensing programs that adopt standards to lessen competition “may be subject to antitrust penalties.”³⁴ It is beyond the scope of this paper to evaluate whether the Texas geoscience licensing program is technically in violation of antitrust laws. However, it appears to raise serious concerns under the antitrust laws by defining geoscience broadly, to include areas of practice that other academic disciplines have also traditionally engaged in, and then limiting those areas of practice exclusively to

³⁰ TCEQ, *Affected Property Assessment Report (APAR) Report Form* (TCEQ-10325/APAR), June 2005. The APAR form requires a P.G. seal immediately behind the cover page, implying ultimate responsibility for the entire report, yet as indicated on page 16 of the TCEQ form, APARs often include ecological risk assessment, statistics, analytical chemistry and/or toxicological information which are not primarily geological in nature.

³¹ Shirley Svorny, Licensing, Market Entry Regulation, *California State University, Encyclopedia of Law and Economics*.

³² George F. Will, Regarding the Institute of Justice and the effect of arbitrary licensing laws on economic liberties (found at http://www.ij.org/economic_liberty/index.html).

³³ American Antitrust Institute, “How Anticompetitive Practices in the Learned Professions Became Recognized as Illegal”, February 2000.

³⁴ Albert A. Foer, “Statement of the American Antitrust Institute Before the American Bar Association Commission on Multidisciplinary Practice”, March 30, 1999.

geologists, thus restricting competition in the marketplace through formation of a professional monopoly.³⁵

For example, if work is both geological and chemical in nature and the geologist is entitled to perform the work but the chemist is not, then the Act is effectively restricting market competition.³⁶ If an environmental scientist who studied the geological, chemical and biological interactions involved in environmental assessments is not entitled to perform environmental work because geologic media are involved, then the Act is anticompetitive. Small businesses and independent consultants from academic backgrounds other than geology who have traditionally performed environmental assessment work are particularly affected by this attempt to restrict environmental assessment work to firms that employ geologists.³⁷ Thus, the geologists' monopoly represents an anticompetitive barrier to entrepreneurship for environmental professionals from non-geology backgrounds.

The grandfathering provision of the Texas Act also limits competition by arbitrarily establishing a barrier to the entrance of additional geologists into the field that existing licensees were not required to face.³⁸ The Texas Sunset Occupational Licensing Model acknowledges that grandfathering may be necessary for continuity during transition into a new licensing program but also states that grandfathered individuals should ultimately, given adequate time, be required to meet the same standard of competence that non-grandfathered individuals must meet, including testing.³⁹ However, contrary to the Sunset Advisory Commission's recommendation, the Texas geoscience licensing program granted approximately 6,500 grandfathered licensees a blanket exemption from passing the examination that new licensees are required to pass.⁴⁰ Limiting the exam requirement only to new entrants is an inequitable barrier that further demonstrates the anticompetitive nature of the program.

Antitrust laws are also applicable to licensing board members themselves since they are generally competitors within the industry they regulate, and as such, they could

³⁵ Keith E. Linton, "Texas Act Treads on Environmental Scientists", *Environmental Science and Technology*, March 1, 2006, p. 1374.

³⁶ TBPG, "News from the Remediation Division", TCEQ 2006 Trade Fair and Conference, May 9, 2006. During question and answer TBPG stated that work that is a combination of geology and chemistry must be sealed by a geologist (*i.e.*, it must be performed by or under the direction of the geologist).

³⁷ TBPG, "Proposed Firm Compliance Rule", 22 TAC §851.152, *Texas Register*, April 14, 2006, p. 3152. The proposed rule requires that a geologist work full time in each remote, branch and project office of a firm that practices geoscience.

³⁸ In Texas, more than 95% of the licensed P.G.s in the state today were grandfathered and were not required to take or pass any proficiency exam. The TBPG Strategic Plan Fiscal Years 2005-2009 states that 6,600 P.G.s were grandfathered. New licensees after the grandfathering period number roughly 100 based on reports in TBPG newsletters published through May 2006. Approximately 40% of those required to take the exam since the grandfathering period ended did not pass the exam according to statistics published in TBPG newsletters. Crude extrapolation, ignoring other factors, implies that approximately 2,600 of the licensed PGs in Texas today would not pass the exam required of those who were not grandfathered.

³⁹ See Texas Sunset Advisory Commission, *supra* note 3.

⁴⁰ See Texas Geoscience Practice Act, *supra* note 9, §12.01(e).

be found liable under antitrust laws for policies they agree upon that have an adverse impact on their competitors.⁴¹

C. Barriers to Interdisciplinary Problem-Solving

The erection of bureaucratic barriers between academic disciplines inhibits effective interdisciplinary environmental problem-solving. It has been proposed that the current approach to environmental challenges is “too discipline-bound to permit holistic assessment of the interrelationships, interfaces, and overlaps that exist in the environment”.⁴² The National Science Foundation, which is dedicated to improving the scientific basis for environmental decision-making, states that environmental issues require “interdisciplinary approaches that draw upon, integrate, and invigorate virtually all fields of science and engineering”.⁴³ While significant federal funding is devoted to promoting interdisciplinary approaches, state licensing programs based on discrete academic disciplines tend to counteract this effort by discouraging or prohibiting holistic thinking.⁴⁴ In this regard, the current geoscience licensing program in Texas may actually pose more of a threat to public welfare than a benefit.

D. Lack of Accountability for Environmental Professionals

As a result of the current discipline-based approach to licensing, many environmental professionals remain unaccountable to any authority that promotes and enforces ethical professional conduct. While a number of reputable environmental certification entities exist that provide such a system of accountability for those who volunteer to be subjected to it, and there are tangible benefits to maintaining such certifications (*e.g.*, providing legally defensible third party documentation of compliance with EPA environmental professional qualifications and continuing education requirements), there is no direct legal or regulatory incentive in Texas for unlicensed environmental professionals to participate in such programs.⁴⁵

IV. Recommendations

Potential solutions to address the coexistence of licensed and unlicensed professionals performing the same or overlapping job functions within the environmental services industry involve limiting the authority of the existing discipline-based licensing program and/or development of a more comprehensive umbrella of accountability.

⁴¹ Meredyth Smith Andrus, “State Licensing Boards and the Limits of State Action Immunity”, Council of Licensure, Enforcement, and Regulation Resource Briefs, 1998.

⁴² Cynthia Fridgen, “The Current State of Environmental Education”, *Environmental Practice*, September 2005.

⁴³ National Science Foundation, “Environmental Science and Engineering for the 21st Century, The Role of the National Science Foundation”, February 2000.

⁴⁴ National Council for Science and the Environment, Testimony regarding the National Science Foundation to the U.S. House of Representatives, Committee on Appropriations, April 16, 2006.

⁴⁵ See Certifications, *supra* note 29.

A. Limit the Scope of Discipline-Based Licensing Authorities

Many of the issues described could be addressed by abolishing or reducing the scope of the geoscience licensing program so that it would not prohibit other academic disciplines from engaging in, and taking responsible charge of, interdisciplinary environmental work. Since eligibility for geoscience licensing in Texas is limited to geologists, the scope of the Act should be limited to geology which is defined by Webster's dictionary as "the science dealing with the development of the earth's crust, its rocks and fossils".⁴⁶ This definition is more focused and would be less intrusive on other practice areas than the broad definition in the Act which includes "investigation of the earth's environment", an activity that is shared with professionals from other academic backgrounds.⁴⁷ While this approach would alleviate concerns that the program is anticompetitive or an obstacle to interdisciplinary problem-solving, it would still leave many environmental professionals without accountability to any recognized authority that would establish minimum qualifications and promote ethical professional conduct.

B. Reliance Upon Third Party Certifications

One approach to establish a system of accountability for environmental professionals originating from a variety of academic backgrounds is to institute a regulatory requirement that environmental professionals responsible for work submitted to a regulatory agency be subject to either a state licensing board (*i.e.*, P.E./P.G.) *or* possess a certification from a specified list of private accredited environmental certification boards. Accredited certification boards offer many of the same benefits sought in licensing programs by establishing minimum qualifications, requiring examination, adherence to a code of conduct, and continuing education in order to obtain and maintain certification.⁴⁸

1. New Jersey Cleanup Star Program

An example of a state regulatory program that has incorporated third-party certifications is the New Jersey Cleanup Star program.⁴⁹ According to the New Jersey Department of Environmental Protection (NJDEP), "the Cleanup Star Program allows pre-qualified environmental professionals to investigate and remediate certain properties with limited NJDEP oversight subject to possible audit. Under the Cleanup Star Program, NJDEP has established strict criteria for the pre-qualification of environmental professionals. The criteria have been designed to identify individuals who by virtue of education, experience and third party certification, can be assumed to be sufficiently competent and trustworthy. Among the NJDEP requirements to be considered an environmental professional in the Cleanup Star program is possession of one of the following licenses or certifications:

⁴⁶ Webster's New World Dictionary, Third College Edition, 1990 in comparison to Texas Geoscience Practice Act definition of geoscience, *supra* p. 3.

⁴⁷ See "Defining the Environmental Profession", *supra* p. 3.

⁴⁸ John H. Frick, PhD, CHMM, "Managing Hazardous Materials, The Value of Being Certified", *Hazmat 101 News*, March 2006.

⁴⁹ New Jersey Department of Environmental Protection, *Cleanup Star Program Guidance Document*, July 27 2005.

- UST certification in subsurface evaluation;
- Certified Hazardous Materials Manager (CHMM);
- Certified Ground Water Professional (CGWP);
- Licensed Professional Engineer from any state (P.E.);
- Licensed Professional Geologist from any state (P.G.);
- Certified Environmental Professional (CEP); or
- Qualified Environmental Professional (QEP).

The NJDEP Cleanup Star program displays an understanding of the interdisciplinary nature of the environmental services market and is unique in its use of existing independent certification boards as a required point of accountability for professionals that are not otherwise subject to a licensing board.

C. Licensing for Environmental Professionals

Given that licensing is considered by the legislature and regulatory authorities to be necessary for the discipline of geology, then logic would dictate that it would also be warranted for other scientific disciplines engaging in work that similarly affects the public (e.g., chemistry, biology, toxicology, etc.). However, rather than continue the licensing domino effect through implementation of licensing programs for multiple academic disciplines that each perform similar and overlapping tasks in the environmental services industry, accountability for environmental site assessment professionals could be more effectively established through interdisciplinary licensing for environmental professionals as a whole.⁵⁰

Examples of interdisciplinary licensing for environmental professionals include the Massachusetts Licensed Hazardous Waste Site Cleanup Professional (Licensed Site Professional or LSP) and the Connecticut Licensed Environmental Professional (LEP) programs.

1. Massachusetts LSP Program

In 1993 the Massachusetts Legislature established the Board of Hazardous Waste Site Cleanup Professionals within the executive office of environmental affairs.⁵¹ The board was established to license and regulate environmental professionals involved in waste site cleanups.⁵² The LSP program was developed to shift the responsibility for environmental cleanup work to the private sector to alleviate an overwhelming backlog of brownfield sites requiring Agency oversight. The Massachusetts LSP program is unique in that it was the first such program in the country to privatize hazardous waste site cleanup by relying on licensed environmental professionals to issue opinions regarding

⁵⁰ Thomas R. Cuba, "The Time has Come for Licensing of Environmental Professionals", *Enviro-net News Stories*, Practical Information for Environmental Professionals in the Southeast U.S., February, 1997. Keith E. Linton, "Licensing for Environmental Assessment Professionals: The Time Has Come", *Environmental Practice*, June 2006 (*In Press*).

⁵¹ General Laws of Massachusetts (MGL) 21A, Section 19.

⁵² MGL 21E and the Massachusetts Contingency Plan (MCP), 310 Code of Massachusetts Regulations (CMR) 40.

attainment of regulatory standards.⁵³ Evaluation of the benefits of the privatized approach to brownfield cleanups is beyond the scope of this paper but the program is a good example of how licensing can be used to establish accountability for private sector environmental professionals with the added benefit of alleviating pressure on the regulatory agency.

Among the requirements to be licensed under the LSP program is possession of a degree in one of the following academic disciplines:

Biochemistry, Biology (including toxicology, microbiology, ecology, botany, zoology), Chemical Engineering, Chemistry, Civil Engineering, Earth Science, Environmental Engineering, Environmental Sciences, Epidemiology, Forestry, Geology, Geotechnical Engineering, Hazardous Waste Management, Hydrogeology, Hydrology, Industrial Hygiene, Medicine, Physical Geography, Public Health (if technical in nature), Risk Assessment, Soil Science, Water Resources, Wetland Science.⁵⁴

The list of academic disciplines eligible to be licensed under the Massachusetts LSP program is more representative of the variety of academic backgrounds engaged in environmental assessment and cleanup work than the geology-focused program currently used in Texas. The broader and more equitable LSP program represents a more effective overall means of establishing accountability, ultimately enhancing professional conduct and ethics within the profession.

2. Connecticut LEP Program

Connecticut's LEP program, initiated in 1996, was largely modeled on the Massachusetts LSP program.⁵⁵ One significant difference between the programs is that Connecticut does not have the complicated numerical ranking system that the Massachusetts program has to determine which sites to delegate to private sector licensed professionals.⁵⁶ Both programs primarily delegate their authority to licensed private sector professionals on lower priority sites.

Connecticut lists the following academic disciplines as examples of those eligible for LEP licensing:

Biology, Chemistry, Earth Sciences, Ecology, Engineering (civil, environmental, chemical, agricultural, mechanical), Environmental Sciences, Environmental Studies, Geology, Hydrogeology, Hydrology, Natural Resources Management, Soil Sciences, Toxicology, Water Resources, Wetland Science.⁵⁷

⁵³ Raymond C. Johnson, William J. Rizzo, Jr., and Richard J. Hughto, "Privatized Waste Cleanup in Massachusetts: LSP Program", *Periodical of Hazardous, Toxic, and Radioactive Waste Management*, January 1997, pp. 11-14.

⁵⁴ 309 CMR 3.02(1)(a) Appendix A, "Standard track" licensing.

⁵⁵ Connecticut General Statutes (CGS) 22a-133v and Regulations of Connecticut State Agencies (RCSA) 22a-113v-1 through 7.

⁵⁶ Alexander Volokh, Lynn Scarlett, Scott Bush, "Race to the Top: The Innovative Face of State Environmental Management", Section D Privatizing the Brownfield Cleanup Process, Policy Study No. 239, Reason Public Policy Institute.

⁵⁷ Board of Examiners of Environmental Professionals, Department of Environmental Protection, Bureau of Waste Management, LEP Program, Examination Application Form Package.

Similar to the Massachusetts program, the Connecticut list acknowledges the interdisciplinary nature of environmental assessment and cleanup work.

3. Georgia Senate Bill 645

Other recent initiatives to implement licensing for environmental professionals include Georgia Senate Bill 645. The intent of SB 645 was reportedly to allow for outsourcing of certain responsibilities of the Georgia Environmental Protection Division (EPD) to the private sector. However the bill did not make it out of the Natural Resources and Environmental Committee during the 2005-2006 session.⁵⁸

The Georgia bill is notable in that it is perhaps the first such environmental professional licensing initiative to reference EPA's recently promulgated All Appropriate Inquiry rule (which contains EPA's environmental professional definition) as the basis for the initiative.⁵⁹ Although the minimum qualifications for the environmental professional in the Georgia bill differ somewhat from the EPA criteria, it is consistent with the AAI rule in acknowledging that, with adequate experience, professionals from academic backgrounds other than geology are qualified to take responsibility for environmental assessment and cleanup work.⁶⁰ Georgia's SB 645 is an indication of the significance of the EPA AAI environmental professional definition as an impetus for development of new state environmental professional licensing programs.

V. Conclusion

Licensing programs based on discrete academic disciplines that result in the coexistence of professionals from both licensed and unlicensed academic backgrounds performing the same or overlapping job functions are ineffective, anticompetitive, and an impediment to effective environmental problem-solving.⁶¹ Regulation of the environmental profession requires a more comprehensive approach, relying on independent certification bodies or interdisciplinary licensing programs such as those that have been implemented in several other states.⁶² EPA's environmental professional definition provides a new impetus to promulgate state certification and licensure programs for environmental professionals.⁶³ Broader implementation of such programs would increase accountability and promote ethical standards within the environmental profession.

⁵⁸ Personal communication between David Wheeler and Julie Regan in Senator Cagle's office as reported to the Academy of Certified Hazardous Materials (ACHMM) Governmental Affairs Committee via email, May 3, 2006.

⁵⁹ See "EPA Definition of Environmental Professional", *supra* p. 4.

⁶⁰ Georgia General Assembly 2005-2006, SB 645 43-17A-6(a).

⁶¹ See "The Dilemma", *supra* p. 6.

⁶² See "Recommendations", *supra* p. 9.

⁶³ See "EPA Definition of Environmental Professional", *supra* p. 4.

Table 1
Comparison of Minimum Qualification Requirements for
EPA Environmental Professional, Texas P.G. License, and Selected Environmental Certifications/Registrations

Parameters	EPA / ASTM Environmental Professional ^a	P.G. - Texas ^b	CEP ^c	CHMM ^d	QEP ^e	REM ^f	REP ^g
Academic degree	depending on experience	yes, in geology, geophysics, or soil science	yes	yes, in a related field	yes, type of degree depends on experience	yes, in a related field	advanced environmental degree
State license required	depending on experience	yes	no	no	no	no	no
Years of experience	3 if PE/PG licensed 5 if degreed in science/eng 10 if no degree	5	9	7	5 if science, eng. degree or 8 if other degree	5	none
Qualifying examination	no	yes, though >95% Texas PGs grandfathered with no exam	yes	yes	yes	yes	no
Continuing education	yes	yes	yes	yes	yes	yes	no
Code of ethics	no	yes	yes	yes	yes	yes	yes

Notes:

a - Federal Register 2005, 70 [210], 66108, Section 312.10(b). ASTM Designation: E 1527 - 05 Appendix X2.1.

b - 22 TAC Part 39 §851.

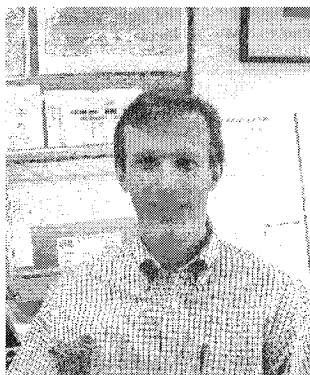
c - Certified Environmental Professional (CEP). Originally affiliated with the National Association of Environmental Professionals (NAEP).
Now independently operated under the American Board of Certified Environmental Professionals (ABCEP).
Accredited by the Council of Engineering and Scientific Specialty Boards (CESB)

d - Certified Hazardous Materials Manager (CHMM) Master Level, from the Institute of Hazardous Materials Management (IHMM). Accredited by the CESB.

e - Qualified Environmental Professional (QEP). Originally affiliated with the Air and Waste Management Association (AWMA).
Offered through the Institute of Professional Environmental Practice (IPEP). Accredited by the CESB.
Endorsed by AWMA, AIHA, AAEE, SWANA, NAEM, and WEF.

f - Registered Environmental Manager (REM). Offered through the National Registry of Environmental Professionals (NREP).
Accredited by International Certification Accreditation Board (ICAB).

g - Registered Environmental Professional (REP). Offered through the NREP. Registration service only.



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PROFILE

Keith Linton is a project manager in URS Corporation's Houston office, Environmental Liability Management (ELM) business unit, providing environmental consulting services for the assessment and closure/remediation of chemical releases to environmental media. Keith's technical expertise is in the area of health risk assessment including exposure assessment, statistical data evaluation, chemical fate and transport analysis, and toxicology. Having worked on Texas remediation sites since the early 1990s, he is also a Texas Risk Reduction Program (TRRP) regulatory expert and project manager for a variety of site assessment and remediation projects. Prior to joining URS in 2002, he worked with ERM and DuPont Environmental Remediation Services, also in Houston.

RECENT PROJECT EXPERIENCE

Managed investigation and risk-based evaluation of chlorinated hydrocarbon groundwater plume at former machine shop to demonstrate attainment of 1993 Risk Reduction Rules (under grandfathering provision), 2004-2006.

Guided development of regulatory strategy, monitoring program, and risk-based attenuation action levels (AALs) for groundwater Plume Management Zone (PMZ) under TRRP at chemical plant, 2004-2006.

Risk Assessor for federal EPA Region 6 Superfund site baseline health risk assessment involving surface water, sediment, and fish consumption exposure pathways, 2005.

Participated in development of regulatory and risk assessment approach resulting in closure of multiple refinery solid waste management units (SWMUs) remediated via a Corrective Action Management Unit (CAMU), 2001-2004.

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Biofuels – Future Fuel Strategies for Texas

By Mike Nasi and Chris Pepper, Lloyd Gosselink¹

Major agriculture and energy producing industries have called Texas home for many years, and today, these industries are working together to ensure that Texas is the recognized leader of the rapidly growing biofuel industry. Biofuels are important alternatives to petroleum-based transportation fuels and are manufactured from vegetation or "biomass." The best known biofuel industries in Texas concern biodiesel and ethanol. These fuels are produced by converting oil crops (e.g., cotton or soybean) into biodiesel, a diesel fuel substitute, and by converting sugar or starch crops (e.g., sugar beets or corn) into ethanol, a gasoline fuel substitute. Often having cleaner burning properties when compared to traditional fuels, biofuels are consistent with the President's National Energy Plan and offer significant environmental advantages over petroleum fuels. This paper explains what biofuels are, how biodiesel and ethanol are produced in Texas, and how end-users can take advantage of incentive programs that encourage biofuel use in a number of significant industries in Texas.

Part I – An Introduction to Biofuels

Biofuels are alternative liquid fuels made from vegetation or "biomass," which is the oldest known source of renewable energy and has been used since the discovery of fire.² Fuels such as ethanol, methanol, biodiesel, and methane are the most recognizable biofuels today.³ Traditional applications for alternative fuels are in the transportation fuel market; however, biofuels can be used to fuel stationary diesel engines, fuel cells, and off-road equipment.

Nationally, the attraction to biofuel is rooted in several issues including energy security, economic development, and environmental protection.⁴ Replacing our dependence on foreign oil with a renewable domestic resource that supports agriculture is sound policy because it promotes conservation, the development of alternative and renewable energy technologies, and will increase domestic energy production. For example, in 2005, President Bush signed into law the Energy Policy Act (EPAct) creating a Renewable Fuels Standard (RFS), which sets a baseline for renewable fuel use of 7.5 billion gallons, and is projected to reduce crude oil imports by two billion barrels. The RFS is projected to create over 200,000 new jobs adding \$200 billion to the GDP. Domestic agriculture revenues will increase, for the RFS is expected to result in \$43 billion in purchases of corn and other crops used to produce biofuel.⁵ Concerning Texas, biomass-produced fuel is a "rising star," and the state is home to twelve biofuel plants.⁶

The biofuel industry is allowing new growth opportunities and significant economic benefits for certain sectors of the agriculture industry.⁷ Traditionally, the growth in the ethanol industry has resulted from farmer ownership and investments,⁸ but today, new crops may be grown specifically for biofuel.⁹ In the future, new technologies will enable agricultural and forestry residues (e.g., stalks, leaves, branches which are burned or left in the field) to be harvested for biofuel. America's potential farm benefits from ethanol production alone could be \$4.5 billion. With the ban of MTBE, the USDA estimates an extra \$1 billion in farm cash receipts annually and a doubling of ethanol production that would create a demand for an additional 800 million bushels of corn.¹⁰

Part II – Biodiesel

The use of vegetable oils for engine fuels may seem insignificant today. But such oils may become in the course of time as important as the petroleum and coal tar products of the present time."

- Rudolph Diesel, 1911

Biodiesel Production: Biodiesel is a renewable diesel fuel that is made by combining any natural oil or fat with alcohol. Vegetable oils, animal fats, or recycled cooking greases can be transformed into biodiesel in a variety of ways.¹¹ It takes about 7.3 pounds of soybean oil, which costs about 20 cents per pound, to produce a gallon of biodiesel.¹² Biodiesel is made through a chemical process called transesterification whereby the glycerin is separated from the fat or vegetable oil. The process generates two products, a methyl ester, which is the chemical name for biodiesel, and glycerin, which is a valuable co-product.¹³

Distribution & Usage: Biodiesel does not contain petroleum, and by itself or in "neat form," it is biodegradable, nontoxic liquid that is free of sulfur and aromatic compounds. Biodiesel is commonly sold in blended form (e.g., 20% biodiesel and 80% diesel fuel is known as "B20;" 100% biodiesel is "B100"), and the fuel can be used in existing diesel engines without modifications by public and electric utility fleets to meet federal mandates for the utilization of alternative fuel vehicles (AFVs).¹⁴ As of April 2006, there were 65 biodiesel production plants in the United States. Texas is home to 12 biodiesel plants. A majority of the biodiesel fueling stations are located in the Midwest,¹⁵ but on July 21, 2006, the National Biodiesel Board recognized that Austin Biofuels, along with Triple-S-Petroleum, operate the highest concentration of biodiesel fueling stations of any city in the nation.

Common Advantages for Using Biodiesel: Biodiesel fuel can be used to fulfill the EPA's alternative fuel transportation requirements. Also, biodiesel significantly reduces the particulate matter, total hydrocarbon, VOC, SO₂, and CO emissions from diesel engines, and has similar payload capacity, range, horsepower, torque, and fuel economy as conventional diesel. Specific applications for biodiesel are utilized by school districts and public transportation

authorities who are interested in eliminating the adverse health effects from petroleum diesel, especially for school-aged children. Biodiesel may be used in a variety of ways in the public works sector (heavy duty land-moving, demolition, and hauling equipment); solid waste disposal (collection vehicles and waste landfills that have diesel-using equipment such as compactors, rock crushers, abrasive blasters, and trucks); water and wastewater treatment plants that have on-site diesel equipment; and in marine applications with obvious benefits associated with the biodegradable nature of the fuel.

Part III - Ethanol

"Gasoline is going - alcohol is coming. It's coming to stay, too, for it's in unlimited supply. And we might as well get ready for it now. All the world is waiting for a substitute to gasoline. When that is gone, there will be no more gasoline, and long before that time, the price of gasoline will have risen to a point where it will be too expensive to burn as a motor fuel. The day is not far distant when, for every one of those barrels of gasoline, a barrel of alcohol must be substituted."

- Henry Ford, 1916¹⁶

Ethanol Production: Ethanol is an alcohol-based, clean-burning, high-octane fuel produced from renewable resources.¹⁷ A majority of the ethanol produced in the U.S. is made from corn; however, it can also be produced from other feedstocks such as barley, wheat, and potatoes.¹⁸ In addition, bioethanol is produced from cellulosic biomass such as corn plant stalks, grain straw, switchgrass, quick-growing varieties of trees and even municipal solid waste.¹⁹ Each bushel of corn can produce up to 2.5 gallons of ethanol fuel with one acre of corn yielding enough ethanol to take a car 5,000 miles.²⁰ Ethanol is produced by a dry or wet mill process. The feedstock or other raw material is ground up and added to water and cooked, and through a fermenting process, yeast is added and the sugars are further transformed into ethanol and carbon dioxide. The alcohol is then separated from the water and the solids to produce alcohol at about 96% strength, which is purified and made unfit for human consumption by adding a small amount of gasoline.²¹ Bi-products of the process include, carbon dioxide distillers grain, both of which are sold to downstream markets.

Distribution and Usage: Pure ethanol is usually not used as a motor fuel, and it is blended with unleaded gasoline at varying ratios.²² The most common blends used in vehicles today include E10 (10% ethanol and 90% gasoline) and E85 (85% ethanol and 15% unleaded gasoline). Many modern vehicles will run on E10, which accounts for about one out of every eight gallons of gasoline sold in the U.S., and which is used as an octane enhancer to improve air quality.²³ Existing "flex-fuel" vehicles are able to use E85. There are 6 million E85 compatible vehicles on US roads and about 450,000 of those operate on Texas roads. Texas drivers who currently own flex-fuel vehicles are not able to benefit from its advantages, due to a lack of

ethanol availability in the state---there are currently only fifteen open and planned ethanol stations in Texas.²⁴

Current Trends and Future Projection for Ethanol: Internationally, Brazil is the world's largest producer of ethanol. In the U.S., nineteen states are home to ethanol refineries which produced 4 billion gallons in 2005.²⁵ The leading producer is Indiana with an existing annual production capacity of greater than 1.13 billion gallons. Texas will soon join other ethanol-producing states with the completion of the first plant, in Dumas, Texas, which will introduce an additional 30 million gallons per year to the market.²⁶ With a number of new plants announced or under construction, industry experts expect that by 2008, Texas will be producing 500 million gallons per year.²⁷

Environmental Advantages: E85 has the highest oxygen content of any transportation fuel, making it cleaner-burning and more efficient than gasoline.²⁸ As a result, many parts of the country use ethanol to meet EPA clean air standards with great success.²⁹ This is because ethanol produces 39 to 46 percent less greenhouse gas emissions than gasoline and reduces carbon monoxide, exhaust volatile organic compounds and particulate matter.³⁰ In the future, ethanol may be used as a fuel to produce hydrogen for fuel cell vehicles.

Existing Hurdles for Ethanol: Certain materials commonly used with gasoline may degrade with high level alcohol blends causing contamination of the fuel. Contaminated fuel may result in engine damage and poor performance, eventually causing deposits that may harm the engine.³¹ Ethanol must be transported by land because it cannot travel in pipelines like gasoline without picking up excess water and impurities or potentially corroding the pipeline.³² Approximately 75% of ethanol is moved by rail and the remaining 25% by truck.³³ Many metals such as zinc, brass, lead, aluminum, terne-plated steel (which is commonly used for gasoline storage tanks,) and lead solder are incompatible with E85. Nonmetallic materials that are incompatible include natural rubber, polyurethane, cork gasket material, leather, PVC, polyamides, methyl-methacrylate plastics, and certain thermoplastic and thermoset polymers. Most metal underground storage tanks that meet EPA December 1998 codes and many fiberglass tanks manufactured after 1992, can be used to store E85. Compatible materials must be considered not only in storage tanks, but in all parts of dispensers including, fill pipes, leak detection equipment, piping, filters, hoses, nozzles, fittings, and connectors.³⁴

According to the American Petroleum Institute, ethanol increases the volatility of gasoline when blended at levels less than 10% by volume.³⁵ At levels of 2-10% volume, volatility is increased by one psi. As with gasoline, E85 dispensers will be required to have certified vapor recovery systems. There are currently no certified vapor recovery systems available.³⁶ In addition, there are no Texas regulations related to the vapor recovery systems for

ethanol. It appears that current systems, once retrofitted for material compatibility, may meet vapor recovery requirements.³⁷

Part IV – Federal and State Incentives Promote Biodiesel & Ethanol

EPAct and Alternative Fuel Vehicle (AFV) Credits: The EPAct mandates the purchasing of alternative fueled vehicles (AFVs) for certain fleets, including state-owned and electric utility-owned fleets. For example, since 2001, state and electric utility-owned fleets are required to purchase at least 75% and 90% AFVs, respectively. Fleets covered by these mandatory purchasing requirements may operate existing diesel vehicles and equipment on blends of biodiesel in lieu of purchasing new AFVs or AFV credits.

Federal Tax Credits: The IRS allows two federal income tax credits for using biodiesel. The biodiesel fuel credit is claimed as a general business credit when an end-user purchases and uses biodiesel directly from a biodiesel producer (i.e., the credit may not be claimed if the biodiesel was purchased from a retail sale). This fuel credit is also applicable to the quantity of biodiesel that is used in a blend with dyed or un-dyed petroleum diesel. The biodiesel mixture credit may be claimed by a registered blender when biodiesel (e.g., B100) is blended with diesel fuel. Due to the registration requirements, this tax credit is most commonly used by producers, blenders, and marketers. The biodiesel tax credits are \$1.00 per gallon for agri-biodiesel (i.e., produced from virgin seed oil crops (e.g., soy and cotton)) and 50 cents per gallon for other types of biodiesel.

The IRS also allows federal income tax credits for alcohol. For example, an alcohol fuel mixture credit may be claimed for the alcohol (e.g., ethanol and methanol) that is used to produce a qualified mixture of alcohol with gasoline, diesel fuel, or kerosene. As is the case with biodiesel, the IRS also provides an alcohol fuel credit; however, the value of this tax credit is dependent upon the proof content of the alcohol used.

Texas' Biofuel Incentive Program: The Texas Department of Agriculture administers a production incentive program for biofuels, including biodiesel and ethanol. Properly registered producers are eligible to receive grants of 20 cents for each gallon of biodiesel or ethanol that is produced in a registered plant until the 10th anniversary of the first production date of the plant.³⁸ Grants are limited to 18 million gallons of fuel per fiscal year.³⁹

Diesel Fuel Tax Exemption: Biodiesel or ethanol blended with taxable diesel, that is identified when sold or used as a biodiesel or ethanol fuel blend, is exempt from the diesel fuel tax.⁴⁰ For example, biodiesel (B100) and the volume of biodiesel that is blended with regular diesel fuel are exempt from paying the Texas 20 cent per gallon "diesel fuel tax;" therefore, a

person producing a B20 blend (20% biodiesel and 80% diesel) would not be taxed on the volume of biodiesel used to make the fuel mixture.

End-user Incentives: Significant economic incentives are available for diesel end-users who choose to use biodiesel blends. For fleets subject to EPCRA, the AFV requirements make biodiesel fuel strategies attractive given the ability to use "biodiesel fuel use credits," which currently cost about \$600-700 per credit, versus having to pay the much more significant cost of purchasing new AFVs (\$25,000+ per each AFV) or purchasing an EPCRA credit, which are currently valued at \$750-1,200). The tax benefits of biofuels can be leveraged in a number of ways by end-users. For example, traditional end-users have a choice of how best to maximize the \$1.00/.50 cent federal biodiesel tax credit. End-users are most likely to enjoy the tax credit in the form of a discounted biodiesel price offered by fuel jobbers/registered blenders who can reduce the price by blending the fuel and then claiming the blender's credit. For end-users interested in maximizing the direct benefit of the biodiesel tax credit, they can purchase B100 directly from a producer and blend and use the biodiesel without registration requirements and themselves claim the \$1.00/.50 cent tax credit for each gallon of B100 used in their business, so long as they obtain and keep biodiesel certification records from the producer or biodiesel importer.

Conclusion

The success of Texas' biofuel industry will depend on feedstock development, biofuel production incentives, and increased end-user demand. Fortunately, for the short-term, Texas biofuel producers are able to take advantage of the existing economic incentives, including the Texas Biofuel Production Incentive, and will be able to use existing energy distribution networks to deliver their products to the end-user. Ultimately, biofuel production in Texas will help secure a sustainable, affordable, and domestic fuel strategy for our State and nation.

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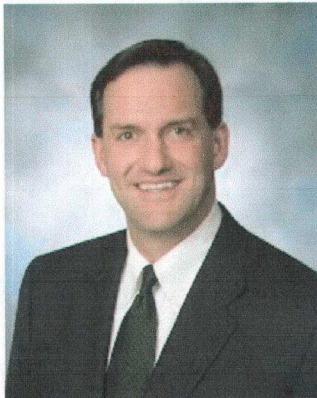
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ENDORSEMENTS/ SUPPORTERS

- Susan Combs, Texas Commissioner of Agriculture
- Associated Republicans of Texas
- Department of Public Safety Officers Assn PAC
- Independent Bankers Assn of Texas
- Independent Insurance Agents of Texas
- National Rifle Assn - Political Victory Fund
- Rural Friends of Electric Cooperatives
- Southwest Meat Assn
- Southwestern Peanut Growers' Association
- Texas Ag Industries Assn
- Texas Alliance for Life
- Texas Apartment Assn
- Texas Assn of Builders - HOMEPAAC
- Texas Assn of Dairymen
- Texas Assn of Realtors - TREPAAC
- Texas Cattle Feeders - BEEF PAC
- Texas Chemical Industry - FREEPAAC
- Texas Cotton Ginners' Assn
- Texas Farm Bureau - AGFUND
- Texas Forestry Assn
- Texas Forest Industries Council
- Texas Independent Ginners Assn
- Texas Medical Assn - TEXPAAC
- Texas Nursery & Landscape Assn
- Texas Peanut Growers Association
- Texas Pest Management Assn
- Texas Poultry Federation
- Texas Produce Policy Council
- Texas Public Employees Assn PAC
- Texas Recreational Vehicle Assn
- Texas Restaurant Assn
- Texas Society of Professional Engineers - PACE
- Texas & Southwestern Cattle Raisers Assn -PAC
- Texas State Rifle Assn - PAC
- Texas Wildlife Assn
- Vocational Agriculture Teachers Assn of Texas

REPUBLICAN TODD STAPLES

For Texas Commissioner of AGRICULTURE

BIOGRAPHY

Senator Staples was born and raised in Anderson County and has life long agriculture involvement. He grew up and worked as a youth on his family farm - a commercial cow-calf operation.

He was active in the Future Farmers of America in high school participating at all levels and was elected to serve as a state vice-president of the Texas FFA in 1981-82. He graduated from Texas A&M with honors in 1984, with a degree in Agricultural Economics.

Upon graduation, Senator Staples returned home to Palestine and helped his family start a retail plant nursery and landscaping business - Staples Greenhouse. On a place of his own, Senator Staples began a cow-calf operation with his father, which they still operate today. His real estate brokerage and appraisal business includes farms and ranches, and he is also a partner in a registered Brangus venture with Bennett Brangus of Tennessee Colony.


As a three-term State Representative and current two-term State Senator, Staples' legislative service has been one devoted to the protection of private property rights, natural resources and agricultural initiatives. He serves on the Senate Natural Resources Committee where he has a direct impact on agriculture and natural resources policy affecting Texans statewide. As Chairman of the Senate Transportation and Homeland Security Committee, Sen. Staples worked tirelessly with the Texas Farm Bureau, Texas and Southwestern Cattle Raisers Association and other agriculture organizations to ensure farmers, ranchers and all Texans private property rights are protected from governmental intrusion.

Senator Staples is honored to have received the endorsement of current Agriculture Commissioner Susan Combs. Many agriculture and business associations offered their endorsement prior to Sen. Staples publicly announcing his candidacy; they, along with their membership, know Sen. Staples will be the most effective voice as Texas Commissioner of Agriculture.


For additional information please visit: www.toddstaples.com.



David Cabe is a professional engineer, a qualified environmental professional, and one of the founders of Zephyr Environmental Corporation. Mr. Cabe holds a Bachelor's Degree in Engineering Science and a Master of Science Degree in Environmental Health Engineering from the University of Texas. Since 1971, he has practiced continuously in the air quality field and has been an air quality consultant in since 1974. Mr. Cabe has directed air pollution control and dispersion modeling studies for over 100 electric generation projects. Most recently, he has managed the air quality permit application efforts for seven coal, petroleum coke, and wood fired power plant units in Texas.




Energy and Power Plant Development



Derek McDonald, Baker Botts
Robert Temple, CPS Energy
Friday, August 4, 2006

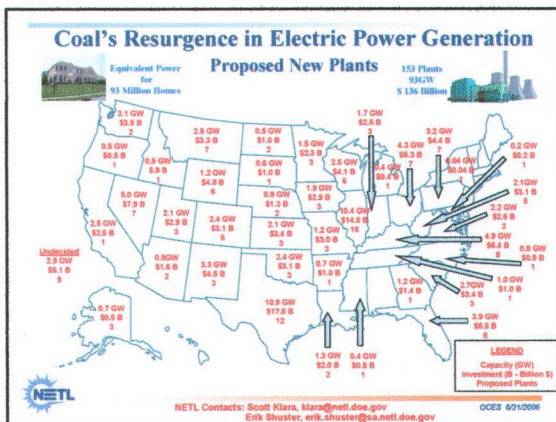
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Resurgence of Interest in Development of New Coal Projects



- DOE has Estimated 154 GW in New Coal Capacity by 2030
- Approximately 153 New Coal-fired Plants Representing Over \$136 Billion in Investment
- Proposed Projects in 40 States
- Most Projects Will Be Developed in States that Have Not Permitted a New Plant in Many Years
- Technology Diversity: Majority Will Use Conventional Pulverized Coal Technology
- Fuel Diversity: Western Coal, Eastern Coal, Lignite, Waste Coal & Petroleum Coke

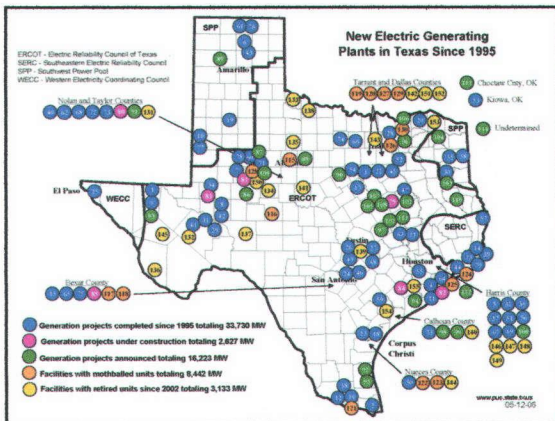
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New Coal Plant Development in Texas

- Last Coal Unit to be Built in Texas was CPS Energy J.K. Spruce Unit (Permitted in 1988, Operational 1992)
- Most Recent Coal Unit to Commence Construction is CPS Energy J.K. Spruce Unit 2 (Permitted 2005)
- 16 New Coal Projects Proposed for Texas since 2001
 - Projected 11.7 GW
 - 13 Pulverized Coal Units
 - 3 Circulating Fluidized Bed Units
- Recent Permits Issued:
 - Alcoa Sandow (replacement plant permit) (2002)
 - CPS Energy J.K. Spruce Unit 2 (2005)
 - Sandy Creek Energy Associates (2006)

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Texas Power Plants NOx Emissions



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Summary of Changes to Generation Capacity (MW) in Texas By Status and Resource Type

Status	Natural Gas	Wind	Coal	Other	Total
Completed Since 1995	31,604	2,086	0	40	33,730
Under Construction	1,357	410	860	0	2,627
Announced	2,330	2,081	11,680	132	16,223
Mothballed	8,442	0	0	0	8,442
Retired Since 2002	3,115	7	0	11	3,133
Delayed/Cancelled	15,709	182	1,000	810	17,701

Notes:

1. "Coal" includes coal, lignite, and petroleum coke
2. "Other" includes landfill gas, distillate fuel oil, compressed air energy storage, wood waste, and a turbine modernization project

Source: www.puc.state.tx.us (updated 5/10/06)

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Project Obstacles

- **Many Proposed Plants Will Not Be Developed**

- Power generation economics
- Financing hurdles
- Regulatory approvals & delays
- Uncertainties of appeals & litigation
- Evolving environmental standards



- **National Anti-Coal Movement**

- "Using the Department of Energy's own figures, citizen opposition and regulatory reviews stop about 30 percent of all proposed power plants from coming to fruition." Article on Sierra Club in Coal Americas dated 11/28/2005.

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Develop Project Timeline

- **Identify Pre-construction Permits vs. Pre-operation Permits**



- Integrate Permitting Timeline with Project Finance; Public Service Commission Approvals; Other Environmental Assessment / Site Selection Approvals
- Permitting of a Coal-fired Project Takes at Least 2 Years; Appeals / Judicial Reviews Take at Least 3 Years
- Commencement of Construction Under Air Permit Required within 18 Months after Issuance, Subject to Extension

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Successful Permitting Strategy Involves Three Critical Elements:

- Solid Science
- Strong Politics
- Sound Legal Strategy



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Air Permit is Key Pre-construction Approval That Will Be Challenged

- Federal and State New Source Review will be Triggered for New Coal-fired Boilers
 - PSD thresholds @ 40 CFR § 52.21 and 30 TAC § 116.160

CO	100 TPY	NO _x	40 TPY
SO ₂	40 TPY	Ozone	40 TPY VOC or 40 TPY NO _x
PM	25 TPY	Pb	0.6 TPY
PM ₁₀	15 TPY	Fluorides	3 TPY
PM _{2.5}	15 TPY*	H ₂ SO ₄	7 TPY
 - Nonattainment thresholds vary
- FCAA § 165 and TCAA § 382.0518 Prohibit Commencement of Construction of a Major Emitting Facility Prior to the Issuance of an Air Permit

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Applying 3-Pronged Permitting Strategy to the Site and Project

- Project Considerations
 - Generating technology, size and fuel source
 - Control technologies
 - Detailed process knowledge
 - Upstream / downstream impacts
- Site Considerations
 - Extent of site / buffer
 - Attainment / nonattainment / near nonattainment
 - Nearby Class I areas
 - Nearby sensitive receptors
 - Competing projects



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Applying 3-Pronged Permitting Strategy to the Site and Project, continued

Existing Site vs. Greenfield Site (Each has Advantages / Disadvantages)

- Base of community support
- Scope of project
- Environmental track record
- Cumulative impacts
- Process knowledge
- Opportunity for offsets/netting
- New permit vs. amendment

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Solid Science

Experienced Environmental Professionals

- Individuals, not firms
- Assess witness potential up-front
- Issue conflicts within organizations (IGCC)



Permit Application

- Critical importance to permitting success
- Application & permit are foundation of record
 - Do you put it "all" in or hold something back?

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Solid Science, continued

Permit Application, continued

- Key components
 - Best available control technology (BACT)
 - Ambient air impacts
 - NAAQS SII & increment analysis
 - Class I area analysis
 - Additional impacts analysis (growth, soils & vegetation, visibility)
- Must accurately describe site, project & document compliance with rules
- Method to stay continually apprised of developments
- Dual purposes: regulatory compliance & advocacy

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Strong Politics

- **Coal Projects Have Enormous Political Considerations**
 - Decisions by municipal entities subject to change
 - Elected officials carry great weight in community
 - Legislative enactments can affect pending applications
- **Politicians Must Answer to Both Economic Benefits and Environmental Costs**
- **Keep Governmental Relations Involved**
- **Scope Issues that Have a Political Solution**
- **Muster Industry Support**



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Strong Politics, continued



- **Public Relations Strategy is Key**
- **Who?**
 - Elected Officials (Federal, State, County, City), Community Leaders, Major Employers, Unions, Health Districts, School Districts, Water Districts, Parks / Wildlife Areas, Neighborhood Associations / Citizen Panels, Adjacent Landowners
- **What?**
 - Typical Permitting Issues: Site and Project Description, Review Process, Project Timeline, BACT, NAAQS, and Fine Particulate / Mercury Health Impacts
 - Nonpermitting Issues: Site Selection, Need, Transportation, Energy Efficiency Programs, Renewable Portfolios, Greenhouse Gas, IGCC, and Contractor issues (Unions)
 - Confirm Accuracy of Public Statements

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Sound Legal Strategy

- **Identification of Applicable Legal Requirements**
- **Evaluation of Key Permitting Issues**
- **Due Diligence on Opposition**
- **Hearing Strategy**
- **Settlement Strategy**



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Sound Legal Strategy, continued

- **Identification of Applicable Legal Requirements**
 - Applicable requirements not always clear
 - SIP Gap
 - Nonattainment NSR
- **Evaluation of Key Permitting Issues**
 - Procedural issues
 - Defects in public notice
 - Unavailability of agency record
 - Administrative and Technical completeness

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Sound Legal Strategy, continued

- **Evaluation of Key Permitting Issues, continued**
 - Substantive Issues
 - BACT
 - Emission limits
 - Startup & shutdown emissions
 - IGCC
 - Permit enforceability
 - Compliance methods
 - Netting
 - Regional impacts / transport
 - Ozone
 - PM
 - Class I area impacts
 - Consultation under Endangered Species Act
 - State toxics

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Sound Legal Strategy, continued

- **Due Diligence on Opposition**
 - Positions asserted in prior proceedings
 - Experts used in prior proceedings
 - Success / failure of prior positions
 - Organizational documents
 - Grassroots efforts
- **Hearing Strategy**
 - Discovery
 - Expert witnesses
- **Settlement Strategy**
 - Settlements do happen

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Best Available Control Technology

Emission Limits

- Comfortable operating margins are tougher to obtain
- Somehow, somewhere, a lower emission limit, a shorter averaging period, will be found
- Must be prepared to justify BACT in light of same
- Consider impact of attainment strategies, CAIR and CAMR before battling for higher limit
- Control technologies
 - SCR, Wet or Dry FGD, FF, Wet ESP & ACI or DSI
 - Coal washing
 - Clean fuels

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BACT, continued

Startup and Shutdown Emissions

- BACT applies to SS emissions
 - In re Indeck-Niles Energy Center*, PSD Appeal No. 04-01 (EAB) (09/30/2004)
- Key EPA region concern
- Emission limits, hours limit, emission minimization plan
- Startup / stabilization fuel choice



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BACT, continued

IGCC

- States requiring BACT analysis to include IGCC [Illinois, New Mexico, Montana, NESCAUM States]
- States not requiring BACT analysis to include IGCC [Texas, Kentucky, Wisconsin, Missouri, West Virginia, Utah and Wyoming]
- EPA Letter dated 12/13/2005 by Stephen D. Page, Director OAQPS, states that neither BACT nor LAER require consideration of IGCC
 - FCAA 165(a)(2) allows opponents to provide information on alternatives to proposed PSD source
 - FCAA 173(a)(5) requires applicant to conduct analysis of alternative sites, sizes, and production processes
- Opposition will opine that the following emission levels are achievable with IGCC (NO_x @ 0.01; SO₂ @ 0.02; PM @ 0.009; CO @ 0.05; VOC @ 0.0017; H₂SO₄ @ 0.00050)
- July 7, 2006 EPA Technical Report, *The Environmental Footprints and Costs of Coal-Based Integrated Gasification Combined Cycle and Pulverized Coal Technologies*

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Regional Impacts / Transport

- Evolving Science Regarding Long-range Transport of Ozone and Fine Particulate Precursors
- Demonstration that Emissions will not Cause or Contribute to a Violation of any NAAQS. Where?
- Ozone NAAQS
 - 8-hr Ozone New Source Review
 - Final Phase 2 Ozone Implementation Rule [70 FR 71,612 (11/29/2005)]
 - PSD: No concentration-based SIL for ozone; photochemical modeling typically not required if less than 100 TPY VOC and NO_x per 40 CFR § 52.21
- PM NAAQS
 - PM_{2.5} New Source Review
 - Proposed PM_{2.5} Implementation Rule [70 FR 65,984 (11/01/2005)]
 - EPA Guidance, Stephen D. Page, Director, OAQPS 04/05/2005
 - Proposed PM NAAQS Revisions [71 FR 2,620 (01/17/2006)]

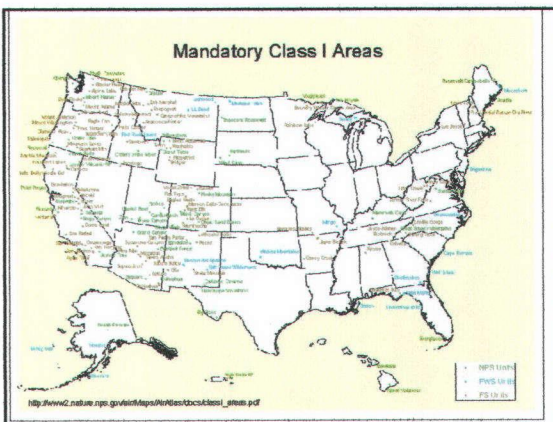
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Class I Area Impacts

- Class I Areas
 - Entitled to special protection under FCAA § 165(d); 40 CFR § 52.21(p)
 - Increments and air quality related values (e.g., visibility & acid deposition)
- CALPUFF Modeling Required?
 - Big Bend, Guadalupe Mountains, Wichita Mountains, Caney Creek
 - 20d Rule of Thumb: Background sources with emissions (in tons per year) less than 20 times the distance (in km) to the receptor of interest need not be considered in a PSD analysis

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Mandatory Class I Areas



Consultation under Endangered Species Act

- **Required under Section 7 of ESA when both:**
 - Federal action and
 - Discretionary Federal involvement or control
- **No Uniform EPA Policy**
- **States with a Delegated NSR Program**
 - Region 9 requires consultation
 - Illinois (Region 7) - Indeck-Elwood
- **States with a SIP-Approved NSR Program**
 - Federal action is the SIP-approval process
 - Kentucky Heartwood v. U. S. EPA, Cause No. 1:05-CV-00535-RBW, in the United States District Court for the District of Columbia



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State Toxics

- **Nature of Review for Toxic Substances Differs from State to State**
- **Determine Defensible Scope of Toxics Review**
 - Human health, property, animals and/or plants
 - Direct impacts vs. secondary impacts (i.e., foodchain)
- **Non-Criteria Pollutants of Concern: Mercury, Silica, Acid Gases**
- **Objectives and Guidelines: TCEQ Effects Screening Levels; EPA IRIS Database; California EPA; ATSDR**

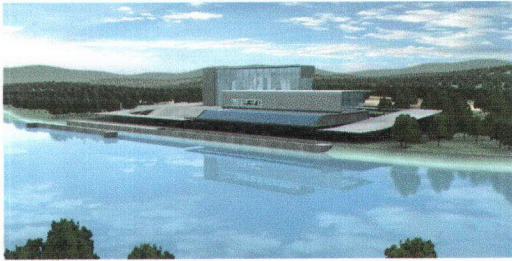
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FutureGen

- FutureGen will be the world's first zero emissions power plant that will produce electricity and hydrogen from coal while capturing and storing carbon dioxide
- This ten-year effort integrates advanced coal gasification technology, hydrogen from coal, power generation, and carbon dioxide capture and geologic storage
- The DOE and FutureGen Alliance announced on July 25, 2006 that, of the 12 competing sites in 7 states, 4 sites are best suited to host the FutureGen facility:
 - Heart of Brazos near Jewett, Texas
 - Odessa, Texas
 - Mattoon, Illinois
 - Tuscola, Illinois

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FutureGen: The Look of Tomorrow



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Conclusion

- **Goals**

- Timely issuance of permit
- Acceptable permit conditions
- Permit that will withstand challenge



- **The Ability to Achieve Goals Are Dependent on How Well You Pay Attention to All Three Legs of a Successful Permitting Strategy**

- Science
- Law
- Politics

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Bill Harnett
Director, Air Quality Policy Division, Office of Air and Radiation
U.S. Environmental Protection Agency

As Director of EPA's Air Quality Policy Division, Bill Harnett is responsible for the implementation of air pollution control programs including the application of air permits to control emissions from industrial sources and the attainment and maintenance of the National Ambient Air Quality Standards.

A 26 year veteran of EPA, Mr. Harnett has taken on many responsibilities within the Agency's air programs including:

- evaluating the economic impacts of air pollution and air quality standards;
- contributing to the 1990 amendments to the Clean Air Act;
- providing technical assistance to small businesses and state and local air agencies;
- assisting with revisions to the particulate matter and ozone air quality standards in the late 1990s; and
- coordinating international air programs including negotiations on agreements to reduce long range transboundary air pollution with Canada, Western and Eastern Europe and the Russian Republics.
- reforming the New Source Review and Title V permitting programs under the Clean Air Act
- providing air quality forecasts and e-mail alerts on predicted air quality episodes to the public

Mr. Harnett holds a degree in Economics from Benedictine University

Robert Temple - Director, Legal Services

Bob Temple represents City Public Service (“CPS EnergyTM”), the nation’s largest municipally-owned electric and gas utility, as a senior member of its in-house legal staff. He oversees and addresses regulatory issues in courts and before administrative agencies and matters related to significant commercial. Bob also oversees the contracting, regulatory, customer service and labor relations attorneys at CPS Energy.

Bob previously was in private practice in the Chicago office of law firms with a national energy practice. In private practice, Bob represented clients in federal courts in commercial litigation, before federal and state agencies on energy and environmental matters, and counseled clients on the interpretation of rules and regulations issued by federal and state energy and environmental agencies and commissions.



DEREK MCDONALD

Partner, Environmental

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Education and Honors

J.D. (with honors), The University of
Texas School of Law, 1992
Order of the Coif
Associate Editor, *The Review of
Litigation*

B.A. (with honors), Russian, The
University of Texas, 1989

Listed in the Chambers USA Guide
America's Leading Business Lawyers,
2004 and 2005, and *The Best Lawyers
in America*, 2006

Named a "Texas Rising Star" and
"Texas Super Lawyer" by *Texas
Monthly and Law & Politics*, 2004

Admissions and Affiliations

State Bar of Texas

United States Court of Appeals for the
Fifth Circuit

United States District Courts for the
Southern and Western Districts of
Texas

Austin Bar Association

Concentration

Environmental permitting, regulatory law, and litigation

Summary

Derek McDonald practices in the areas of environmental law and litigation, concentrating on matters relating to permitting and site remediation. He frequently handles matters before the Texas Commission on Environmental Quality, the U.S. Environmental Protection Agency, and the State Office of Administrative Hearings, including contested case proceedings on air quality; water quality; municipal, hazardous, and radioactive waste; and underground injection control permitting and enforcement matters. Mr. McDonald's litigation experience includes representing clients in complex environmental litigation in state and federal courts in Texas and New Mexico.

Representative Engagements

- Municipal utility – representation of applicant in a contested case hearing resulting in issuance of a PSD air permit for the first new coal-fired generating unit to be built in Texas in more than fifteen years
- Major land developer – representation of applicant in a contested case hearing for a TCEQ waste water permit seeking authorization for land disposal of treated effluent on golf course property, securing the first-ever summary disposition of an application protest
- Large manufacturing company – negotiation of the settlement of federal and state claims for response actions and natural resource damages arising as a result of the discharge of hazardous substances into a Texas bay
- Petroleum refiner – representation of applicant for a PSD quality permit to authorize the continued operation and expansion of a fluid catalytic cracking unit (FCCU) at one of the largest petroleum refineries in Texas
- Oilfield service company – defense in the litigation of a

personal injury and property damage tort action arising as a result of allegedly improper disposal of cement in Hobbs, New Mexico

- Waste management company – representation of the seller of a commercial hazardous waste complex in Port Arthur, Texas, that involved complex environmental permitting and real estate issues, including the first-ever split and separation of a hazardous waste disposal permit and a tender of performance under purchase agreement

Publications, Speeches, and Presentations

Publications

- "Administrative Law (Fifth Circuit Survey)," *Texas Tech Law Review*, Symposium 1999
- "Administrative Law (Fifth Circuit Survey)," *Texas Tech Law Review*, Symposium 1998
- "Judicial Review of Negotiated Rulemaking," *The Review of Litigation*, Spring 1993

Speeches and Presentations

- "Environmental Permitting of Coal-Fired Plants," Austin Bar Association, Environmental, Natural Resources, and Water Law Section, Austin, July 2006
- "Air Permitting Strategies for Coal-Fired Power Plants," Webcast, Association of Corporate Counsel, January 2006
- "Rulemaking: Challenges to Agency Rules," Advanced Administrative Law Course, State Bar of Texas Professional Development Program, Austin, October 2002 (with Pam Giblin)
- "Water Quality Permitting Experience Under HB 801: Opportunities," Texas Water Law Conference, CLE International, Austin, October 2001
- "Rulemaking: Creative Challenges to Agency Rules," Advanced Administrative Law Course, State Bar of Texas Professional Development Program, Austin, October 2000 (with Pam Giblin and Amy Johnson)
- "Standing Requirements in Administrative Law," Advanced Administrative Law Course, State Bar of Texas Professional Development Program, Austin, September 1999 (with Pam Giblin)

WENDI E. HAMMOND

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Wendi Hammond's practice focuses on state and federal environmental and administrative laws. She has represented clients throughout the state on air, water and solid waste issues. The majority of her practice involves representing nonprofit organizations and individuals in permitting actions before the Texas Commission on Environmental Quality. She also litigates citizen suit actions filed under federal environmental laws.

In addition to private practice, she is the Executive Director of Blue Skies Alliance, a coalition dedicated to reducing air pollution in North Texas to assure a healthy environment while maintaining a balance with economic development. This nonprofit, nonpartisan coalition is comprised of individuals, health officials, community groups, religious organizations and other environmental nonprofits.

Proving that environmental and economic interests can be simultaneously satisfied, she has successfully negotiated several settlements with industry as well as local, state and federal governmental entities. Highlights of the settlements include:

- significant and expedited reductions in current and future air pollution emissions,
- the formation of a 2.25 million dollar trust for financing air pollution reduction projects in the Dallas-Fort Worth nonattainment area, and
- the financing of an independent scientist to oversee an industry's compliance with its permits.

Prior to moving back to North Texas with her husband and best friend of 16 years, she worked for the Austin law firm of Henry, Lowerre & Frederick until it reorganized and then for the Austin law firm of Lowerre & Kelly. Both firms represented individuals, organizations and governments seeking to protect the environment, the public health and their communities. Hammond's environmental law experience also includes working for Environmental Defense in Boulder, Colorado.

In addition to the traditional *Juris Doctor*, she obtained a Certificate in Environmental and Natural Resource Law from Northwestern School of Law of Lewis and Clark College located in Portland, Oregon—one of the most prestigious environmental law schools in the nation. She also won the school's highly competitive environmental moot court competition twice and competed on the school's behalf at the national competition in New York becoming a national quarter finalist. Other awards and activities include the Cornelius Honor Society Award, Moot Court Honor Board, and Associate Editor on the school's nationally recognized ENVIRONMENTAL LAW journal.

Currently, she is a member of the Texas State Bar, the Environmental and Natural Resources Law Section, and the Administrative Law Section. She is also a member of the Dallas Climate Action Committee and the North Central Texas Clean Air Steering Committee working on the revised state implementation plan for the Dallas-Fort Worth nonattainment area.



Madeleine B. Kadas

Maddie Kadas practices both domestic and international environmental law in Beveridge & Diamond's Austin, Texas office. Maddie represents the firm's clients on a variety of regulatory and litigation matters under U.S. domestic environmental laws, concentrating in air and waste issues. Fluent in Spanish, Maddie also assists clients with compliance and regulatory matters in numerous countries in Latin America. She currently serves as deputy chair of the firm's International Environmental Practice Group.

Before joining Beveridge & Diamond, Maddie worked for a prominent national law firm representing a utility solid waste trade association on federal and state waste regulatory matters. She was also a staff attorney with the Texas Natural Resource Conservation Commission (TNRCC) (now the Texas Commission on Environmental Quality) and represented the Executive Director in contested cases relating to low-level radioactive and industrial hazardous waste permits.

Maddie is a graduate of the University of Texas School of Law and La Escuela Libre de Derecho School of Law in Mexico City. From 1988-1990, she served in the United States Peace Corps in Guatemala. She is a frequent writer and speaker on the subject of domestic and international environmental law.

PUBLICATIONS

Mexico Adopts New Producer Responsibility Laws for Waste Products

TNRCC Issues Proposed Rules on Emissions Events Reporting

Texas Issues Phase II of Compliance History Rules

Texas Facility Alert: Compliance History

Texas Environmental Rule Could Have Nationwide Impact

Year in Review: The Climate Change Convention and the Kyoto Protocol

Mexican Environmental Law Summary

Director

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EDUCATION

- ◆ University of Texas (B.A., Phi Beta Kappa, 1988)
- ◆ La Universita di Firenze, Italy (1987)
- ◆ National Security Endowment Program Graduate Fellow
- ◆ University of Texas (J.D., 1994)
- ◆ La Escuela Libre de Derecho School of Law, Mexico (L.L.M., 1997)
- ◆ International Environmental Law Journal, Book Review Editor (1993-94)

BAR ADMISSIONS & MEMBERSHIPS

- ◆ Texas (1994)
- ◆ District of Columbia (1999)
- ◆ American Bar Association
- ◆ District of Columbia Bar Association
- ◆ Texas Bar Association

**GRANTA Y. NAKAYAMA
ASSISTANT ADMINISTRATOR
OFFICE OF ENFORCEMENT AND COMPLIANCE ASSURANCE
U.S. ENVIRONMENTAL PROTECTION AGENCY**

Granta Y. Nakayama is EPA's Assistant Administrator for the Office of Enforcement and Compliance Assurance. He oversees and serves as the Administrator's principal advisor on all matters concerning the Agency's enforcement and compliance assurance program.

Before joining EPA, Mr. Nakayama was a partner with the law firm of Kirkland & Ellis, LLP., and served in the U.S. Navy's nuclear propulsion program. He was also an Adjunct Professor of Law at George Mason University School of Law.

Mr. Nakayama holds bachelor's and master's degrees from Massachusetts Institute of Technology and a J.D. from the George Mason University School of Law.

Future Enforcement Direction Panel (Local)

Eighteenth Annual Texas
Environmental Superconference
Austin, Texas
August 3-4, 2006

Roger A. Haseman
Assistant District Attorney
Harris County, Texas

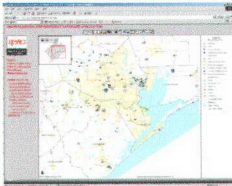
Environmental Circuit Rider Project (ECRP)

- Background
- Database
- Need for ECRP
- Goals
- Phases

Background

- Solid waste grant program
- 2003 study by RW Beck – Illegal Dumping: A Regional Approach to Environmental Enforcement
 - Overview
 - Recommendations
- 2004 study by RW Beck – Environmental Circuit Rider Program Study

Environmental Enforcement Database and Application (EEDA)



- Purpose
- Web-based format – can be accessed from any internet connection
- Users

Need for ECRP

- Visual blights degrade communities' quality of life.
- Counties and cities have small budgets for environmental enforcement.
- In general, environmental staff not adequately trained with regard to building cases.
- Attorneys and judges are not adequately trained with regard to environmental crimes.

Goals of ECRP

- Educate
- Prosecute environmental crimes
- Set up supplemental environmental project (SEP) accounts for counties

ECRP -- Phase I (2004)

- To prepare investigation/prosecution manuals
 - District Attorney – Criminal Manual
 - County Attorney – Civil Manual

Phase II (2004 - 2005) Series of Training Workshops

- 7 workshops to educate attorneys, judges, commissioners, etc. (13 Counties)
- 4 workshops to educate environmental investigators on specific issues
 - Auto Recyclers/Salvage Yards
 - Concrete Related Activities
 - Sandblasting/Metal Refinishing Operations
 - Case Studies/Offense Report Writing

Phase II (2004 – 2005)

- 1 workshop for environmental sampling (safety and techniques)
- (2) 7-hour workshops for environmental investigators

Phase III (2005 – 2006) Prosecuting Cases

- Primarily working in three counties –
Fort Bend, Liberty and Montgomery
- Consulting in Brazoria, Chambers and
Galveston Counties

Phase IV (2006-2007)

- Contract has been renewed for another year
- Interest outside of HGAC region
 - NCTCOG
 - BVCOG
- Interest by individual counties wanting ECRP
services

Added Criminal Enforcement Resulting From ECRP

- Working with EPA on Criminal Enforcement
both in and outside of HGAC region
- Working with TCEQ (Region 12) in all
counties in HGAC region

ROGER A. HASEMAN
ASSISTANT DISTRICT ATTORNEY

Roger A. Haseman is an Assistant District Attorney for the Harris County District Attorney's Office in Houston, Texas where he began his career as a prosecutor in 1982. He has been the Chief Prosecutor in the Environmental Crimes Division since 1991, where he is responsible for the state criminal prosecution of all environmental crimes, including water, air, hazardous waste, used oil, medical waste and solid waste violations. He is currently the special prosecutor for the Environmental Circuit Rider Project administered by the Houston-Galveston Area Council of Governments, where he is assigned as the circuit rider prosecutor for the entire 13-county Houston-Galveston Area region, handling environmental crimes for those counties on an as-needed basis.

Mr. Haseman advises law enforcement agencies concerning environmental matters, and has been a presenter at numerous environmental seminars across the state. He has guest lectured to both law school and undergraduate classes, and has been an instructor for the Advanced Environmental Crimes Training Program held at the Federal Law Enforcement Training Center in Glynco, Georgia. He currently represents the Texas District and County Attorneys Association as an Executive Member of the Southern Environmental Enforcement Network.

From 1982 to 1984, Mr. Haseman was a prosecutor in the trial bureau of the office, where he was lead counsel in numerous felony and misdemeanor jury trials, court trials, probation revocation hearings, and motion hearings.

From 1984 to 1987, Mr. Haseman was Chief Prosecutor in the Juvenile Division of the office, where he prosecuted juveniles accused of heinous crimes, including the certification of juveniles to stand trial as adults for their crimes. He also successfully represented Children's Protective Services in a multitude of cases affecting the parent-child relationship, and acted as lead counsel in trials to terminate the parent-child relationship.

From 1987 to 1988, Mr. Haseman was assigned to the Post-Conviction Writ Section of the office, where he authored numerous reply briefs to post-conviction writs of habeas corpus, with special emphasis on capital murder writs. He also prepared and argued motions, and conducted writ hearings in state district courts as ordered by the Texas Court of Criminal Appeals.

From 1988 to 1989, Mr. Haseman was Chief Prosecutor in the Check Fraud Division of the office, where he initiated and supervised the investigation, filing, and prosecution of bank fraud and worthless check cases, with primary emphasis on check kiting schemes.

From 1990 to 1991, Mr. Haseman was assigned to the Appellate Division of the office, where he researched appellate issues in criminal cases, and authored numerous appellate briefs, many of which resulted in published court opinions. He also prepared and successfully presented oral arguments in the Texas Courts of Appeals and the Texas Court of Criminal Appeals. Mr. Haseman continues to handle all appellate matters for the office concerning environmental issues.

Mr. Haseman earned his undergraduate degree, cum laude, in 1979 from Texas A&M University. He obtained his law degree from the University of Houston Law Center in 1982.

CHARLES J. SHEEHAN
REGION 6 REGIONAL COUNSEL

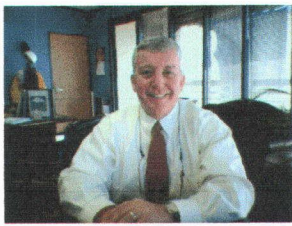
Chuck has served as Regional Counsel since 2003. He manages the seventy-three person office responsible for handling administrative and judicial challenges to regional decisions on air, waste and water permits, for reviewing state programs and plans for legal sufficiency, and for civil and criminal enforcement, hazardous waste cleanups, and compliance with agency grants and procurement regulations.

He came to the Region in March, 1999, as Deputy Regional Counsel for Enforcement, overseeing the legal arm of the Region's civil and criminal, administrative and judicial regulatory enforcement program. In April 2002, he became Acting Regional Counsel. In the six months prior to assuming this position, he was on detail from the Region to EPA Headquarters, in the Office of Enforcement and Compliance Assurance, Office of Site Remediation Enforcement, Regional Support Division, as Acting Deputy Director. There he helped manage national Superfund enforcement, in coordination with the Regions.

Prior to joining Region 6, he was an attorney in the U.S. Department of Justice, Environment and Natural Resources Division. He litigated cases in the federal district and appellate courts, with EPA as the principal client, in all Regions, and under all major pollution and natural resources protection statutes. During his fifteen years at the Department of Justice, Chuck also served terms as an Assistant U.S. Attorney, bringing criminal prosecutions in the District of Columbia, and with the Legal Adviser's Office of the U.S. Department of State.

Between his Department of Justice service and Region 6, Chuck was the first General Counsel to the U.S.-Mexico Border Environment Cooperation Commission, located in Ciudad Juarez, Chihuahua, Mexico.

He received his B.A. from Boston College in 1976, and his J.D. from the Georgetown University Law Center in 1979.



John F. Steib, Jr.
Deputy
Office of Compliance and Enforcement
Texas Commission on Environmental Quality

John joined the Texas Commission on Environmental Quality (TCEQ) as the Program Director for the Mobile Source Inspection/Maintenance Program in August of 1994. He was responsible for implementing the Texas centralized vehicle emissions testing program. As the programs matured and the agency realigned, John was assigned to the Executive Director's Office to manage and direct an agency 'Business Process Review' and an 'Information Strategy Plan' to improve agency processes and data management. John was selected as the Director for the newly combined federal and state Air Permits Division in February 2000. John was selected for his current position effective 1 September 2003. Reporting to the Executive Director, he is responsible for implementing the Commission policies and regulations dealing with regulatory compliance and enforcement, while ensuring consistent application across the state of Texas. He accomplishes this with a staff of approximately 1100 employees assigned to sixteen regional offices as well as the Austin headquarters. Major additional responsibilities include statewide monitoring of air and water quality, compliance support, occupational licensing, Homeland Security for the Agency, and field inspections, and enforcement.

Prior to joining the TCEQ management team, John spent eleven years at Lockheed Missiles and Space Co., Austin Division where he was a Program Manager in support of National Aeronautics and Space Administration (NASA) Space Exploration Programs and the Lockheed Launch Vehicle Program.

Before joining Lockheed, John completed a twenty year Navy career which began as a deck seaman on a light cruiser. His highly decorated career progressed through the enlisted grades through Chief Petty Officer and into the officer ranks to retire in 1983 with the rank of Lieutenant Commander.

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Ken Kramer is the Director of the Lone Star Chapter of the Sierra Club. The Lone Star Chapter is the state arm of the national environmental organization with a membership of over 700,000 nationwide (over 25,000 members in Texas). In his capacity as Chapter Director, Dr. Kramer is responsible for coordinating the state level activities of the Sierra Club, and he serves as a liaison between the Sierra Club and Texas state officials whose actions shape environmental and natural resources policies. He has been associated with the Sierra Club in different volunteer and professional capacities since 1978.

Dr. Kramer received a B.A. in History with a minor in Government from Texas Lutheran College (now Texas Lutheran University) in Seguin. He was awarded an M.A. in Political Science from Stephen F. Austin State University in Nacogdoches, Texas and then served in the United States Army. He received his Ph.D. in Political Science in 1979 from Rice University. His dissertation focused on the implementation of federal air and water pollution control policy in Texas.

Following his doctoral work at Rice, Dr. Kramer served on the government faculty at Angelo State University in San Angelo and later as a Visiting Assistant Professor of Political Science at Texas A&M University. He worked as a public policy consultant in Austin, serving as a lobbyist for the Sierra Club and as an environmental policy researcher, from 1982 until 1989 - at which time he became the Club's first Lone Star Chapter Director.

Dr. Kramer has served on numerous advisory committees to state and local agencies and officials, including the Governor's Task Force on Hazardous Waste Management (1984), the Municipal Solid Waste Management and Resource Recovery Advisory Council (1983-1991), and the Joint Select Committee on Toxic Air Emissions and the Greenhouse Effect (a 1989-1990 interim legislative study committee to which he was appointed by House Speaker Gib Lewis). He co-chaired the Texas Natural Resource Conservation Commission's Task Force 21, the primary committee advising the TNRCC (now called the Texas Commission on Environmental Quality or TCEQ) on industrial air quality, water quality, and waste management issues, until 1995. He was also the co-chair of the TNRCC's Waste Reduction Advisory Committee, which helped to guide the pollution prevention efforts of that agency. He has also served on the state's Water Conservation Implementation Task Force.

Dr. Kramer was awarded the Texas Lutheran College Distinguished Alumni Award in April 1991 for his environmental work. He was also the 1985 recipient of the Orrin Bonney Award, the highest award presented by the Lone Star Chapter of the Sierra Club. In 1993 he received the Sportsmen Conservationists of Texas award as Air & Water Conservationist of the Year, and he also received a Governor's Environmental Excellence Award in 1993 for his work as co-chair of Task Force 21. He received the "Earth Day 1995 Excellence in Environmental Awareness Award" in the individual category from the League of Women Voters of Texas Education Fund. He was the first recipient of that award. In 2005 he received the Virginia Ferguson Award, a national Sierra Club award given to an employee who has demonstrated consistent and exemplary service. Also in 2005 he was honored, along with other leaders in the Texas Living Waters Project, with a Conservation Leadership Award from the Nature Conservancy.

Dr. Kramer is married to Diane Falk Kramer, a counselor at Austin Community College. He and his wife have one child, Katherine, a senior at McCallum High School in Austin.

BILL NEWCHURCH

Bill Newchurch is an administrative law judge with the State Office of Administrative Hearings. He leads SOAH's Natural Resources Team. Since 1980, he has worked on natural resource and public utility matters for the Louisiana Legislature, the Texas Water Commission, private clients, the Public Utility Commission of Texas, and SOAH. He joined SOAH in 1995. Judge Newchurch was born in New Orleans and graduated in 1979 from Louisiana State University Law Center.

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Arnoldo Medina

Attorney, Legal Services, Regulatory & Compliance

Shell Oil Company

One Shell Plaza, OSP 4860

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Phone: 713/241-5479

Fax: 713/241-4081

Arnoldo.Medina@shell.com

Arnoldo Medina is in-house environmental counsel with Shell Oil Company ("Shell"), Legal Services US. Mr. Medina advises refinery, chemical, R&D, distribution and retail clients throughout the U.S. on environmental law and regulatory compliance, permitting, remediation and enforcement for air, water, and waste matters. Mr. Medina also advises Shell clients on federal and state fuels and product quality compliance issues. Previously, Mr. Medina was a senior associate with Campbell, George, & Strong, LLP in Houston, Texas, where he represented corporate clients in environmental permitting, compliance and enforcement matters before the U.S. Environmental Protection Agency and the Texas Commission on Environmental Quality ("TCEQ").

Mr. Medina began his career with the Texas Natural Resource Conservation Commission, predecessor to the TCEQ, as a staff attorney from 1997 to 2002. His practice areas included air quality, industrial and hazardous waste, and radioactive material regulation, permitting, and rulemaking. Mr. Medina represented the Executive Director in complex legal matters before the Commission and in hearings before the State Office of Administrative Hearings.

Mr. Medina earned his B.B.A. from Texas A&M University–Corpus Christi in 1992 and his J.D. from the University of Colorado School of Law in Boulder, Colorado in 1996. Mr. Medina graduated as the Colorado Hispanic Bar Association Outstanding Hispanic Law Graduate, the recipient of the Colorado Journal of International Environmental Law & Policy ("CJIELP") James Corbridge Leadership Award, and the CJIELP Research and Writing Award for his article on NAFTA and environmental considerations of petroleum development in the Gulf of Mexico.

Environmental Disclosure

Item 103 of Regulation S-K under the Securities Act of 1933 and the Securities Exchange Act of 1934 requires disclosure of certain environmental matters in Quarterly Reports and Annual Reports filed with the SEC.

- Annual Report on Form 10-K
 - Part I, Item 3 – Regulation S-K, Item 103 Legal Proceedings
- Quarterly Report on Form 10-Q
 - Part II, Item 1 – Regulation S-K, Item 103 Legal Proceedings

Environmental Disclosure

Regulation S-K, Item 103. Legal Proceedings

- Describe any material pending legal proceedings involving the company or any of its subsidiaries. Must also include proceedings known to be contemplated by governmental authorities.
- Excludes “ordinary routine litigation incidental to the business.”
- Instruction No. 5 specifies that certain environmental matters are not routine litigation and must be described.

Environmental Disclosure

- Administrative or judicial proceedings arising under any Federal, State or local provisions regulating the discharge of materials into the environment, or for the purpose of protecting the environment, are not “ordinary routine litigation incidental to the business” if:
 - the proceeding is material to the business or financial condition;
 - the proceeding involves primarily a claim for damages or potential monetary sanctions, capital expenditures, deferred charges or charges to income and the amount involved exceeds 10 percent of the current assets of the registrant;
- or
- a governmental authority is a party to the proceeding and potential monetary sanctions are involved, unless the company *reasonably believes* monetary sanctions will be less than \$100,000.

6 July 2006

Margaret Hoffman

Managing Counsel, Environmental
Chevron Corporation

Professional

Ms. Hoffman joined Chevron in September, 2004 to head a new legal department, the Environmental Practice Group, created to provide global environmental legal services. The group, which consists of 20 lawyers and 12 support staff, began operations January 1, 2005. It is one of four specialty practice groups within the Chevron Law Function that deliver enterprise-wide, rather than business unit-specific, legal services.

Before coming to Chevron, Ms. Hoffman was the Executive Director of the Texas Commission for Environmental Quality. In 10 years with the agency, she held positions in the environmental law division before becoming Director of the Office of Legal Services and then Executive Director of the agency.

From 1976 through 1992, Ms Hoffman was an associate and then a partner at Wood, Boykin & Wolter in Corpus Christi, Texas, where she represented financial institutions and independent oil and gas operators in litigation and regulatory matters.

Education

- BA, Trinity University, San Antonio TX
- JD, St. Mary's Law School, San Antonio TX
- LLM, University of Houston Law Center



BUILDING AMERICASM

BIOGRAPHY

Suzanne Echevarria General Director of Compliance

Suzanne Echevarria was named General Director of Compliance in October 2005. She is responsible for oversight of Union Pacific's compliance program and implementation of compliance initiatives.

Echevarria joined Union Pacific in 1999 as regional environmental counsel, focusing on environmental regulatory and compliance issues.

Prior to joining Union Pacific, Echevarria served as environmental counsel at Browning-Ferris Industries from 1994 to 1999. Echevarria also worked for Arco Oil & Gas Company prior to joining Browning-Ferris. Prior to law school, Echevarria served as Director of Health Services for the American Red Cross in Corpus Christi, Texas.

Echevarria is a 1988 graduate of Southwest Texas State University. She earned a law degree from Texas Tech University School of Law in 1993.

7/10/06

Paul Liebman

Experience:

- 2004-Present: Assistant General Counsel and Director of Compliance for Temple-Inland Inc. in Austin, TX – In addition to overall (non-environmental, non-legal) compliance responsibilities, day-to-day and strategic environmental legal advice for Temple-Inland's four distinct business groups in the United States: forest products, corrugated packaging, financial service and real estate.
- 1998-2004: Global Compliance Counsel for KoSa (a Koch Industries company) in Houston, TX – In addition to overall (non-environmental) compliance responsibilities, day-to-day and strategic environmental compliance legal advice for KoSa's polyester and chemical manufacturing operations in the United States, Mexico, Canada, Germany, and the Netherlands.
- 1997-1998: Environmental Attorney: Koch Industries in Wichita, KS – Day-to-day and strategic environmental compliance legal advice for Koch's refinery and chemical plant operations in the United States, and due diligence advice for Koch's business operations globally.
- 1994-1997: Environmental Attorney: Rider, Bennett law firm in Minneapolis, MN – Environmental compliance legal advice and litigation support to the firm's clients.
- 1993-1994: Environmental Attorney: Carlin, Maddock law firm in Florham Park, NJ – Environmental compliance legal advice and litigation support to the firm's refining, chemical plant, and terminal operations clients in NJ.
- 1989-1993: Environmental Attorney: Exxon Company in TX and NJ – Litigation counsel for Exxon's underground storage tank docket in the United States; later, environmental compliance attorney for Exxon's refinery, chemical plant and terminal operations in NJ.

Education:

- JD, 1989, The George Washington University in Washington, DC
- BA *cum laude*, 1985, The University of Massachusetts in Amherst, MA

Gregg A. Cooke

Gregg A. Cooke is "Of Counsel" with the Dallas law firm of Guida, Slavich & Flores, P.C. and is a consultant with the Washington, D.C.-based Global Environment and Technology Foundation. Formerly the Regional Administrator of Region VI of the U.S. Environmental Protection Agency ("EPA"), Mr. Cooke was the top ranking EPA official in the area that encompasses Texas, Louisiana, Arkansas, Oklahoma, and New Mexico.

Mr. Cooke's experience in establishing partnerships to create environmental progress in Texas and the Southwest has been demonstrated by his successful career at the EPA.

Mr. Cooke served as Regional Administrator of EPA Region VI for over four from 1998-2004. He was appointed to the post by President Clinton and was the only political appointee in the EPA retained by current President George W. Bush.

During his tenure, Mr. Cooke was instrumental in developing clean air plans for both Dallas-Fort Worth and Houston-Galveston in partnership with the State of Texas. These plans contain innovative provisions that incorporate economic incentives as well as traditional mandatory measures. His clean air plans also included development of an innovative "compact" to facilitate early compliance with EPA's upcoming eight-hour standard for such cities as Austin and San Antonio, Texas.

Mr. Cooke was also instrumental in development of clean water policy in the region. In 1999, he approved the delegation of the NPDES program to the State of Texas, ending a long-standing regulatory dispute between Texas and the EPA. He was personally involved in resolving water quality lawsuits brought against EPA regarding the promulgation of Total Maximum Daily Loads ("TMDL's) to establish baselines for nutrient contamination in Louisiana and Oklahoma. Mr. Cooke also served on the Board of Directors of the Border Environmental Cooperation Commission ("BECC") which provides funding for water and wastewater infrastructure projects on both sides of the US-Mexico Border

Prior to serving as Regional Administrator, Mr. Cooke practiced environmental law as a partner with Haynes and Boone in Austin. His previous professional positions include service as Chief of the Natural Resource Protection and Energy Division of the Office of the Texas Attorney General. While at the Office of the Texas Attorney General, he also served as the state's North America Free Trade Agreement Environmental Liaison and served as the interim General Counsel for the Border Environmental Corporation Commission in Juarez, Mexico.

Since leaving the EPA in January, 2003, Mr. Cooke worked with Urban Chambers of Commerce on clean air funding from the Texas Legislature as well as funding for advanced environmental technology projects for both air and water quality.

On January 5, 2005, Mr. Cooke was appointed by the Administrator of the U.S. Environmental Protection Agency to serve on EPA's Clean Air Act Advisory Committee which was created to provide high-level policy advice and counsel to the EPA on clean air matters.

Mr. Cooke earned a B.A. in history, cum laude, from Baylor in 1977. He earned a master of foreign affairs degree from the University of Virginia in 1979, and received a law degree from Baylor in 1982.

Mr. Cooke can be reached at:

Guida, Slavich & Flores, P.C.
750 North St. Paul Street, Suite 200
Dallas, Texas 75201
(214) 692.0009 – phone
(214) 692-6610 – fax
cooke@gsfpc.com



John Baker

Manager Technical Services/Assistant General Manager



John M. Baker joined the Brazos River Authority in 2001 following six years of service to the State of Texas as a commissioner for the Texas Natural Resource Conservation Commission (TNRCC) now the Texas Commission on Environmental Quality (TCEQ).

For nearly five years, Mr. Baker served as Regional Manager for the Authority charged with oversight of water and wastewater treatment systems, water quality, water supply and conservation and development of alternate sources of supply.

He recently accepted the position of technical services manager/assistant general manager. In this position he manages all engineering, environmental and water services. With the designation of assistant GM, Mr. Baker serves as general manager/CEO when conditions warrant interim leadership.

The owner of the 2,500-acre Baker Farms, Mr. Baker has served in numerous agricultural rolls including advisor to the administrator of the Environmental Protection Agency (EPA). He has also served on the boards of the Texas Corn Producers, Texas Beef Council, and the Texas Farm Bureau. He was the first president and charter member of the Lone Star Corn Growers Association.

Dr. Baker holds a bachelor of Science degree in Agronomy from Texas A & I University, a master of Science degree and a doctorate in Soil Science from Oklahoma State University.

Dr. Baker and his wife Bobbie, have two daughters and six grandchildren. They live in Moffat on Lake Belton.



Brazos River Authority

4600 Cobbs Drive • P. O. BOX 7555 • Waco, Texas 76714-7555 • 254-761-3100

Biographical Sketch

Rafael B. "Ralph" Marquez

Ralph Marquez of Texas City was appointed by Governor George W. Bush to the Texas Natural Commission on Environmental Quality (TCEQ) on May 1, 1995, and was confirmed by the Texas Senate on May 5, 1995. His first term expired August 31, 1999. He was reappointed by Governor Rick Perry for a second term that expired August 31, 2005. The Texas Senate confirmed his second appointment on Feb. 21, 2001. He retired from the TCEQ on March 31, 2006 and is currently providing environmental consulting services dba Environmental Strategies and Policy (ESP).

Prior to his appointment, Marquez served on several TNRCC (predecessor to TCEQ) advisory committees and task forces. He is a registered professional engineer in Texas and has been a vice-chair of the Texas Chemical Council environmental committee, a board member of the Gulf Coast Water Authority, and served on the State of Texas Waste Reduction Advisory Committee. He also served as chairman of the City of Texas City Environmental Advisory Board.

From 1963 to 1993, Marquez worked for the Monsanto Company in various capacities, including internal company consultant for technical, regulatory and legislative environmental issues. He has a bachelor's degree in Chemical Engineering from the University of Texas and a master's degree in Futures Studies from the University of Houston-Clear Lake.

Since joining the commission, Marquez has served on the U.S. Environmental Protection Agency's Clean Air Act Advisory Committee and the Governmental Advisory Committee to the U.S. Representative to the North American Commission for Environmental Cooperation. He also has served as chair of the Environmental Council of States Air Committee and the Regulatory Reinvention Work Group. Marquez has been heavily involved in air, Mexico border, and regulatory innovation issues during his terms on the commission.

In April 2006, Marquez was appointed by President Bush to the Joint Public Advisory Committee to the Commission for Environmental Cooperation.

Robert J. Huston
Consultant (2004 - present)

2801 Regents Park
Austin, TX 78746
512-327-7484

Previous Experience:

Chairman - Texas Commission on Environmental Quality (1999-2003)

One of three full time commissioners who serve as the governing board for Texas' primary environmental regulatory agency. The Texas Commission on Environmental Quality (TCEQ), formerly known as the Texas Natural Resource Conservation Commission (TNRCC), is responsible for air, water, and waste permitting and compliance, and administers all major federal environmental programs delegated from the U. S. Environmental Protection Agency. The agency employs a staff of approximately 3,000 and operates from a headquarters office in Austin, Texas and sixteen (16) regional offices across the state. Total budget for the current fiscal year is approximately \$450 million. Highlights during tenure as TCEQ Chairman:

Successfully guided the agency through the legislative sunset review process, resulting in agency reauthorization for 12 years.

Transformed the working relationship between the agency and EPA Region 6 to one of cooperative joint environmental protection.

Largely completed the planning and initiated implementation of statewide plans for achieving the national Ozone standards.

Worked with State leadership to create and fund the Texas Emission Reduction Program, a \$750 million incentive grant program to advance technology development and its application to clean up heavy duty diesel engines.

Private Enterprise and Consulting (1994-1998)

Entered into a partnership and provided the investment capital for a high end designer furniture and antique store - Durham Trading & Design Company. Grew the business to in excess of \$2.0 million in annual sales. Sold interest to business partner in 2001.

Held the position of Chief Financial Officer for Bonner Carrington Corporation - European Market which held the master licensing rights for Schlotzsky's Deli in eight European countries. Helped develop the franchise system in Germany and participated in the opening of the first two stores.

Completed an operations review for the management of Bluebonnet Electric Cooperative. Assessed the current operational status and made recommendations for improved organization and future opportunities.

Developed business plan and arranged financing for Cornerstone Home and Hardware Store. Led the development of all business systems and remained as a consultant through the first three years focusing on operations, budgeting and finance.

Prepared several strategy documents for the owners of substantial real estate in the warehouse district of downtown Austin, which has experienced significant growth and development.

Vice President of Operations - Planet Pacific, Inc. - Mission Viejo, California (1991-1993)

Two years after acquisition of Espey, Huston & Associates, Inc. by Planet Pacific, Inc (PPI), was asked to relocate to the headquarters of PPI as Vice President of Operations. PPI owned three engineering firms, and owned and operated approximately 250,000 square feet of commercial real estate in Southern California. Primary role was monitoring and coordination of engineering operations, acquisition evaluation, and regular reporting to the investors of PPI.

Executive Vice President - Espey, Huston & Associates, Inc. - Austin, Texas (1972-1991)

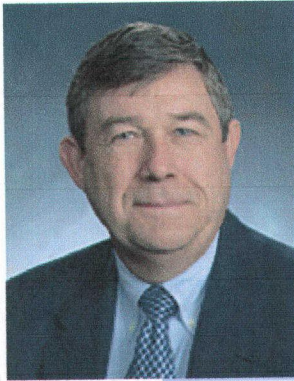
In 1972, founded Espey, Huston & Associates, Inc., an engineering and environmental consulting firm, with Dr. William H. Espey, Jr. Firm grew from its original four employees to a peak of nearly 1,000, with annual revenue approaching \$50 million, providing a broad range of design and consulting services to private and public sector clients throughout the United States and beyond. At peak, operated nine offices throughout Texas, and 13 offices in eight other states and two foreign countries. Sold to Planet Pacific, Inc. In 1989, remaining as Chief Operating Officer.

Engineering Scientist and Section Manager - Tracor, Inc. - Austin, Texas (1965-1972)

Education: B.A. with Honors in Mathematics, University of Texas at Austin - 1965
Graduate Studies, U.T. Austin - 1965-1967
H. Y. Benedict Memorial Scholarship in Mathematics - 1963

Professional Activities: Environmental Council of the States (ECOS)
Executive Board - 2001-2003
Secretary-Treasurer - April, 2003 - August, 2003
Vice President - August, 2003 - October, 2003
Member, Government Advisory Committee to EPA Administrator, NAFTA Commission for Environmental Cooperation - May, 2003 - August, 2005
Texas Water Conservation Association, Austin, Texas
Board of Directors - 1978-present
Vice President and Executive Board Member - 1981-1990
President and Board Chairman - 1991-1992
Recipient - 56th Annual Convention Dedication - March, 2000
Fellow and Advisory Council Member, Univ. of Texas Center for Public Policy Dispute Resolution - 2003 - present

Jeffrey M. Gaba is Professor of Law at the Dedman School of Law at Southern Methodist University and is "Of Counsel" with Gardere Wynne Sewell LLP in Dallas, Texas. Professor Gaba has taught, practiced and written in the field of environmental law since 1977. He obtained his J.D. from Columbia University Law School and a Masters degree in Public Health from Harvard University. He clerked for Chief Justice Pringle of the Colorado Supreme Court and was an attorney for the Environmental Defense Fund. From 1978 to 1981, he served in the Office of General Counsel of the U.S. Environmental Protection Agency. He is the author of numerous articles on environmental law and is also the author of Environmental Law (West Black Letter Series), Gaba's Texas Environmental Laws Annotated, and is the co-author of The Law of Solid Waste, Pollution Prevention and Recycling.



Commissioner Larry R. Soward

Larry R. Soward of Austin was appointed by Gov. Rick Perry on October 17, 2003, to the Texas Commission on Environmental Quality. The Texas Senate confirmed his appointment on May 11, 2004.

Soward served as executive assistant to the Texas lieutenant governor during the 78th Legislative Session and during two special legislative sessions held during 2003.

He has more than 28 years of experience leading state agencies, and served as the deputy land commissioner of the Texas General Land Office and Veterans' Land Board, the deputy commissioner of the Texas Department of Agriculture, and the deputy executive director of the Texas Public Utility Commission. In addition, Soward has been executive director of the Texas Water Commission, the culmination of a 12-year tenure at that agency. During his time at the Water Commission, he was also its general counsel and chief hearings examiner.

He graduated from the University of Texas (UT) with a law degree in 1974 and has practiced environmental law and water law as a solo practitioner and as partner of a small law firm. Soward also holds a bachelor's degree in mathematics from UT.

Soward's term will expire Aug. 31, 2009.

Lawrence E. Starfield
Deputy Regional Administrator

Larry Starfield is the Deputy Regional Administrator for the U.S. Environmental Protection Agency, Region 6, in Dallas, Texas. In this position, he is responsible for the efficient management of the 900-person regional office, and for the effective implementation of EPA programs in the South-Central United States.

From 1997-2001, he served as the Regional Counsel for Region 6. As Regional Counsel, he managed an office of 60 lawyers that provided legal advice to the Regional Administrator and Region 6 program offices regarding the interpretation and implementation of federal environmental laws.

Before joining Region 6 in 1997, Mr. Starfield spent ten years with EPA's Office of General Counsel in Washington, D.C., where he served as an attorney-advisor, Assistant General Counsel for RCRA, and Acting Associate General Counsel for Solid Waste and Emergency Response.

Before coming to EPA, he worked in Paris, France, from 1985 to 1987 as the correspondent for the "Bureau of National Affairs" on French environmental issues. From 1981 through 1985, he was an Associate with the law firm of Skadden Arps Slate Meagher & Flom, in Washington, D.C. He is a graduate of Wesleyan University and Yale Law School.

Current as of March 2006

James B. Blackburn, Jr., J.D.

Attorney

Blackburn Carter (Houston, Texas)

An attorney for more than 30 years, Jim Blackburn is a partner in Blackburn Carter, a firm devoted to environmental law and planning. Cases include environmental impact, wetlands, wastewater, air and hazardous waste litigation; strategic environmental planning; toxic tort and flood-related litigation; and sustainable development and environmental dispute resolution. Blackburn is also an Adjunct Professor and Lecturer in the Department of Civil and Environmental Engineering at Rice University, teaching courses in environmental law. Among his honors, he received the National Conservation Achievement Award in 2001 from the National Wildlife Federation and the Bob Eckhardt Lifetime Achievement Award for coastal preservation efforts from the General Land Office of the State of Texas in 1998. He was awarded an honorary membership in the American Institute of Architects for legal work associated with urban quality of life issues in 2003. In October 2004, Texas A&M press published his manuscript titled *The Book of Texas Bays*, which focuses upon the current environmental health of bays in Texas and the efforts undertaken to protect them. Blackburn received both a B.A. in History and a J.D. at the University of Texas at Austin and an M.S. in Environmental Science at Rice University.



Partner
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Practice Description

Molly counsels clients on virtually every kind of environmental matter and represents them before various agencies and in federal and state courts. Chambers & Partners USA described her in their 2004 publication of *America's Leading Business Lawyers* as a "Renaissance lawyer, a true litigator who is especially praised for her effectiveness and top notch negotiation skills." *The International Who's Who for Business Lawyers* named V&E as Texas' best environmental law firm and Molly as "superb." In the enforcement area, she has litigated and negotiated settlements for clients under the Clean Water Act, Clean Air Act, Resource Conservation and Recovery Act, and their state analogs, as well as Superfund. She also has both resolved and tried disputes regarding water supply and utility issues. Molly's other major area of practice is permitting work before the U.S. Environmental Protection Agency and Texas Commission on Environmental Quality (and its predecessor agencies, the TNRCC, TWC and TACB), as well as the Texas Parks & Wildlife, and Railroad Commission of Texas. She has successfully obtained environmental permits in a number of controversial hazardous waste, wastewater, air, and mining cases for municipal and private sector clients; she also handles clean water cases, including those dealing with raw water supply. Molly also worked with a team of lawyers to successfully permit a lignite mine in Texas. She is actively involved in Texas water planning efforts. With regard to air and solid waste, Molly has handled a variety of contested cases, including incinerator and BIF air and hazardous waste permitting. On both a state and federal level, Molly has assisted clients in rule making petitions and in preparing comments on agency rules. She also has assisted clients in bringing litigation to challenge environmental legislation and rules. Molly has testified before the United States and Texas Senates, and has served as a testifying expert on environmental issues in a number of cases.

Representative Experience

- Clean Air Act experienceSecured first contested NSR/PSD permit in non-attainment area (TCEQ decision upheld by district court)
- Counseled clients on impact of non-attainment designation on permitting issues
- Represented clients in work group to consider challenging EPA's 8-hour ozone non-attainment designation for counties determined to be "contributing to" non-attainment area
- Advised Dallas/Ft. Worth area client on 11 technical factors used by EPA in determining boundaries for 8-hour ozone non-attainment designations
- Evaluated emission credit contracts and transactions related to emission off-sets
- Reviewed and commented on various SIP issues associated with Houston, Galveston and Beaumont/Port Arthur ozone non-attainment areas
- Evaluated numerous computer modeling efforts and results in conjunction with various contested air permits
- Worked extensively with engineers, modelers and toxicologists in air modeling issues
- Advised client on viability of challenging TCEQ NOx rules
- Water/WastewaterSecured, defended and defeated water rights permits
- Secured groundwater permits in contested matters from the Edwards Aquifer Authority
- Represented client in securing contested wastewater permit for new lignite mine
- Counsel clients on Effluent Limitation Guidelines for various industry sections
- Successfully represented clients in contested TPDES wastewater discharge matters
- Challenged special districts on authorization to supply services
- Defended action to compel water supply
- MiningCounseled clients on rulemaking and interpretation of coal combustion byproducts
- Successfully represented client in defeating an unsuitability petition
- Assisted in securing settlement in SCMRA contested case

Activities and Affiliations

- Member: Section of Environment, Energy and Resources, American Bar Association; Administrative and Public Law, and Environmental and Natural Resources Law Sections, State Bar of Texas; Board of Directors of the Texas Water Conservation Association, 1999
- Served: Task Force 21, a regulatory negotiation committee for developing environmental rules and policies in Texas, at the request of the Texas Natural Resource Conservation Commission
- Listed: *Chambers USA: America's Leading Business Lawyers* 2003-2004 in environmental law, #1 in environmental litigation, #2 in environmental; For past 11 years, *The Best Lawyers in America* in environmental law by *Corporate Counsel* magazine; "Top Notch Lawyer" in environmental law, *Texas Lawyer's Go-To Guide* (2002); "Texas Super Lawyers," 2003-2005, Top 50 Central and West Region Super Lawyers; Top 50 Women Super Lawyers, 2003; *International Who's Who of Business Lawyers* in environmental law 2004 and 2006
- Author: numerous environmental articles
- Lecturer: environmental courses

Education and Professional Background

- Attended the University of Southwestern Louisiana
- Texas Tech, B.S. in textile technology and textile chemistry *magna cum laude*, 1978 (Outstanding Engineering Student, Engineering Student Council, 1977-1978)
- The University of Texas School of Law, J.D. with honors, 1981
- Admitted to practice: Texas, 1981