TEXAS ENVIRONMENTAL SUPERCONFERENCE

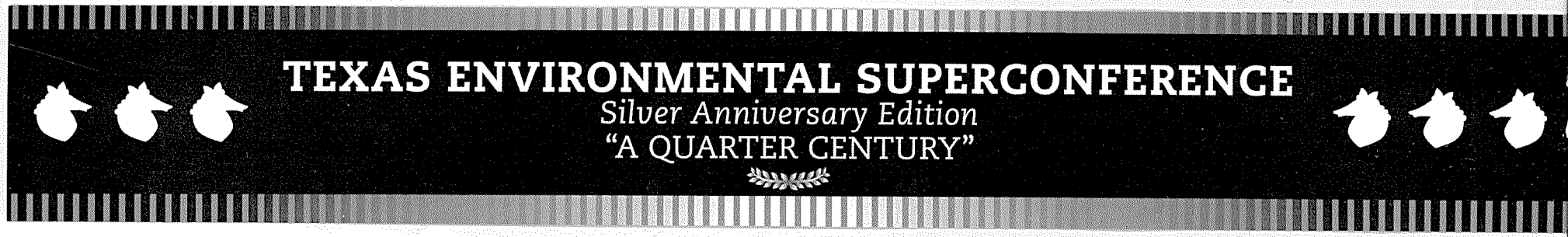
Silver Anniversary Edition

"A QUARTER CENTURY"



PRESENTED BY:

State Bar of Texas Environmental & Natural Resources Law Section
Air & Waste Management Association, Southwest Section • Water Environment Association of Texas
Texas Association of Environmental Professionals • The Auditing Roundtable
American Bar Association Section of Environment, Energy & Resources


TEXAS ENVIRONMENTAL SUPERCONFERENCE
Silver Anniversary Edition
"A QUARTER CENTURY"

The 25th Annual Texas Environmental Superconference
"A Quarter Century"



TO: Attendees

FROM: Planning Committee

DATE: August 1, 2013

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 Silver Anniversary Edition of the Annual Texas Environmental Superconference.

As always, there are evaluation forms for the program. We appreciate your taking the time to complete them. The organizers of this program take these forms into account 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. We also would appreciate suggestions for themes for next year's conference, which is scheduled for August 7-8, 2014. Please mark your calendars.

This year, our Wednesday evening program entitled, "By the Light of the Silvery Moon" was a Power Primer. For next year's Wednesday evening program we are thinking of having presentations on ethics, but if you have other ideas, please let us know.

Please provide any comments or suggestions to any member of the Planning Committee at the conference, or, thereafter, to Jeff Civins at (512) 867-8477 or jeff.civins@haynesboone.com.

Thanks!

25th ANNUAL TEXAS ENVIRONMENTAL SUPERCONFERENCE -- Silver Anniversary

"A Quarter Century"

Thursday-Friday, August 1-2, 2013
Four Seasons Hotel

Thursday, August 1, 2013

8:00 – 8:35 REGISTRATION/CONTINENTAL BREAKFAST – *Silver Dollar Pancakes*

8:35 – 9:00 OPENING REMARKS – *Silver Bells*

Jeff Civins, Texas Environmental Superconference
Cindy Bishop, Environmental and Natural Resources Law Section, State Bar of Texas
Peter Belmonte, Air & Waste Management Association, Southwest Section
Brad Castleberry, Water Environment Association of Texas
Ed Fiesinger, Texas Association of Environmental Professionals
Michael Byington, Auditing Roundtable
Danny Worrell, ABA Section of Environment, Energy & Resources

Moderator: **Paul Gosselink**, Lloyd Gosselink Rochelle & Townsend, P.C.

Tab 1 9:00 – 9:30 CASE LAW UPDATE – *Silver Wings and Golden Rings*
Mike Goldman, Guida ,Slavich & Flores, P.C.

Tab 2 9:30 – 10:30 WATER ISSUES – *Duel at Silver Creek*
Leonard Dougal, Jackson Walker L.L.P.
Jeremy Mazur, Texas Water Development Board
Liz Fazio, Texas House of Representatives

10:30 – 10:45 BREAK

[First Skit]

Moderator: **Debra Baker**, Connelly •Baker •Wotring, LLP

Tab 3 10:45 –11:30 SOLID WASTE UPDATE – *Silver Filling*
Beth Seaton, TCEQ
Scott Sherman, Bracewell & Giuliani LLP

Tab 4 11:30 – 12:00 LEGISLATIVE UPDATE – *Silverado*
Representative **Lyle Larson**
(Paper by **Derek Seal** and **Lisa Dyar**, Winstead PC)

[Second Skit]

12:00 – 1:15 LUNCH – *On a Silver Platter*

[Third Skit]

Moderator: **Danny Worrell**, Katten Muchin Rosenman LLP

Tab 5 1:15 – 2:45 AIR QUALITY – *Silver Skies*
Roger Martella, Sidley Austin, LLP
Booker Harrison, TCEQ
Suzanne Smith, EPA Region 6
Scheleen Walker, Sierra Club

Tab 6 2:45 – 3:15 MACONDO – LESSONS TO BE LEARNED FROM TRIAL – *"Silver Threads and Golden Needles"*
John Cruden, Environmental Law Institute

3:15 – 3:30 BREAK

[Fourth Skit]

Moderator: **Cindy Bishop**, C Bishop Law PC

Tab 7 3:30 – 4:00 TCEQ CHAIRMAN – *Ag*
Bryan Shaw

Tab 8 4:00 – 4:30 EPA REGIONAL ADMINISTRATOR – *The Silver Star*
Ron Curry

Tab 9 4:30 – 5:15 ENVIRONMENTAL CHALLENGES – *Silver Linings Playbook*
Steve Minick, Texas Association of Business
Becky Motal, Lower Colorado River Authority

[Fifth Skit]

5:15 – 6:00 RECEPTION – *Silver Service*

Friday, August 2, 2013

8:00 – 8:25 CONTINENTAL BREAKFAST – *With a Silver Spoon*

8:25 – 8:30 OPENING REMARKS – *Silver Streak*

[Sixth Skit]

Moderator: **Chris Smith**, Thompson & Knight LLP

Tab 10 8:30 – 9:00 THE INTERFACE OF ENVIRONMENTAL REGULATION AND TORT LITIGATION – *Silver Standard*
Vincent Circelli, Haynes and Boone, LLP

Tab 11	9:00 – 9:30	EPA ENFORCEMENT – THE NATIONAL AND REGION PERSPECTIVE— *Silver Spurs* **John Blevins**, EPA Region 6 Compliance Assurance and Enforcement Division Director
Tab 12	9:30 – 10:15	SITE ASSESSMENT PITFALLS – *One More Silver Dollar* **Alberto Tohme**, Tetra Tech **Lisa Shelton**, Andrews Kurth LLP
	10:15 – 10:30	BREAK
		[Seventh Skit]
		Moderator: **Peter Gregg**, Fritz, Byrne, Head & Harrison, PLLC
Tab 13	10:30 – 11:00	ENVIRONMENTAL DISCLOSURES – *Silver Polish* **Heather Corken**, Norton Rose Fulbright
Tab 14	11:00 – 11:30	ENVIRONMENTAL CONCERNS POSED BY CYBER ATTACKS – *Silver Screen* **Herb Yuan**, Dexa Systems
Tab 15	11:30 – 12:00	THE USE OF MODELING IN SITE REMEDIATION – *Silver Bullet* **Mike Hawthorne**, H2A
	12:00 – 1:15	LUNCH – *Silver-plated*
	1:00 – 1:15	TEXAS ENVIRONMENTAL AND NATURAL RESOURCES LAW SECTION MEETING – *Silver Miners*
		[Announce Trivia Quiz Winners]
		Moderator: **Arnoldo Medina**, Chevron U.S.A., Inc.
Tab 16	1:15 – 2:15	SHALE PLAYS – *White Silver Sands* **Kinnan Golemon**, KG Strategies, LLC **Carlos Romo**, Baker Botts, L.L.P. **David Weinberg**, Texas League of Conservation Voters
Tab 17	2:15 – 3:15	ETHICAL ISSUES FACING ENVIRONMENTAL PRACTITIONERS -- *The Silver Tongued Devil and I* **Sue Snyder**, Vinson & Elkins LLP **Ceil Price**, City of Houston **Karen Hansen**, Beveridge & Diamond, PC
		[Announce Skit Quiz Winners]
	3:15	ADJOURN-Sundaes – *Hi-Yo, Silver! Away!*

[COMMENT CARD DRAWING – You must be present to win]

A-290026_1

MCLE

To obtain CLE credit, you must do 2 things: (1) sign the sign-in sheet, with your printed name, signature, Bar Card Number, and number of hours of participatory and ethics credits; and (2) enter your time on-line, in accordance with the instructions below.

Course Number: 901269364

25th Annual Texas Environmental Superconference
Silver Anniversary Edition "A Quarter Century"

Participatory Hours: 11.75 hours
Administrative Law: 11.75 hours
Civil Trial Law: 11.75 hours
Oil, Gas and Mineral Law: 11.75 hours
Real Estate: 11.75 hours

Go to www.texasbar.com and click on the yellow **MyBarPage** tab at the top of the page.
From there, you will need to log in using your bar card number and PIN.

If you have never logged in before, click the 'Proceed' button on the page and follow the instructions.

Once you are logged in, look for the link on the left-hand side of the page that reads **"View/Update My MCLE Records."**

On the next page, click on **"Add Course or Self-Study Credit"** (should be in a yellow box in the middle of the page).

On the next page, click **"Approved Course Credits."**

From here, you will enter the course number provided above, **date attended [insert here], Total Hours you attended, Ethics Hours you attended**.

Confirm that you have entered the correct number of hours. You will not be able to edit this once you submit it.

Click the **Submit** button at the bottom of the page.

On the next page, you may see a **check box** asking you to confirm (swear) your attendance.
Check the box, and click **Submit (or OK)**.

Once you have done this, your attendance should be reflected in your records.

A-290032_1

Jeff Civins has practiced all aspects of environmental law since 1975, assisting clients in compliance matters, transactions, and litigation. As an adjunct professor at the University of Texas School of Law, Jeff taught a seminar on Environmental Law Concerns in Business in Spring of 1987 and has been teaching a seminar on Environmental Litigation each Spring since 1992. Jeff is on the Advisory Board of the law school's Center for Global Energy, International Arbitration, and Environmental Law and is a fellow of the American College of Environmental Lawyers. Jeff is co-editor of the *Thomson West Texas Practice* 2-volume treatise on *Texas Environmental Law*, a former chair of the Environmental and Natural Resources Law Section of the State Bar of Texas, standing chair of the section's Annual Texas Environmental Superconference, and a former chair of the Central Texas Chapter of the Air & Waste Management Association. Jeff's honors include: Chambers USA: America's Leading Lawyers (Star Performer) - Environment Texas (2003-2012); Best Lawyers in America – Environmental Law (1989-2013); Best Lawyers' 2010 Austin Environmental Lawyer of the Year; Texas Super Lawyer – *Texas Monthly* (2003-2012); Top 50 Lawyers in Central and West Texas – *Texas Monthly* (2003-2012); and Top 100 Lawyers in the State – *Texas Monthly* (2008-2009). Jeff received an AB in chemistry from Brandeis University, an MS in chemistry from Penn State, and a JD from the University of Texas School of Law. Prior to law school, Jeff taught science in public and private schools in New York City.

C BISHOP LAW PC
LAW • SCIENCE • REASON



Cynthia J. Bishop
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cbishop@cbishoplaw.com

For over 25 years, Cindy has been assisting clients nationwide with resolving environmental problems through her experience as an attorney and chemical engineer. Before her legal career began 18 years ago, she worked as an environmental consulting engineer, completing air permits, removing underground storage tanks, and conducting asbestos inspections, among other projects. Ms. Bishop's legal and technical background enables her to effectively and efficiently understand and resolve her clients' environmental problems. She has a broad range of litigation experience, including litigating federal CERCLA contribution and cost recovery actions before the US Supreme Court as well as state statutory and common law claims involving property damage and personal injury allegedly caused by contamination. In two separate federal cost recovery actions, she received favorable summary judgment decisions within one thirty-day period. Ms. Bishop has also defended numerous clients in environmental enforcement actions initiated by municipalities, the Texas Commission on Environmental Quality, and the United States Environmental Protection Agency, reducing or eliminating penalties.

She has helped clients close impacted sites using innovative, risk-based approaches, saving one client over $4 million in estimated cleanup costs. She has assisted clients with obtaining closure on several properties using municipal setting designations (MSD). She has also reviewed numerous environmental reports and records for properties to determine potential environmental liabilities for lenders and real estate developers and has defended potentially responsible parties in litigation with state and federal agencies to minimize the clients' liability at contaminated properties. She has reduced or eliminated state and federal penalties for clients through the Texas Audit Privilege Act and EPA's Self-disclosure Policy. Ms. Bishop also has resolved a variety of issues involving leaking underground storage tanks at former service stations located in many states, including Arizona, Arkansas, Illinois, Indiana, Iowa, Massachusetts, Michigan, Pennsylvania, Tennessee, and Texas.

Honors and Awards

Recognized, The Best Lawyers in America - Environmental Law (Steven Naifeh & Gregory White Smith eds., Woodward/White, Inc.) (2008 – 2013)

Ranked, Chambers USA (Environmental Law 2011 - 2013)

Distinguished Peer Review™ rating, Martindale-Hubbell® (2012)

Professional Licenses

Admitted to practice before:

Texas State Courts

U.S. District Court for the Northern and Southern Districts of Texas

U.S. Court of Appeals for the Fifth Circuit

U.S. Supreme Court

Licensed Professional Engineer – Texas (Inactive Status)

Education

J.D., Southern Methodist University Dedman School of Law (1994)

B.S.Ch.E., The Ohio State University (1986)

Publications

Author, Getting It Right – A Guide to Environmental Due Diligence, *Commercial Real Estate Network* magazine (March 2012)

Author, Minimizing Environmental Liability in Bankruptcy and During Normal Business Operations, *Inside the Minds: Managing Environmental Liabilities in Bankruptcy* (Thomson Reuters/Aspatore 2010)

Author, Foraging Through the Jungle of Expert Discovery and Testimony, 4:4 Nat. Resources & Env't, Spring 2008.

Co-Author with Richard O. Faulk, Stacy Obenhaus and Jeff Gaba, *Cooper v. Aviall*; Aviall's Brief to the U.S. Court of Appeals for the Fifth Circuit, 22:8 Toxic L. Rep. (BNA) 192 (Feb. 22, 2007).

Co-Author with Richard O. Faulk and Celeste Quiralte, Cost Recovery Under CERCLA Section 107 After *Cooper v. Aviall*, 37:12 Envtl. Rep. (BNA) 640 (Mar. 24, 2006).

Author, There and Back Again: The Progression and Regression of Contribution Actions Under CERCLA, Tul. Envtl. L.J. (2005).

Co-Author with Richard O. Faulk, Disturbing Limitations on CERCLA Contribution Actions – *Aviall Services, Inc. v. Cooper Industries, Inc.*, ABA Envtl. Crimes & Enforcement Committee Newsl., Apr. 2002.

Author, Implementing Corrective Action Under RCRA: Past, Present and Future, Envtl. Permitting, 1994.

Speeches

American Society of Safety Engineers 40th Annual Professional Development Conference: The cost of Environmental Compliance – Audits and Inspections (February 2013)

State Bar of Texas Annual Environmental Superconference: Trial – Battle of the Experts and Other Tips (August 2012)

American Institute of Chemical Engineers – Dallas Chapter: Impact of the New NESHAP/NSPS Regulations on the Oil & Gas Industry (March 2012)

Society of Texas Environmental Professionals – Dallas Chapter: Hydraulic Fracturing – Myths and Maneuvers (January 2012)

Dallas Bar Environmental Law Section: Experts and Preserving Privileged Information (August 2011)

Lone Star Network: Hydraulic Fracturing 101 (May 21, 2011)

Address to Confidential Client: Expert Discovery and Testimony – Avoiding Disaster (June 13, 2008) (authored paper for proceedings).

Address to Confidential Client: Municipal Setting Designations (June 13, 2008) (authored paper for proceedings).

Air & Waste Management Association Annual Conference: Environmental Liabilities – New Risks and Solutions (June 27, 2007) (authored paper for conference proceedings).

Dallas Bar Environmental Law Section: The Inside Skinny on Aviall (2005).

Legal Issues for Texas Civil Engineers and Land Surveyors: Understanding Environmental Law (2005).

Asbestos Forum: Defense Strategies for Weathering the Storm of New Asbestos Claims (2005) (authored paper for forum proceedings).

Law Conference for the International Council of Shopping Centers: Environmental Issues in Letters of Intent (2004).

Law Conference for the International Council of Shopping Centers: Protecting Yourself from Environmental Liability: Does Insurance Help? (2003).

Dallas/Fort Worth Real Estate Council: Voluntary Cleanup Program and Innocent Operator Program Impact on Real Estate Transactions (Mar. 1999).

Understanding Wetlands (1999).

Food Safety (1998).

International Petroleum Exploration Conference: Developments in The Clean Water Act (1997) (authored paper for conference proceedings).

Air & Waste Management Association Annual Conference: Corrective Action Management Units (1994).

Other Engagements

Panel Moderator, State Bar of Texas Natural Resource Law Section Environmental Superconference (2008, 2010 and 2011).

Panel Moderator, Dallas Bar Association Environmental Law Section Meeting: What's Up With Wetlands? (2001).

Panel Moderator, Dallas Bar Association Environmental Law Section Meeting: Impact of Recent Air Regulations on the Dallas/Fort Worth Area (1998).

Lecturer, Address to the Tarrant County Junior College Environmental Class: Hot Topics In Environmental Law (1997).

Community/Professional Involvement

Member, State Bar of Texas

Environmental and Natural Resources Law Section (Chair)

Member, Dallas Bar Association

Environmental Law Section (Former Chair)

Member, North Texas Gas Processors Association

Member, Society of Texas Environmental Professionals

Member, Women in Energy

President, Women in the Environment

Scholarship Chairperson, Ohio State Alumni Club of Dallas

Castleberry, Brad B. PRINCIPAL

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bcastleberry@lglawfirm.com

As a member of our Water Practice Group, Brad represents clients on the myriad issues surrounding water law and water supply planning, natural resources, water quality, environmental permitting and defense, and construction litigation. He's also established qualifications as a mediator, and is a licensed Professional Engineer.

Prior to joining Lloyd Gosselink in 2002, Brad practiced engineering, assisting clients in the planning, design, and construction of water, wastewater, and other municipal projects. He's the Past President of Water Environment Association of Texas (WEAT).

While in law school, Brad was student Managing Editor for the Texas Environmental Law Journal, and he recently served as an adjunct Professor of Water Law at Texas Tech University School of Law.

Practice Areas

Water
Litigation
Renewable Energy

Education

- J.D., University of Texas School of Law (2002)
- BSCE, Highest Honors, University of Texas at Austin (1993)

Professional Licenses

- Admitted to the State Bar of Texas (2002)
- Licensed Professional Engineer

Representative Experience

- Administrative law practice with emphasis in the field of environmental, water and natural resources law
- Water supply planning and permitting, water quality management, and environmental defense
- Representative projects include permitting of reservoirs and water reuse projects, permitting for wastewater treatment and disposal facilities, storm water permitting, Clean Water Act § 404 permit matters, environmental compliance, and environmental litigation and defense

Castleberry, Brad B. PRINCIPAL
(512) 322-5856

Publications & Presentations

- Co-Author, *"Hydraulic Short-Circuiting: The Potential Impact of Certain Federal Laws on State Water Supplies,"* BNA Bloomberg Water Law & Policy Monitor, January 30, 2013
- Author, "Sustainable Water Resources: A Compendium of Issues and Trends," Chapter 19, American Water Works Association, 2010
- Author, "Terrorism and Chemical Security Issues for Water and Wastewater Treatment Facilities," George Mason University The CIP Report, Vol. 7, No. 11, May 2009
- Co-Author, "Texas Agency Structure", Vol. 45 Texas Practice, Chapter 2 (Environmental Law), 2002-2008 Supplements
- Co-Author, "Texas Law of Water Resources," Texas Practice Guide, Chapter 19 (Meeting Water Supply Needs – Planning, Permitting, and Implementation), 2008
- Co-Author, 2nd Ed. AWWA M50 "Manual on Water Supply Planning"
- Author, "Maintaining a Diverse Water Supply," AWWA OPFlow Magazine, July, 2007
- Author, "Environmental Flow Considerations for Texas," Vol. 34 Texas Environmental Law Journal, p. 283 (2003-2004)

Professional Associations & Memberships

- American Bar Association
- State Bar of Texas
  - o Environmental and Natural Resources Law Section
  - o Construction Law Section
- Austin Bar Association
- American Water Works Association
- Water Environment Federation
- Water Environment Association of Texas

Mr. Belmonte is a Sr. Partner for ERM based in Houston, TX where he heads up the Power Sector. He has been a member of AWMA since 1994 and currently serves as Chair of the Southwest Sections of AWMA. He has held other board positions prior to that. He has over 21 years of experience across multiple areas of highly-regulated industries, especially in power generation and capital projects. His experience lies in siting, development and permitting of new and modified power generating facilities, compliance related issues, critical flaw analysis, power plant expansion and simple/combined-cycle operations, combustion studies within major manufacturing sites, startup/commissioning of CCGT power facilities, Title V permit applications, PSD applications, BACT& MACT analyses and LAER evaluation, emission estimates, dispersion modeling, regulatory negotiations, dealing with stakeholders and property owners, performing engineering and permitting studies, project and construction management of Air Pollution Control retrofits, and various other environmental issues.

Edward G. Fiesinger
Principal
Zephyr Environmental Corp.

Edward G. Fiesinger is a Principal with Zephyr Environmental Corporation in its Houston, Texas office specializing in air quality program management, NSR and Title V permit development, emissions inventory preparation, compliance issues and regulatory interpretations. He joined Zephyr following his retirement from the chemical industry where he was employed for over 36 years by Solutia Inc (formerly Monsanto Company's chemicals business). He began his career in manufacturing operations at Monsanto's Texas City plant in 1966, specializing in design, startup, and operation of large scale petrochemical facilities. In 1985 he transferred to the Chocolate Bayou plant near Alvin, Texas as a Senior Environmental Specialist. At the Chocolate Bayou plant he was responsible for air permit development, preparing annual plant emissions inventories and SARA TRI reports, compliance reporting, regulation interpretations, and regulatory advocacy on the state and federal level. During this period he was an active member of the Texas Chemical Council (TCC) serving as Chair of various subcommittees and representing TCC in its interactions with Texas environmental regulatory agencies. He is currently a member of the TCC/ACIT Outreach Committee which puts on the Science Teachers & Industry workshop for Texas Science Teachers each year to explain to them thre importance of the chemical industry in Texas.

Fiesinger has been a member of A&WMA since 1985. He has been active on the Section and Chapter levels, holding offices in the Southwest Section and Gulf Coast ChapterFrom 1996 to 2012 he served as chair for the Gulf Coast Chapter's annual "Hot Air Topics" Conference. He has been a member of TAEP since 2003 and is currently Treasurer of that organization.

Fiesinger earned a B. S. degree in Chemical Engineering from Clarkson University in Potsdam, N.Y. and a M. S. in Chemical Engineering from the University of Delaware.

Byington Group LLC

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Michael Byington, CPEA has over 35 years of experience in environmental regulatory compliance, permitting, auditing and project management and is the founder of Byington Group LLC. His experience includes work as a corporate coordinator and project manager for environmental compliance, permitting, and auditing in conjunction with solid and hazardous waste, water, and air.

Mr. Byington received a Bachelor of Science degree in Zoology from Texas A&M University in 1977, where he also pursued Master of Business Administration graduate studies. He is a Certified Professional Environmental Auditor (CPEA), with previous certifications consisting of Certified Hazardous Material Manager (CHMM), Visible Emissions Evaluation Certification, and Certified Asbestos Inspector. Mr. Byington is a member of the Auditing Roundtable (Co-chairman - South Central Region) and holds a Level 5 Federal Security Clearance and U.S. Department of Homeland Security - Transportation Security Administration (TSA) Security Clearance.

Areas of expertise include environmental regulatory compliance, EHS auditing, environmental management systems (EMS), environmental site assessments, environmental permitting, and acquisition due diligence. Mr. Byington has experience working with the U.S. Environmental Protection Agency (EPA), Texas Commission on Environmental Quality (TCEQ) and Railroad Commission of Texas (RRC), as well as other State and Federal agencies. He routinely develops, manages and performs environmental compliance audits, environmental compliance programs and routine compliance efforts for a wide range of private/public and federal industrial and manufacturing clients.

The personnel of Byington Group LLC have a broad spectrum of education and work experiences. They are highly experienced with the regulatory and compliance aspects of environmental, health and safety programs, and the intricacies of ISO 14001, Environmental Management Systems (EMS). Certifications include Certified Professional Environmental Auditor (CPEA), Certified Hazardous Materials Manager (CHMM), and RAB Certified Environmental Management System (EMS) Lead Auditor.

Areas of experience for Byington Group personnel include EH&S management systems assessments and audits, ISO 14001 Environmental Management Systems registration audits, environmental due diligence for corporate mergers and acquisitions, and environmental and safety compliance audits. Experience includes development of Environmental Management Systems, environmental regulatory compliance programs for industrial solid waste, water and air issues (including storm water and Spill Prevention, Control and Countermeasure Plans) and reporting. In addition, projects have included environmental liability risk assessments, verification/attestation of Corporate Environmental Reports, Greenhouse Gas (GHG) verification audits, environmental audit support to financial statement audits, and a variety of other environmental and safety management consulting projects.

This experience has been in multiple industries including petrochemicals; petroleum refining, petroleum E&P, minerals and mining; semiconductors, chip manufacturers, and other electronic equipment; automotive; metals smelting and foundry operations; pharmaceuticals; printing; food processing; hazardous waste treatment, storage, and disposal (TSD) facilities; municipal landfills, wastewater treatment; cement manufacturing; electric power utilities; and aviation. Byington Group personnel have also provided services to federal and state governmental agencies.

Environmental and safety compliance, audits or consulting projects have been conducted in 44 states of the U.S., three Canadian provinces, Puerto Rico, Mexico, and the United Kingdom.

Danny G. Worrell



Partner
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Overview

Danny Worrell focuses his practice on environmental contested case permitting and enforcement, Superfund litigation and transactions involving environmental matters. He advises clients on regulatory compliance involving air quality, solid and hazardous waste, injection wells, water quality, *in situ* uranium mining, underground and above-ground storage tanks, asbestos, PCBs, water and wastewater utilities, pesticides and pipelines.

Danny previously worked as a geologist for the ARCO Oil and Gas Company, specializing in oil and gas exploration. While attending law school, he was a member of the staff of the *Houston Journal of International Law*. Danny has earned an MS and a BS in geology.

Experience

- Lead attorney in administrative contested case hearing and district court and appeals court appeals. Successfully obtained a Texas Clean Air Act preconstruction permit for an 800 megawatt coal-fired electric generating facility with a CO2 capture unit.
- Lead attorney in administrative contested case hearing and district court appeal. Successfully obtained a Texas Pollution Discharge Elimination System permit for a municipal wastewater discharge.
- Representation of client in administrative contested case hearing involving amendment to production area authorization for in situ uranium mining permit before the Texas Commission on Environmental Quality (TCEQ).
- Lead attorney in administrative contested case hearing and district court appeal. Successfully obtained renewal and new Class 1 hazardous waste injection well permits from the TCEQ.
- Representation of client in administrative contested case, district court and appeals court proceedings involving major modifications to Class 1 non-hazardous injection well permits from the TCEQ.
- Lead attorney in contested case hearing on application to obtain a

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Municipal Solid Waste Type I landfill permit from the TCEQ.

- Representation of 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.
- Assistance to 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.
- Representation of clients in successfully obtaining Single Property Designations from the TCEQ for air quality regulatory purposes.
- Representation of four different clients in settling claims associated with federal Superfund litigation involving former tin smelter.
- Assistance to client in successful settlement of product liability litigation relating to oil well cementing operations.

Education

JD, University of Houston Law Center
MS, Louisiana State University
BS, The University of Texas at Austin

Court Admissions

- US Court of Appeals, Fifth Circuit
- Supreme Court of Texas

Bar Admissions

- Texas - 1990

Recognition

- AV Preeminent Peer Review Rating by LexisNexis Martindale-Hubbell
- Best Lawyers in America 2007–2008, 2010–2012
- Who's Who Legal Texas, 2007–2008
- Chambers USA "Leaders in Their Field," Environmental Law, 2005–2011

Memberships

American Bar Association, Section of Environment, Energy, and Resources (SEER)

Austin Bar Association

Publications

2012	*Brownfields Law & Practice*, Texas chapter (Matthew Bender)
2003	*RCRA: Resource Conservation and Recovery Act*, with co-authors John W. Teets and Dennis P. Reis (American Bar Association)
2002	Subsurface Trespass Claims Against Underground Injection Control Operations, in conference materials for the Texas Natural Resource Conservation Commission 2002 Underground Injection Control Symposium
1996	Legal and Strategic Considerations in Risk-Based Closures, in proceedings of Energy Week Conference and Exhibition
1994	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	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
1993	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.
1992	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 US Department of Energy
1992	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, Matthew Bender
1991	Permitting Injection Wells in the New Texas, with Albert R. Axe, Jr., in Proceedings of the Underground Injection Practices Council
1991	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
1990	An Overview of the Use of Injection Wells for Industrial Waste Disposal, with R. Steven Morton and Susan Thompson

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Firm News

July 16, 2013	Katten Continues Expansion of Its Environmental and Safety Practice, Retaining Prominent Austin Environmental Attorney Danny Worrell to Spearhead Contested Permitting Practice

Events

September 2011	BACT and MACT- "Hunches in Bunches," presented at the Texas Environmental Superconference, Austin (Speaker)
2009	The Impact of Changing Federal Energy and Environmental Laws and Policy, presented at the Gulf Coast Power Association, 25th Annual Fall Conference and Exhibition, Austin (Speaker)
2009	What Happens When a Rule Is Vacated? MACT Hammer and Title V Impacts, presented at the TCC/ACIT Environmental, Health & Safety Seminar, Galveston, Texas (Speaker)
2007	Compliance: Confidentiality and Ethics, Changing Times Require Changing Approaches, presented by the Texas Bar Law Center, Austin (Speaker)
2005	Environmental Law 101: Solid Waste, presented at the Texas Environmental Superconference, Austin (Speaker)

Katten Muchin Rosenman LLP | kattenlaw.com

Paul G. Gosselink

Paul Gosselink is the co-founding partner of the law firm of Lloyd Gosselink Rochelle & Townsend and head of its Air and Waste Practice Group. Paul focuses on permitting and compliance matters for industry and municipalities. He is the co-author of the Solid Waste and Renewable Energy Chapters in the Thomson West Practice two volume treatise on Texas Environmental Law Practice Series. He served as Assistant Attorney General for the State of Texas. He has been recognized as a Texas Super Lawyer, Best Lawyers in America and listed by Chambers USA for Environment. He received a B.A. from Hobart College, an M.A. from Rutgers University, and a J.D. from Southern Methodist University.



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"SILVER WINGS AND GOLDEN RINGS"

CASE LAW UPDATE

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State Bar of Texas
25th ANNUAL
TEXAS ENVIRONMENTAL SUPERCONFERENCE
August 1-2, 2013
Austin

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"SILVER WINGS AND GOLDEN RINGS"
CASE LAW UPDATE

During the past year, there have been several interesting cases handed down by both the federal and state courts which provide helpful analysis and determinations on various unsettled issues in environmental law. The cases also provide new authority on various issues that were previously believed to be settled law. Below is a summary of these key cases since August 2012 along with a summary of a few interesting cases from other jurisdictions that might also have an impact on a Texas environmental practitioner.

I. U.S. SUPREME COURT

A. Water from Concrete-lined Portions of Waterway

In *Los Angeles County Flood Control District v. Natural Resources Defense Council, Inc.*, No. 11-460, 133 S.Ct. 710 (U.S. Jan. 8, 2013), environmental groups filed a citizen suit against the Los Angeles County Flood Control District and others under Section 505 of the CWA, 33 U.S.C. § 1365, alleging, among other things, that water-quality measurements from monitoring stations within the Los Angeles and San Gabriel Rivers demonstrated that the District was violating the terms of its permit. The District Court granted summary judgment to the District on these claims, concluding that the record was insufficient to warrant a finding that the Municipal Separate Storm Sewer System (MS4) had discharged storm water containing the standards-exceeding pollutants detected at the downstream monitoring stations. The Ninth Circuit reversed in relevant part. The court held that the District was liable for the discharge of pollutants that, in the court's view, occurred when the polluted water detected at the monitoring stations flowed out of the concrete-lined portions of the rivers, where the monitoring stations are located, into lower, unlined portions of the same rivers. The Supreme Court held that the flow of water from an improved portion of a navigable waterway into an unimproved portion of the same waterway does not qualify as a "discharge of a pollutant" under the CWA and reversed and remanded the Ninth's Circuit opinion.

B. Stormwater Runoff from Logging Operations

In *Decker v. Northwest Environmental Defense Center*, No. 11-338, 133 S.Ct. 1326 (U.S. March 20, 2013), an environmental organization brought action against Oregon officials and timber companies, alleging that they violated the Clean Water Act by discharging stormwater from ditches alongside logging roads without National Pollutant Discharge Elimination System (NPDES) permits. The lower court dismissed the case, but the Ninth Circuit reversed, ruling that the discharges were "associated with industrial activity" under the Industrial Stormwater Rule, 40 CFR §122.26(b)(14). The Supreme Court deferred to EPA's interpretation that the Industrial Stormwater Rule excludes the type of stormwater discharges at issue in this case and held that stormwater runoff from logging roads that is collected by and then discharged from a system of ditches, culverts, and channels is not a point source discharge for which an NPDES permit is

required. The Court then reversed the Ninth Circuit's opinion to the contrary.

C. Agency Deference

In *City of Arlington, Texas v. Federal Communications Comm'n*, No. 11-1545, 133 S.Ct. 1863 (U.S. May 20, 2013), the Supreme Court considered whether an agency's interpretation of a statutory ambiguity that concerns the scope of its regulatory authority (that is, its jurisdiction) is entitled to deference under *Chevron U.S.A. Inc. v. Natural Resources Defense Council, Inc.*, 467 U.S. 837, 104 S.Ct. 2778, 81 L.Ed.2d 694 (1984). The Court held that it was. When a court reviews an agency's interpretation of a statute the agency administers, the question is always, simply, whether the agency has stayed within the bounds of its statutory authority. The Court stated that there is no distinction between an agency's "jurisdictional" and "nonjurisdictional" interpretations. The Court reasoned that where Congress has established a clear line, the agency cannot go beyond it; and where Congress has established an ambiguous line, the agency can go no further than the ambiguity will fairly allow. But in rigorously applying the latter rule, a court need not pause to puzzle over whether the interpretive question presented is "jurisdictional." If "the agency's answer is based on a permissible construction of the statute," that is the end of the matter.

D. Water Rights

In *Tarrant Regional Water District v. Herrmann*, No. 11-889, 2013 WL 2631063 (U.S. June 13, 2013), the Tarrant Regional Water District, which is responsible for providing water to north-central Texas, brought action against Oklahoma Water Resources Board (OWRB), seeking to enjoin enforcement of Oklahoma water statutes by the OWRB, alleging that the statutes, and the interpretation of them adopted by Oklahoma's attorney general, were preempted by federal law and violated the Commerce Clause by discriminating against interstate commerce in water. The Supreme Court held that Oklahoma statutes that favor in-state water appropriation permit applicants over out-of-state permit applicants do not violate the Commerce Clause and are not preempted by the Red River Water Compact, which is an interstate water compact that allocates water among Texas, Oklahoma, Arkansas, and Louisiana. The water district argued that the statutes discriminated against interstate commerce in violation of the Commerce Clause by preventing water left unallocated under the compact from being distributed out of state. But the Court reasoned that the Oklahoma water statutes cannot discriminate against interstate commerce with respect to unallocated waters because the compact leaves no waters unallocated. The water district also argued that the statutes were preempted by federal law because they prevent Texas from exercising its rights under the compact. However, the Court held that the compact does not create any cross-border rights in signatory states.

E. Property Takings Protections for Permit Denials

In *Koontz v. St. Johns River Management District*, No. 11–1447, 2013 WL 3184628 (U.S. June 25, 2013), a landowner brought action in Florida state court against a water

management district, alleging that district's denial of land use permits unless they funded offsite mitigation projects on public lands amounted to a taking without just compensation. The Supreme Court held that denials of environmental permits can be challenged as a constitutional taking of private property and that conditions that require either real property or financial contributions to offset the rejected permit's impacts can be subject to compensation claims. In this regard the Court stated that: "Extortionate demands for property in the land use permitting context run afoul of the Takings Clause not because they take property but because they impermissibly burden the right not to have property taken without just compensation. As in other unconstitutional conditions cases in which someone refuses to cede a constitutional right in the face of coercive pressure, the impermissible denial of a governmental benefit is a constitutionally cognizable injury."

II. DC COURT OF APPEALS

A. Transport Rule

In *EME Homer City Generation, L.P v. EPA*, 696 F.3d 7 (C.A. D.C. 2012), the D.C. Circuit Court of Appeals vacated the Cross-State Air Pollution Rule (CSAPR, also known as the "Transport Rule"), which sets sulfur dioxide and nitrogen oxides emissions limits for 28 upwind states based on those states' contributions to downwind states' air quality problems. The court held that that EPA exceeded its statutory authority under the "good neighbor" provision of the Clean Air Act in implementing the Transport Rule, which defined each State's emissions reduction obligations under the good neighbor provision and prescribed Federal Implementation Plans (FIP) to implement those obligations at the State level. The court reasoned that the Transport Rule restrictions could require upwind States to reduce emissions by more than the amount of their contribution to downwind State's nonattainment area, and the Transport Rule made no attempt to calculate upwind States' required reductions on a proportional basis that took into account contributions of other upwind States to the downwind States' nonattainment problems. Finally, the Transport Rule did not ensure that the collective obligations of the various upwind States, when aggregated, did not produce unnecessary over-control in the downwind States. The court then vacated the Transport Rule and the Transport Rule FIPs and remanded the proceeding to EPA with the instruction that EPA must continue administering the Clean Air Interstate Rule (CAIR) pending the promulgation of a valid replacement.

B. Greenhouse Gas Tailoring Rule

In *Coalition for Responsible Regulation v. EPA,* D.C. Cir., 684 F.3d 102 (C.A. D.C. 2012), a three-judge panel with the U.S. Court of Appeals for the District of Columbia Circuit dismissed challenges from industry groups and some states to EPA's tailoring rule, which limits greenhouse gas permitting to the largest industrial sources. The court found the petitioners lacked standing to challenge the regulation because it was intended to ease their permitting burden by limiting the number of sources that need to have permits. Additionally, the court denied challenges to EPA's endangerment finding for greenhouse gases and subsequent

emissions standards for cars and light-duty trucks.

III. FIFTH CIRCUIT

A. Similar Source Standard

In *Luminant Generation Company, LLC, et al. v. EPA*, 675 F.3d 917 (5th Cir. 2012) the State of Texas, among others, sought review of the EPA's disapproval — which was more than three years tardy — of state regulations that provided for standardized permits of certain projects that reduced or maintained current emission rates. Petitioners contended that the EPA acted arbitrarily and capriciously and in excess of its statutory authority by applying three different incorrect legal standards. First, Petitioners argued that EPA improperly reviewed the regulations for compliance with Texas law, when the EPA's only authorized function was to review for compliance with the CAA. Second, Petitioners argued the EPA's so-called "similar source" requirement does not exist in any CAA provisions. Third, Petitioners argued that the applicable federal law imposes no "replicability" requirement and, therefore, the EPA had no basis to determine that the State's Director's discretion violated the CAA. The Fifth Circuit agreed with each of the Petitioner's arguments and held that the three purported extra-statutory standards were "created out of whole cloth" and that EPA's disapproval of the regulations was arbitrary and capricious.

B. State Implementation Plan (SIP) Flexible Permit Program

In *State of Texas, et al. v. EPA*, 690 F.3d 670 (5th Cir. 2012), the State of Texas, among others, sought review of EPA's disapproval — this time sixteen years tardy — of the State's revision of its SIP's Flexible Permit Program for Minor New Source Review (NSR). According to the court, the untimely disapproval unraveled approximately 140 permits issued by Texas under the revision's terms, and required regulated entities to qualify for pre-revision permits or risk federal sanctions. The Fifth Circuit held that EPA's proffered reason for disapproval which was that it might allow Major NSR evasion was arbitrary and capricious and based upon "demands for language and program features of the EPA's choosing, without basis in the CAA or its implementing regulations." In addition, the Fifth Circuit stated that EPA's final rule disapproving Texas's Flexible Permit Program transgresses the CAA's delineated boundaries of cooperative federalism. The court then vacated the agency's final rule and remanded for the EPA's further consideration.

C. Insurance

In *Louisiana Generating L.L.C. v. Illinois Union Insurance Co.*, No. 12-30651, 2013 WL 2096382 (5th Cir. May 15, 2013), the insurer argued that the forms of relief covered by the policy–including relief for property damage and remediation costs–are unavailable to EPA as a matter of law because the CAA only allows EPA to seek prospective relief and does not allow the Agency to seek compensatory damages. However, the Fifth Circuit held that reading all of

the provisions of the policy together and giving them their plain meaning, the underlying EPA suit includes allegations and prayers for relief that could potentially result in covered remediation costs. In particular, "remediation costs" were defined very broadly to include expenses incurred to redress pollution in compliance with environmental law, including, *inter alia*, costs associated with investigating, mitigating, or abating pollution. As such, EPA's requests for mitigation, offsetting, and remediation suggest a reasonable possibility of coverage under the policy. Accordingly, the Fifth Circuit held that under New York law, an insurance company has a duty to defend a power company in an underlying lawsuit filed against it by EPA and Louisiana's environmental agency for alleged CAA and state law violations.

D. Preemption

In *Ass'n of Taxicab Operators USA v. City of Dallas*, No. 12-10470, 2013 WL 2661413 (5th Cir. June 13, 2013), the Fifth Circuit held that the CAA does not preempt a local ordinance that allows taxicabs certified to run on compressed natural gas (CNG) to cut ahead of gasoline-powered taxis in the queue for picking up passengers at Love Field Airport in Dallas. The ordinance does not create an enforceable standard to convert cabs from gasoline to CNG power. Nor do its indirect effects create a mandatory, de facto standard. Although the ordinance may have its intended effect and substitute CNG cabs for traditional cabs at Love Field, Dallas cab drivers do not face "acute economic coercion" to switch vehicles.

E. Res Judicata

In *Comer v. Murphy Oil USA, Inc.*, No. 12-60291, 2013 WL 1975849 (5th Cir. May 14, 2013), the Fifth Circuit affirmed a lower court decision that the doctrine of res judicata bars individuals' trespass, nuisance, and negligence claims against numerous oil, coal, electric, and chemical companies for damages stemming from Hurricane Katrina. The individuals asserted that the companies' activities are among the largest sources of greenhouse gases that cause global warming, and that global warming led to high sea surface temperatures and sea level rise that fueled Hurricane Katrina, which in turn damaged their property. They also alleged that global warming has caused them to incur higher insurance premiums and has lowered the resale value of their homes, and that the defendants' emissions constitute an unreasonable invasion of the plaintiffs' property rights. However, because the current lawsuit is nearly identical to the individuals' 2005 lawsuit, the court held that their claims were barred by res judicata.

IV. TEXAS FEDERAL DISTRICT COURT OPINIONS

A. Due Process

In *National Solid Wastes Management Ass'n v. City of Dallas*, 903 F.Supp.2d 446 (N.D. Tex. 2012), solid waste collection franchisees filed suit against city, mayor, and city council members, in their official capacities, seeking permanent injunctive relief against enforcement of an allegedly unconstitutional flow control ordinance which required franchisees to transport solid

waste to city-owned landfills, rather than franchisee-owned landfills as authorized under franchise agreements with city. The district court enjoined the City of Dallas from enforcing the ordinance because it was unreasonable exercise of city's police powers in violation of the Due Course of Law Clause of the Texas Constitution, where city implemented ordinance to raise revenue to advance its own economic and proprietary interests at expense of franchisees' vested rights, rather than to improve air quality, implement "green" technologies, provide new jobs, or address any fiscal or other significant problem.

B. Whooping Cranes under the Endangered Species Act

In *Aransas Project v. Shaw*, No. 2:10-cv-075, 2013 WL 943780 (S.D. Tex. Mar. 11, 2013), an environmental conservation organization brought an action against Texas Commission on Environmental Quality (TCEQ) and its officials, alleging that agency violated Endangered Species Act (ESA) by failing to properly manage freshwater flows into the San Antonio bay, causing an unlawful "take" of endangered whooping cranes, and seeking declaratory and injunctive relief to ensure that the flock had sufficient water resources to prevent future takings. The district court held that the TCEQ violated Section 9 of the ESA by failing to properly manage freshwater inflows into the San Antonio and Guadalupe bays during the 2008-2009 winter, thereby causing an unlawful take of the world's only self-sustaining, wild Whooping Crane population in the Aransas National Wildlife Refuge. The court found that the agency's water management practices during 2008-2009, combined with the severe drought, drastically modified the cranes' critical habitat making it hyper-saline. The hyper-saline conditions caused a reduction in the availability of wolfberries and blue crabs, the cranes' primary food resources, as well as in fresh drinking water. In total, the court found that the adverse modification of the cranes' critical habitat effectively caused the death of at least 23 Whooping Cranes during the 2008-2009 winter season, constituting a "take" under the ESA. The court therefore enjoined the agency from approving or granting new water permits affecting the Guadalupe or San Antonio Rivers until it provides reasonable assurances that such permits will not take Whooping Cranes in violation of the ESA. The court also ordered the agency to prepare an incidental take permit and corresponding habitat conservation plan (HCP) which would require the agency to address freshwater flows and to reduce and mitigate adverse impacts of water diversions and related practices on the crane population.

V. TEXAS SUPREME COURT

A. Inverse Condemnation

In *Hearts Bluff Game Ranch, Inc. v. State of Texas*, 381 S.W.3d 468 (Tex. 2012), a landowner, who was denied its application with the United States Army Corps of Engineers (USACE) for a federal mitigation banking permit because the State had identified the site as a potential reservoir, brought an inverse condemnation action in federal court against USACE, the Texas Water Development Board (TWDB) and the State. On remand from federal court, the state district court denied State's plea to the jurisdiction. The State of Texas was successful on

appeal and the landowner filed a petition for review. The Texas Supreme Court held that landowner failed to establish inverse condemnation claim against the State, where the USACE, not the State, had the regulatory authority to grant or deny the federal permit required for a mitigation bank.

B. Statute of Limitations and Damages for Nuisance Claims

In *Natural Gas Pipeline Company of America v. Justiss*, 397 S.W.3d 150 (Tex. 2012), several homeowners brought an action against a gas company alleging that noise and odors from its gas plant constituted permanent nuisance. The Texas Supreme Court held that evidence that the gas plant's noise and odor escalated over time and that the gas company received citation from Texas Commission on Environmental Quality (TCEQ) based on the plant's noise and odor six years after the plant opened was legally sufficient to support the jury's determination that a permanent nuisance began on the date of citation in the homeowners' permanent nuisance claim against gas company, even though the homeowners had made complaints to the gas company about plant's noise and odors several years earlier. In addition, the Court held that testimony of the homeowners concerning the diminution of value of their properties resulting from the noise and odor from the nearby gas plant was insufficient to support an award of damages in the homeowners' permanent nuisance action against the gas company, where testimony was conclusory and speculative and lacked any factual explanation supporting how the homeowners' arrived at their damages calculations. The Court then remanded the homeowners' permanent nuisance claim against the gas company for a new trial on liability and damages, because the homeowners relied on a standard concerning valuation of their properties that had not before been explained by the Supreme Court.

C. Preemption

In *Southern Crushed Concrete, LLC v. City of Houston*, 398 S.W.3d 676 (Tex. 2013), the operator of a portable concrete crushing facility, which had received an air quality permit from the Texas Commission on Environmental Quality (TCEQ), brought action against the city after it denied the operator a municipal permit, seeking a declaration that the ordinance was preempted by the Texas Clean Air Act (TCAA). The Texas Supreme Court held that the TCAA provides that a municipal ordinance may not prohibit any acts approved or authorized by the Texas Commission on Environmental Quality (TCEQ). Here, the TCEQ had previously issued a permit authorizing construction of the facility at the proposed location. Because the ordinance made it unlawful to build a concrete-crushing facility at a location that was specifically authorized by the Commission, the ordinance was preempted.

VI. TEXAS COURT OF APPEALS DECISIONS

A. Temporary Restraining Order

In *In re: Sierra Club*, 2012 WL 5942912 (Tex. App.—El Paso 2012, no pet.), an

environmental organization petitioned for mandamus seeking to compel the district court to withdraw a temporary restraining order (TRO) prohibiting the organization from seeking injunctive relief to prohibit shipments of low-level radioactive waste to a disposal facility in county where underlying action was pending. The El Paso Court of Appeals determined that the mandamus petition was moot, because the TRO had expired by its terms before the mandamus petition was heard. The Court also determined that the "capable of repetition yet evading review" exception to mootness doctrine did not apply because the organization was not likely to be subjected to a similar TRO prior to the temporary injunction hearing. The collateral consequences exception also did not apply because the organization was not claiming the continued effects of an unconstitutional judgment.

B. Exhaustion of Administrative Remedies

In Harris County Fresh Water Supply District No. 61 v. FW Development, Ltd., 2013 WL 326318 (Tex. App.—Houston[14th Dist.] 2013, pet. filed), a developer brought a breach of contract action against fresh water supply district. Pursuant to their agreement, the developer agreed to pay for and construct specific water facilities necessary for development of property it owned and wished to develop within the water district. In return, the water district agreed to issue bonds necessary to reimburse the developer for certain costs associated with construction of the facilities. A dispute arose between the parties on whether the developer was also entitled to interest on costs it incurred. The developer filed suit and the water district moved for summary judgment on jurisdictional grounds claiming the developer failed to exhaust its administrative remedies through an appeal to the TCEQ. The trial court denied the motion which was affirmed on appeal. The Houston Court reasoned that the relevant statutory scheme does not indicate that the legislature has expressly conferred on the TCEQ the power or duty to determine whether the water district breached its contract with the developer. Indeed, the rules explicitly provide that they shall not be construed to relieve a district of its legal duties, obligations, or liabilities relative to its responsibilities as defined in the Texas Water Code 30 Tex. Admin. Code § 293.2. As a result, the TCEQ has not been vested with exclusive jurisdiction to determine this contract dispute, and the developer was not required to exhaust its administrative remedies before filing suit.

C. Whistleblower Claim

In *Resendez v. Texas Commission on Environmental Quality*, 391 S.W.3d 312 (Tex. App.—Austin 2012, pet. filed), a former employee brought a whistleblower claim against Texas Commission on Environmental Quality (TCEQ) on her belief that her supervisors violated the law by failing to report fraud being committed by applicants in the Texas Emissions Reduction Plan (TERP). The TCEQ filed a plea to the jurisdiction, arguing that sovereign immunity had not been waived because Resendez failed to allege a valid whistleblower claim. The trial court granted the plea to the jurisdiction and dismissed Resendez's suit. On appeal, Resendez claimed that the trial court erred in granting the plea to the jurisdiction because her petition sufficiently alleges a valid cause of action. The Austin Court of Appeals reversed the trial court's order

finding that a fact issue existed on whether Resendez reported the incident to a person she in good faith believed was an appropriate law enforcement authority as required to qualify for the limited waiver of immunity under the Texas Whistleblower Act.

D. Intervention and Substantial Evidence

In *Northeast Neighbors Coalition and TJFA, LP v. Texas Commission on Environmental Quality, et al.*, 2013 WL 1315078 (Tex. App.—Austin 2013, pet. filed), a dispute arose concerning Texas Commission on Environmental Quality's (TCEQ) order modifying BFI Waste Systems of North America, L.L.C.'s solid-waste-disposal permit. TJFA, L.P. appealed from the district court's order striking its intervention in the case. TJFA attempted to intervene into this matter after its separate lawsuit was dismissed for failing to serve the TCEQ within 30 days of filing suit as required by TEX. HEALTH & SAFETY CODE ANN. § 361.321(c). BFI opposed TJFA's intervention arguing that TJFA should not be allowed to intervene in Northeast Neighbors Coalition's (NNC's) case if TJFA's own case was dismissed for failure to timely execute service on TCEQ. The Austin Court of Appeals reasoned that assuming without deciding that TJFA had a justiciable interest in NNC's case that was not otherwise eliminated by the mandatory dismissal, the district court nevertheless had the discretion to strike the intervention on other grounds, so long as its action in doing so were not arbitrary and capricious. Because the intervention included at least eleven additional separate issues and sub-issues, the Court reasoned that the trial court did not abuse its discretion in striking the intervention on the basis that it would have complicated the case by an excessive multiplication of the issues.

Northeast Neighbors Coalition also appealed the district court's order that that TCEQ's grant of BFI's permit amendment was supported by substantial evidence in the record. Specifically, NNC argued (1) that the substantial-evidence standard of review for agency decisions requires an examination of the actual content of evidence rather than just the volume of evidence submitted. It then asserted that (2) TCEQ's findings of land-use compatibility; (3) TCEQ's approval of 24/7 landfill operations; and (4) TCEQ's finding of "no substantial alteration of natural drainage patterns" were not supported by substantial evidence. With regard to NNC's argument regarding the type of evidence necessary to support a substantial-evidence inquiry, the court emphasized that section 2001.174(2)(E) limits its consideration to the "reliable and probative evidence in the record as a whole." The APA provides that the rules of evidence apply to a contested case. The APA also requires that "evidence that is irrelevant, immaterial, or unduly repetitious" be excluded from the record of a contested-case hearing. Accordingly, the court held that the APA itself answers NNC's question of whether the substantial-evidence standard of review requires examination of the actual content of evidence, and that answer is clearly yes.

NNC also argued that the proposed vertical expansion of the landfill would not be compatible with surrounding land uses because of continuing odor issues with the landfill. However, the Court noted that odor is not a specifically delineated factor for land-use compatibility determinations. Thus, even if the evidence was established that there was an

ongoing odor problem, it would not preclude the TCEQ from determining that the landfill was compatible with existing land uses. With regard to TCEQ's approval of the 24/7 landfill operations, the Court found that there was substantial evidence to support such allowance. With regard to the final issue, the Court held that NNC did not overcome the presumption that TCEQ's findings of fact regarding drainage flow was supported by substantial evidence.

E. Operator Defined and Substantial Evidence

In *Heritage on the San Gabriel Homeowners Association, et al. v. Texas Commission on Environmental Quality*, 393 S.W.3d 417 (Tex. App.—Austin 2012, pet. denied), a homeowners association, citizens groups, and landowners appealed a district court judgment which affirmed a decision of Texas Commission on Environmental Quality (TCEQ) to grant a permit to Williamson County to expand its landfill. The Austin Court of Appeals held that: (1) the waste management company's submission of application on behalf of county satisfied TCEQ rules because the rule established that it was an operator's duty to submit an application when the owner did not operate the facility; (2) TCEQ's findings regarding natural drainage patterns were supported by substantial evidence and were not arbitrary and capricious; (3) substantial evidence supported TCEQ's findings of fact about land-use compatibility. However, the Court held that TCEQ failed to provide the required explanation for overturning the recommendation of the Administrative Law Judges about the landfill's operating hours and remanded the case to the TCEQ for an explanation and reasoning on its grounds for changing the operating hours.

F. Felony Violations of the Texas Water Code

In *Wolf v. State of Texas*, 2012 WL 4741078 (Tex. App.—Houston [1st Dist.] 2012, no pet.), Clair Audrey Wolf was indicted for nine felony violations of the Texas Water Code, the Solid Waste Disposal Act, and pertinent regulations promulgated by the Texas Commission on Environmental Quality (TCEQ) relating to the improper storage of hazardous materials and leakage of hazardous waste on two parcels of private property in Harris County, Texas. A jury found Wolf guilty in all nine cases and assessed a sentence and fine against Wolf for each which included fines of $256,000 and 25 years of incarceration. The judgment recites that the sentences are to run concurrently. On appeal, Wolf contended that his trial counsel rendered constitutionally ineffective assistance by failing to object and request a limiting instruction on testimony divulging that Wolf had a criminal history. The Houston Court of Appeals concluded that Wolf failed to meet his burden of proof to show that: (1) his counsel's performance was deficient and (2) a reasonable probability exists that the result of the proceeding would have been different.

G. Standing to Sue and Consent to Trespass

In *FPL Farming Ltd. v. Environmental Processing Systems*, L.C., 383 S.W.3d 274 (Tex. App.—Beaumont 2012, pet. filed), a landowner brought a tort action against wastewater injection well operator, alleging that wastewater migrated onto the landowner's property and

contaminated the landowner's water supply. On remand, the Beaumont Court found that FPL proved that it had standing to sue for trespass to its subsurface by placing the deeds to the tracts at issue into evidence. The Court stated that the owner of the surface is also considered the owner of the water below the tract including saltwater. The Court also found that that the Texas Supreme Court, by implication, has recognized that the law of trespass applies to invasions occurring on adjacent property but at a level beneath the surface. Accordingly, FPL had a cause of action for trespass at common law against Environmental Processing Systems for its impacts on subsurface briny water on FPL's property. Since the jury instruction improperly placed the burden of proof on FPL to prove that it did not consent to the presence of wastewater plume on its tracts, the Court reversed and remanded to the trial court for a new trial.

H. Pollution Control Property Exemption for Ad Valorem Taxes

In *Mont Belvieu Caverns, LLC v. Texas Commission on Environmental Quality*, 382 S.W.3d 472 (Tex. App.—Austin 2012, pet. filed), a taxpayer brought an action against the Texas Commission on Environmental Quality (TCEQ) seeking to challenge agency's final order determining that a new brine-pond system the taxpayer had installed at one of its facilities used for storing natural gas did not qualify for the "pollution control property" exemption from ad valorem taxes. The Austin Court of Appeals stated that the tax code reflects the Legislature's intent that TCEQ distinguish pollution-control property—property qualifying for the tax exemption—from "property that is used to produce goods and services." *See* Tex. Tax Code Ann. § 11.31(g). Since the brine-pond system was part of the process by which the taxpayer produced its gas-storage services for its customers, and it conceded at least some portion of property's value was attributable to its productive activity, the system did not qualify as a 100% pollution-control property for the exemption from ad valorem taxes.

I. Stigma Damages Permitted

In *Houston Unlimited Inc. Metal Processing v. Mel Acres Ranch*, 389 S.W.3d 583 (Tex. App.—Houston [14th Dist.] 2012, pet. filed), landowner brought trespass, nuisance, and negligence action against metal-processing neighbor based on environmental contamination. A jury found that the defendant did not create a permanent nuisance on the property or commit trespass. However, the jury found that the defendant's negligence proximately caused "the occurrence or injury in question" and assessed $349,312.50 as the difference in market value of the property before and after "the occurrence." The Houston Court of Appeals affirmed and held that the landowner could recover lost market value due to stigma, as a form of permanent damage, even if the contamination of its property had been remediated and was only temporary. The Court also held that the evidence was sufficient to establish that landowner suffered stigma damages that were permanent, irrespective of whether the contamination was remediated or ongoing. With respect to plaintiff's expert, the Court stated that it was unnecessary for landowner's appraiser to articulate what particular constituents contaminated landowner's property in order to link lost market value to contamination and the evidence was sufficient to

attribute neighbor's contamination to landowner's stigma damages. The Court stated that any flaws in the methodology of landowner's appraiser went to credibility rather than admissibility.

VII. SIGNIFICANT ENVIRONMENTAL DECISIONS FROM OTHER JURISDICTIONS

A. Hydraulic Fracturing

1. NEPA Review in the Delaware River Basin

In *New York v. United States Army Corps of Engineers*, 896 F.Supp.2d 180 (E.D. New York 2012), a district court dismissed a lawsuit filed by the State of New York and several environmental groups challenging the federal government's decision not to conduct an environmental review under NEPA while the Delaware River Basin Commission drafts and considers regulations that would allow hydraulic fracturing in the Basin. The court reasoned that although the plaintiffs provided a great deal of support for how their interests may be threatened if natural gas development is allowed in parts of the Basin, as of now it is not allowed, and the mere existence of proposed regulations is not sufficient to demonstrate that their interests are at risk. Accordingly, there is no injury in fact and the plaintiffs lack standing.

2. Closed-Loop System Not Required

In *Teel v. Chesapeake Appalachia, LLC*, 906 F.Supp.2d 519 (N.D. W. Va. 2012), a district court dismissed a landowner's trespass claim against an energy company for waste stemming from natural gas drilling operations on the property. The company owned the mineral rights underlying the land. As part of its drilling operations, the company deposited drilling waste and other material in pits on the landowners' property for which the landowner argued that the company's use of pits is a trespass. But under West Virginia law, the owner of subsurface has the right to use the surface of the land in such a manner as would be fairly necessary for the enjoyment of the subsurface estate. Here, the company's use of the land was fairly necessary for the extraction of the natural gas and the existence of a closed-loop system as an alternative did not render the company's use of the pits unreasonable.

3. Trade Secrets

In *Powder River Basin Resource Council v. Wyoming Oil & Gas Conservation Commission*, No. 94650-C, 43 ELR 20072 (D. Wyo. Mar. 21, 2013), a district court held that individual ingredients of hydraulic fracturing formulas are trade secrets and do not need to be publicly disclosed. The court stated that although the Wyoming Public Records Act does not define trade secrets, the Wyoming Oil and Gas Commission's policy for evaluating trade secrets is reasonable and complies with the Act. In addition, the environmental group seeking disclosure failed to establish that the commission's decision to grant trade secret protection requests were arbitrary, capricious, or not in accordance with the law.

4. BLM Violated NEPA

In *Center for Biological Diversity v. Bureau of Land Management*, No. C 11-06174 PSG, 2013 WL 1405938 (N.D. Cal. Mar. 31, 2013), a district court held that BLM violated NEPA when it sold four oil and gas leases on approximately 2,700 acres of federal land in Monterey and Fresno counties without considering impacts from hydraulic fracturing. The leases are located in California's Monterey Shale Formation, which is estimated to contain over 15 billion barrels of oil, most of which is not retrievable through conventional drilling techniques. BLM argued that its obligation to conduct NEPA analysis had not yet accrued, and even if it did, it satisfied this obligation by conducting an EA and finding the proposed action carried no significant environmental impact requiring a full EIS. But the court determined that BLM's EA unreasonably relied on an earlier single-well development scenario. That scenario did not adequately consider the development impact of hydraulic fracturing techniques when used in combination with technologies such as horizontal drilling.

5. Property Damages

In *Magers v. Chesapeake Appalachia, L.L.C.*, No. 5:12CV49, 2013 WL 1558647 (N.D. W. Va. Apr. 10, 2013), a district court denied a motion to dismiss landowners' lawsuit against a gas company for alleged contamination of their well water resulting from adjacent gas drilling activity. The court held that the landowners sufficiently alleged the company's connection with the alleged contamination as well as the statutes which created a duties owed by the company which were allegedly breached. The court found that these claims, as well as others, were sufficient to support the landowners' claims for compensatory and punitive relief at this stage of the case. Nonetheless, the court granted the company's alternative motion for a more definite statement pursuant to FED. R. CIV. P. 12(e).

6. Zoning Law

In *Norse Energy Co. v. Town of Dryden*, 964 N.Y.S.2d 714 (N.Y. App. Div. 2013), a New York appellate court held that the state's Oil, Gas and Solution Mining Law (OGSML) does not preempt, either expressly or impliedly, a municipality's power to enact a local zoning ordinance banning all activities related to the exploration for, and the production or storage of, natural gas and petroleum within its borders. The case arose after a town amended its zoning ordinance due to growing local concern over the proposed use of hydraulic fracturing to recover natural gas from underground shale deposits. Norse Energy Co. argued that the amendment was preempted by state law. But based upon the plain meaning of the OGSML's supersession clause, and the relevant legislative history and the purpose and policy of OGSML as a whole, the court held that OGSML does not expressly preempt the town's authority to enact a local zoning ordinance prohibiting oil, gas, and solution mining or drilling within its borders. The ban, therefore, was upheld.

B. Environmental Insurance

1. Duty to Indemnify for Repair and Replacement Costs

In *H&M Petro Mart, Inc. v. Zurich American Insurance Co.*, No. 11-13140, 42 ELR 20242 (E.D. Mich. Nov. 15, 2012), a district court held that an insurance company need not indemnify its insured for certain repair and replacement costs it incurred cleaning up the release of contaminants from an underground gasoline storage tank. The court stated that the plain language of the policy indicates the company was not required to pay for services associated with updating and repairing the storage tank systems and gasoline dispenser islands. The insurer was required to remediate the surrounding environmental area, but not to update and replace the insured's business equipment. Specifically, requiring the insurer to repair and replace the dispenser islands, recalibrate the dispenser islands, reinstall all of the electrical components of the system, and install a new sewer system is unreasonable and excluded by the policy language. In addition, the cost of replacing 5,800 square feet of excavated concrete did not qualify as cleanup costs under the policy. The policy unambiguously excluded coverage for costs associated with restoring the entire premises back to its original condition.

2. Subrogation for CERCLA claims

In *Chubb Custom Insurance Co. v. Space Systems/Loral, Inc.*, 710 F.3d 946 (9th Cir. 2013), the Ninth Circuit upheld the dismissal of an insurance company's subrogation suit for recovery of insurance payments made to its insured for environmental response costs it incurred cleaning up pollutants on its property. The company claimed that the defendants should be held jointly and severally liable for the response costs because they released hazardous substances that migrated onto the insured's property. But the insurance company lacked standing to bring a claim under CERCLA §107(a) because it did not incur any response costs related to the removal or remediation of a polluted site, and because the common law principle of subrogation does not apply to §107(a).

C. CERCLA Response Costs

In *PCS Nitrogen Inc. v. Ashley II of Charleston LLC*, 714 F.3d 161(4th Cir. 2013), the Fourth Circuit affirmed a lower court decision allocating response costs to various PRPs in connection with the cleanup of hazardous substances at a former fertilizer manufacturing site in Charleston, South Carolina. After incurring response costs, the current owner of a portion of the site brought a cost recovery action under CERCLA against the corporate successor to a former owner of the site. The corporate successor counterclaimed and also brought third-party contribution actions against parties with past and current connections to the site. The lower court found that the corporate successor was a PRP jointly and severally liable for response costs at the site. It also ruled that the current owner and some of the other parties were PRPs liable for an allocated portion of the site's response costs.

D. Offer of Judgment for Attorney's Fee in Citizen Suits

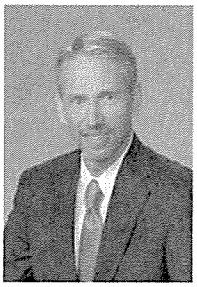
In *Interfaith Community Organization v. Honeywell International, Inc.*, 11–3813, 2013 WL 2397338 (3d Cir. June 4, 2013), the Third Circuit determined that offers of judgment pursuant to Fed. R. Civ. P. 68 may be made in attorney fee disputes in RCRA citizen suits. In this case, the defendant agreed to pay certain fees and costs in connection with the environmental group's monitoring costs for remediation of certain sites. A dispute arose as to amount of attorney's fees sought by the environmental group. Defendant served offers of judgment as to the disputed fees for which the district court held were null and void in a RCRA citizen. The Third Circuit disagreed and overturned the decision below.

Acknowledgement: Although I am solely responsible for any errors, I would like to gratefully acknowledge the input on this paper of Jean M. Flores and Erika Erikson my colleagues at Guida, Slavich and Flores, P.C.

Disclaimer: The information provided in this paper and the accompanying presentation is intended solely as an educational resource. It does not constitute legal advice, and should not be used as a substitute for careful review of the rulemaking and related developments themselves as well as consultation with competent legal and technical professionals as to site-specific circumstances. The views expressed in this paper are solely those of the authors and should not be construed as representative of the views of any other person or entity.

Doc. # 35207

LEONARD H. DOUGAL



- *Partner*
- **Environmental, Legislative, Agriculture, Energy, Toxic Tort**
- B.S., University of Texas
- J.D., University of Texas
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AV Martindale-Hubbell Peer Review Rated For Ethical Standards and Legal Ability

Leonard H. Dougal is a partner in the Austin office of Jackson Walker L.L.P. and focuses his practice on environmental permitting, water rights, and water districts. Mr. Dougal also advises clients on water quality permits, the state voluntary clean-up program, compliance with the solid waste disposal act and the permitting of new power generation facilities.

Mr. Dougal has represented clients in contested hearings before the Texas Commission on Environmental Quality, the Comptroller of Public Accounts and the State Office of Administrative Hearings. He has also represented clients in state district court litigation and in matters before the Texas Water Development Board, the State Board of Professional Engineers and other state agencies.

Mr. Dougal is also a licensed professional engineer in Texas (inactive). Prior to attending law school, Mr. Dougal worked as a petroleum engineer for Exxon Company, U.S.A.

Mr. Dougal is Board Certified in Administrative Law by the Texas Board of Legal Specialization.

REPRESENTATIVE MATTERS

Litigation

- *City of College Station v. Wellborn Special Utility District* (2005) – Successfully defended water district in breach of contract action by neighboring city seeking to acquire portion of district's CCN.
- *Collins v. Texas Natural Resource Conservation Commission* (2002) – Successfully obtained TPDES water quality permit following hearing at State Office of Administrative Hearings and defended permit on appeal.
- *State of Texas v. Voluntary Purchasing Groups, Inc.* (2001) – Represented fertilizer and pesticide manufacturer in settlement of environmental claims and natural resource damages associated with releases from multiple sites in Texas.
- *Birnbaum v. Alliance of American Insurers* (1999) – Successfully defended owner of confidential financial information in trade secret litigation sought pursuant to Texas Public Information Act.

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Energy

- Represented owner of steam electric generating plant at TCEQ related to the proposed listing of cooling water body as thermally-impaired under Clean Water Act Section 303(d).
- Represented owner of 750 MW natural gas fired combined cycle power plant in contested matters involved in obtaining a wastewater discharge permit from the TNRCC.
- Represented developer of wind-power project to identify and obtain necessary state and federal environmental permits for project development.

Waste and Voluntary Clean-up

- Represented client in negotiations with the TCEQ to settle claims brought by the agency under the Texas Solid Waste Disposal Act.
- Represented client in matters involving client's voluntary clean-up of groundwater contamination which had migrated off-site from plant property.
- Represented client and successfully obtained an innocent owner certificate from TCEQ confirming that client was not responsible for groundwater contamination which migrated onto client's property from adjacent gas station.

Water Quality Permits

- Represented a national developer of resort communities in its successful efforts to obtain a TPDES discharge permit for a new domestic wastewater plant to serve a 3000 acre golf course resort community being developed in Central Texas.
- Represented a major Texas dairy operation in a hotly contested SOAH permit hearing, where environmental activists and neighbors protested the permit application for the expansion of the dairy. Also, successfully obtained a TPDES water quality permit for the operation, which was located in the sensitive North Bosque River watershed.
- Represented major real estate developer to obtain authorization from the TCEQ to use reclaimed water from wastewater treatment plant for golf course and landscaping irrigation. Negotiated terms of water reuse agreement with owners of plant.

Districts and Water Supply

- Represented clients before the Texas Legislature, drafted and successfully passed special legislation to create the following special utility districts: Stephens Regional SUD, Parker County SUD, Rose Hill SUD, Gastonia-Scurry SUD, Fort Griffin SUD, San Jacinto SUD and Goforth SUD.
- Represented holder of significant quantity of water rights in multi-million dollar sale of such rights.

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- Represented an investor-owned utility to obtain required regulatory approvals of the TCEQ and TWDB and successfully close the purchase of a large non-profit water supply corporation.
- Represented client to successfully obtain a retail water CCN from TCEQ comprising more than 450,000 acres of land in West Central Texas.
- Represented water district in adopting impact fees in compliance with TCEQ rules and Chapter 395, Local Government Code.
- Represented wholesale purchaser of water in challenge of rate increase, and successfully obtained order from administrative law judge adopting lower interim rates during pendency of rate appeal pursuant to Texas Water Code §13.043.
- Represented clients in contractual negotiations for the long term purchase of raw water from various river authorities and districts, including Sabine River Authority, Tarrant Regional Water District, Guadalupe-Blanco River Authority and Brazos River Authority.

MEMBERSHIPS

Mr. Dougal is a member of the Environmental and Natural Resources Section of the State Bar, the Austin Bar Association (Administrative Law Section; and Environmental, Natural Resources, and Water Law Section), and the American Bar Association Section of Environment, Energy, and Resources. He is a Fellow of the Texas Bar Foundation.

COMMUNITY INVOLVEMENT

Mr. Dougal serves on the Board of Advisors, University of Texas School of Law, Environmental Law Clinic (2005-2009) and the Exam Committee, Texas Board of Legal Specialization (2006- 2009). He is a Past Chairman (1999-2000) of the Central Texas Chapter of the Air & Waste Management Association; Past Member of the Board of Directors (1999-2003) of the Clean Air Force of Central Texas; Past Chair (1997-1998) of the Health, Safety and Environment Committee of the Greater Austin Chamber of Commerce; and Member of the Texas Society of Professional Engineers (State Director, 1994-1996). He has performed pro bono legal services in conjunction with a variety of community organizations, including the Volunteer Legal Services of Central Texas.

AWARDS

Mr. Dougal is listed in the 2007-2013 editions of *The Best Lawyers in America* under Environmental Law and/or Water Law; in the 2012-2013 editions he was also listed under Litigation - Environmental. He is AV rated by Martindale-Hubbell.

ADMITTED

- Texas
- Unites States Court of Appeals for the Fifth Circuit

LEONARD H. DOUGAL

- United States District for the Western District of Texas

EDUCATION

Mr. Dougal earned both his B.S. degree in Chemical Engineering, *with honors*, and his J.D. degree, *with honors*, from the University of Texas.

PUBLICATIONS & SPEAKING ENGAGEMENTS

Mr. Dougal is a frequent author and speaker on water, environmental, and regulatory matters. Recent presentations include:

- "Hydraulic Fracturing: Production Boom and Water Resource Challenges," *CLE International Texas Water Law Conference* (September 11, 2012)
- "Flood Management" and "Drinking Water Supply Issues: Water Utilities--CCNs and Rates," State Bar of Texas, *Essentials of Texas Water Resources* (2009 and 2012)
- "Water Utility Service: Streamlined CCN Decertification Pursuant to SB 573," *13th Annual Changing Face of Water Rights Course* (February 23, 2012)
- "Hydraulic Fracturing: Regulatory Developments, Land Use, and Water Resource Conflicts," TexasBar CLE webcast (February 15, 2012)
- "Upstream Development Water Needs: Supply and Permitting Considerations," South Texas College of Law's 24th annual *Energy Law Institute for Attorneys and Landmen*, Houston, Texas (August 31, 2011)
- "Environmental Litigation and Regulation Affecting Poultry Producers," U.S. Poultry and Egg Association, *Environmental Management Seminar*, Memphis, Tennessee (2007)
- "Water Availability Models – Recent Developments and Legal Considerations," State Bar CLE Changing Face of Water Rights in Texas (2004)
- "Selected Texas Water Quality and TPDES Permit Issues," *CLE International Texas Water Law Conference*

Mr. Dougal has also authored or presented the following:

- "Environmental Compliance and Water Supply Options for Texas Wineries"
- "Supplying Water and Wastewater to New Development"
- "Water and Environmental Legislative Update"
- "Certificates of Convenience and Necessity: The Basics and Recent Developments"
- "Securing Water Supplies for New Development"
- "Unique Water Rights Permitting Issues"
- "Petitions for Expedited Release From CCNS – How Are Incumbent Utilities Responding?"
- "CAFOs & More: Agricultural Policy Meets Environmental Law – Emerging Legal Issues in the Regulation and Operation of CAFOs"
- "EPA issues Consent Agreement Regarding Air Emissions from Animal Feeding Operations and CAFOs"

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- "Water Availability Modeling – Recent Developments and Legal Considerations"
- "Selected Texas Water Quality and TPDES Permit Issues"
- "Retail Water Supply and the Regulation of Water Utilities"

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Conflicts, Curtailments and Conversions: Lessons From the Historic Texas Drought

25th Annual
Texas Environmental Superconference
August 1, 2013
Austin, Texas

Introduction

1. Surface Water Curtailment in Brazos Basin
2. Brackish Groundwater Resource Conflicts and Development
3. Conversion of Agricultural Supplies to Municipal/Industrial

U.S. Drought Monitor

July 9, 2013

Valid 7 a.m. EST

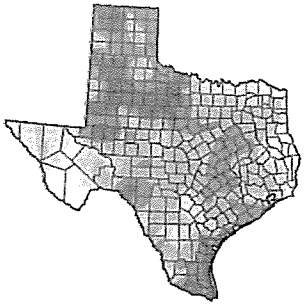
Texas

Drought Conditions (Percent Area)

	None	D0-D4	D1-D4	D2-D4		
Current	0.88	99.12	91.90	75.72	34.70	12.20
Last Week (07/02/2013 map)	1.23	98.77	87.13	65.67	32.63	12.20
3 Months Ago (04/09/2013 map)	0.44	99.56	89.44	69.35	29.91	11.96
Start of Calendar Year (01/01/2013 map)	2.04	97.96	87.00	65.39	35.03	11.96
Start of Water Year (09/25/2012 map)	9.13	90.87	78.13	57.44	24.91	5.13
One Year Ago (07/03/2012 map)	2.65	97.35	76.36	26.79	6.77	0.03

Intensity:

- D0 Abnormally Dry
- D1 Drought - Moderate
- D2 Drought - Severe
- D3 Drought - Extreme
- D4 Drought - Exceptional



The Drought Monitor focuses on broad-scale conditions. Local conditions may vary. See accompanying text summary for forecast statements.

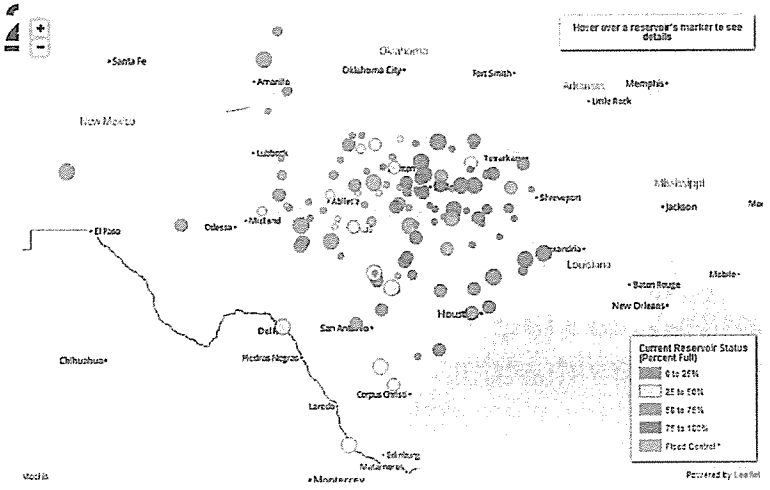
http://droughtmonitor.unl.edu

Released Thursday, July 11, 2013
National Drought Mitigation Center,

JACKSON WALKER L.L.P.

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Texas Reservoir Status – July



Source: Texas Tribune/TWDB

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Prior Appropriation Doctrine

"As between [surface water] appropriators, the first in time is the first in right."

Water Code § 11.027

Brazos River Curtailment Area

This map depicts the area of the Brazos River where junior surface water rights have been curtailed.



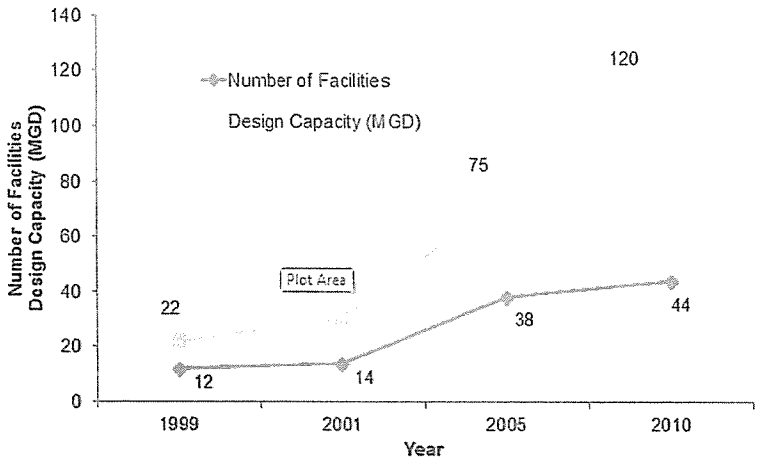
Surface Water Curtailment In Brazos Basin – Priority Call

- No Watermaster on the Brazos River
- "Priority Call" By Senior Water Rights Holder
  - –TCEQ Suspends Water Rights Junior to Feb. 14, 1942
  - –But, Order Excludes Junior Muni and Power Generation Rights
  - –ED Cites Public Health, Safety and Welfare and New Rules
- Texas Farm Bureau Sues TCEQ
  - –Challenges TCEQ "Curtailment Rules" (Ch 36)
  - –Judge Jenkins Invalidates Curtailment Rules
  - –Decision Now on Appeal

Brackish Groundwater Resources

- TWDB Estimates: 2.7 Billion Acre-Ft
  - – Brackish = 1,000 – 10,000 TDS
  - – Represents "New Water" if Developed
- TWDB Estimates Desal Production Costs of $1.09 to $2.40 per 1000 Gallons
- Less Costly than Seawater Desalination
- Currently 34 Operating Brackish GW Desalination Facilities in Texas

Growth of Desalination Capacity in



Source: TWDB (includes both surface water and groundwater desalination plants)

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Brackish GW Development Policy Considerations

- Who Should Regulate Brackish GW?
  - Do GWCD's Have the Knowledge and Resources to Regulate Brackish GW?
  - How Do We Encourage the Development of Brackish GW?
- Need for Better Characterization of Brackish GW Aquifers (TWDB/BRACS)

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Conversion of Irrigation Supplies
TWDB Water Demand Projections (M AcFt/yr.)

Category	2010	2060
Municipal	4.8	8.4
Manufacturing/Electric	2.5	4.5
Irrigation	10.0	8.4

Conversion of Supplies
SAWS Deals

- "Reverse Auction" to Purchase Edwards Aquifer Rights
- SAWS Stated Goal: "To Acquire an Additional 10,900 acre-feet of Edwards Aquifer Water Rights in the Years to Come."

Conversion of Supplies
Colorado Basin Example

LCRA Reported Water Use by Type
(Acre-feet per year)

TYPE OF USE	2009	2010	2011	2012
Municipal Water Use	218,202	209,265	246,601	228,570
Industrial Water Use	112,716	86,258	60,272	117,977
Agriculture Water Use	509,839	430,622	529,580	102,668
Other Water Use	40,602	25,415	42,877	37,831
TOTAL WATER USE	**881,359**	**751,560**	**879,330**	**487,046**

Conversion of Supplies:
Hydraulic Fracturing Example

- "It takes 407 million gallons to irrigate 640 acres and grow about $200,000 worth of corn."
- "That amount of water, could be used to frack enough wells to generate $2.5 billion worth of oil."
- "No water, no frack, no wealth,' says Dr. Brownlow (who has leased his cattle ranch for oil exploration)."

WSJ, Quoting
Darrell Brownlow, Ph.D.

Conclusions

- Priority System Affirmed; Legality of TCEQ "Curtailment Rules" Questioned
- Brackish Groundwater Is a Vast Resource; Policy Changes Needed to Spur Development
- Irrigated Agriculture Will Decline as Water Moves to Higher Value Municipal/Industrial Uses

QUESTIONS?

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Jeremy Mazur

Jeremy Mazur is the Director of Governmental Relations for the Texas Water Development Board. Before joining TWDB, he served as Chief of Staff for Texas State Representative Bill Callegari, and was a policy analyst for the Texas Sunset Advisory Commission. Jeremy graduated *magna cum laude* from Claremont McKenna College in Los Angeles, and received his Masters in Public Administration from the LBJ School of Public Affairs at the University of Texas at Austin.

ELIZABETH A. FAZIO

Biography

At the Texas Legislature, Elizabeth Fazio ("Liz") serves as the Director for the Committee on Natural Resources in the House of Representatives, where she provides strategic planning for the development of the state's natural resources and water rights. Liz possesses an expansive skill set and record of accomplishment leading the formulation and execution of public policy, as well as, demonstrating financial and legal expertise to drive sustainable change in the preservation and conservation of water resources. More recently, Liz played an instrumental leadership role in the creation and passage of legislation to finance over $27B in water development projects over the next 50 years.

Prior to serving as Committee Director, Liz pursued opportunities in the private sector, serving as a Corporate Tax Advisor for KPMG, LLP specializing in international tax procedures and a legal associate with a leading real estate and corporate law firm in Denver, Colorado. In these roles, Liz participated in several multi-million dollar and multi-national transactional projects.

Liz holds both her LL.M. in Taxation and her J.D. from University of Denver Sturm College of Law. She is a dual-degree graduate of the University of Texas at Austin with a B.A. in Government and a B.S. in Communications.

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ENVIRONMENTAL LAW EXPERIENCE

Ms. Baker is a founding partner of the Houston litigation and environmental regulatory law firm of Connelly · Baker · Wotring LLP, where she serves on the Firm's Management Committee. Ms. Baker has practiced environmental law for more than 28 years and obtained her law degree from the Georgetown University Law Center, where she received the Magoichi Kato Scholarship Award for Academic Excellence for Japanese American students. She obtained a Bachelor of Science degree, Summa Cum Laude, from the University of Maryland.

Ms. Baker's practice encompasses the full spectrum of environmental issues, with an emphasis on the handling of difficult and complex multi-party environmental cases, Superfund, environmental regulatory counseling and representation in enforcement, permitting, catastrophic release response, compliance and environmental support in corporate/real estate due diligence and transactional matters. She is an author and editor of the First and Second Editions of the *Texas Environmental Law Handbook*, published in January 1989 and October 1990 and is a co-author of two other books on environmental law. Ms. Baker has also authored and published more than 50 articles on environmental law, has lectured extensively on environmental legal issues, and has testified in a variety of cases as an expert witness on environmental law in the United States and Canada.

She is active in bar, law school and community activities promoting issues concerning the environment, minority advancement and gender equality issues, among others. Ms. Baker was featured on the cover of *Diversity & The Bar* magazine, a publication of the Minority Corporate Counsel Association, in connection with her work in the area of diversity. She is the 2008 recipient of the Ma'at Justice Award, awarded annually by the State Bar of Texas Women and the Law Section to an individual who has actively addressed the needs and issues of women in the legal profession and the community. Ms. Baker was also the 2006 award winner of the Texas Bar Foundation's Dan Rugeley Price Award presented to an outstanding practitioner dedicated to the bar and public. She has served as an Adjunct Professor of Environmental Law at both the University of Houston Law Center and the South Texas College of Law, and was co-founder and past Chair of the Houston Bar Association's Environmental Law Section. She was also a founder and Chair of the American Bar Association's national Environmental Law Group, supervising 10 environmental committees integrating issues of environmental law with real estate, landlord and tenant issues, due diligence, and merger and acquisition transactions. Ms. Baker was the 2008 Chair of the Houston Bar Foundation, the HBA's 501(c)(3) charitable foundation, and other bar appointments have included serving on the Board of Directors of the Asian American Bar Association, as Vice Chair of the State Bar of Texas Standing Committee on Women in the Profession, and Co-Chair of the Houston Bar Association's Gender Fairness Committee, among others. Prior to forming the Connelly · Baker Firm, Ms. Baker headed the Environmental Law Practice group for the 120-lawyer firm of Mayor, Day, Caldwell & Keeton, L.L.P. for over a decade and also practiced environmental law in the D.C. and Houston offices of Fulbright & Jaworski, L.L.P. She is admitted to practice in both the District of Columbia and Texas.

Beth Seaton is the Director of the Remediation Division in the Office of Waste at the Texas Commission on Environmental Quality (TCEQ). She has worked at the TCEQ for 14 years and has been in her current position since September 2011. She started her career at the agency in August of 1999 as a Project Manager in the Petroleum Storage Tank Responsible Party Remediation Section of the Remediation Division. From 2000 to 2009, Beth continued her career working on water related issues in the Water Permits and Resource Management Division, Water Supply Division, and Water Quality Division. She worked in numerous positions including outreach services coordinator, Permit Writer, Special Assistant to the Wastewater Permitting Section Manager, Team Leader of the Land Application Team, Special Assistant to the Director, and Assistant Division Director. From March 2009 to August 2011, Beth served as the Special Assistant to the Deputy of the Office of Compliance and Enforcement.

Beth received a Bachelor of Science degree in Biology and Physical Science from Troy State University in 1996 and a Master of Science degree in Environmental Analysis and Management in 1998.

Scott Sherman

Over the past two decades, Scott Sherman has directed federal and state regulatory programs, advised Fortune 100 companies on risk reduction and asset management, and driven to resolution permitting, compliance and enforcement issues at facilities throughout the United States. Drawing upon this experience, Scott focuses his environmental law practice on the management of corporate liabilities and the development of regulatory strategies for addressing issues at the intersection of energy, natural resources and the environment. As counsel to clients in the energy, chemical and real estate industries, he regularly engages in complex negotiations with federal and state regulators to address long-term liabilities and bring closure to enforcement actions. Scott also advises resource-intensive corporations on the development and implementation of strategies and programs to enhance environmental performance, corporate reputation, and marketplace differentiation, with particular experience in asset acquisition and disposition, new market entry and emergency management.

Prior to joining Bracewell & Giuliani, Scott was senior environmental counsel and corporate environmental affairs director at Occidental Petroleum Corporation and Hess Corporation, respectively. Scott previously served as the Associate Assistant Administrator for the Office of Solid Waste and Emergency Response (OSWER) at the U.S. Environmental Protection Agency in Washington, D.C. During his tenure at EPA, he also served as the Agency's Associate General Counsel for Solid Waste and Emergency Response. In these capacities, he worked regularly with the EPA Regional Offices and the U.S. Department of Justice, Environment and Natural Resources Division on Superfund, RCRA, Brownfields, Federal Facilities and Emergency Management law and policy, as well as with the Office of the Solicitor General on matters before the U.S. Court of Appeals and the U.S. Supreme Court.

Scott first held environmental positions with the State of Texas, working as Assistant General Counsel at the Texas Commission on Environmental Quality and as a counselor to the Chairman of the Railroad Commission of Texas. In these positions, he advised on a broad range of permitting and enforcement matters and developed state agency policies relating to environmental programs and domestic energy production.

Education

J.D., *cum laude*, Harvard Law School, 1991
B.A., *highest honors*, The University of Texas at Austin, 1988

EPA's Vapor Intrusion Guidance:
Guiding Deal Points in Corporate and Real Estate Transactions

Texas Environmental Superconference

August 1-2, 2013

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Bracewell & Giuliani LLP

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EPA's Vapor Intrusion Guidance: Guiding Deal Points in Corporate and Real Estate Transactions

Scott A. Sherman

I. Introduction

Notwithstanding the use of such qualifiers as "external review" and "draft", EPA's release of its vapor intrusion guidance document[1] marks a significant milestone in the decade-long search by the private sector for clarity on the Agency's position on vapor intrusion. In fact, the EPA guidance document ("Guidance"), issued by the Office of Solid Waste and Emergency Response, puts to rest three areas of lingering concern to corporate and real estate environmental professionals: 1) vapor intrusion is not simply a worker protection issue that will be left to OSHA, 2) the Agency expects vapor intrusion to be accounted for in the assessment and remediation of a broad spectrum of contaminated sites and 3) addressing vapor intrusion, in most instances, will be no more challenging than addressing other better-known environmental conditions.[2] Taken together, these three factors may come to elevate vapor intrusion from a technical agency topic to one affecting many types of properties and thus commercial transactions involving these sites. This paper will offer an overview of the Guidance document, with a focus on its place within the EPA regulatory framework, followed by a discussion of key provisions that may affect site assessment and response actions. In doing so, the paper also will offer commentary on how sample deal points in corporate and real estate transactions can be crafted to account for vapor intrusion issues.

II. Placing the Guidance within the EPA Regulatory Framework

EPA first issued draft guidance on vapor intrusion (VI) in November 2002.[3] The 2002 document put VI on the radar screen for Agency staff and, to a lesser degree, environmental professionals working on the assessment and remediation of contaminated sites. Never finalized and thus periodically criticized[4], the document led many to raise questions about its scope and applicability, including the Agency's statutory authorities and how VI should be incorporated into the Agency's remediation programs.

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[1]OSWER Final Guidance for Assessing and Mitigating the Vapor Intrusion Pathway from Subsurface Sources to Indoor Air (*External Review Draft*).

[2]In fact, EPA foreshadows this conclusion on page 1 of the Guidance. "Vapor intrusion is similar to radon intrusion in that mechanisms of subsurface vapor migration and soil gas entry into buildings are similar for radon and volatile, hazardous chemicals of concern to EPA's program."

[3]67 Fed. Reg. 71,169 (Nov. 29, 2002).

[4]See, e.g., U.S. EPA, Office of the Inspector General, Lack of Final Guidance on Vapor Intrusion Impedes Efforts to Address Indoor Air Risks (Dec. 2009) (Report No. 10-P-0042); U.S. Government Accountability Office, EPA's Estimated Costs to Remediate Existing Sites Exceed Current Funding Levels, and More Sites Are Expected to Be Added to the National Priorities List (May 2010) (GAO-10-380).

The new Guidance goes to great lengths to inform readers of its place within the EPA regulatory framework and to anticipate questions as to its expected utilization. Citing the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), the Resource Conservation and Recovery Act (RCRA), and the National Oil and Hazardous Substances Pollution Contingency Plan (NCP), the Guidance describes "protection of human health" as a "critical mandate" under these statutes and identifies VI "as a potentially significant cause of human exposure to volatile hazardous chemicals."[5]

The Guidance also takes the next step of linking this "mandate' to its remediation programs. The EPA has broad authority to assess and, if warranted, mitigate vapor intrusion in residential and nonresidential settings arising from subsurface contamination by hazardous chemicals. If hazardous vapor-forming chemicals are present, the potential for human health risk from vapor intrusion should be evaluated throughout the cleanup life cycle (i.e., initial site assessment, site investigation, interim response actions, final cleanup actions, and periodic reviews of the selected cleanup plan).[6]

On a programmatic level, EPA recommends use of the Guidance in the following Agency programs:

- CERCLA: removal actions, remedial actions, pre-remedial investigations, remedial investigations, and five-year reviews;
- CERCLA: evaluating sites for inclusion on the National Priorities List (NPL);[7]
- RCRA: facility investigations and corrective actions;
- RCRA: environmental indicator (EI) determinations ("Current Human Exposures Under Control") at corrective action facilities;
- Federal Facilities: site investigations and cleanups; and
- Brownfields: site investigations and cleanups[8]

EPA's statutory authorities, however, do have limits, and the Agency cannot mandate the use of VI assessment protocols and mitigation measures in all situations. However, with increased VI

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[5]Guidance at p. 2.

[6]Guidance at p. 2.

[7]While the Agency states that NPL listing decisions should take the VI guidance into account, it is not clear how the Agency intends to do so in the absence of an amendment to the Hazardous Ranking System (HRS) or some interpretation of existing HRS criteria. For further discussion, readers may wish to review the Agency's solicitation of public input, "Potential Addition of Vapor Intrusion Component to the Hazard Rankings System." 76 Fed. Reg. 5370 (Jan. 31, 2011).

[8]While the Agency will apply the Guidance to brownfield activities funded by EPA grants and loans, the Guidance's applicability to brownfield activities conducted under state voluntary cleanup programs is an open question.

attention generally, the decision by some states to review previously closed sites and the possibility of revisions to ASTM 1527, parties to corporate and real estate transactions – even those that do not encompass the sites described above – are beginning to seek to account for VI in their deals. In doing so, the Guidance serves as a contemporary and persuasive – even if not authoritative - statement for parties in these negotiations.

III. Corporate and Real Estate Assets at Issue

In addition to describing the EPA programs in which VI is to be assessed and addressed, the Guidance describes the various corporate and real estate assets where VI concerns may be presented. The environmental practitioner thus may wish to consider how these concerns – and the Agency's guidance for dealing with them – may affect transactions involving these assets. As the Guidance notes, properties with potential VI issues can be found in many industrial and commercial areas, such as current and former manufacturing and chemical processing plants, warehouses, landfills and other land disposal units, coal gasification plants, chemical handling or transfer facilities and areas, dry cleaners, and gas stations.[9] In the Guidance, the Agency makes clear that interested persons should also be aware that off-site contamination sources may be the cause of VI impacting the subject property. For example, contaminated soils or buried drums may be present on a neighboring property, and migrating plumes of contaminated groundwater or migrating soil gas could pose VI threats.[10] As such, environmental practitioners involved in redevelopment projects or in transactions in areas of industrial and commercial land uses in particular should consider the possibilities of VI as part of their typical deal considerations.

IV. Overview of Vapor Intrusion Concerns and Exposure Pathways

The primary purpose of the Guidance is to provide a "recommended framework"[11] for assessing vapor intrusion, conducting monitoring of indoor air conditions, evaluating mitigation options, and making decisions for terminating mitigation systems. As the Guidance explains, vapor intrusion is a term used to describe the "migration of hazardous vapors from any subsurface contaminant source, such as contaminated soil or groundwater, through the vadose zone and into indoor air."[12] The primary "human health" concern presented is exposure to volatile hazardous chemicals in indoor spaces, such as chlorinated hydrocarbons (CHCs), petroleum hydrocarbons, other types of both halogenated and non-halogenated volatile organic compounds (VOCs), elemental mercury, and radon.[13]

Emphasizing the breadth of its statutory reach, EPA explains that VI can occur "in a broad range of land use settings, including residential, commercial, and industrial, and affect buildings with

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[9]Guidance at p. 18.

[10]Guidance at p. 18.

[11] Guidance at p. 1.

[12]Guidance at p. 1.

[13]Guidance at p. 3.

virtually any foundation type (e.g., basement, crawl space(s), or slab on grade)."[14] In fact, the Agency declares that all types of buildings are potentially vulnerable to VI: residential buildings (e.g., single-family homes, trailers, multiunit apartments and condominiums), commercial workplaces (e.g., office buildings, retail establishments), industrial facilities (e.g., manufacturing plants), and educational and recreational buildings (e.g., schools and gyms).[15]

The Guidance's discussion of exposure pathways presents perhaps the most relevant information for environmental practitioners seeking to address VI risks and liability. The Guidance formally identifies VI as a "potential human exposure pathway" and describes the exposure route at issue as inhalation of vapors that have entered a structure by soil gas entry from the subsurface.[16] As noted above, the Agency is careful to tie VI concerns to its remedial programs and thus explains the conditions it will look for when evaluating whether a pathway is "complete":

- A source of hazardous vapors must be present in the soil or in groundwater underneath or near a building.
- Vapors must form and have a pathway along which to migrate toward the building.
- Entry routes must exist for the vapors to enter the building and driving forces must exist to draw the vapors into the building.[17]

Of course, vapors migrating from the soil or groundwater may not be the only sources of indoor air issues, and the Guidance fairly advises that background sources should be identified and excluded when assessing mitigation requirements.[18] As EPA recognizes, indoor air can be impacted by a variety of indoor[19] and outdoor[20] sources. Section 6.3.5 of the Guidance provides specific recommendations for approaches for evaluating contributions from these sources. With rare exception, most regulatory programs will allow for risk-based decision making in scoping, conducting, and approving assessments and remediation of contaminated sites. Where exposure

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[14]Guidance at p. 1.

[15]Guidance at p. 17.

[16]Guidance at p. 4.

[17]Guidance at p. 15.

[18]Guidance at p. 25.

[19]Indoor sources of volatile contaminants include the use and storage of consumer products (e.g., cleaners, air fresheners, aerosols, mothballs, scented candles, and insect repellants), combustion processes (e.g., smoking, cooking, and home heating), occupant activities (e.g., craft hobbies, home improvements, automotive repairs), and releases from interior building materials (e.g., carpets, insulation, paint, and wood-finishing products). Guidance at p. 24.

[20]Outdoor sources of volatile chemicals may arise due to releases from nearby sources such as industrial facilities, vehicles, yard maintenance equipment, fuel storage tanks, and paint or pesticide applications; regional sources such as air emissions from regional industry, vehicle exhaust, agricultural activities, and fires; or global sources, such as distant air emissions. Guidance at p. 24.

pathways are not complete or exposure can be prevented by engineering or institutional controls, VI risks can be managed readily and through mechanisms and means familiar to the environmental professional.

V. Due Diligence and Site Assessment

Environmental issues - or the potential for them - lie at the heart of just about every corporate or real estate transaction today. Environmental practitioners familiar with environmental due diligence and site assessments can look to the Guidance for direction on incorporating VI considerations into these efforts. In fact, EPA's formulation looks remarkably similar to traditional Phase I protocols. In the Guidance, EPA recommends reviewing documents (e.g., federal, state, and local government records) and conducting interviews with individuals knowledgeable about the facility or site (e.g., past and present owners, operators and occupants, area residents and workers).[21] Particularly relevant information and conditions include[22]:

- History and descriptions of the types of operations and activities that occurred on or near the site.
- Information or records about the types of chemicals that may have been used or disposed of at the site.
- Information such as the occurrence of odors, reports of dumping liquids at the site, observations of unreported waste disposal practices, or other indications of chemical presence and release.
- Adverse physiological effects reported by building occupants (e.g., dizziness, nausea, vomiting, confusion).
- Evidence of subsurface intrusion of groundwater (e.g., wet basements) reported by building owners or occupants.

If as a result of these diligence efforts, a release of vapor-forming chemicals to the subsurface is known or suspected to have occurred, EPA recommends that further VI assessment be undertaken.[23]

Unlike traditional remediation topics, VI issues may be particularly relevant at sites with existing buildings. In these cases, the Guidance recommends the following additional assessment efforts:[24]

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[21]Guidance at p. 35.

[22]Guidance at p. 35-36.

[23]Guidance at p. 82.

[24]Guidance at p. 83-84.

Building Foundation Assessment, Including Susceptibility to Soil Gas Entry

- Building construction and current conditions, including utility conduits or other preferential pathways of soil gas entry, heating and cooling systems in use, and any segmentation of ventilation and air handling.

- Tracer-release (e.g., sulfur hexafluoride) data to verify openings in building foundations for soil gas entry or assess fresh air exchange within buildings.

- Instrumental (e.g., PID) readings to locate and identify potential openings for soil gas entry into buildings.

- Grab samples of indoor air near openings for soil gas entry into buildings.

- Pressure data to assess the driving force for soil gas entry into building(s) via advection.

Interior Assessment

- Sub-slab (or crawl space) soil gas data (generally recommended from more than one sampling event and in multiple locations) to assess concentrations potentially available for entry with any intruding soil gas.

- Indoor air sampling data (generally recommended from more than one sampling event and for multiple locations in a given building) to assess the presence of subsurface contaminants in indoor air, estimate potential exposure levels to building occupants to support site-specific exposure and risk assessments, and otherwise diagnose vapor intrusion.

EPA likewise recommends that VI evaluations encompass reasonably expected future land use conditions, including both new building uses or for new occupants for the uninhabited buildings. Moreover, even where there are no buildings presently on site and none are reasonably anticipated in the future, EPA recommends establishing an institutional control that would require a VI assessment and building mitigation measures, as needed, in the event of future building construction.[25]

Calling for additional assessment efforts is a recurring aspect of the Guidance. In fact, Section 7.2 even assigns a phrase to describe situations where further work should be done – where "lines of evidence are not concordant."[26] In a worst case scenario, the Guidance could be read as inviting questions as to the ability of any person to establish a sufficient degree of certainty as to VI pathways even after completion of assessment efforts. Moreover, the Guidance admonishes that some lines of evidence may not be "definitive" and that concentrations "can be greatly variable temporally and spatially"[27]. Unfortunately for those

[25]Guidance at p. 39.

[26] Guidance at p. 86.

[27] Guidance at p. 85.

working on transactions and thus seeking to bring clarity via deal documents, the Agency's recommendations for additional rounds of sampling and in more locations leaves much to be desired when it comes to certainty.

VI. Response Actions and Institutional Controls

While EPA generally expresses a preference for response actions that eliminate or substantially reduce subsurface contamination[28], parties to transactions may need to structure deals before comprehensive remediation of the subsurface environment[29] can be completed. In such a case, the parties can look to the Guidance for approaches that can be implemented relatively promptly and incorporate necessary text into the transaction documents.

Engineered exposure controls, for example, can prevent or reduce vapor entry into a building[30]. These controls generally seek to remove or reverse the driving forces for vapor intrusion into the building or can simply eliminate or minimize vapor entry routes into the building (e.g., caulking, grouting, or otherwise sealing all holes, cracks, sumps and other foundational openings or creating a barrier between the soil and the building that blocks entry routes from the soil gas into the building).[31] Alternatively, exposure controls can be used to reduce or eliminate vapors that have entered into a building. These approaches seek to limit concentration levels by increasing building ventilation or removing vapor-forming chemicals from indoor air through the use of an adsorbing material (such as activated carbon).[32]

Even in transactions where no existing buildings are involved, parties may wish to consider deal points that account for buildings that may be constructed in the future. Again, the Guidance expresses a preference for remediation of the subsurface vapor source (with associated monitoring and institutional controls) underlying undeveloped land. On a more practical level, however, the Guidance discusses the utilization of institutional controls (ICs) where a response action is not merited.

In many real estate transactions, institutional controls (ICs) are utilized by sellers to minimize the risk that some future action at the site would lead to an unacceptable risk of exposure to contamination that may remain at the site or to interference with existing remedial systems. In the VI context, the Guidance recognizes the role that ICs can play in serving these interests, including: 1) securing access to a property, 2) conducting response activities, such as the

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[28]Guidance at p. 92.

[29]EPA identifies traditional remedial measures as suitable for achieving a permanent VI remedy: removal of contaminated soil by excavation; removal of contaminated groundwater by pump-and-treat; and remediation of contaminated soil and groundwater *in situ*. Guidance at p. 92.

[30]Guidance at p. 29.

[31] Guidance at p. 94.

[32]Guidance at p. 30.

installation or maintenance of mitigation systems and 3) establishing mitigation requirements for future construction within an area that may pose VI threats.[33]

The Guidance is particularly helpful in providing examples of scenarios where parties to a real estate transaction may wish to use ICs to bring certainty in the face of VI concerns[34]:

- Existing buildings overlie soil or groundwater contamination, or a migrating groundwater plume that is moving toward existing buildings potentially poses a future vapor intrusion threat;

- Future construction is planned or may be planned on a site that overlies subsurface contamination with vapor-forming chemicals;

- Changes to building construction/design (such as remodeling or ventilation changes) or building use (such as commercial building converted for residential use) potentially affect exposure to the vapor intrusion pathway;

- Vapor intrusion mitigation systems are needed in buildings, or existing ventilation systems are being utilized for vapor intrusion mitigation, and continued access is required for their O&M;

- The use of existing building changes (e.g., industrial building use changes to mixed commercial or residential uses);

In a transaction context, ICs could be inserted into deal documents to take these scenarios into account by requiring implementation of building mitigation systems or confirmatory vapor intrusion investigations before newly constructed buildings are occupied.[35]

VII. Connecting Response Actions and Site Development

Throughout most of the Guidance, EPA stays focused on the technical aspects of VI and how VI should be accounted for in its remedial programs. The Agency, however, steps out of its traditional regulatory role in its discussion of how response actions can be implemented in the site development context. While somewhat out of the norm, EPA's perspective and illustrations here can actually help allay corporate and real estate development concerns about the Agency's expectations. In fact, the Guidance offers certain arguments that could be read as encouraging proactive steps to assess and address VI, particularly for parties to a transaction. It appears that EPA is suggesting that the interests of parties to a deal - whether as buyer or seller - are best served by taking early action in the face of certain toxic tort-like concerns:

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[33]Guidance at p. 105.

[34]Guidance at p. 107.

[35]Guidance at p. 91.

- Involuntary and unavoidable exposures and hazards are generally sources of anxiety and concern for affected building occupants and the general public, particularly when they occur in homes and in the workplace.

- Comprehensive subsurface characterization and investigations of vapor intrusion can entail prolonged study periods, during which building occupants may be exposed and owners and environmental stewardship groups may remain anxious and concerned about potential indoor air exposures to subsurface vapors in the absence of mitigation.

- Conventional vapor intrusion investigations in and of themselves can be disruptive because such investigations often require indoor access to acquire samples and assess building conditions.[36]

In addition to its discussion of VI assessment and mitigation measures, the Guidance even offers commentary on choosing locations for new buildings and building design. Described rather plainly as "Approaches and Considerations for New Buildings", the Guidance has these tips for the corporate and development communities[37]:

- Contaminated areas at some sites most likely to produce unacceptable vapor intrusion exposures can be avoided and designated for another purpose, such as recreational space or undeveloped landscape.

- Mitigation needs can also be considered in the selection of heating and cooling systems. A system design that avoids creating under-pressurization inside the structure and maintains over-pressurization inside the structure may be effective in mitigating vapor intrusion.

- Passive barriers, such as a low-permeability membrane, can be more readily installed between the soil and the building during new building construction. Venting layers can be more readily installed between the soil and the building during new building construction.

- Venting layers can be more readily installed between the soil and the building during new building construction.

- New buildings can be designed to include a highly ventilated, low-occupancy area at ground level, such as an open parking garage.

- The existence of underground parking for a multi-story building would tend to minimize the potential for vapor intrusion.[38]

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[36] Guidance at p. 12.

[37] Guidance at p. 98.

[38] Guidance at p. 22.

In many cases, the Agency's guidance on building location and design may amount to only minor additional considerations for the decision making process. For environmental law practitioners and consultants working together on a transaction, reference to the Guidance on this point serves as a starting point for general consensus and thus can help expedite negotiations and address VI concerns.

VIII. Duration of Response Actions

In certain transactions, environmental site conditions may require the continued operation or maintenance of a treatment system or an engineering control. In these cases, the parties may struggle with crafting provisions where the duration of such requirement is unknown. The Guidance, however, is helpful in defining the circumstances under which VI response actions can be terminated and thus may be instructive when negotiating deal points. The Guidance uses the term "termination of building mitigation" to define when an engineered vapor mitigation system is no longer needed[39] and "termination of monitoring" to refer to the ending of monitoring needed to verify that no further mitigation is necessary.[40]

Under the Guidance, a decision to terminate mitigation is based upon achieving target concentrations.[41] The transaction parties could agree on target concentrations and document them in their transaction documents. In order to develop records to demonstrate achievement of these targets, the deal documents also could specify monitoring and sampling frequencies and location-specific sampling locations. The Guidance further advises that a period of attainment monitoring be utilized once the target concentrations are reached. As the Agency explains, during the attainment period, the mitigation system would be taken offline, thereby allowing vapors beneath the structure to reach equilibrium and ensuing conditions would be representative of post-remediation conditions.[42] Upon conclusion of an agreed upon attainment monitoring period, the current facility owner could then terminate mitigation efforts. Again, the transaction parties may wish to draft provisions that account for these protocols, as well as whether mitigation system components can or should be removed or remain in place.

IX. On the Horizon

As with many EPA guidance documents, subsequent agency actions applying the Guidance and emerging private sector expertise matter as much as the text of the document itself. For VI, interested persons may wish to track the manner in which EPA incorporates the guidance into CERCLA Five-Year Reviews and any resulting additional assessment or remedial work that is required.[43] Similarly, the Agency's consideration of VI in the decision making process for

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[39]Guidance at p. 114.

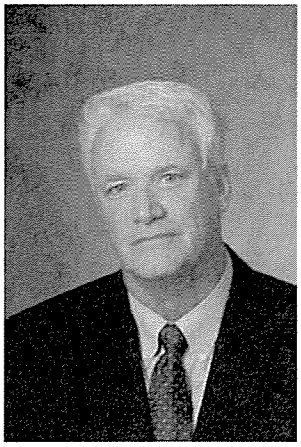
[40]Guidance at p. 117.

[41]Guidance at p. 115.

[42]Guidance at p. 115.

[43] Readers may wish to consult the US EPA OSWER Directive, Assessing Protectiveness at Sites for Vapor Intrusion: Supplement to the 'Comprehensive Five-Year Review Guidance'" (Nov. 2012) (OSWER 9200.2-84).

listing new sites on the NPL merits careful attention. EPA's evaluation of sites based upon VI risks, either through interpretation of the current HRS or by HRS amendment to recognize a new pathway of exposure, could lead to a large increase in the number of listed sites and the development of further guidance and precedent. In addition to what might take place within the Agency, industry associations and technical groups will continue to develop expertise and their own protocols for addressing VI issues, including anticipated changes by ASTM to its 1527 standard for conducting Phase I assessments. Taken together, near- and mid-term developments on VI as seen in EPA Five-Year Reviews, EPA NPL listing decisions, and the adoption and implementation of "ASTM 1527-13" will be the most effective means for environmental practitioners to develop the insight needed to help shape, guide and bring certainty to contemporary corporate and real estate transactions.



State Representative Lyle Larson

Biography

Lyle Larson is a lifelong resident of the San Antonio area. Born and raised in northern Bexar County, he grew up helping his parents and four brothers and sisters on their family farm. A product of the North East Independent School District, Larson graduated from MacArthur High School. He earned a Bachelor of Business Administration from Texas A&M University in 1981. Directly after graduation, Larson worked first for Nalco Chemical Company and subsequently for Johnson & Johnson, distributing surgical equipment. For the last 27 years, Larson has owned and operated a small business.

First elected in 1991, Larson served as San Antonio City Councilman, District 10 for 2 terms and as Bexar County Commissioner, Pct. 3 from 1997-2008. In 2010, Larson was elected State Representative for District 122, earning more votes than any other state representative candidate in Texas. During his freshman session, Larson was selected one of three "Rookies of the Year" by the Texas Tribune, out of 37 new members.

Currently, Larson serves on the House Natural Resources Committee, the Culture, Recreation and Tourism Committee, the Vice-Chair Local and Consent Calendars Committee and the Transparency in the State Agency Operations Committee.

A proven fiscal conservative, Larson has a long history of protecting taxpayers in Bexar County. While serving on the Commissioners Court, Larson led the effort to lower the tax rate 7 times during his 12 years in office, saving taxpayers over $150 million. In 2005, he led the Court to freeze property taxes for seniors and the disabled. The lone Republican on the Court, Larson voted against and refused to accept pay raises, saving taxpayers more than $300,000.

Larson previously served as Chairman of the San Antonio Military Transformation Task Force, the San Antonio - Bexar County Metropolitan Planning Organization, the Alamo Area Council of Governments, and the Greater San Antonio Crime Commission.

Larson is an avid bass fisherman and quail hunter. He is the founder of San Antonio International Ag Promotions, which hosts trade expositions, including the Texas Hunting and Outdoor Classic and the San Antonio International Farm and Ranch Show.



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Derek Seal brings over 20 years of regulatory and legislative experience to Winstead's Energy & Environmental Law Practice Group. Derek is a former General Counsel of the Texas Commission on Environmental Quality (TCEQ). Prior to this position, he was Counsel to former TCEQ Chairman Kathleen Hartnett White. Before joining the TCEQ in November 2002, he served in the combined roles of General Counsel in the Texas Legislature for the House Committee on Environmental Regulation and General Counsel and Chief of Staff for Representative Warren Chisum, who was the Chairman of that committee.

Representative Experience

- Representative experience with administrative law, environmental permitting and enforcement, the oil and gas industry, the chemical industry, water and wastewater utilities, electric utilities, and river authorities.
- Provides legal and ethics advice to clients based on state and federal laws, specifically statues, rules and policies relating to the Clean Air Act, Clean Water Act, Solid Waste Disposal Act, the administration of water rights, utility districts, water and sewer rates, certificates of convenience of necessity, the Administrative Procedure Act, the Open Meetings Act and the Public Information Act.
- Specific representative experience includes successfully assisting clients in the following types of matters:
  - Wastewater discharge permitting, including industrial wastewater discharge permits, municipal discharge permits and permits involving the land application of treated effluent.
  - Air permitting matters, including amendments, modifications and permit alterations, and agency reviews of permit renewals.
  - Compliance with regulatory requirements, including the use of the Texas Environmental, Health, and Safety Audit Privilege Act.
  - TCEQ regulatory enforcement orders.
  - Obtaining Innocent Owner Operator/Certificates.
  - Remediation of properties affected by underground petroleum storage tanks
  - Drafting legislative initiatives and formulating legislative strategies relating to natural resources and the environment.
  - Agency rulemakings and policy development before the Environmental

Practices

- Environmental Law
- Public & Regulatory Law
- Government Relations

Industries

- Energy
- Alternative Energy

Bar Admissions

- Texas, 1996

Education

St. Mary's University School of Law

- J.D., 1996

University of Texas at Austin

- B.A., Economics, 1991

Professional & Community Involvement

- State Bar of Texas, Environmental & Natural Resources Law Section
- American Bar Association
- Austin Bar Association (Environment, Natural Resources, and Water Law Section)
- Air and Waste Management Association (Central Texas Chapter)
- Participant in the Association of Chemical Industry of Texas, Texas Oil and Gas Association, and the Texas Water Conservation Association
- University Masonic Lodge No. 1190 (Board Member of the University Lodge Foundation)
- Bethany United Methodist Church

Protection Agency, TCEQ and Texas Low-Level Radioactive Waste Disposal Compact Commission.

- Environmental due diligence.

Awards & Recognition

- Chambers and Partners USA Guide: America's Leading Business Lawyers, 2013

Presentation Topics

- Frequent speaker regarding environmental programs and policies, including environmental litigation, Texas legislative issues, environmental enforcement, air quality and rulemaking.



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Of Counsel

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Lisa Dyar is a member of Winstead's Energy & Environmental Law Practice Group. She has experience representing industrial and municipal clients in permitting, compliance and enforcement matters, as well as participating in legislative and rulemaking strategies. Prior to entering private practice, Lisa was a senior enforcement attorney with the Texas Commission on Environmental Quality's Litigation Division where she was lead counsel for some of the agency's most complex and high profile air and multimedia enforcement cases. Recognized for her outstanding leadership while at the TCEQ, Lisa has experience with a wide range of environmental and regulatory issues, with a significant focus on air quality matters.

Representative Experience

- Representing major manufacturing, energy, chemical and petrochemical industrial clients before state and federal environmental agencies relating to a variety of environmental actions, including:
  - Contested case hearings before the State Office of Administrative Hearings
  - Compliance and enforcement litigation
  - Episodic air emissions events
  - Federal flare enforcement initiative investigations
  - Municipal solid waste permit applications
  - Superfund representation
- Representing multinational energy corporation in defending a federal Clean Air Act citizen suit
- Counseling clients about waste franchise agreements and recycling operations
- Developing and advocating comprehensive NSR and greenhouse gas permitting strategy for a major chemical corporation
- Protecting trade secret and confidential business information under state and federal freedom of information statutes
- Developing and interpreting proposed rulemaking, municipal ordinances, legislation and policy initiatives
- Drafting statewide consolidated environmental enforcement legislation
- Negotiating administrative and civil enforcement settlement agreements
- Evaluating and managing potential environmental risk

Practices

- Environmental Law
- Public & Regulatory Law

Industries

- Energy

Bar Admissions

- Texas, 1993

Education

University of Texas School of Law

- J.D., 1993
- Associate Editor, *State Bar of Texas Environmental Law Journal*

University of Texas at Austin

- B.A., Government, 1990
- Alpha Phi Omega service fraternity

Professional & Community Involvement

- State Bar of Texas, Environmental and Natural Resources Section
- Austin Bar Association, Environment, Natural Resources and Water Law Section
- Boy Scouts of America
- Round Rock Independent School District
- Bethany United Methodist Church

Awards & Recognition

- Outstanding Women in Texas Government – Outstanding Leadership Award, 1998
- Alpha Phi Omega Active Service Award, 1988

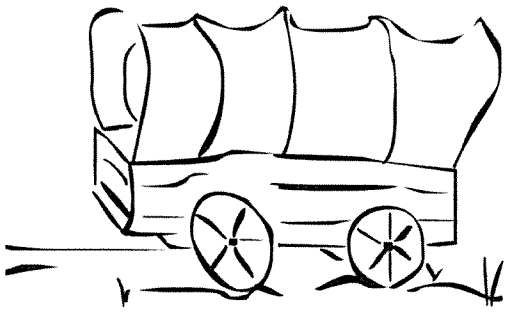
ENVIRONMENTAL HIGHLIGHTS FROM THE
83RD REGULAR LEGISLATIVE SESSION

YOU CAN LEAD LEGISLATORS TO THE WATERING HOLE BUT YOU CAN'T MAKE THEM DRINK

By: Derek L. Seal and Lisa Dyar, Winstead PC

"I could never resist the call of the trail."
- Buffalo Bill

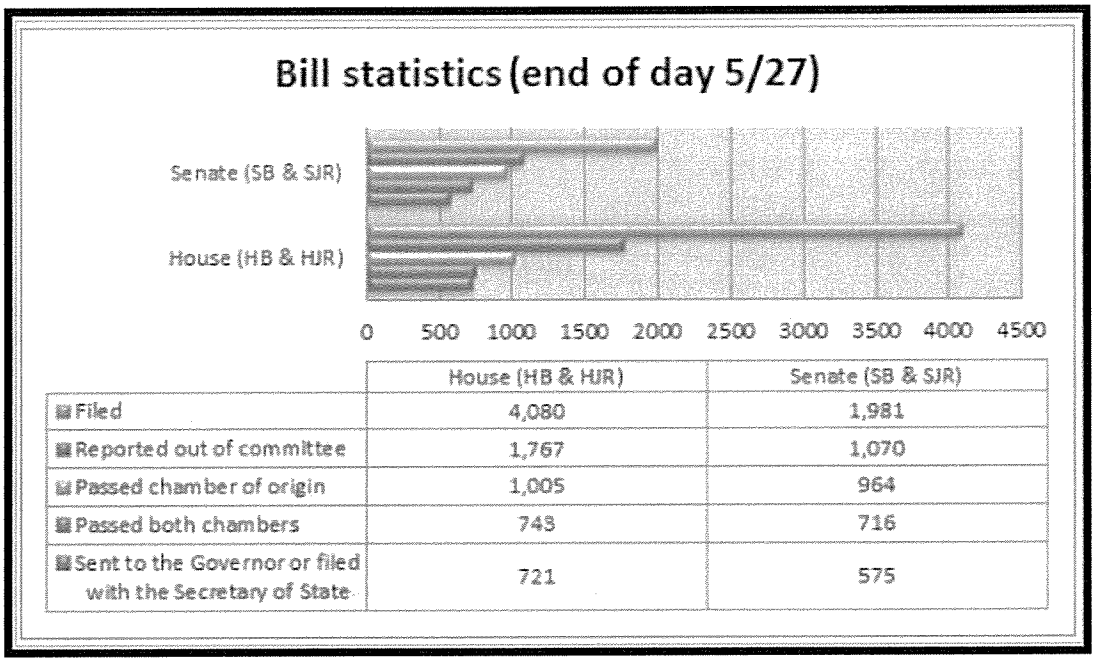
"Don't worry about the horse being blind, just load the wagon."
- John Madden



SESSION THEMES

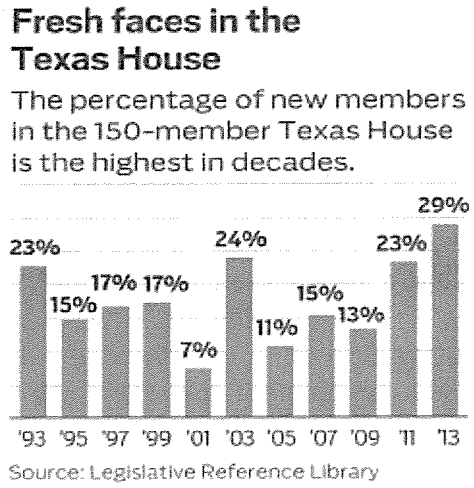
Congeniality: During the 83rd Regular Legislative Session in 2013, legislators generally worked together to focus on several major priorities established by leadership and by the members. Shared priorities between the House and Senate included education, water infrastructure, transportation infrastructure and budget transparency. The session was described in a recent issue of *Texas Lawyer* as "less acrimonious than some of the more recent ones", "very workmanlike", "very collaborative", involving "a lot of calmness" and with "far less rancor – partisan and personal rancor – than any session since 2001."

Statistics: The table from the Legislative Reference Library below shows the final bill statistics for the 83rd Regular Session. In the end, the House was able to send 17.67% of House Bills or Joint Resolutions to the governor or secretary of state and the Senate was able to send 29.02% of Senate Bills or Joint Resolutions to the governor or secretary of state. The Governor vetoed 15 House Bills and 11 Senate Bills, compared to vetoes of 25 bills in 2011, 39 vetoes in 2009, 56 vetoes in 2007, and 20 vetoes in 2005.



	House (HB & HJR)	Senate (SB & SJR)
Filed	4,080	1,981
Reported out of committee	1,767	1,070
Passed chamber of origin	1,005	964
Passed both chambers	743	716
Sent to the Governor or filed with the Secretary of State	721	575

Although the House had many more new members than it has had in the last 20 years, there were also were 6 new Senators (19%).



Leadership in Environmental and Natural Resources Issues: The House Committee on Environmental Regulation considers legislation relating to air, land and water pollution; regulation of waste disposal; and environmental matters regulated by the Texas Commission on Environmental Quality (the "TCEQ") and the Texas Department of State Health Services (the "TDSHS"). The Committee had a new Chairman, and only one of the committee members had prior experience on the committee. Of the 77 House and Senate bills referred to the House Committee on Environmental Regulation, 11 were enacted into law.

The House Natural Resources Committee has jurisdiction over legislation relating to control and development of water; and regulation of water districts with jurisdiction over water supply. The Chairman and seven of the House Natural Resources Committee members served on the committee in the previous session. Of the 214 House and Senate bills referred to the House Committee on Natural Resources, 73 were enacted into law.

The Senate Natural Resources Committee's jurisdiction includes all air, water and waste related legislation, and that committee had one new member this session. Of the 196 House and Senate bills referred to the House Committee on Natural Resources, 82 were enacted into law.

WATER INFRASTRUCTURE[1]

Water infrastructure funding is perhaps the most far-reaching legislative accomplishment of the 83rd Texas Legislature that relates to environmental and natural resources issues. At the outset, forging a process to address anticipated water infrastructure development needs was one of the primary goals of the legislative session. Ultimately, the Governor signed House Bill 4 and House Bill 1025 into law. These are two of the three major planks that make up the state's new plan for developing water infrastructure. House Bill 4 establishes the structure of two new water funds, the State Water Implementation Fund of Texas ("SWIFT") and the State Water Implementation Revenue Fund for Texas ("SWIRFT"), and dictates how the money can be used. House Bill 1025 authorizes $2 billion from the "Rainy Day Fund" to be put into the two new accounts dedicated for funding water infrastructure.

The other major plank, Senate Joint Resolution 1, has been sent to the Secretary of State for formatting the language for a constitutional amendment to be placed on the ballot for the November 5, 2013 election. The constitutional amendment slated for the November ballot will require voter approval for the establishment of two constitutionally dedicated fund accounts inside the Treasury. However, if the voters do not approve the two constitutionally dedicated funds, the money will remain in the Rainy Day Fund and the legislature's water funding plan will not move forward.

The vision of the plan is that the $2 billion initially put into the accounts will provide $25 billion over the next 50 years for loans, security for bonds, and debt payments. The following discussion describes how the plan is to work and the timelines for getting it started.

[1] Janis Carter and Price Ashley of Winstead PC are responsible for the majority of the content of this section.

Board Structure: Under House Bill 4 the Texas Water Development Board (the "TWDB") will be reduced from six part-time members to three full-time members, appointed by the governor, from the fields of engineering, public or private finance, and law or business. Those members must come from diverse geographic regions and population groups of Texas. These three members will be appointed by September 1, 2013.

The Funds: House Bill 4 creates SWIFT and SWIRFT. The accounts would be used to give out low-interest loans for regional water projects. The projects would be chosen by the TWBD, which would also manage the accounts. The SWIFT monies are primarily for the use of securitizing general obligation bonds and the SWIRFT monies are primarily for the securitization of revenue bonds. The SWIFT is intended to serve as the water infrastructure bank. Monies in the SWIFT and SWIRFT will be held inside the treasury, but outside of the general revenue and will be authorized to be spent year to year without further legislative appropriation of the funds. The monies in the SWIFT would be held in escrow and in trust. A trust company will manage and invest the assets of the SWIFT and money from the fund would be disbursed as directed by the TWDB. The monies in the SWIRFT will be invested with the state treasury pool and also distributed by the TWDB.

The monies in the funds cannot be used for grants, but will be used as a source of revenue for debt service payments and security on bonds for low interest loans, longer repayment terms for loans, incremental repurchase terms for projects in which the state owns an interest, and deferral of loan payments. Repayment of these secured loans provides a flow of money back to the funds to provide protection for the fund's corpus and provide a source to replenish revenue.

At least 10% of the funds in the SWIFT must be spent on projects serving rural areas and 20% for projects that are for water conservation or reuse. The monies can only be spent on projects that are currently in the State Water Plan and can be distributed through the SWIFT, SWIRFT or four other existing funds operated by TWDB.

Setting up a Structure for the Distribution of Funds: The legislation sets up a seven-member SWIFT Advisory Committee to make recommendations to the TWDB not later than September 1, 2014, on policies and rules that should be adopted related to the use of the funds in adherence with the laws and legislative intent. The Advisory Committee will also conduct evaluations and make recommendations of projects to the TWBD. Members of the Advisory Committee will be: a Comptroller designee, three Texas Senators, and three Texas House members. The Advisory Committee members are to be appointed as soon as possible, but no later than December 1, 2013.

As soon as practicable, the TWDB must create a stakeholders committee composed of the presiding officer or a person designated by the presiding officer of each regional water planning group to establish standards to be used by the regional water planning groups in prioritizing projects. The standards are to assure uniformity in the prioritization by region. The stakeholders committee may establish different standards to be used by different regional water planning groups as necessary to account for different circumstances affecting each region. The standards must be submitted to the TWDB not later than December 1, 2013.

Each Regional Water Planning Group will submit to TWDB by June 1, 2014 a draft prioritization of the projects in its respective planning area most recently adopted by the group. The TWDB is to provide comments to each regional water planning group on the draft prioritization submitted by the group. A final prioritization of the projects must be submitted by the group to TWDB not later than September 1, 2014.

Not later than the 90th day after receiving the suggested rules from the advisory board or March 1, 2015, the TWDB must adopt rules to implement this Act. The rules would include a point system to prioritize projects included in the state water plan for distribution of the funds. The TWDB may use the standards established by the stakeholder committee and approved by the TWDB to establish the point system and to put the projects in a statewide priority listing giving highest consideration to projects that will have a *substantial effect*. The statute lists about 15 items for consideration to determine "substantial effect" including, but not limited to the size of the population to be served, if it is assistance to a diverse urban and rural population, if it provides regionalization or if it meets a high percentage of the water supply needs of the water users served by the project. Other criteria include:

- The amount of local contribution to finance the project;
- The financial capacity of the applicant to repay;
- The ability of the board and applicant to timely leverage state financing with local and federal funds;
- Whether there is an emergency need;
- If the project is "shovel ready" at the time of application;
- The effect on water conservation, including the prevention of water loss; and
- The priority given by the regional water-planning group.

The signing of House Bill 4 and House Bill 1025 launched the start of a program to meet the State's water needs. It is estimated that Texas will lose 10 percent of its water reserves over the next 50 years, while the population is projected to grow by 80 percent. Combined with local funds for projects, this funding program is expected to pay for $53 billion in infrastructure upgrades — including the potential construction of 20 new reservoirs — that will help Texas meet about one-quarter of the state's water needs over the next half-century. Without voter approval in November this plan would end up dead in the water.

BILLS SIGNED INTO LAW

The following is a list of bills that were referred to the House Environmental Regulation Committee, the House Natural Resources Committee, and/or the Senate Natural Resources Committee that were enacted into law. Certain other bills relating to environmental or natural resources issues have also been included in the list, although the list is not intended to be comprehensive. Bills that affect only a local entity or a certain area of the state, such as a groundwater district, are not included.

House Bill 252. Relating to water shortage reporting by water utilities and providers of wholesale water service. The bill amends Chapter 13 of the Water Code to require a retail public

utility and each entity from which the utility is obtaining wholesale water service to report projected water supplies on a form prescribed by the TCEQ; and to notify TCEQ if the projected available water supply is less than 180 days.

House Bill 555. Relating to certain criminal offenses for violations of the law regulating metal recycling entities. The bill clarifies the acts of failing to register, operating a metal recycling entity without registering with the state, and failing to report purchases of recycled metal as Class A misdemeanors. The legislation establishes a Class C misdemeanor for any offense where the sanctions are not defined in statute, and amends current law relating to certain criminal offenses for violations of the law regulating metal recycling entities.

House Bill 622. Relating to the report by the General Land Office to the legislature on the effectiveness of the coastal management program.

House Bill 693. Relating to the authority of a water and sewer utility to collect voluntary contributions on behalf of a local library.

House Bill 738. Relating to the review of the creation of certain proposed municipal utility districts by county commissioners courts.

House Bill 788. Relating to permitting of greenhouse gas emissions by the TCEQ; and limiting the amount of a fee. Effective on June 14, 2013, House Bill 788 authorizes TCEQ to adopt rules to transition authority to issue greenhouse gas ("GHG") permits in Texas. The bill exempts GHG permits from TCEQ's contested case hearing process and authorizes TCEQ to repeal the permit rules if GHG permits are no longer required under federal law. Any GHG permit issued by the U.S. Environmental Protection Agency (the "EPA") remains in effect. TCEQ plans to amend its existing rules to issue GHG permits, but in the meantime until rulemaking is completed, EPA approves the State Implementation Plan (the "SIP") and then withdraws the Federal Implementation Plan (the "FIP") currently in place for GHG, EPA will remain the permitting authority for GHG emissions in Texas. TCEQ states that it will be coordinating with EPA regarding the transition period for accepting and processing GHG applications, and will make that information available as it develops. At the time of this writing, Texas is still awaiting a ruling in the ongoing case before the U.S. Court of Appeals for the District of Columbia Circuit related to EPA's 2011 takeover of the state's air permitting program by disapproving amendments to Texas' SIP and imposing a FIP.

House Bill 857. Relating to the frequency of water audits by certain retail public utilities. The bill would amend the Water Code to require a retail public utility that provides potable water to perform and file an annual water audit with the TWDB computing the utility's system water loss during the preceding year beginning not later than May 1, 2014. A retail public utility that does not receive financial assistance from TWDB and is providing service to 3,300 or fewer connections must perform and file an audit every five years.

House Bill 1079. Relating to procedural requirements for action by TCEQ on applications for production area authorizations. The bill would amend Water Code provisions regarding production area authorizations for Class III injection wells, including making fewer applications

for production area authorizations subject to contested case hearing requirements, removing requirements for public notice, and provisions in the Water Code for TCEQ to use of a third party expert for recommendations in production area authorizations.

House Bill 1324. Relating to exclusion of land from certain water districts that fail to provide service to the land; clarifying and limiting the authority of those districts with outstanding bonds payable from ad valorem taxes to impose taxes on excluded land; and providing for a financial review. The bill addresses provisions in Chapter 49 of the Water Code relating to procedures for excluding land from certain water districts that fail to provide service to the land, including requirements for tax liability and outstanding bonds.

House Bill 1461. Relating to customer notification of water loss by a retail public utility.

House Bill 1563. Relating to fees of office for directors of groundwater conservation districts. The bill amends the Water Code to increase the daily fees of office for a groundwater conservation district director from not more than $150 to not more than $250.

House Bill 1600. Relating to the continuation and functions of the Public Utility Commission of Texas (the "PUC"), to the transfer of certain functions from TCEQ to the PUC, to the rates for water service, and to the functions of the Office of Public Utility Counsel ("OPUC"); and authorizing a fee. Key provisions include continuing the operations of the PUC for 10 years, and moving water and sewer ratemaking authority from TCEQ to the PUC, and moving water and sewer small consumer representation from TCEQ to OPUC. *See also Senate Bill 567.*

House Bill 1675. Relating to the sunset review process and certain governmental entities subject to that process. The bill reauthorized the Railroad Commission of Texas (the "RCT"), subject to Sunset Review.

House Bill 1973. Relating to the provision of water by a public utility or water supply or sewer service corporation for use in fire suppression. The bill provides for the governing body of a municipality to adopt standards that would be set by TCEQ requiring a utility to maintain a minimum sufficient water flow and pressure to fire hydrants in residential areas, as defined by the bill.

House Bill 2290. Relating to the use for administrative costs of a portion of money received by certain entities to implement a supplemental environmental project ("SEP"). Amends current law relating to the use for administrative costs of a portion of money received by certain entities to implement an SEP.

House Bill 2362. Relating to the efficiency review of river authorities. The bill amends the Water Code and the Government Code to establish that a district that is a river authority would be subject to an efficiency review by the Legislative Budget Board ("LBB"), and authorizes the LBB to periodically review and analyze the effectiveness and efficiency of the policies, management, fiscal affairs, and operations of a river authority.

House Bill 2446. Relating to the definitions of advanced clean energy projects, clean energy projects and to franchise tax credits for certain of those projects.

House Bill 2615. Relating to the use of state water; providing a penalty. Designed to encourage compliance with reporting information TCEQ uses to manage the State's water resources, including responding to senior water rights calls, House Bill 2615 increases the penalties for certain water users for not reporting water usage information to the TCEQ. The bill increases penalties for a person failing to file a statement or comply with a request of TCEQ for water use data relating to water rights after the applicable deadline of $100 per day if the person holds a water right permit of 5,000 acre feet or less per year or $500 per day if the person holds a water right for more than 5,000 acre feet per year.

House Bill 2767. Relating to the treatment and recycling for beneficial use of certain waste arising out of or incidental to the drilling for or production of oil or gas. This bill deals with ownership of oil and gas fluid waste such as hydraulic fracturing fluid and produced water arising out or incidental to drilling for oil and gas, and is intended to promote water recycling. House Bill 2767 clarifies the scope of property rights and liabilities when transferring possession of fluid oil and gas waste. Ownership of the waste fluid is transferred to a person who takes the waste fluid for the purpose of treating it for subsequent use, and remains that person's property until the person transfers the waste or treated waste to another person for disposal or use unless expressly provided otherwise by contract or other legally binding document. The general effect of this legislation is to limit liability to the party in possession of the fluids. A person who takes waste fluid for treatment, produces a treated product suitable for use in oil and gas drilling, and transfers the treated product to another person via contractual understanding that it would be used in connection with oil and gas drilling, would not be liable in tort for a consequence of the subsequent use of the treated product by another person to whom it was transferred. In actions for personal injury, death or property damage, liability is not limited to the party in possession of the fluids. Look for the RCT to develop rules required by the bill to govern the treatment and beneficial use of oil and gas waste.

House Bill 2704. Relating to bids for construction contracts for certain conservation and reclamation districts. The bill authorizes electronic bidding for water districts that adopt procedures for handling such bids.

House Bill 2781. Relating to rainwater harvesting and other water conservation initiatives.

House Bill 2859. Relating to the amount of money authorized to be used for Clean Air Act local initiative projects related to vehicles. The bill increases the maximum funding allocation from $5 million to $7 million per year for the low-income vehicle repair assistance, retrofit, and accelerated vehicle retirement program ("LIRAP") that TCEQ administers. LIRAP funds projects like vehicle emission testing, fraud prevention, counterfeit inspection sticker enforcement, traffic light synchronization, and financial assistance and incentives for qualified vehicle owners living in one of the 16 counties that draw revenue for LIRAP as part of vehicle emissions test fees in those counties.

House Bill 3233. Relating to interbasin transfers of state water. House Bill 3233 changes language in the Water Code relating to permits of interbasin transfers of surface water rights which are designed to streamline and increase efficiency of the TCEQ's permitting process. The bill amends statutory requirements relating to the economic impact of the transfer, contested case hearings (limiting to interbasin transfer issues), the timeline for notice of an application, contractual water transfers, and provides limited exemptions to proposed transfers within certain limited geographical areas.

House Bill 3309. Relating to the composition and use of money in the oil and gas regulation and cleanup fund.

House Bill 3459. Relating to access to and protection of certain coastal areas.

House Bill 3511. Relating to the adjudication of certain claims under a written contract with a special-purpose district or authority or local governmental entity.

House Bill 3604. Relating to the implementation of a water conservation plan and drought contingency plan, as applicable, by certain entities. The bill clarifies that the TWDB may notify TCEQ if an applicable person or entity fails to implement their water conservation plan and drought contingency plan, as applicable. The bill also clarifies that such violations are enforceable by TCEQ under Chapter 7 of the Water Code.

House Bill 3605. Relating to financial assistance awarded by TWDB for water supply projects.

Senate Bill 198. Relating to restrictive covenants regulating drought-resistant landscaping or water-conserving natural turf. The bill limits the ability of a homeowners association to prohibit a homeowner's use of drought-resistant landscaping or water-conserving natural turf.

Senate Bill 293. Relating to the authority of certain water districts to hold meetings by teleconference or videoconference.

Senate Bill 347. Relating to funding for the operations of the Texas Low-Level Radioactive Waste Disposal Compact Commission and to the disposal of certain low-level radioactive waste. The legislation addresses changes to funding to ensure continued operation of the Texas Low-Level Radioactive Waste Disposal Compact Commission and the TCEQ relating to disposal of certain low-level radioactive waste.

Senate Bill 385. Relating to authorizing assessments for water and energy improvements in regions designated by municipalities and counties; imposing a fee (also known as the "PACE Bill"). Effective June 14, 2013, the PACE Bill will allow commercial and industrial property owners to obtain low-cost, long-term private sector financing for water conservation and energy efficiency retrofits and improvements to existing structures. The upfront costs and capital required for water and energy efficiency projects are often insurmountable barriers to property owners. The Property Assessed Clean Energy Act ("PACE") provides for alternative financing to enable private sector lenders to extend credit for these projects through loans secured by special property tax assessments. The assessments are initiated by the property owners and

imposed by local taxing authorities. The assessments constitute a first and prior lien against the property. PACE loans could enable substantial savings in utility costs, retrofitting existing structures, and create new jobs and business opportunities. Under the new law, municipalities or counties are required to adopt local resolutions to formalize the program in their area and to authorize assessment liens on participating properties.

Senate Bill 447. Relating to annual and special meetings of and election procedures for members of boards of directors for water supply or sewer service corporations.

Senate Bill 466. Relating to the authority of the Texas Department of Transportation ("TxDOT") to participate in certain federal transportation programs. Senate Bill 466 amends the Transportation Code to authorize TxDOT to assume the duties of the U.S. Department of Transportation ("USDOT") relating to Texas transportation projects under the National Environmental Policy Act and other federal environmental laws. Under the bill, TxDOT is authorized to enter into agreements with the USDOT to exclude certain highway projects from environmental assessment and impact statement requirements. TxDOT is expected to promulgate rules to implement the statutory changes.

Senate Bill 514. Relating to the installation, maintenance, operation, and relocation of saltwater pipeline facilities.

Senate Bill 567. Relating to rates for water service, to the transfer of functions relating to the economic regulation of water and sewer service from TCEQ to the PUC, and to the duties of OPUC regarding the economic regulation of water and sewer service. *See also House Bill 1600.*

Senate Bill 611. Relating to the irrigation powers and functions of certain water districts; providing authority for a district by rule to change fees; clarifying a district's authority to impose certain assessments.

Senate Bill 662. Relating to the composition of the drought preparedness council. Because of drought's impact on electric generating capacity, the bill adds representatives from the PUC and the Electric Reliability Council of Texas ("ERCOT") to the Drought Preparedness Council.

Senate Bill 819. Relating to the disposal of demolition waste from abandoned or nuisance buildings by certain local governments.

Senate Bill 837. Relating to the authority of a municipality to require owners of real property to keep the property free of weeds or other certain public nuisances.

Senate Bill 875. Relating to the purchase of plastic bulk merchandise containers by certain businesses; providing a civil penalty.

Senate Bill 900. Relating to the amounts of the administrative, civil, and criminal penalties for violating certain statutes under the jurisdiction of, rules or orders adopted by, or licenses, permits, or certificates issued by the Railroad Commission of Texas. Senate Bill 900 increases the maximum statutory authority for penalties that may be assessed for violations of statutes

administered by the RTC. The bill will bring penalty maximums in line with penalty authority of the USDOT Pipeline and Hazardous Materials Safety Administration. The bill includes significant increases for pipeline safety violations (up to $200,000 for a single violation and up to $2 million for a related series of violations).

Senate Bill 901. Relating to safety standards and practices applicable to the transportation by pipeline of certain substances. The bill adds updated citations to federal pipeline safety laws in state statutes.

Senate Bill 1212. Relating to the applicability of certain provisions concerning the transfer of exotic species to certain transfers of water that supply populous areas.

Senate Bill 1241. Relating to the Edwards Aquifer Authority's regulation of wells with limited production capabilities.

Senate Bill 1282. Relating to deadlines for proposals for adoption by certain districts or authorities of desired future conditions of relevant aquifers.

Senate Bill 1300. Relating to environmental or health and safety audits under the Texas Environmental, Health, and Safety Audit Privilege Act (the "Audit Privilege Act"). SB 1300 allows new owners who discover compliance issues during due diligence reviews to participate in the Audit Privilege Act. Enacted by the Legislature in 1995 and amended in 1997 to encourage voluntary compliance and corrective action, the Audit Privilege Act has been utilized by many regulated entities in Texas to identify and address environmental and health and safety issues. Audit reports are subject to a confidentiality privilege, and, consistent with the notification and other requirements of the Act, entities may be entitled to immunity from administrative and civil penalties for violations discovered and corrected pursuant to an audit. Audits are frequently employed to understand and manage risk, and thereby limit environmental liability. Corporate entities who acquire ownership of facilities frequently conduct due diligence reviews to determine potential compliance issues. Due diligence is a critical component of informed decision making. The law prior to Senate Bill 1300 only extended its benefits to current owners and operators, and new owners have not been able to benefit. Senate Bill 1300 changes the Audit Privilege Act to:

- Recognize due diligence conducted prior to acquisition to be within meaning of an "audit."
- Eliminate the requirement that advance notice of an audit be filed if the audit is commenced as due diligence.
- Allow a new owner to obtain immunity for violations discovered during due diligence and disclosed to the regulatory agency within 45 days of closing.
- Allow a new owner to continue an audit commenced prior to closing and obtain immunity for violations discovered during the ongoing audit.
- New owners will be required to certify that: (i) they were not responsible for environmental, health, or safety compliance prior to the acquisition of the facility or property; (ii) the purchaser did not have the largest ownership share of the seller; (iii) the

seller did not have the largest ownership share of the purchaser; and (iv) the purchaser and seller did not have a common majority interest owner or corporate parent.

- Create greater consistency between how pre-closing discoveries and voluntary disclosures are handled at the state level under the act and at the federal level under the EPA's New Owner Audit Policy adopted in 2010.

Senate Bill 1532. Relating to the power of the TCEQ to authorize certain injection wells that transect or terminate in the Edwards Aquifer.

Senate Bill 1727. Relating to the use of the Texas emissions reduction plan fund ("TERP"). SB 1727 expands programs eligible for TERP funding and serves to incentivize the use of lower pollution vehicles. There are changes to the Natural Gas Vehicle Grant Program and to the Energy Efficiency Grant Program. Other changes in the bill will:

- Add existing programs to the list of programs in Health and Safety Code, Section 386.051(b), as well as new programs established by the bill.
- Allow TCEQ to establish a different minimum percentage for the reduction of emissions than the main program standards for projects to convert heavy-duty on-road and stationary diesel engines from diesel fuel to dual-fuel operation using natural gas and diesel fuel.
- Delete the energy efficiency grant program from the list of programs eligible for TERP grants. It would also delete the statutory language establishing the energy efficiency grant program.
- Authorize TCEQ to consider certified test data to confirm the reductions in nitrogen oxide and other pollutants if the certification requirements for the conversion systems do not make it possible to fully account for the emissions reductions.
- Provide that under the New Technology Implementation Grants program that electricity storage projects include projects to store electricity produced from wind and solar generation that provide an efficient means of making the stored energy available during periods of peak energy use.
- Authorize TCEQ under the TERP program to establish and administer other programs, in addition to those specifically listed, determined by the TCEQ as necessary or effective in fulfilling the agency's duties and objectives under the TERP. The TCEQ would be directed to place a priority on programs to address two particular goals: (1) reduction of emissions of nitrogen oxides and/or particulate matter at port facilities in nonattainment areas; and (2) reduction of emissions from drilling equipment and related heavy-duty non-road equipment in oil and gas production fields.

Senate Bill 1756. Relating to the expedited processing of certain applications for permits under the Clean Air Act; authorizing a surcharge. Senate Bill 1756 authorizes applicants to request and the TCEQ executive director to grant expedited permits for air quality applications where the TCEQ executive director determines that the purpose of the project will benefit the economy of the state or an area of the state. Contested case hearing requirements and other procedures required by the Texas Administrative Procedures Act still apply. TCEQ may assess a supplemental application fee to cover expenses incurred in handling an expedited application.

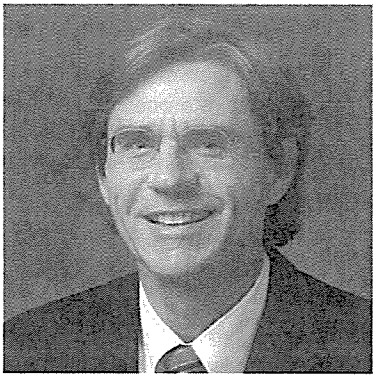
The bill also allows the agency to authorize overtime or compensatory pay or the use of contract labor to process expedited permits. TCEQ is expected to adopt rules to implement SB 1756.

SUMMARY AND CONCLUSION

Although the 83rd Regular Legislative Session in 2013 was not dominated by environmental and natural resources issues, water infrastructure funding will likely be viewed as one of the legislature's major accomplishments for the year. There were a variety of legislative initiatives that were debated, discussed, but that ultimately did not pass including TCEQ contested case hearing reform. And, as with every other legislative session, as soon as one ends, the Texas Legislature moves forward, either in a special legislative session, or in preparing for the next one.

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Overview

Danny Worrell focuses his practice on environmental contested case permitting and enforcement, Superfund litigation and transactions involving environmental matters. He advises clients on regulatory compliance involving air quality, solid and hazardous waste, injection wells, water quality, *in situ* uranium mining, underground and above-ground storage tanks, asbestos, PCBs, water and wastewater utilities, pesticides and pipelines.

Danny previously worked as a geologist for the ARCO Oil and Gas Company, specializing in oil and gas exploration. While attending law school, he was a member of the staff of the *Houston Journal of International Law*. Danny has earned an MS and a BS in geology.

Experience

- Lead attorney in administrative contested case hearing and district court and appeals court appeals. Successfully obtained a Texas Clean Air Act preconstruction permit for an 800 megawatt coal-fired electric generating facility with a CO2 capture unit.
- Lead attorney in administrative contested case hearing and district court appeal. Successfully obtained a Texas Pollution Discharge Elimination System permit for a municipal wastewater discharge.
- Representation of client in administrative contested case hearing involving amendment to production area authorization for in situ uranium mining permit before the Texas Commission on Environmental Quality (TCEQ).
- Lead attorney in administrative contested case hearing and district court appeal. Successfully obtained renewal and new Class 1 hazardous waste injection well permits from the TCEQ.
- Representation of client in administrative contested case, district court and appeals court proceedings involving major modifications to Class 1 non-hazardous injection well permits from the TCEQ.
- Lead attorney in contested case hearing on application to obtain a

Municipal Solid Waste Type I landfill permit from the TCEQ.

- Representation of 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.
- Assistance to 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.
- Representation of clients in successfully obtaining Single Property Designations from the TCEQ for air quality regulatory purposes.
- Representation of four different clients in settling claims associated with federal Superfund litigation involving former tin smelter.
- Assistance to client in successful settlement of product liability litigation relating to oil well cementing operations.

Education

JD, University of Houston Law Center
MS, Louisiana State University
BS, The University of Texas at Austin

Court Admissions

- US Court of Appeals, Fifth Circuit
- Supreme Court of Texas

Bar Admissions

- Texas - 1990

Recognition

- AV Preeminent Peer Review Rating by LexisNexis Martindale-Hubbell
- Best Lawyers in America 2007–2008, 2010–2012
- Who's Who Legal Texas, 2007–2008
- Chambers USA "Leaders in Their Field," Environmental Law, 2005–2011

Memberships

American Bar Association, Section of Environment, Energy, and Resources (SEER)

Austin Bar Association

Publications

2012	*Brownfields Law & Practice*, Texas chapter (Matthew Bender)
2003	*RCRA: Resource Conservation and Recovery Act*, with co-authors John W. Teets and Dennis P. Reis (American Bar Association)
2002	Subsurface Trespass Claims Against Underground Injection Control Operations, in conference materials for the Texas Natural Resource Conservation Commission 2002 Underground Injection Control Symposium
1996	Legal and Strategic Considerations in Risk-Based Closures, in proceedings of Energy Week Conference and Exhibition
1994	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	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
1993	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.
1992	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 US Department of Energy
1992	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, Matthew Bender
1991	Permitting Injection Wells in the New Texas, with Albert R. Axe, Jr., in Proceedings of the

	Underground Injection Practices Council
1991	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
1990	An Overview of the Use of Injection Wells for Industrial Waste Disposal, with R. Steven Morton and Susan Thompson

Firm News

July 16, 2013	Katten Continues Expansion of Its Environmental and Safety Practice, Retaining Prominent Austin Environmental Attorney Danny Worrell to Spearhead Contested Permitting Practice

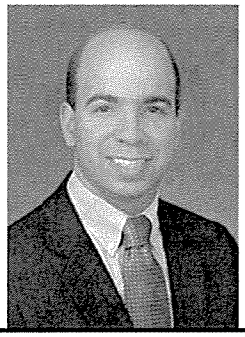
Events

September 2011	BACT and MACT- "Hunches in Bunches," presented at the Texas Environmental Superconference, Austin (Speaker)
2009	The Impact of Changing Federal Energy and Environmental Laws and Policy, presented at the Gulf Coast Power Association, 25th Annual Fall Conference and Exhibition, Austin (Speaker)
2009	What Happens When a Rule Is Vacated? MACT Hammer and Title V Impacts, presented at the TCC/ACIT Environmental, Health & Safety Seminar, Galveston, Texas (Speaker)
2007	Compliance: Confidentiality and Ethics, Changing Times Require Changing Approaches, presented by the Texas Bar Law Center, Austin (Speaker)
2005	Environmental Law 101: Solid Waste, presented at the Texas Environmental Superconference, Austin (Speaker)

ROGER R. MARTELLA, JR.

Partner

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PRACTICES

- Environmental
- Government Strategies

AREAS OF FOCUS

- Environmental Torts, Class Actions and Public Nuisance Litigation
- Land Use and Government Relations
- Climate Change and Sustainable Development
- Compliance Management
- Contaminated Sites and Natural Resource Damages
- Environmental Aspects of Transactions and SEC Disclosure
- Environmental Crisis Management
- Nanotechnology
- Environmental Enforcement, Litigation and Internal Investigations
- NEPA and Natural Resource Protection
- EU Law and Regulation
- Environmental Experience in the Energy Sector
- International Environmental
- Regulatory Advocacy and Counseling
- Oil and Natural Gas Pipelines

ADMISSIONS & CERTIFICATIONS

- District of Columbia, 2009
- Maryland, 1997

EDUCATION

- Vanderbilt University Law School (J.D., 1995)
- Cornell University (B. , 1992)

CLERKSHIPS

- U.S. Court of Appeals, 10th Circuit, David M. Ebel

ROGER MARTELLA is a partner in the Environmental Practice Group at Sidley Austin LLP. He rejoined Sidley Austin LLP after serving as the General Counsel of the United States Environmental Protection Agency, concluding 10 years of litigating and handling complex environmental and natural resource matters at the Department of Justice and EPA.

Mr. Martella's practice focuses on three primary areas. First, Mr. Martella advises companies on developing strategic approaches to achieve their goals in light of rapidly developing demands to address climate change, promote sustainability, and utilize clean energy. Second, Mr. Martella handles a broad range of environmental and natural resource litigation and mediation. Third, Mr. Martella advises multinational companies on compliance with environmental laws in the United States, China, the European Union, and other nations.

Mr. Martella counsels approximately 40 of the world's leading conventional and renewable energy, industrial, transportation, agricultural, forestry, and technology companies on bet-the-company environmental issues, regulatory matters, and litigation including transitioning to an era of legal controls addressing greenhouse gas emissions, increasingly stringent pollutant controls, alternative and clean energy, hydraulic fracturing, and sustainability both in the United States and abroad. Mr. Martella has counseled companies on the successful acquisition of more than $6 billion in stimulus funding to support advanced technology vehicles, smart grid projects, and other alternative energy projects.

Mr. Martella employs a strategic, forward-looking approach to solving emerging law and policy issues across the world that have the potential to create both opportunities and risks for domestic and multinational energy and manufacturing companies and industries. Mr. Martella's approach is to build a collaborative and coalition-building framework that seeks the strongest possible results through up front coordination with government, industry, and NGO stakeholders, leveraging his strong honest broker relations with government officials and understanding of government approach to realize resolutions that have led to extraordinary favorable settlements offering significant regulatory relief to industries and pennies-on-the-dollar enforcement settlements for companies.

Mr. Martella was unanimously confirmed by the United States Senate as EPA General Counsel. In that role, Mr. Martella served as EPA's chief legal advisor supervising an office of 350 attorneys and staff in Washington and 10 regional offices. At EPA, Mr. Martella served as Agency counsel on six Supreme Court decisions, including *Massachusetts v. EPA* (climate change); *Defenders of Wildlife v. EPA* (finding no Endangered Species Act duty to consult when approving state water program); *EPA v. Rapanos* and *Maine v. S.D. Warren* (landmark decisions addressing federal jurisdiction over waters of the United States); *Environmental Defense v. Duke Energy* (addressing Clean Air Act enforcement against powerplants); and *U.S. v. Atlantic Research Corp.* (the Court's most recent decision regarding CERCLA).

In particular, Mr. Martella led the team responsible for developing for the first time under the Clean Air Act the federal government's climate change legal framework and options in response to the landmark Supreme Court decision *Massachusetts v. EPA*, which held greenhouse gases to be air pollutants under the Clean Air Act. His efforts included developing a full range of legal options for decision makers related to greenhouse gas regulation, alternative and renewable fuels, the development of regulatory carbon sequestration controls, and the intersection of climate change and natural resource issues including the National Environmental Policy Act and the Endangered Species Act. Recognized for his knowledge on legal approaches to addressing climate change, Mr. Martella focuses specifically on dissecting the extraordinarily complex and interrelated ramifications of climate change on numerous provisions of the Clean Air Act relating to mobile and stationary sources, as well as other laws, such as the ESA and NEPA. Mr. Martella's experience in this area enables him to work to forecast for clients the likelihood of upcoming regulations and controls in the area of climate change, clean energy, and sustainability, and to develop strategic approaches to be best prepared for such controls. Mr. Martella also focuses on international climate issues, working with Chinese institutes on climate and clean energy issues and advocating for conformity between United States climate rules with the European Union. Since the April 2007 *Massachusetts* decision, Mr. Martella has been invited to address climate change regulation more than twenty-five times in the United States and abroad.

In addition to climate change responsibilities, Mr. Martella focuses on the challenges in adapting existing and frequently outdated environmental law tools toward new and complex environmental challenges of national and international sustainability, including the increasing demands on industry to promote environmentally sustainable development protecting air, water, land, and human health.

Recognizing deficiencies in the China environmental law framework and the challenges for multinational organizations in understanding the laws on the books, Mr. Martella created the China Environmental Law Initiative in 2007. As part of the initiative, Mr. Martella created the only known website devoted to China environmental laws and organized with the State Environmental Protection Agency (now the Ministry of Environmental Protection) two separate symposia in China. Mr. Martella has served as a visiting professor at the Environmental Law Institute of Wuhan University and the State Environmental Protection Agency, and at Tsinghua University, working with academics, officials and students on

developing environmental law frameworks for China. Mr. Martella has testified as an expert on this issue before the United States Congress, worked with numerous government officials at the national and provincial level in China, and has lectured with academics and students at leading universities and think tanks in both nations.

Prior to joining EPA, Mr. Martella most recently served as the Principal Counsel for Complex Litigation at the Justice Department's Natural Resources Section, where he focused on defending federal decisions relating to public lands, national forests, minerals, federal and tribal water rights and allocations, endangered species, NEPA, and Native American property and reservations. During nearly eight years at the Department of Justice, Mr. Martella maintained an unbroken record of successfully litigating every case he brought to court. His first chair trial responsibility included a 12 week jury trial that returned a $36.9 million verdict, a seven week bench trial that resulted in a $247.9 million judgment, an unbroken record of successfully defending against numerous emergency injunctions brought against timber and mining projects, and successfully defending the Secretary of Interior from a contempt motion at trial. Mr. Martella's responsibilities in the Natural Resources and the Indian Resources Sections related to federal land use decisions and policy; defense of federal statutes, regulations, and agency action under the APA, ESA, NEPA, and other statutes; competing assertions of jurisdiction and land use control among various government entities; federal programs relating to natural, cultural, wildlife, and marine resources; pollution control issues under Clean Air Act, Clean Water Act, CERCLA, RCRA, TSCA, FIFRA, and EPCRA; and issues related to water, hunting, fishing, and treaty rights. Mr. Martella received among the highest honors at the Department of Justice including the John Marshall Award and the Assistant Attorney General's Excellence Award.

Mr. Martella graduated from Vanderbilt Law School, where he was Editor in Chief of the *Vanderbilt Law Review*, and Cornell University, where he studied environmental science. Following law school, he clerked for the Hon. David M. Ebel of the Tenth Circuit Court of Appeals.

Mr. Martella, elected at large to the Warrenton, VA, Town Council, devotes significant effort to public service in his community and was recognized in 2006 as Citizen of the Year by the Fauquier County Board of Supervisors for his public service and volunteerism efforts.

Representative examples of Mr. Martella's recognitions and professional activities include:

- Ranked in Chambers U.S. and Global for climate change (Band 1 for U.S.) and environment.
- Law360: Environmental MVP 2012.
- Law360: Rising Star (Environment).
- International Who's Who of Environment Lawyers (leading lawyer).
- International Who's Who of Business Lawyers.
- Practical Law Company: Environment (leading lawyer).
- Superlawyer: Environment.
- Legal 500: Environment.
- Washington Business Journal: Named one of D.C's top four environmental lawyers.
- Editor of upcoming American Bar Association book surveying global environmental law issues in more than 25 countries. Selected by the Federal Bar Association to author handbook for Article III judges on international environmental law. One of two private practitioners serving as advisor to the Rule of Law Initiative on international implementation of environmental laws.

- Chair, American Bar Association, Annual Spring Meeting (responsible for managing and leading the environment section's most important annual meeting).
- Chair, American Bar Association, International Environmental Law Committee.
- Vice Chair, American Bar Association, Air Quality Committee.
- Vice Chair, International Bar Association, Environment Committee.
- Council of Partners, Environmental Law Institute.
- Board Member, Chesapeake Legal Alliance.
- Expert, Energy and Environment Blog, National Journal.
- Attorney General's John Marshall Award for Preparation of Legislation (2003).
- Assistant Attorney General's Award for Excellence (2005).
- Federal Bar Association's Younger Lawyer Award (2003).
- Received Justice Department Special Achievement Award for each year of service.
- Councilman At-Large, Town of Warrenton, VA (2006—present).
- Fauquier County Citizen of the Year, Fauquier Board of Supervisors (2006).
- Volunteer of the Year, Bluemont, The Cultural Spirt of Our Communities (2006, 2007).

- Board Member, *ex officio*, National Trust for Historic Preservation (2005).

THE PRESIDENT'S CLIMATE ACTION PLAN

Executive Office of the President

June 2013



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PRESIDENT OBAMA'S CLIMATE ACTION PLAN

"We, the people, still believe that our obligations as Americans are not just to ourselves, but to all posterity. We will respond to the threat of climate change, knowing that the failure to do so would betray our children and future generations. Some may still deny the overwhelming judgment of science, but none can avoid the devastating impact of raging fires and crippling drought and more powerful storms.

The path towards sustainable energy sources will be long and sometimes difficult. But America cannot resist this transition, we must lead it. We cannot cede to other nations the technology that will power new jobs and new industries, we must claim its promise. That's how we will maintain our economic vitality and our national treasure -- our forests and waterways, our croplands and snow-capped peaks. That is how we will preserve our planet, commanded to our care by God. That's what will lend meaning to the creed our fathers once declared."

-- President Obama, Second Inaugural Address, January 2013

THE CASE FOR ACTION

While no single step can reverse the effects of climate change, we have a moral obligation to future generations to leave them a planet that is not polluted and damaged. Through steady, responsible action to cut carbon pollution, we can protect our children's health and begin to slow the effects of climate change so that we leave behind a cleaner, more stable environment.

In 2009, President Obama made a pledge that by 2020, America would reduce its greenhouse gas emissions in the range of 17 percent below 2005 levels if all other major economies agreed to limit their emissions as well. Today, the President remains firmly committed to that goal and to building on the progress of his first term to help put us and the world on a sustainable long-term trajectory. Thanks in part to the Administration's success in doubling America's use of wind, solar, and geothermal energy and in establishing the toughest fuel economy standards in our history, we are creating new jobs, building new industries, and reducing dangerous carbon pollution which contributes to climate change. In fact, last year, carbon emissions from the energy sector fell to the lowest level in two decades. At the same time, while there is more work to do, we are more energy secure than at any time in recent history. In 2012, America's net oil imports fell to the lowest level in 20 years and we have become the world's leading producer of natural gas – the cleanest-burning fossil fuel.

While this progress is encouraging, climate change is no longer a distant threat – we are already feeling its impacts across the country and the world. Last year was the warmest year ever in the contiguous United States and about one-third of all Americans experienced 10 days or more of 100-degree heat. The 12 hottest years on record have all come in the last 15 years. Asthma rates have doubled in the past 30 years and our children will suffer more asthma attacks as air pollution gets worse. And increasing floods, heat waves, and droughts have put farmers out of business, which is already raising food prices dramatically.

These changes come with far-reaching consequences and real economic costs. Last year alone, there were 11 different weather and climate disaster events with estimated losses exceeding $1 billion each across the United States. Taken together, these 11 events resulted in over $110 billion in estimated damages, which would make it the second-costliest year on record.

In short, America stands at a critical juncture. Today, President Obama is putting forward a broad-based plan to cut the carbon pollution that causes climate change and affects public health. Cutting carbon pollution will help spark business innovation to modernize our power plants, resulting in cleaner forms of American-made energy that will create good jobs and cut our dependence on foreign oil. Combined with the Administration's other actions to increase the efficiency of our cars and household appliances, the President's plan will reduce the amount of energy consumed by American families, cutting down on their gas and utility bills. The plan, which consists of a wide variety of executive actions, has three key pillars:

1) **Cut Carbon Pollution in America:** In 2012, U.S. carbon emissions fell to the lowest level in two decades even as the economy continued to grow. To build on this progress, the Obama Administration is putting in place tough new rules to cut carbon pollution – just like we have for other toxins like mercury and arsenic – so we protect the health of our children and move our economy toward American-made clean energy sources that will create good jobs and lower home energy bills.

2) **Prepare the United States for the Impacts of Climate Change:** Even as we take new steps to reduce carbon pollution, we must also prepare for the impacts of a changing climate that are already being felt across the country. Moving forward, the Obama Administration will help state and local governments strengthen our roads, bridges, and shorelines so we can better protect people's homes, businesses and way of life from severe weather.

3) **Lead International Efforts to Combat Global Climate Change and Prepare for its Impacts:** Just as no country is immune from the impacts of climate change, no country can meet this challenge alone. That is why it is imperative for the United States to couple action at home with leadership internationally. America must help forge a truly global solution to this global challenge by galvanizing international action to significantly reduce emissions (particularly among the major emitting countries), prepare for climate impacts, and drive progress through the international negotiations.

Climate change represents one of our greatest challenges of our time, but it is a challenge uniquely suited to America's strengths. Our scientists will design new fuels, and our farmers will grow them. Our engineers to devise new sources of energy, our workers will build them, and our businesses will sell them. All of us will need to do our part. If we embrace this challenge, we will not just create new jobs and new industries and keep America on the cutting edge; we will save lives, protect and preserve our treasured natural resources, cities, and coastlines for future generations.

What follows is a blueprint for steady, responsible national and international action to slow the effects of climate change so we leave a cleaner, more stable environment for future generations. It highlights progress already set in motion by the Obama Administration to advance these goals and sets forth new steps to achieve them.

CUT CARBON POLLUTION IN AMERICA

In 2009, President Obama made a commitment to reduce U.S. greenhouse gas emissions in the range of 17 percent below 2005 levels by 2020. The President remains firmly committed to achieving that goal. While there is more work to do, the Obama Administration has already made significant progress by doubling generation of electricity from wind, solar, and geothermal, and by establishing historic new fuel economy standards. Building on these achievements, this document outlines additional steps the Administration will take – in partnership with states, local communities, and the private sector – to continue on a path to meeting the President's 2020 goal.

I. Deploying Clean Energy

Cutting Carbon Pollution from Power Plants: Power plants are the largest concentrated source of emissions in the United States, together accounting for roughly one-third of all domestic greenhouse gas emissions. We have already set limits for arsenic, mercury, and lead, but there is no federal rule to prevent power plants from releasing as much carbon pollution as they want. Many states, local governments, and companies have taken steps to move to cleaner electricity sources. More than 35 states have renewable energy targets in place, and more than 25 have set energy efficiency targets.

Despite this progress at the state level, there are no federal standards in place to reduce carbon pollution from power plants. In April 2012, as part of a continued effort to modernize our electric power sector, the Obama Administration proposed a carbon pollution standard for new power plants. The Environmental Protection Agency's proposal reflects and reinforces the ongoing trend towards cleaner technologies, with natural gas increasing its share of electricity generation in recent years, principally through market forces and renewables deployment growing rapidly to account for roughly half of new generation capacity installed in 2012.

With abundant clean energy solutions available, and building on the leadership of states and local governments, we can make continued progress in reducing power plant pollution to improve public health and the environment while supplying the reliable, affordable power needed for economic growth. By doing so, we will continue to drive American leadership in clean energy technologies, such as efficient natural gas, nuclear, renewables, and clean coal technology.

To accomplish these goals, President Obama is issuing a Presidential Memorandum directing the Environmental Protection Agency to work expeditiously to complete carbon pollution standards for both new and existing power plants. This work will build on the successful first-term effort to develop greenhouse gas and fuel economy standards for cars and trucks. In developing the standards, the President has asked the Environmental Protection Agency to build on state leadership, provide flexibility, and take advantage of a wide range of energy sources and technologies including many actions in this plan.

Promoting American Leadership in Renewable Energy: During the President's first term, the United States more than doubled generation of electricity from wind, solar, and geothermal sources. To ensure America's continued leadership position in clean energy, President Obama has set a goal to double renewable electricity generation once again by 2020. In order to meet

this ambitious target, the Administration is announcing a number of new efforts in the following key areas:

- **Accelerating Clean Energy Permitting:** In 2012 the President set a goal to issue permits for 10 gigawatts of renewables on public lands by the end of the year. The Department of the Interior achieved this goal ahead of schedule and the President has directed it to permit an additional 10 gigawatts by 2020. Since 2009, the Department of Interior has approved 25 utility-scale solar facilities, nine wind farms, and 11 geothermal plants, which will provide enough electricity to power 4.4 million homes and support an estimated 17,000 jobs. The Administration is also taking steps to encourage the development of hydroelectric power at existing dams. To develop and demonstrate improved permitting procedures for such projects, the Administration will designate the Red Rock Hydroelectric Plant on the Des Moines River in Iowa to participate in its Infrastructure Permitting Dashboard for high-priority projects. Also, the Department of Defense – the single largest consumer of energy in the United States – is committed to deploying 3 gigawatts of renewable energy on military installations, including solar, wind, biomass, and geothermal, by 2025. In addition, federal agencies are setting a new goal of reaching 100 megawatts of installed renewable capacity across the federally subsidized housing stock by 2020. This effort will include conducting a survey of current projects in order to track progress and facilitate the sharing of best practices.

- **Expanding and Modernizing the Electric Grid:** Upgrading the country's electric grid is critical to our efforts to make electricity more reliable, save consumers money on their energy bills, and promote clean energy sources. To advance these important goals, President Obama signed a Presidential Memorandum this month that directs federal agencies to streamline the siting, permitting and review process for transmission projects across federal, state, and tribal governments.

Unlocking Long-Term Investment in Clean Energy Innovation: The Fiscal Year 2014 Budget continues the President's commitment to keeping the United States at the forefront of clean energy research, development, and deployment by increasing funding for clean energy technology across all agencies by 30 percent, to approximately $7.9 billion. This includes investment in a range of energy technologies, from advanced biofuels and emerging nuclear technologies – including small modular reactors – to clean coal. To continue America's leadership in clean energy innovation, the Administration will also take the following steps:

- **Spurring Investment in Advanced Fossil Energy Projects:** In the coming weeks, the Department of Energy will issue a Federal Register Notice announcing a draft of a solicitation that would make up to $8 billion in (self-pay) loan guarantee authority available for a wide array of advanced fossil energy projects under its Section 1703 loan guarantee program. This solicitation is designed to support investments in innovative technologies that can cost-effectively meet financial and policy goals, including the avoidance, reduction, or sequestration of anthropogenic emissions of greenhouse gases. The proposed solicitation will cover a broad range of advanced fossil energy projects. Reflecting the Department's commitment to continuous improvement in program management, it will take comment on the draft solicitation, with a plan to issue a final solicitation by the fall of 2013.

- **Instituting a Federal Quadrennial Energy Review:** Innovation and new sources of domestic energy supply are transforming the nation's energy marketplace, creating economic

opportunities at the same time they raise environmental challenges. To ensure that federal energy policy meets our economic, environmental, and security goals in this changing landscape, the Administration will conduct a Quadrennial Energy Review which will be led by the White House Domestic Policy Council and Office of Science and Technology Policy, supported by a Secretariat established at the Department of Energy, and involving the robust engagement of federal agencies and outside stakeholders. This first-ever review will focus on infrastructure challenges, and will identify the threats, risks, and opportunities for U.S. energy and climate security, enabling the federal government to translate policy goals into a set of analytically based, clearly articulated, sequenced and integrated actions, and proposed investments over a four-year planning horizon.

II. Building a 21st-Century Transportation Sector

Increasing Fuel Economy Standards: Heavy-duty vehicles are currently the second largest source of greenhouse gas emissions within the transportation sector. In 2011, the Obama Administration finalized the first-ever fuel economy standards for Model Year 2014-2018 for heavy-duty trucks, buses, and vans. These standards will reduce greenhouse gas emissions by approximately 270 million metric tons and save 530 million barrels of oil. During the President's second term, the Administration will once again partner with industry leaders and other key stakeholders to develop post-2018 fuel economy standards for heavy-duty vehicles to further reduce fuel consumption through the application of advanced cost-effective technologies and continue efforts to improve the efficiency of moving goods across the United States.

The Obama Administration has already established the toughest fuel economy standards for passenger vehicles in U.S. history. These standards require an average performance equivalent of 54.5 miles per gallon by 2025, which will save the average driver more than $8,000 in fuel costs over the lifetime of the vehicle and eliminate six billion metric tons of carbon pollution – more than the United States emits in an entire year.

Developing and Deploying Advanced Transportation Technologies: Biofuels have an important role to play in increasing our energy security, fostering rural economic development, and reducing greenhouse gas emissions from the transportation sector. That is why the Administration supports the Renewable Fuels Standard, and is investing in research and development to help bring next-generation biofuels on line. For example, the United States Navy and Departments of Energy and Agriculture are working with the private sector to accelerate the development of cost-competitive advanced biofuels for use by the military and commercial sectors. More broadly, the Administration will continue to leverage partnerships between the private and public sectors to deploy cleaner fuels, including advanced batteries and fuel cell technologies, in every transportation mode. The Department of Energy's eGallon informs drivers about electric car operating costs in their state – the national average is only $1.14 per gallon of gasoline equivalent, showing the promise for consumer pocketbooks of electric-powered vehicles. In addition, in the coming months, the Department of Transportation will work with other agencies to further explore strategies for integrating alternative fuel vessels into the U.S. flag fleet. Further, the Administration will continue to work with states, cities and towns through the Department of Transportation, the Department of Housing and Urban Development, and the Environmental Protection Agency to improve transportation options, and lower transportation costs while protecting the environment in communities nationwide.

III. Cutting Energy Waste in Homes, Businesses, and Factories

Reducing Energy Bills for American Families and Businesses: Energy efficiency is one of the clearest and most cost-effective opportunities to save families money, make our businesses more competitive, and reduce greenhouse gas emissions. In the President's first term, the Department of Energy and the Department of Housing and Urban Development completed efficiency upgrades in more than one million homes, saving many families more than $400 on their heating and cooling bills in the first year alone. The Administration will take a range of new steps geared towards achieving President Obama's goal of doubling energy productivity by 2030 relative to 2010 levels:

- **Establishing a New Goal for Energy Efficiency Standards:** In President Obama's first term, the Department of Energy established new minimum efficiency standards for dishwashers, refrigerators, and many other products. Through 2030, these standards will cut consumers' electricity bills by hundreds of billions of dollars and save enough electricity to power more than 85 million homes for two years. To build on this success, the Administration is setting a new goal: Efficiency standards for appliances and federal buildings set in the first and second terms combined will reduce carbon pollution by at least 3 billion metric tons cumulatively by 2030 – equivalent to nearly one-half of the carbon pollution from the entire U.S. energy sector for one year – while continuing to cut families' energy bills.

- **Reducing Barriers to Investment in Energy Efficiency:** Energy efficiency upgrades bring significant cost savings, but upfront costs act as a barrier to more widespread investment. In response, the Administration is committing to a number of new executive actions. As soon as this fall, the Department of Agriculture's Rural Utilities Service will finalize a proposed update to its Energy Efficiency and Conservation Loan Program to provide up to $250 million for rural utilities to finance efficiency investments by businesses and homeowners across rural America. The Department is also streamlining its Rural Energy for America program to provide grants and loan guarantees directly to agricultural producers and rural small businesses for energy efficiency and renewable energy systems.

  In addition, the Department of Housing and Urban Development's efforts include a $23 million Multifamily Energy Innovation Fund designed to enable affordable housing providers, technology firms, academic institutions, and philanthropic organizations to test new approaches to deliver cost-effective residential energy. In order to advance ongoing efforts and bring stakeholders together, the Federal Housing Administration will convene representatives of the lending community and other key stakeholders for a mortgage roundtable in July to identify options for factoring energy efficiency into the mortgage underwriting and appraisal process upon sale or refinancing of new or existing homes.

- **Expanding the President's Better Buildings Challenge:** The Better Buildings Challenge, focused on helping American commercial and industrial buildings become at least 20 percent more energy efficient by 2020, is already showing results. More than 120 diverse organizations, representing over 2 billion square feet are on track to meet the 2020 goal: cutting energy use by an average 2.5 percent annually, equivalent to about $58 million in energy savings per year. To continue this success, the Administration will expand the program to multifamily housing – partnering both with private and affordable

building owners and public housing agencies to cut energy waste. In addition, the Administration is launching the Better Buildings Accelerators, a new track that will support and encourage adoption of State and local policies to cut energy waste, building on the momentum of ongoing efforts at that level.

IV. Reducing Other Greenhouse Gas Emissions

Curbing Emissions of Hydrofluorocarbons: Hydrofluorocarbons (HFCs), which are primarily used for refrigeration and air conditioning, are potent greenhouse gases. In the United States, emissions of HFCs are expected to nearly triple by 2030, and double from current levels of 1.5 percent of greenhouse gas emissions to 3 percent by 2020.

To reduce emissions of HFCs, the United States can and will lead both through international diplomacy as well as domestic actions. In fact, the Administration has already acted by including a flexible and powerful incentive in the fuel economy and carbon pollution standards for cars and trucks to encourage automakers to reduce HFC leakage and transition away from the most potent HFCs in vehicle air conditioning systems. Moving forward, the Environmental Protection Agency will use its authority through the Significant New Alternatives Policy Program to encourage private sector investment in low-emissions technology by identifying and approving climate-friendly chemicals while prohibiting certain uses of the most harmful chemical alternatives. In addition, the President has directed his Administration to purchase cleaner alternatives to HFCs whenever feasible and transition over time to equipment that uses safer and more sustainable alternatives.

Reducing Methane Emissions: Curbing emissions of methane is critical to our overall effort to address global climate change. Methane currently accounts for roughly 9 percent of domestic greenhouse gas emissions and has a global warming potential that is more than 20 times greater than carbon dioxide. Notably, since 1990, methane emissions in the United States have decreased by 8 percent. This has occurred in part through partnerships with industry, both at home and abroad, in which we have demonstrated that we have the technology to deliver emissions reductions that benefit both our economy and the environment. To achieve additional progress, the Administration will:

- **Developing an Interagency Methane Strategy:** The Environmental Protection Agency and the Departments of Agriculture, Energy, Interior, Labor, and Transportation will develop a comprehensive, interagency methane strategy. The group will focus on assessing current emissions data, addressing data gaps, identifying technologies and best practices for reducing emissions, and identifying existing authorities and incentive-based opportunities to reduce methane emissions.

- **Pursuing a Collaborative Approach to Reducing Emissions:** Across the economy, there are multiple sectors in which methane emissions can be reduced, from coal mines and landfills to agriculture and oil and gas development. For example, in the agricultural sector, over the last three years, the Environmental Protection Agency and the Department of Agriculture have worked with the dairy industry to increase the adoption of methane digesters through loans, incentives, and other assistance. In addition, when it comes to the oil and gas sector, investments to build and upgrade gas pipelines will not only put more Americans to work, but also reduce emissions and enhance economic productivity. For example, as part of the Administration's effort to improve federal

permitting for infrastructure projects, the interagency Bakken Federal Executive Group is working with industry, as well as state and tribal agencies, to advance the production of oil and gas in the Bakken while helping to reduce venting and flaring. Moving forward, as part of the effort to develop an interagency methane strategy, the Obama Administration will work collaboratively with state governments, as well as the private sector, to reduce emissions across multiple sectors, improve air quality, and achieve public health and economic benefits.

Preserving the Role of Forests in Mitigating Climate Change: America's forests play a critical role in addressing carbon pollution, removing nearly 12 percent of total U.S. greenhouse gas emissions each year. In the face of a changing climate and increased risk of wildfire, drought, and pests, the capacity of our forests to absorb carbon is diminishing. Pressures to develop forest lands for urban or agricultural uses also contribute to the decline of forest carbon sequestration. Conservation and sustainable management can help to ensure our forests continue to remove carbon from the atmosphere while also improving soil and water quality, reducing wildfire risk; and otherwise managing forests to be more resilient in the fact of climate change. The Administration is working to identify new approaches to protect and restore our forests, as well as other critical landscapes including grasslands and wetlands, in the face of a changing climate.

V. Leading at the Federal Level

Leading in Clean Energy: President Obama believes that the federal government must be a leader in clean energy and energy efficiency. Under the Obama Administration, federal agencies have reduced greenhouse gas emissions by more than 15 percent – the equivalent of permanently taking 1.5 million cars off the road. To build on this record, the Administration is establishing a new goal: The federal government will consume 20 percent of its electricity from renewable sources by 2020 – more than double the current goal of 7.5 percent. In addition, the federal government will continue to pursue greater energy efficiency that reduces greenhouse gas emissions and saves taxpayer dollars.

Federal Government Leadership in Energy Efficiency: On December 2, 2011, President Obama signed a memorandum entitled "Implementation of Energy Savings Projects and Performance-Based Contracting for Energy Savings," challenging federal agencies, in support of the Better Buildings Challenge, to enter into $2 billion worth of performance-based contracts within two years. Performance contracts drive economic development, utilize private sector innovation, and increase efficiency at minimum costs to the taxpayer, while also providing long-term savings in energy costs. Federal agencies have committed to a pipeline of nearly $2.3 billion from over 300 reported projects. In coming months, the Administration will take a number of actions to strengthen efforts to promote energy efficiency, including through performance contracting. For example, in order to increase access to capital markets for investments in energy efficiency, the Administration will initiate a partnership with the private sector to work towards a standardized contract to finance federal investments in energy efficiency. Going forward, agencies will also work together to synchronize building codes – leveraging those policies to improve the efficiency of federally owned and supported building stock. Finally, the Administration will leverage the "Green Button" standard – which aggregates energy data in a secure, easy to use format – within federal facilities to increase their ability to manage energy consumption, reduce greenhouse gas emissions, and meet sustainability goals.

PREPARE THE UNITED STATES FOR THE IMPACTS OF CLIMATE CHANGE

As we act to curb the greenhouse gas pollution that is driving climate change, we must also prepare for the impacts that are too late to avoid. Across America, states, cities, and communities are taking steps to protect themselves by updating building codes, adjusting the way they manage natural resources, investing in more resilient infrastructure, and planning for rapid recovery from damages that nonetheless occur. The federal government has an important role to play in supporting community-based preparedness and resilience efforts, establishing policies that promote preparedness, protecting critical infrastructure and public resources, supporting science and research germane to preparedness and resilience, and ensuring that federal operations and facilities continue to protect and serve citizens in a changing climate.

The Obama Administration has been working to strengthen America's climate resilience since its earliest days. Shortly after coming into office, President Obama established an Interagency Climate Change Adaptation Task Force and, in October 2009, the President signed an Executive Order directing it to recommend ways federal policies and programs can better prepare the Nation for change. In May 2010, the Task Force hosted the first National Climate Adaptation Summit, convening local and regional stakeholders and decision-makers to identify challenges and opportunities for collaborative action.

In February 2013, federal agencies released Climate Change Adaptation Plans for the first time, outlining strategies to protect their operations, missions, and programs from the effects of climate change. The Department of Transportation, for example, is developing guidance for incorporating climate change and extreme weather event considerations into coastal highway projects, and the Department of Homeland Security is evaluating the challenges of changing conditions in the Arctic and along our Nation's borders. Agencies have also partnered with communities through targeted grant and technical-assistance programs—for example, the Environmental Protection Agency is working with low-lying communities in North Carolina to assess the vulnerability of infrastructure investments to sea level rise and identify solutions to reduce risks. And the Administration has continued, through the U.S. Global Change Research Program, to support science and monitoring to expand our understanding of climate change and its impacts.

Going forward, the Administration will expand these efforts into three major, interrelated initiatives to better prepare America for the impacts of climate change:

I. Building Stronger and Safer Communities and Infrastructure

By necessity, many states, cities, and communities are already planning and preparing for the impacts of climate change. Hospitals must build capacity to serve patients during more frequent heat waves, and urban planners must plan for the severe storms that infrastructure will need to withstand. Promoting on-the-ground planning and resilient infrastructure will be at the core of our work to strengthen America's communities. Specific actions will include:

Directing Agencies to Support Climate-Resilient Investment: The President will direct federal agencies to identify and remove barriers to making climate-resilient investments; identify and remove counterproductive policies that increase vulnerabilities; and encourage and support smarter, more resilient investments, including through agency grants, technical assistance, and other programs, in sectors from transportation and water management to conservation and

disaster relief. Agencies will also be directed to ensure that climate risk-management considerations are fully integrated into federal infrastructure and natural resource management planning. To begin meeting this challenge, the Environmental Protection Agency is committing to integrate considerations of climate change impacts and adaptive measures into major programs, including its Clean Water and Drinking Water State Revolving Funds and grants for brownfields cleanup, and the Department of Housing and Urban Development is already requiring grant recipients in the Hurricane Sandy–affected region to take sea-level rise into account.

Establishing a State, Local, and Tribal Leaders Task Force on Climate Preparedness: To help agencies meet the above directive and to enhance local efforts to protect communities, the President will establish a short-term task force of state, local, and tribal officials to advise on key actions the federal government can take to better support local preparedness and resilience-building efforts. The task force will provide recommendations on removing barriers to resilient investments, modernizing grant and loan programs to better support local efforts, and developing information and tools to better serve communities.

Supporting Communities as they Prepare for Climate Impacts: Federal agencies will continue to provide targeted support and assistance to help communities prepare for climate-change impacts. For example, throughout 2013, the Department of Transportation's Federal Highway Administration is working with 19 state and regional partners and other federal agencies to test approaches for assessing local transportation infrastructure vulnerability to climate change and extreme weather and for improving resilience. The Administration will continue to assist tribal communities on preparedness through the Bureau of Indian Affairs, including through pilot projects and by supporting participation in federal initiatives that assess climate change vulnerabilities and develop regional solutions. Through annual federal agency "Environmental Justice Progress Reports," the Administration will continue to identify innovative ways to help our most vulnerable communities prepare for and recover from the impacts of climate change. The importance of critical infrastructure independence was brought home in the Sandy response. The Federal Emergency Management Agency and the Department of Energy are working with the private sector to address simultaneous restoration of electricity and fuels supply.

Boosting the Resilience of Buildings and Infrastructure: The National Institute of Standards and Technology will convene a panel on disaster-resilience standards to develop a comprehensive, community-based resilience framework and provide guidelines for consistently safe buildings and infrastructure – products that can inform the development of private-sector standards and codes. In addition, building on federal agencies' "Climate Change Adaptation Plans," the Administration will continue efforts to increase the resilience of federal facilities and infrastructure. The Department of Defense, for example, is assessing the relative vulnerability of its coastal facilities to climate change. In addition, the President's FY 2014 Budget proposes $200 million through the Transportation Leadership Awards program for Climate Ready Infrastructure in communities that build enhanced preparedness into their planning efforts, and that have proposed or are ready to break ground on infrastructure projects, including transit and rail, to improve resilience.

Rebuilding and Learning from Hurricane Sandy: In August 2013, President Obama's Hurricane Sandy Rebuilding Task Force will deliver to the President a rebuilding strategy to be implemented in Sandy-affected regions and establishing precedents that can be followed

elsewhere. The Task Force and federal agencies are also piloting new ways to support resilience in the Sandy-affected region; the Task Force, for example, is hosting a regional "Rebuilding by Design" competition to generate innovative solutions to enhance resilience. In the transportation sector, the Department of Transportation's Federal Transit Administration (FTA) is dedicating $5.7 billion to four of the area's most impacted transit agencies, of which $1.3 billion will be allocated to locally prioritized projects to make transit systems more resilient to future disasters. FTA will also develop a competitive process for additional funding to identify and support larger, stand-alone resilience projects in the impacted region. To build coastal resilience, the Department of the Interior will launch a $100 million competitive grant program to foster partnerships and promote resilient natural systems while enhancing green spaces and wildlife habitat near urban populations. An additional $250 million will be allocated to support projects for coastal restoration and resilience across the region. Finally, with partners, the U.S. Army Corps of Engineers is conducting a $20 million study to identify strategies to reduce the vulnerability of Sandy-affected coastal communities to future large-scale flood and storm events, and the National Oceanic and Atmospheric Administration will strengthen long-term coastal observations and provide technical assistance to coastal communities.

II. Protecting our Economy and Natural Resources

Climate change is affecting nearly every aspect of our society, from agriculture and tourism to the health and safety of our citizens and natural resources. To help protect critical sectors, while also targeting hazards that cut across sectors and regions, the Administration will mount a set of sector- and hazard-specific efforts to protect our country's vital assets, to include:

Identifying Vulnerabilities of Key Sectors to Climate Change: The Department of Energy will soon release an assessment of climate-change impacts on the energy sector, including power-plant disruptions due to drought and the disruption of fuel supplies during severe storms, as well as potential opportunities to make our energy infrastructure more resilient to these risks. In 2013, the Department of Agriculture and Department of the Interior released several studies outlining the challenges a changing climate poses for America's agricultural enterprise, forests, water supply, wildlife, and public lands. This year and next, federal agencies will report on the impacts of climate change on other key sectors and strategies to address them, with priority efforts focusing on health, transportation, food supplies, oceans, and coastal communities.

Promoting Resilience in the Health Sector: The Department of Health and Human Services will launch an effort to create sustainable and resilient hospitals in the face of climate change. Through a public-private partnership with the healthcare industry, it will identify best practices and provide guidance on affordable measures to ensure that our medical system is resilient to climate impacts. It will also collaborate with partner agencies to share best practices among federal health facilities. And, building on lessons from pilot projects underway in 16 states, it will help train public-health professionals and community leaders to prepare their communities for the health consequences of climate change, including through effective communication of health risks and resilience measures.

Promoting Insurance Leadership for Climate Safety: Recognizing the critical role that the private sector plays in insuring assets and enabling rapid recovery after disasters, the Administration will convene representatives from the insurance industry and other stakeholders to explore best practices for private and public insurers to manage their own processes and

investments to account for climate change risks and incentivize policy holders to take steps to reduce their exposure to these risks.

Conserving Land and Water Resources: America's ecosystems are critical to our nation's economy and the lives and health of our citizens. These natural resources can also help ameliorate the impacts of climate change, if they are properly protected. The Administration has invested significantly in conserving relevant ecosystems, including working with Gulf State partners after the Deepwater Horizon spill to enhance barrier islands and marshes that protect communities from severe storms. The Administration is also implementing climate-adaptation strategies that promote resilience in fish and wildlife populations, forests and other plant communities, freshwater resources, and the ocean. Building on these efforts, the President is also directing federal agencies to identify and evaluate additional approaches to improve our natural defenses against extreme weather, protect biodiversity and conserve natural resources in the face of a changing climate, and manage our public lands and natural systems to store more carbon.

Maintaining Agricultural Sustainability: Building on the existing network of federal climate-science research and action centers, the Department of Agriculture is creating seven new Regional Climate Hubs to deliver tailored, science-based knowledge to farmers, ranchers, and forest landowners. These hubs will work with universities and other partners, including the Department of the Interior and the National Oceanic and Atmospheric Administration, to support climate resilience. Its Natural Resources Conservation Service and the Department of the Interior's Bureau of Reclamation are also providing grants and technical support to agricultural water users for more water-efficient practices in the face of drought and long-term climate change.

Managing Drought: Leveraging the work of the National Disaster Recovery Framework for drought, the Administration will launch a cross-agency National Drought Resilience Partnership as a "front door" for communities seeking help to prepare for future droughts and reduce drought impacts. By linking information (monitoring, forecasts, outlooks, and early warnings) with drought preparedness and longer-term resilience strategies in critical sectors, this effort will help communities manage drought-related risks.

Reducing Wildfire Risks: With tribes, states, and local governments as partners, the Administration has worked to make landscapes more resistant to wildfires, which are exacerbated by heat and drought conditions resulting from climate change. Federal agencies will expand and prioritize forest and rangeland restoration efforts in order to make natural areas and communities less vulnerable to catastrophic fire. The Department of the Interior and Department of Agriculture, for example, are launching a Western Watershed Enhancement Partnership – a pilot effort in five western states to reduce wildfire risk by removing extra brush and other flammable vegetation around critical areas such as water reservoirs.

Preparing for Future Floods: To ensure that projects funded with taxpayer dollars last as long as intended, federal agencies will update their flood-risk reduction standards for federally funded projects to reflect a consistent approach that accounts for sea-level rise and other factors affecting flood risks. This effort will incorporate the most recent science on expected rates of sea-level rise (which vary by region) and build on work done by the Hurricane Sandy Rebuilding Task Force, which announced in April 2013 that all federally funded Sandy-related rebuilding projects must meet a consistent flood risk reduction standard that takes into account increased risk from extreme weather events, sea-level rise, and other impacts of climate change.

III. Using Sound Science to Manage Climate Impacts

Scientific data and insights are essential to help government officials, communities, and businesses better understand and manage the risks associated with climate change. The Administration will continue to lead in advancing the science of climate measurement and adaptation and the development of tools for climate-relevant decision-making by focusing on increasing the availability, accessibility, and utility of relevant scientific tools and information. Specific actions will include:

Developing Actionable Climate Science: The President's Fiscal Year 2014 Budget provides more than $2.7 billion, largely through the 13-agency U.S. Global Change Research Program, to increase understanding of climate-change impacts, establish a public-private partnership to explore risk and catastrophe modeling, and develop the information and tools needed by decision-makers to respond to both long-term climate change impacts and near-term effects of extreme weather.

Assessing Climate-Change Impacts in the United States: In the spring of 2014, the Obama Administration will release the third U.S. National Climate Assessment, highlighting new advances in our understanding of climate-change impacts across all regions of the United States and on critical sectors of the economy, including transportation, energy, agriculture, and ecosystems and biodiversity. For the first time, the National Climate Assessment will focus not only on dissemination of scientific information but also on translating scientific insights into practical, useable knowledge that can help decision-makers anticipate and prepare for specific climate-change impacts.

Launching a Climate Data Initiative: Consistent with the President's May 2013 Executive Order on Open Data – and recognizing that freely available open government data can fuel entrepreneurship, innovation, scientific discovery, and public benefits – the Administration is launching a Climate Data Initiative to leverage extensive federal climate-relevant data to stimulate innovation and private-sector entrepreneurship in support of national climate-change preparedness.

Providing a Toolkit for Climate Resilience: Federal agencies will create a virtual climate-resilience toolkit that centralizes access to data-driven resilience tools, services, and best practices, including those developed through the Climate Data Initiative. The toolkit will provide easy access to existing resources as well as new tools, including: interactive sea-level rise maps and a sea-level-rise calculator to aid post-Sandy rebuilding in New York and New Jersey, new NOAA storm surge models and interactive maps from the National Oceanic and Atmospheric Administration that provide risk information by combining tidal data, projected sea levels and storm wave heights, a web-based tool that will allow developers to integrate NASA climate imagery into websites and mobile apps, access to the U.S. Geological Survey's "visualization tool" to assess the amount of carbon absorbed by landscapes, and a Stormwater Calculator and Climate Assessment Tool developed to help local governments assess stormwater-control measures under different precipitation and temperature scenarios.

LEAD INTERNATIONAL EFFORTS TO ADDRESS GLOBAL CLIMATE CHANGE

The Obama Administration is working to build on the actions that it is taking domestically to achieve significant global greenhouse gas emission reductions and enhance climate preparedness through major international initiatives focused on spurring concrete action, including bilateral initiatives with China, India, and other major emitting countries. These initiatives not only serve to support the efforts of the United States and others to achieve our goals for 2020, but also will help us move beyond those and bend the post-2020 global emissions trajectory further. As a key part of this effort, we are also working intensively to forge global responses to climate change through a number of important international negotiations, including the United Nations Framework Convention on Climate Change.

I. Working with Other Countries to Take Action to Address Climate Change

Enhancing Multilateral Engagement with Major Economies: In 2009, President Obama launched the Major Economies Forum on Energy and Climate, a high-level forum that brings together 17 countries that account for approximately 75 percent of global greenhouse gas emissions, in order to support the international climate negotiations and spur cooperative action to combat climate change. The Forum has been successful on both fronts – having contributed significantly to progress in the broader negotiations while also launching the Clean Energy Ministerial to catalyze the development and deployment of clean energy and efficiency solutions. We are proposing that the Forum build on these efforts by launching a major initiative this year focused on further accelerating efficiency gains in the buildings sector, which accounts for approximately one-third of global carbon pollutions from the energy sector.

Expanding Bilateral Cooperation with Major Emerging Economies:
From the outset, the Obama Administration has sought to intensify bilateral climate cooperation with key major emerging economies, through initiatives like the U.S.-China Clean Energy Research Center, the U.S.-India Partnership to Advance Clean Energy, and the Strategic Energy Dialogue with Brazil.

We will be building on these successes and finding new areas for cooperation in the second term, and we are already making progress: Just this month, President Obama and President Xi Jinping of China reached an historic agreement at their first summit to work to use the expertise and institutions of the Montreal Protocol to phase down the consumption and production of HFCs, a highly potent greenhouse gas. The impact of phasing out HFCs by 2050 would be equivalent to the elimination of two years' worth of greenhouse gas emissions from all sources.

Combatting Short-Lived Climate Pollutants: Pollutants such as methane, black carbon, and many HFCs are relatively short-lived in the atmosphere, but have more potent greenhouse effects than carbon dioxide. In February 2012, the United States launched the Climate and Clean Air Coalition to Reduce Short-Lived Climate Pollution, which has grown to include more than 30 country partners and other key partners such as the World Bank and the U.N. Environment Programme. Major efforts include reducing methane and black carbon from waste and landfills. We are also leading through the Global Methane Initiative, which works with 42 partner countries and an extensive network of over 1,100 private sector participants to reduce methane emissions.

Reducing Emissions from Deforestation and Forest Degradation: Greenhouse gas emissions from deforestation, agriculture, and other land use constitute approximately one-third of global emissions. In some developing countries, as much as 80 percent of these emissions come from the land sector. To meet this challenge, the Obama Administration is working with partner countries to put in place the systems and institutions necessary to significantly reduce global land-use-related emissions, creating new models for rural development that generate climate benefits, while conserving biodiversity, protecting watersheds, and improving livelihoods.

In 2012 alone, the U.S. Agency for International Development's bilateral and regional forestry programs contributed to reducing more than 140 million tons of carbon dioxide emissions, including through support for multilateral initiatives such as the Forest Investment Program and the Forest Carbon Partnership Facility. In Indonesia, the Millennium Challenge Corporation is funding a five-year "Green Prosperity" program that supports environmentally sustainable, low carbon economic development in select districts.

The Obama Administration is also working to address agriculture-driven deforestation through initiatives such as the Tropical Forest Alliance 2020, which brings together governments, the private sector, and civil society to reduce tropical deforestation related to key agricultural commodities, which we will build upon.

Expanding Clean Energy Use and Cut Energy Waste: Roughly 84 percent of current carbon dioxide emissions are energy-related and about 65 percent of all greenhouse gas emissions can be attributed to energy supply and energy use. The Obama Administration has promoted the expansion of renewable, clean, and efficient energy sources and technologies worldwide through:

- Financing and regulatory support for renewable and clean energy projects
- Actions to promote fuel switching from oil and coal to natural gas or renewables
- Support for the safe and secure use of nuclear power
- Cooperation on clean coal technologies
- Programs to improve and disseminate energy efficient technologies

In the past three years we have reached agreements with more than 20 countries around the world, including Mexico, South Africa, and Indonesia, to support low emission development strategies that help countries to identify the best ways to reduce greenhouse gas emissions while growing their economies. Among the many initiatives that we have launched are:

- The U.S. Africa Clean Energy Finance Initiative, which aligns grant-based assistance with project planning expertise from the U.S. Trade and Development Agency and financing and risk mitigation tools from the U.S. Overseas Private Investment Corporation to unlock up to $1 billion in clean energy financing.

- The U.S.-Asia Pacific Comprehensive Energy Partnership, which has identified $6 billion in U.S. export credit and government financing to promote clean energy development in the Asia-Pacific region.

Looking ahead, we will target these and other resources towards greater penetration of renewables in the global energy mix on both a small and large scale, including through our

participation in the Sustainable Energy for All Initiative and accelerating the commercialization of renewable mini-grids. These efforts include:

- **Natural Gas.** Burning natural gas is about one-half as carbon-intensive as coal, which can make it a critical "bridge fuel" for many countries as the world transitions to even cleaner sources of energy. Toward that end, the Obama Administration is partnering with states and private companies to exchange lessons learned with our international partners on responsible development of natural gas resources. We have launched the Unconventional Gas Technical Engagement Program to share best practices on issues such as water management, methane emissions, air quality, permitting, contracting, and pricing to help increase global gas supplies and facilitate development of the associated infrastructure that brings them to market. Going forward, we will promote fuel-switching from coal to gas for electricity production and encourage the development of a global market for gas. Since heavy-duty vehicles are expected to account for 40 percent of increased oil use through 2030, we will encourage the adoption of heavy duty natural gas vehicles as well.

- **Nuclear Power.** The United States will continue to promote the safe and secure use of nuclear power worldwide through a variety of bilateral and multilateral engagements. For example, the U.S. Nuclear Regulatory Commission advises international partners on safety and regulatory best practices, and the Department of Energy works with international partners on research and development, nuclear waste and storage, training, regulations, quality control, and comprehensive fuel leasing options. Going forward, we will expand these efforts to promote nuclear energy generation consistent with maximizing safety and nonproliferation goals.

- **Clean Coal.** The United States works with China, India, and other countries that currently rely heavily on coal for power generation to advance the development and deployment of clean coal technologies. In addition, the U.S. leads the Carbon Sequestration Leadership Forum, which engages 23 other countries and economies on carbon capture and sequestration technologies. Going forward, we will continue to use these bilateral and multilateral efforts to promote clean coal technologies.

- **Energy Efficiency.** The Obama Administration has aggressively promoted energy efficiency through the Clean Energy Ministerial and key bilateral programs. The cost-effective opportunities are enormous: The Ministerial' s Super-Efficient Equipment and Appliance Deployment Initiative and its Global Superior Energy Performance Partnership are helping to accelerate the global adoption of standards and practices that would cut energy waste equivalent to more than 650 mid-size power plants by 2030. We will work to expand these efforts focusing on several critical areas, including: improving building efficiency, reducing energy consumption at water and wastewater treatment facilities, and expanding global appliance standards.

Negotiating Global Free Trade in Environmental Goods and Services: The U.S. will work with trading partners to launch negotiations at the World Trade Organization towards global free trade in environmental goods, including clean energy technologies such as solar, wind, hydro and geothermal. The U.S. will build on the consensus it recently forged among the 21 Asia-Pacific Economic Cooperation (APEC) economies in this area. In 2011, APEC economies agreed to reduce tariffs to 5 percent or less by 2015 on a negotiated list of 54 environmental goods. The

APEC list will serve as a foundation for a global agreement in the WTO, with participating countries expanding the scope by adding products of interest. Over the next year, we will work towards securing participation of countries which account for 90 percent of global trade in environmental goods, representing roughly $481 billion in annual environmental goods trade. We will also work in the Trade in Services Agreement negotiations towards achieving free trade in environmental services.

Phasing Out Subsidies that Encourage Wasteful Consumption of Fossil Fuels: The International Energy Agency estimates that the phase-out of fossil fuel subsidies – which amount to more than $500 billion annually – would lead to a 10 percent reduction in greenhouse gas emissions below business as usual by 2050. At the 2009 G-20 meeting in Pittsburgh, the United States successfully advocated for a commitment to phase out these subsidies, and we have since won similar commitments in other fora such as APEC. President Obama is calling for the elimination of U.S. fossil fuel tax subsidies in his Fiscal Year (FY) 2014 budget, and we will continue to collaborate with partners around the world toward this goal.

Leading Global Sector Public Financing Towards Cleaner Energy: Under this Administration, the United States has successfully mobilized billions of dollars for clean energy investments in developing countries, helping to accelerate their transition to a green, low-carbon economy. Building on these successes, the President calls for an end to U.S. government support for public financing of new coal plants overseas, except for (a) the most efficient coal technology available in the world's poorest countries in cases where no other economically feasible alternative exists, or (b) facilities deploying carbon capture and sequestration technologies. As part of this new commitment, we will work actively to secure the agreement of other countries and the multilateral development banks to adopt similar policies as soon as possible.

Strengthening Global Resilience to Climate Change: Failing to prepare adequately for the impacts of climate change that can no longer be avoided will put millions of people at risk, jeopardizing important development gains, and increasing the security risks that stem from climate change. That is why the Obama Administration has made historic investments in bolstering the capacity of countries to respond to climate-change risks. Going forward, we will continue to:

- Strengthen government and local community planning and response capacities, such as by increasing water storage and water use efficiency to cope with the increased variability in water supply

- Develop innovative financial risk management tools such as index insurance to help smallholder farmers and pastoralists manage risk associated with changing rainfall patterns and drought

- Distribute drought-resistant seeds and promote management practices that increase farmers' ability to cope with climate impacts.

Mobilizing Climate Finance: International climate finance is an important tool in our efforts to promote low-emissions, climate-resilient development. We have fulfilled our joint developed country commitment from the Copenhagen Accord to provide approximately $30 billion of climate assistance to developing countries over FY 2010-FY 2012. The United States contributed approximately $7.5 billion to this effort over the three year period. Going forward, we will seek

to build on this progress as well as focus our efforts on combining our public resources with smart policies to mobilize much larger flows of private investment in low-emissions and climate resilient infrastructure.

II. Leading Efforts to Address Climate Change through International Negotiations

The United States has made historic progress in the international climate negotiations during the past four years. At the Copenhagen Conference of the United Nations Framework Convention on Climate Change (UNFCCC) in 2009, President Obama and other world leaders agreed for the first time that all major countries, whether developed or developing, would implement targets or actions to limit greenhouse emissions, and do so under a new regime of international transparency. And in 2011, at the year-end climate meeting in Durban, we achieved another breakthrough: Countries agreed to negotiate a new agreement by the end of 2015 that would have equal legal force and be applicable to all countries in the period after 2020. This was an important step beyond the previous legal agreement, the Kyoto Protocol, whose core obligations applied to developed countries, not to China, India, Brazil or other emerging countries. The 2015 climate conference is slated to play a critical role in defining a post-2020 trajectory. We will be seeking an agreement that is ambitious, inclusive and flexible. It needs to be ambitious to meet the scale of the challenge facing us. It needs to be inclusive because there is no way to meet that challenge unless all countries step up and play their part. And it needs to be flexible because there are many differently situated parties with their own needs and imperatives, and those differences will have to be accommodated in smart, practical ways.

At the same time as we work toward this outcome in the UNFCCC context, we are making progress in a variety of other important negotiations as well. At the Montreal Protocol, we are leading efforts in support of an amendment that would phase down HFCs; at the International Maritime Organization, we have agreed to and are now implementing the first-ever sector-wide, internationally applicable energy efficiency standards; and at the International Civil Aviation Organization, we have ambitious aspirational emissions and energy efficiency targets and are working towards agreement to develop a comprehensive global approach.

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Implementing President Obama's Climate Action Plan: Process, Framework, and Impacts

Roger Martella
rmartella@sidley.com

Overview of Climate Action Plan (CAP)

- Three Key Goals
  - 17% reduction in carbon emissions from 2005 to 2020
  - Prepare United States to adapt to climate change
  - Take leadership role in international climate change efforts
- Wide Range of Issues Addressed
  - Commitment to reduce carbon from new and existing utilities
  - Government purchase and installation of renewable energy
  - Incentives and guarantees for renewable energy
  - Investments in infrastructure for adaptation

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A New Proposal on Carbon Limits for New Power Plants

- Presidential Memorandum directs EPA to complete carbon emissions standards for new and existing power plants
- First clear statement that EPA will issue a new proposal
  - Original proposal issued in April 2012
  - EPA received more than 2.7 million comments
  - EPA needs to improve the legal defensibility of the original proposal
  - EPA is likely to propose distinct standards for coal, natural gas, and petcoke (proposal combined together)
- EPA directed to issue new proposal by September 20, 2013
- Final rule to be issued "in a timely fashion" following public comment; we anticipate final rule no later than June 1, 2014
- **Takeaway:** Administration is committed to finalizing NSPS for new sources within the next 12 months

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A Timeline for Controlling Carbon from Existing Sources

- Commitment to regulate existing sources is most significant announcement in CAP
- Clear timeline for regulation of existing sources
  - June 1, 2014 – proposed "standards, regulations, guidelines"
  - June 1, 2015 – finalized standards
  - June 30, 2016 – deadline for submitting state implementation plans (SIPs); this is key date by which regulation of existing sources can begin
- EPA directed to consult with states, industry, and other leaders
- Standards may include "market-based instruments, performance standards, or other regulatory flexibilities"; preserves all options for 111(d) standards, including cap and trade
- EPA likely will need to engage in option selection in Fall 2013 to meet June 1 deadline
- **Takeaway:** CAP provides a clear schedule to regulation, but no substantive details on scope of standards; no margin of error for deadlines to slip before end of administration

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NSPS: A CAA Section 111 Primer

- Requires EPA to issue NSPS for categories of sources that are determined to cause, or contribute significantly to, air pollution which can reasonably be anticipated to endanger public health or welfare.
- EPA may distinguish among classes, types, and sizes within categories of sources.
- Performance-based standards
- Apply to any affected source constructed, reconstructed, or modified after the date of proposal (beginning upon promulgation).

Existing sources trigger new source standards if they:

Modify: Make a physical or operational change and increase hourly maximum emission rate achievable in the last 5 years.

Reconstruct: Defined as spending more than 50% of cost to replace affected facility.

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NSPS: Five Key Distinctions with PSD

(1) NSPS are organized by source categories

(2) NSPS are based on "Best Demonstrated Technology" (BDT)

(3) NSPS apply at the time of proposal

(4) NSPS requires endangerment from "source category"

(5) NSPS can reach existing sources through 111(d)

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NSPS Primer: Addressing Existing Sources

Section 111(d) applies to source categories that EPA first regulated if new.

- Directs EPA to establish a SIP approval procedure similar to NAAQS SIPs; states must submit a plan to EPA to establish standards of performance for any existing source for any air pollutant

  (1) for which there is no NAAQS; and

  (2) is not emitted from a source category regulated under Section 112.

- If a state does not develop a plan, EPA has the same authority as it does for SIPs to impose a plan on the state.
- Standards of performance must take into consideration "among other factors, the remaining useful life of the existing source to which such standard applies."
- EPA has used 111(d) for municipal solid waste landfills, municipal waste combustors, sulfuric acid plants, primary aluminum reduction plants, and the phosphate fertilizer manufacturing.

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NAM Coalition Comments on April 2012 NSPS Proposal



June 25, 2012

U.S. Environmental Protection Agency
Attention Docket ID No. EPA–HQ–OAR–2011–0660
Air and Radiation Docket and Information Center
Mailcode: 2822T
1200 Pennsylvania Avenue, NW
Washington, DC 20460

Re: Standards of Performance for Greenhouse Gas Emissions for New Stationary Sources: Electric Utility Generating Units, Docket ID No. EPA–HQ–OAR–2011–0660; FRL–9654–7, 77 Fed. Reg. 22,392 (April 13, 2012)

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Key Themes from Industry Comments

- EPA must make source-specific endangerment finding for GHGs before issuing NSPS
- EPA may not use NSPS program to regulate fuel type or design type out of existence
- EPA may not create an aggregate "mega" source category to impose a standard that only one sub-category can achieve
- EPA cannot use NSPS to mandate specific control equipment (i.e. CCS)
- CCS cannot constitute the "best system of emissions reduction" for coal utilities because it is not commercially viable
- EPA provided no rational basis for failing to address modified and reconstructed sources
- EPA failed to fully address the economic and energy impacts of the rule
- EPA should not regulate existing sources under § 111(d)
- EPA should not expand GHG NSPS to other sectors

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Long-term Emissions Reductions for Heavy Duty Vehicles

- Commitment to develop post-2018 fuel economy standards for heavy duty vehicles
- Commitment to partner with industry leaders and other key stakeholders
- No timeline provided for regulations
- No details regarding substance of post-2018 standards
- **Takeaway**: Commitment to develop something, but no clear pathway or substantive details

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Absence of Other Sectors

- Stationary Sources - focused solely on utility sector
  - Refineries – EPA has missed consent decree deadline
  - Portland cement – past statements that EPA was considering regulation
  - Other industrial sectors
  - Lack of reference does not mean EPA will not proceed with regulations
- Mobile Sources – focused solely on heavy duty vehicles
  - Off road vehicles
  - Marine engines
  - Aircraft
- Potential for NGO actions or court to force EPA to regulate
- **Takeaway:** Other sectors are not apparent top priority, but could be addressed at any time

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Quiet on NEPA and EPA Fronts

- CAP includes aggressive plans to expand renewable energy projects on public lands
- No effort to streamline permitting requirements for NEPA and ESA
  - Strict procedural requirements for federal actions and permitting
  - Potential for significant delays in project approval
- No reference to draft NEPA guidance on climate change
  - Draft issued in February 2010
  - Purpose to guide federal agencies in analyzing effects of GHG emissions and climate change when describing environmental effects of projects
- **Takeaway:** Despite absence from CAP, Administration may finalize NEPA guidance in near term to assist federal agencies in NEPA analysis

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Waking Up the International Arena

- Global lull following Copenhagen and Durban summits
- Commitment to take leading role in 2015 international climate conference
- Demands commitment from developing countries
  - "All countries must step up and play their part"
  - Acknowledges that agreement must be flexible to address differently situated countries
- **Takeaway:** Renewed effort to attempt to reach international agreement before end of term (legacy issue)

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Ozone NAAQS

Clean Air Act

- Requires EPA to set standards for principal or "criteria" pollutants that:
  - Cause or contribute to air pollution which may be anticipated to endanger public health or welfare and
  - Presence of which in the ambient air results from numerous or diverse mobile or stationary sources
- Pollutants: ozone, particulate matter, sulfur dioxide, carbon monoxide, nitrogen dioxide and lead
- Statute also requires five-year review

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Ozone NAAQS

2010

- EPA – ahead of schedule – proposed more stringent revisions to 2008 Ozone standard – reduction from .075 ppm to 0.060-0.070 ppm
    - Extremely controversial
    - NAM filed strong comments in opposition and took action to challenge EPA's actions

2011

- White House forced EPA Administrator to withdraw almost final standard with "reconsideration of ozone standard in 2013"

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Ozone NAAQS

Anticipated Schedule

- Proposal – November/December 2013
- Final – 2014

June 2013 Memo

- 2nd CASAAC Review – March 2014
- Proposal – Likely post November 2014
- Final – 2015

ENGOs

- Sued EPA – seek final by September 30, 2014
- Backstop – to prevent further delays

Next Steps?

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Thank You.

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Booker Harrison, Senior Attorney, Environmental Law Division, TCEQ

Booker has over 15 years of experience as in-house counsel for the TCEQ. He began work at the TCEQ in 1997 as a staff attorney in the Litigation Division representing the Executive Director in enforcement cases in all media, but concentrating on air and hazardous waste. Booker became a senior attorney in the Litigation Division in 2001. In 2005, Booker became the senior attorney in the Environmental Law Division, and he is responsible for managing the work of the Air Section of ELD. Booker participates in complex rulemaking projects and has extensive experience with the contested case hearing process. In this capacity, Booker counsels agency staff on risks and opportunities in legal interpretations, policy development, and agency actions.

Booker received his B.A. in Economics from the University of Texas in 1991. He received his J.D. from the Texas Tech School of Law, and MBA from the Texas Tech Graduate School of Business, in December 1994.

Suzanne J. Smith

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Suzanne Smith is the Chief of the Multimedia Counseling Branch within the Office of Regional Counsel at EPA Region 6. The Branch represents the Region on defensive litigation and other matters arising under the Clean Air Act, the Resource Conservation and Recovery Act, and the Clean Water Act. Currently, her branch focuses on matters arising under the Clean Air Act such as: Infrastructure SIPs, Regional Haze SIPs, Ozone Attainment SIPs, New Source Review permitting SIPs, Greenhouse Gas permitting SIPs, New Source Review permits, and Greenhouse Gas permits.

Suzanne began her career at EPA Region 6 as an enforcement attorney, primarily focusing on RCRA and pesticide issues. Later, she turned her attention to permitting and planning matters arising from the Clean Air Act. Suzanne received a B.A. in Political Science from the University of California, Berkeley and received her J.D. from Tulane Law School.

Scheleen Walker, AICP

Scheleen Walker became only the second Director for the Sierra Club Lone Star Chapter in January 2013, assuming the position held by Ken Kramer for almost 30 years. The Sierra Club is the oldest, grassroots environmental organization in the country, founded in 1892; their motto is: *Explore, enjoy and protect the planet.*

Prior to joining the Sierra Club, Walker served as Legislative Director to Representative Donna Howard (Austin); implemented and managed the Air Quality Program for Travis County; worked as a Project Manager at Hicks & Company supervising National Environmental Policy Act (NEPA) reviews throughout the state of Texas; and served as a Legislative Aide in Washington, D.C. to Congressman John Bryant (Dallas).

Walker is a certified planner with the American Institute of Certified Planners (AICP). She holds a M.S. in Environmental Planning from the University of Texas at Austin, and a B.A. in English and Policy Studies from Rice University. She is a fifth generation Texan and a mother.



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Explore, enjoy and protect the planet.

EARTHJUSTICE

ALASKA CALIFORNIA FLORIDA MID-PACIFIC NORTHEAST NORTHERN ROCKIES
NORTHWEST ROCKY MOUNTAIN WASHINGTON, DC INTERNATIONAL

March 13, 2013

Via Certified and Electronic Mail

Mr. Bob Perciasepe
Acting Administrator
U.S. Environmental Protection Agency
1200 Pennsylvania Avenue, NW
Washington, DC 20460

Re: 60-Day Notice of Intent to File Clean Air Act Citizen Suit

Dear Acting Administrator Perciasepe:

This letter is submitted on behalf of the American Lung Association[1], Natural Resources Defense Council[2], and Sierra Club[3] to notify you, pursuant to section 304(b) of the Clean Air Act ("CAA" or "Act")(42 U.S.C. §7604(b)), that these organizations intend to sue the U.S. Environmental Protection Agency ("EPA") for its failure to perform non-discretionary duties related to the review of the national ambient air quality standards for ozone. These organizations ask that you direct your staff to take the immediate action required under the Act.

As you are aware, ozone pollution in the U.S. continues to cause significant adverse health impacts, including decreased lung function, increased incidence of respiratory ailments such as asthma attacks and respiratory infections, and even premature death. *See, e.g.*, 75 Fed. Reg. 2938, 2991-98 (Jan. 19, 2010). Many of these impacts are suffered most acutely by our most vulnerable including children and the elderly. *Id.* EPA has previously acknowledged that the current primary ozone standard of 0.075 parts per million does not adequately protect the public from these harms. *See id.* at 2996.

As you are also aware, section 109(d)(1) of the Clean Air Act imposes on EPA a non-discretionary duty to review national ambient air quality standards every five years and "make such revisions in such criteria and standards and promulgate such new standards as may be appropriate in accordance with section 108 and subsection (b) of [section 109]." 42 U.S.C. § 7409(d)(1). EPA last promulgated ozone standards on March 12, 2008. *See* 73 Fed. Reg. 16436, 16503 (Mar. 27, 2008) (final ozone rule noting state obligations triggered by promulgation on March 12, 2008); *see also Am. Petroleum Inst. v. Costle*, 609 F.2d 20, 24 (D.C. Cir. 1979) (interpreting "promulgation").

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[1] American Lung Association, 1301 Pennsylvania Ave. NW, Suite 800, Washington, DC 20004
[2] Natural Resources Defense Council, 40 West 20th Street, New York, NY 10011
[3] Sierra Club, 85 Second Street, 2nd Floor, San Francisco, CA 94105

50 CALIFORNIA STREET SUITE 500 SAN FRANCISCO, CA 94111
T: 415.217.2000 F: 415.217.2040 E: caoffice@earthjustice.org W: www.earthjustice.org

In the five years since promulgation of the 2008 standards, EPA has failed to complete the mandatory review of those standards or promulgate revised standards. Thus, as of March 13, 2013, EPA is in violation of its non-discretionary duty to review and revise the ozone standards under Clean Air Act section 109(d)(1), 42 U.S.C. § 7409(d)(1).

Unless the identified deficiencies are promptly addressed, the American Lung Association, Natural Resources Defense Council and Sierra Club intend to file suit in U.S. District Court sixty days after your receipt of this letter. Please feel free to contact me at (415) 217-2000 to further discuss the basis for this claim, or to explore possible options for resolving this claim short of litigation.

Sincerely,

Paul Cort

Paul Cort
Counsel for American Lung Association,
Natural Resources Defense Council, and
Sierra Club

cc: Gina McCarthy, EPA

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Attorneys for Plaintiffs Sierra Club,
American Lung Association,
Environmental Defense Fund,
and Natural Resources Defense Council

ORIGINAL
FILED
JUN 10 2013
RICHARD W. WIEKING
CLERK, U.S. DISTRICT COURT
NORTHERN DISTRICT OF CALIFORNIA

EDL

UNITED STATES DISTRICT COURT
FOR THE NORTHERN DISTRICT OF CALIFORNIA
SAN FRANCISCO/OAKLAND DIVISION

SIERRA CLUB, AMERICAN LUNG ASSOCIATION, ENVIROMENTAL DEFENSE FUND, and NATURAL RESOURCES DEFENSE COUNCIL

Plaintiffs,

v.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY; BOB PERCIASEPE, in his official capacity as Acting Administrator of the United States Environmental Protection Agency,

Defendants.

C 13 2809

Case No:

COMPLAINT FOR DECLARATORY AND INJUNCTIVE RELIEF

(Clean Air Act, 42 U.S.C. §§ 7401 *et seq.*)

INTRODUCTION

1. Ozone pollution, also referred to as smog, is responsible for a number of serious health impacts, from aggravating asthma and other breathing problems, to low birth weight in babies, to increasing the risk of premature death.

2. The federal Clean Air Act directs the United States Environmental Protection Agency ("EPA") to establish national ambient air quality standards to protect public health and welfare by defining the maximum concentrations of certain pollutants allowed in our air.

3. The Clean Air Act further mandates that EPA review and, as necessary, revise the national ambient air quality standards every five years.

4. EPA and its scientific advisory committee have acknowledged that the current national ambient air quality standards for ozone, adopted in 2008, are inadequate to protect the public from the adverse effects of ozone pollution.

5. Yet EPA has failed to even review, let alone revise, the 2008 standards according to the deadline required by the Clean Air Act.

6. This is an action to compel the Administrator of the EPA to fulfill his non-discretionary duty to review and adopt overdue national ambient air quality standards for ozone pollution.

JURISDICTION AND VENUE

7. The instant action arises under the Clean Air Act ("Act"), 42 U.S.C. §§ 7401 *et seq.* This Court has jurisdiction over this action pursuant to 42 U.S.C. § 7604 and 28 U.S.C. §§ 1331 and 1361. The relief requested by Plaintiffs is authorized pursuant to 42 U.S.C. § 7604 and 28 U.S.C. §§ 2201, 2202, and 1361.

8. In accordance with 42 U.S.C. § 7604(b)(2) and 40 C.F.R. Part 54, Plaintiffs notified the Administrator of the violations alleged herein, and of Plaintiffs' intent to initiate the present action. This notice was provided via certified and electronic mail posted on March 28, 2013 and addressed to the Acting Administrator. More than 60 days have passed since notice was served, and the violations complained of are continuing.

9. Venue is proper in this Court pursuant to 28 U.S.C. § 1391(e) since: (a) this district is one in which Defendant EPA resides and performs its official duties; (b) a substantial part of the events and omissions giving rise to this claim has occurred in this district because EPA's failure to review and revise the national standards for ozone adversely affects the health of district residents; and (c) Plaintiff Sierra Club resides in this district.

10. Similarly, because Defendant EPA and Plaintiff Sierra Club both reside in San Francisco, assignment to the San Francisco Division or the Oakland Division of this Court is proper under Civil Local Rule 3-2(c) and (d).

PARTIES

11. Plaintiff Sierra Club, a corporation organized and existing under the laws of the State of California, is a national nonprofit organization whose mission is to protect the wild places of the earth, promote the responsible use of the earth's ecosystems and resources, and protect and restore the quality of the natural and human environment. Sierra Club is headquartered in San Francisco, California.

12. Plaintiff American Lung Association ("ALA"), a corporation organized and existing under the laws of the State of Maine, is a national nonprofit organization dedicated to the conquest of lung disease and the promotion of lung health. ALA is headquartered in Washington, D.C.

13. Plaintiff Environmental Defense Fund ("EDF"), a corporation organized and existing under the laws of the State of New York, is a national nonprofit organization whose mission is to preserve the natural systems on which all life depends and to find practical and lasting solutions to the most serious environmental problems. EDF is headquartered in New York, New York.

14. Plaintiff Natural Resources Defense Council ("NRDC"), a corporation organized and existing under the laws of the State of New York, is a national nonprofit organization whose purpose is to safeguard the Earth, and its people, flora, fauna and natural ecosystems. NRDC is headquartered in New York, New York.

15. Plaintiffs' members live, work, recreate and conduct other activities in areas where their health and welfare are adversely affected or threatened by ozone pollution.

16. The acts and omissions of EPA complained of herein cause injury to Plaintiffs and their members by delaying review of the national ozone standards beyond the deadline set by the Clean Air Act. This delay injures Plaintiffs' members by allowing air quality conditions that impair or threaten members' health and welfare to persist, and by nullifying or delaying measures mandated by the Act to protect members' health and welfare from ozone pollution. The health, recreational, aesthetic, and environmental interests of Plaintiffs' members have been and continue to be adversely affected by the acts and omissions of EPA.

17. The acts and omissions of EPA alleged herein further deprive Plaintiffs and their members of procedural rights and protections to which they would otherwise be entitled, including,

but not limited to, the right to comment on, and judicially challenge, EPA action retaining or revising the national ambient air quality standards for ozone.

18. For all the foregoing reasons, the failures complained of herein cause Plaintiffs and their members injuries for which they have no adequate remedy at law. Granting the requested relief would redress these injuries.

19. Defendant EPA is the federal agency charged with implementation of the Clean Air Act, including the promulgation of national ambient air quality standards for ozone.

20. Defendant Bob Perciasepe is the Acting Administrator of the United States Environmental Protection Agency, and is responsible for implementation and enforcement of the Clean Air Act. Defendant Perciasepe is sued in his official capacity, and officially resides in Washington, D.C.

BACKGROUND AND FACTS

Ozone Pollution

21. Ozone, while necessary in the upper atmosphere to block ultraviolet radiation from the sun, is a corrosive air pollutant that is harmful to humans and other living organisms.

22. Ground-level ozone, commonly referred to as smog, forms when volatile organic compounds ("VOC") react with nitrogen oxides ("NOx") in the presence of heat and sunlight. VOC and NOx emissions originate from a wide variety of sources including large industrial sources, cars, trucks, and other fuel-burning activities.

23. Exposure to ozone can cause a number of acute and chronic health effects. Ozone impairs lung function, aggravates asthma, and has been linked with increases in school absences, emergency department visits, and hospital admissions. Studies have shown that exposure to ozone increases the risk of heart attacks and hospital admission for other cardiovascular conditions, and increases the risk of low birth weight in babies. Exposure to ozone has also been correlated with increased risk of death for those suffering from cardiopulmonary conditions.

24. Certain groups are especially vulnerable to ozone exposure, such as those with existing lung diseases, children, the elderly, and outdoor workers and athletes. These vulnerable

groups constitute a significant portion of the population, and consequently, the proper regulation of ozone has significant implications for public health throughout the United States.

25. Ozone pollution has also been tied to negative impacts on vegetation and ecosystems, as well as rising temperatures.

The Clean Air Act's Requirements for National Ambient Air Quality Standards

26. The Act establishes a comprehensive scheme "to protect and enhance the quality of the Nation's air resources so as to promote the public health and welfare and the productive capacity of its population." 42 U.S.C. § 7401(b)(1).

27. As one of its central features, the Act requires the Administrator to set national ambient air quality standards for certain air pollutants. 42 U.S.C. § 7409(a). Under the Act, the Administrator must set "primary" standards for those pollutants at levels that will protect the public health with an adequate margin of safety, *id.* § 7409(b)(1), and "secondary" standards at levels that will "protect the public welfare from any known or anticipated adverse effects associated with the presence of those pollutants in the ambient air." *Id.* § 7409(b)(2).

28. The Clean Air Act imposes on EPA a non-discretionary duty to review national ambient air quality standards every five years and "make such revisions in such criteria and standards and promulgate such new standards as may be appropriate . . . ." 42 U.S.C. § 7409(d)(1).

EPA's Duty Under the Clean Air Act to Review the National Ambient Air Quality Standards for Ozone

29. EPA last promulgated national ambient air quality standards for ozone on March 12, 2008. *See* 73 Fed. Reg. 16436 (Mar. 27, 2008).

30. Shortly after these regulations were promulgated, EPA's Clean Air Scientific Advisory Committee sent EPA a letter stating its strong disagreement with EPA's primary and secondary ozone standards, which it contended failed to provide an adequate margin of safety, and were not supported by the best available science. *See* 75 Fed Reg. 2938, 2943 (Jan. 19, 2010).

31. The 2008 ozone standards were also challenged in litigation brought by a range of groups, including states, public health organizations, and environmental groups. 75 Fed. Reg. at

9444. This litigation was held in abeyance, so that EPA could initiate a rulemaking to reconsider the primary and secondary ozone standards. *Id.*

32. In 2010, EPA proposed to revise national ozone standards to address the deficiencies identified by EPA's Scientific Advisory Committee, as well as to incorporate information from recent scientific studies. 75 Fed. Reg. at 2993. The EPA Administrator determined that the 2008 primary ozone standard of 0.075 parts per million ("ppm") was "not sufficient to provide protection with an adequate margin of safety." 75 Fed. Reg. at 2996. EPA proposed revising the 8-hour primary ozone standard to within a range of 0.060 to 0.070 ppm. *Id.* at 2998. EPA also proposed that the secondary ozone standard should be set separately from the primary standard, according to a "cumulative, seasonal standard." *Id.* at 2999.

33. Despite the Administrator's conclusion that the 2008 ozone standards were inadequate to protect public health and welfare, in 2011, the President directed EPA to set aside the 2010 proposed rule, and withhold review of the 2008 standards until March 2013 – the five-year deadline for completing review of the national ambient air quality standards under 42 U.S.C. § 7409(d)(1).

34. Pursuant to 42 U.S.C. § 7409(d)(1), EPA was required to review the 2008 ozone standards and adopt any final rulemaking revising those standards before March 28, 2013.

35. To date, however, EPA has failed to complete review of the national ozone standards according to the statutory timetable, and has yet to issue even a new proposed rule.

FIRST CLAIM FOR RELIEF

Failure to Review the National Ambient Air Quality Standards for Ozone By the Statutory Deadline

36. Plaintiffs hereby incorporate all previous paragraphs by reference.

37. Defendants have failed to fulfill their duty under 42 U.S.C. § 7409(d)(1) to review the national ambient air quality standards for ozone, promulgated on March 12, 2008 and published in the Federal Register on March 27, 2008, within five years.

38. Defendants' failure to timely review the ozone standards constitutes a failure to perform an act or duty that is not discretionary within the meaning of 42 U.S.C. § 7604(a)(2).

39. Defendants' failure to perform this nondiscretionary duty is ongoing. Plaintiffs are informed and believe that the omissions complained of herein will continue unless enjoined by order of this Court.

40. Accordingly, Plaintiffs are entitled to an order from this Court compelling Defendants to complete the required review of the national ambient air quality standards for ozone.

RELIEF REQUESTED

41. WHEREFORE, Plaintiffs pray that this Court:

(a) Declare that Defendants' failure to act as complained of herein constitutes a failure to perform a nondiscretionary duty required by 42 U.S.C. § 7409(d)(1), and within the meaning of 42 U.S.C. § 7604(a)(2);

(b) Preliminarily and permanently enjoin EPA and the Administrator from continuing to violate the above-described nondiscretionary duties;

(c) Order Defendants to take final action completing the required review no later than September 30, 2014;

(d) Award Plaintiffs their reasonable costs of litigation, including attorneys' fees, pursuant to 42 U.S.C. § 7604(d);

(e) Retain jurisdiction over this action to ensure compliance with the Court's orders; and;

(f) Grant such other relief as the Court deems just and proper.

DATED: June 19, 2013

Respectfully submitted,



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John C. Cruden is the President, Environmental Law Institute, a nationally recognized non-profit association that provides research, education, and publications in the area of environmental law and policy. Before coming to ELI, John was, for over two decades, the career Deputy Assistant Attorney General, Environment and Natural Resources Division, U.S. Department of Justice. He has personally litigated and led settlement negotiations in numerous environmental cases, many with reported decisions. Prior to becoming Deputy Assistant Attorney General, Mr. Cruden was Chief, Environmental Enforcement Section, DOJ. Before joining the Department of Justice, he was the Chief Legislative Counsel of the Army. After graduating from West Point, John served in airborne, ranger, and Special Forces units before attending law school. Mr. Cruden is a Past President of the District of Columbia Bar, the second largest bar in the nation, a Past Chair of the ABA Section on Environment, Energy, and Natural Resources, and a member of the American College of Environmental Lawyers. He has received the Presidential Rank Award from three different Presidents and awards from the DoJ, ABA, FBA, EPA, and the military. He is listed in Who's Who in the World, Who's Who in America and Who's Who in American Law. In 2010, Mr. Cruden was listed by a national magazine as one of the top 500 lawyers in America. He has written and lectured extensively in the areas of environment, energy, and natural resources law.

Detailed Analysis of

THE RESTORE ACT

"Resources and Ecosystem Sustainability, Tourist Opportunities, and Revived Economies of the Gulf Coast States Act of 2012"

Authors: Megan Herzog & Jay Austin

UPDATED: OCTOBER 5, 2012

I. SUMMARY*

The 112th Congress passed the RESTORE Act on June 29, 2012 as part of the surface transportation and federal-aid highways act, the "Moving Ahead for Progress in the 21st Century Act," or "MAP-21" (Pub. L. No. 112-141; H.R.4348). President Obama signed the Act into law on July 6, 2012.

The RESTORE Act creates a Gulf Coast Restoration Trust Fund. The Fund will receive 80% of the civil and administrative penalties paid to the United States under the Clean Water Act (CWA) by the parties responsible for the *Deepwater Horizon* oil spill [6]. The Trust Fund will support a variety of projects aimed at helping the Gulf recover from injuries experienced as a result of decades of oil and gas development in the Gulf, including the effects of *Deepwater Horizon*. In general, RESTORE is intended to complement other efforts to restore the Gulf, and is not intended to set a precedent for future uses of CWA penalties or to interfere with the ongoing Natural Resource Damage Assessment (NRDA) process [1].

* Bracketed references link to numbered items in the "Detailed Analysis of the RESTORE Act," pt. III.

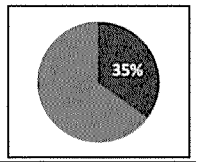
The U.S. Department of Justice filed a lawsuit seeking CWA civil penalties from the responsible parties on December 15, 2010. One responsible party, MOEX Offshore 2007 LLC, has agreed to pay the United States $45 million in civil penalties as part of a settlement agreement, but the total amount of CWA civil penalties is not yet known.

Restoration Trust Fund (RTF)

RESTORE will create a Gulf Coast Restoration Trust Fund (RTF) under the guardianship of the Treasury Secretary [7]. The RTF will receive 80% of the CWA civil and administrative penalties paid by responsible parties as a consequence of the *Deepwater Horizon* oil spill [6]. One concern is whether the Treasury will have sufficient capacity or motivation to monitor RTF expenditures and audits. The Treasury Secretary has 180 days following the enactment of RESTORE to develop auditing requirements and other procedures to evaluate whether funded projects are compliant with the Act. Such procedures are subject to public notice and comment [7]. The RTF will terminate on the date all funds have been expended [9].

Equal-Share State Allocations

Out of the RTF, 35% of funds will go directly to the five Gulf states—Florida, Mississippi, Alabama, Louisiana, and Texas—in equal shares (7% each)—regardless of

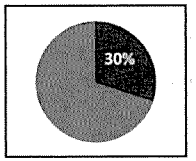


the impacts of the *Deepwater Horizon* incident on the state. The funds may be used for ecological and economic restoration of the Gulf [11]. RESTORE dictates that states may only expend funds for a specific list of purposes, including protection and restoration of natural resources, workforce development, job creation, tourism promotion, promoting consumption of Gulf seafood, planning assistance and flood protection infrastructure [12].

RESTORE further dictates how the equal-share state funds will be allocated among counties in Florida and parishes in Louisiana. Notably, the majority (70%) of Louisiana funds will go directly to the state as opposed to affected parishes [14]. In contrast, disproportionally affected Florida counties will share 75% of Florida's equal-share funding, while nondisproportionately impacted counties will receive 25% [13].

As a condition of funding, each state or locality receiving funds must develop a science-based multi-year implementation plan describing how selected projects meet RESTORE's stated funding purposes [15]. Public participation requirements to solicit recommendations for projects are vague: states may use any "appropriate" procedure for public input that already exists in the state, including conferring with a preexisting government task force [18]. States *may* give preference to Gulf individuals/companies in awarding project grants, but it is not required that they do so, and the definition of local individuals/companies is broad [20]. There is no provision in RESTORE allowing citizens to sue for judicial review of a state's use of funds or the Treasury's failure to enforce RESTORE's audit provisions [21].

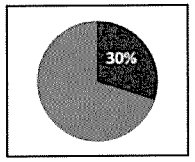
Ecosystem Restoration Council



RESTORE also will create a Gulf Coast Ecosystem Restoration Council (Council), which will receive 30% of RTF funds plus 50% of RTF interest and investment income [10, 23]. Members of the Council will include: the Secretaries of Interior, Army, Commerce, and Agriculture, EPA Administrator, Head of the Coast Guard, and governors of the Gulf states [25]. The Gulf State governors shall select one federal member to serve as Council Chair. Most "significant" Council actions require the vote of the Chair plus a majority of the governors [26]. "Appropriate" Council actions and deliberations must be made available to the public "via electronic means" prior to any Council vote. The term "appropriate" is not defined by the legislation [27].

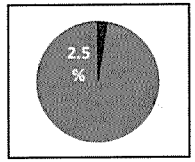
The Council's funds will go toward developing and implementing a science-based Comprehensive Plan [28]. Unlike state implementation plans, the Council's Comprehensive Plan may not include economic development projects—only projects to restore and protect natural resources [30]. The Comprehensive Plan must prioritize projects that contribute to Gulf restoration regardless of geographic location [32]. The Comprehensive Plan must include and incorporate the findings of the Gulf Coast Ecosystem Restoration Task Force [31]. Before a final version is published, a proposed Comprehensive Plan will be subject to notice-and-comment procedures [30].

Impact-Based State Allocations



The Gulf states will receive 30% of RTF funds according to an intricate formula considering the portion of state shoreline oiled, the distance from the state to the *Deepwater Horizon* rig, and the state's 2010 coastal population [35]. As with the other state funds, in order to receive money, states must develop plans listing the projects that will receive grants [35]. Importantly, unlike the Council's Comprehensive Plan, state comprehensive plans may include projects to further economic recovery. State plans must be "consistent with" the Council's Comprehensive Plan and will be subject to the Council's approval [36, 38]. Here again, there is no provision in RESTORE allowing citizens to sue for judicial review of the states' use of funds [38, 39].

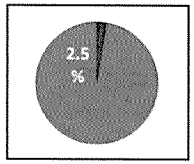
Restoration, Science, Observation, Monitoring, and Technology Program



RESTORE will establish a Gulf Coast Restoration, Science, Observation, Monitoring, and Technology Program (RSOMT Program) under the National Oceanic and Atmospheric Administration (NOAA) to ensure the long-term ecological and economic

sustainability of Gulf fisheries [41, 43]. The RSOMT Program will receive 2.5% of RTF funds plus 25% of RTF interest and investment income [10, 42]. The RSOMT Program will primarily fund long-term, non-duplicative projects that address anticipated data collection and monitoring needs [45]. The Act limits NOAA's use of funds, including prohibitions against using funds for existing or planned NOAA research (unless agreed to by the grant recipient); implementing or initiating regulations; or developing or approving limited access privilege programs in Atlantic fisheries [43]. The RSOMT Program must be carried out in consultation with the Regional Gulf of Mexico Fishery Management Council, and the Program may cooperate with the Gulf States Marine Fisheries Commission [44]. The RSOMT Program will terminate when all funds in the RTF have been expended [46].

Centers of Excellence Research Grant Program



The Gulf states will receive 2.5% of RTF funds in equal shares, plus 25% of RTF interest and investment income, to award competitive grants for the establishment of "Centers of Excellence" in NGOs, consortia, or universities [10, 47]. Centers of Excellence must demonstrate broad expertise in at least one of five listed areas, including: coastal sustainability, coastal resources, offshore energy development, sustainable economic development, and monitoring and mapping. As there is no requirement that a Center focus on more than one of the listed disciplines, and no requirement that a Center research natural resources, Centers of Excellence can be primarily energy development or economic development research programs [50].

II. FIGURES

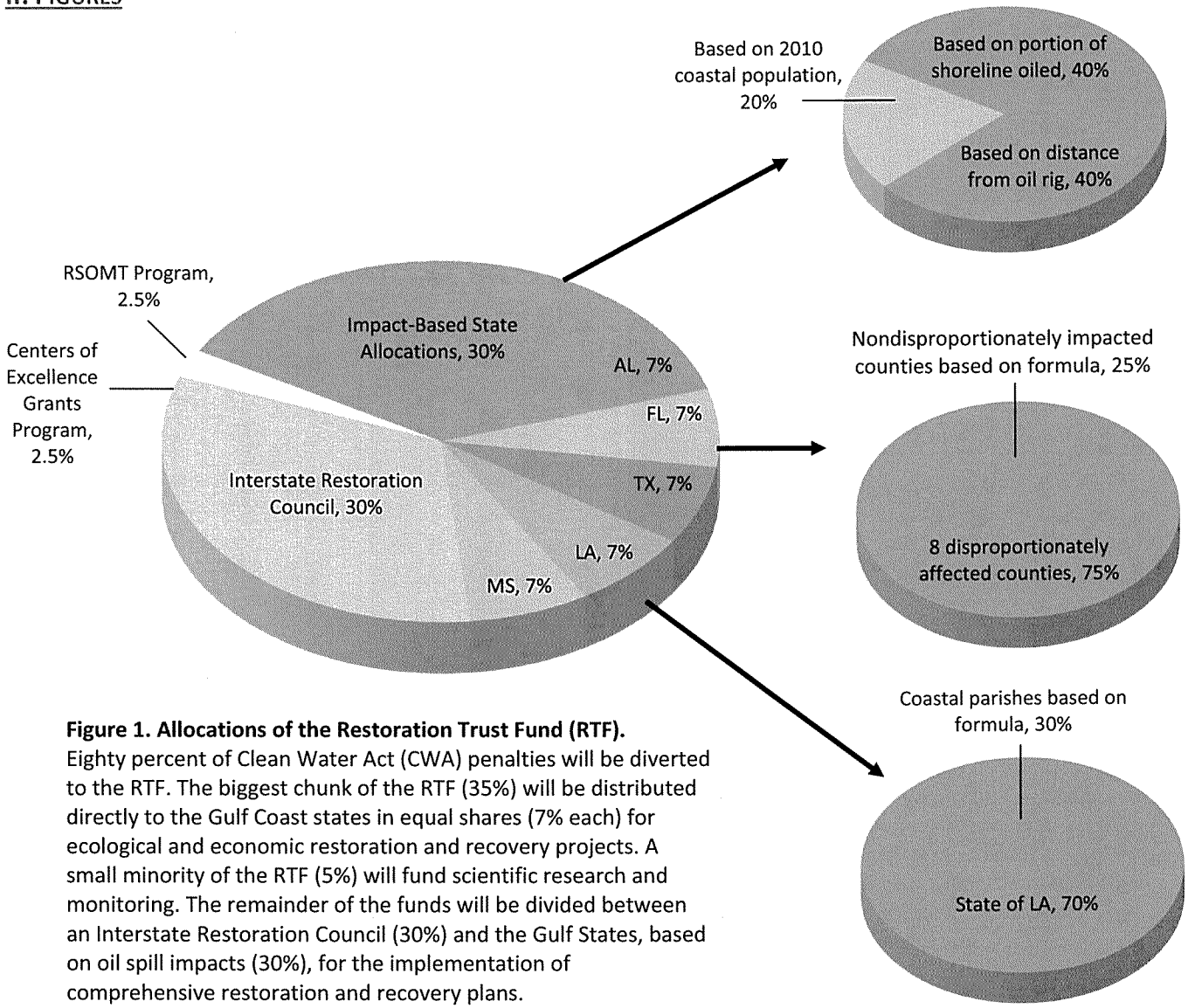


Figure 1. Allocations of the Restoration Trust Fund (RTF).
Eighty percent of Clean Water Act (CWA) penalties will be diverted to the RTF. The biggest chunk of the RTF (35%) will be distributed directly to the Gulf Coast states in equal shares (7% each) for ecological and economic restoration and recovery projects. A small minority of the RTF (5%) will fund scientific research and monitoring. The remainder of the funds will be divided between an Interstate Restoration Council (30%) and the Gulf States, based on oil spill impacts (30%), for the implementation of comprehensive restoration and recovery plans.

Figure 2. Distribution of Impact-Based State Allocations.
Of the total RTF funds, 30% will be distributed based on intricate formulas to the Gulf states to execute state implementation plans.

Figure 3. Distribution of Florida's Equal-Share Funds.
RESTORE specifies how Florida must divide its equal-share funds. Disproportionately affected Florida counties are guaranteed to receive the majority of the funds.

Figure 4. Distribution of Louisiana's Equal-Share Funds.
RESTORE specifies how Louisiana must divide its equal-share funds. The State of Louisiana will receive the majority of state funds, while oiled parishes will directly receive 30% of funds.

III. Detailed Analysis of The RESTORE Act

	Act §	Topic	Description	Notes
General Provisions				
1.	§1606(b)	Effect	RESTORE does not supersede or affect recovery under the Oil Pollution Act or other federal law, or apply to any other oil spill incident.	RESTORE is explicit about not setting precedent, and not affecting recovery under the Oil Pollution Act, including NRDA (*but see* #12, #32).
2.	§1607	Limitations	No funds may be used for eminent domain or federal land acquisition, unless: • the federal land is acquired by exchange or donation; or • the acquisition is necessary for the restoration and protection of the environment, and the Governor of the state in which the acquisition occurs grants consent.	Note that RESTORE limits only *federal* land acquisition—not land acquisition by states or private trusts.
3.	§1608	Oversight	The Office of the Inspector General and Treasury Department have authority to audit and investigate any projects, programs, and activities funded under RESTORE.	It is unclear how much capacity the Inspector General and Treasury will have to monitor expenditures and audits (*see also* #7).
4.	§1603—CWA § 311(a)(33)	Project region	"Gulf Coast region"—coastal zones that border the Gulf of Mexico in five states, including federal lands; any adjacent land, water, and watersheds within 25 miles of coastal zones; and all federal waters in the Gulf.	RESTORE includes a fairly inclusive definition of the Gulf region, incorporating watersheds within 25 miles. Note the coastal zones in each state may have varying depth and area.
5.	§1603—CWA § 311(a)(27)	Best available science	"Best available science"—science that maximizes the quality, objectivity, and integrity of information; uses peer-reviewed and public data; and clearly communicates risks and uncertainties.	This definition applies throughout the Act (*see, e.g.*, #15, #24, #32).

	Act §	Topic	Description	Notes
Gulf Coast Restoration Trust Fund (RTF)—80% of CWA Penalties				
6.	§1602(b)	Establishment	Out of CWA administrative and civil penalties paid by responsible parties in the *Deepwater Horizon* incident pursuant to a court order, settlement, or other instrument, 80% will go to a Gulf Coast Restoration Trust Fund (RTF).	Note that RESTORE applies regardless of whether the parties settle or go to trial.
7.	§1602(e)	Administration	The RTF will be administered and audited by the Secretary of Treasury. The Treasury Secretary has 180 days following the enactment of RESTORE to develop auditing requirements and other procedures to evaluate whether funded projects are compliant with the Act. The Treasury's procedures must include rules to guide how funds will be deposited into and expended from the RTF. Such procedures are subject to public notice and comment.	It is unclear how much capacity the Treasury will have to monitor expenditures and audits. Note that the Treasury's procedures are subject to notice and comment. The ultimate amount of CWA penalties may or may not be determined by January 2013, the deadline for the Secretary to develop auditing and compliance procedures.
8.	§1602(c)	Allocation of Funds	RTF funds, including interest and investment income, are available for expenditure without further appropriation.	No need for Congress to further appropriate RTF expenditures.
9.	§1602(f)	Sunset	The Trust Fund shall terminate when all funds have been expended.	It is unclear what would happen if funds were deposited into the RTF at different times (e.g., pursuant to separate settlements with each responsible party); in such a case, the RTF could be completely emptied even though the United States expects to collect additional penalties in the future for deposit into the RTF. This issue may be clarified by the Treasury's implementing regulations (*see* #7).
10.	§1603—CWA § 311(t)(4)	Interest	Of interest and investment income from the previous fiscal year, **25%** shall go to the RSOMT program; **25%** shall go to Center of Excellence research grants; and **50%** shall go to the Council to carry out its Comprehensive Plan.	Note that funds remain in the RTF until expended. Thus, the Act seems to contemplate that whatever money is in the RTF will be invested until such time as it is expended to a project. This issue may be clarified by the Treasury's implementing regulations (*see* #7).

	Act §	Topic	Description	Notes
Equal-Share State Allocations—35% of RTF, 7% to each state				
11.	§1603—CWA § 311(t)(1)(A)-(B)	Funding	Gulf states will receive 35% of RTF funds made available in each fiscal year, in equal shares, for ecological and economic restoration of the Gulf Coast region.	Equal shares will go to each state, regardless of whether states were disproportionately impacted by the *Deepwater Horizon* spill. Note that both economic and environmental restorations are contemplated, but all within the "Gulf Coast region" as defined in #4 above.
12.	§1603—CWA § 311(t)(1)(B)(i)-(ii)	Limited uses	State funds may only be used to carry out one or more of the following in the Gulf Coast region: • Restoration and protection of natural resources, ecosystems, fisheries, marine and wildlife habitats, beaches, and coastal wetlands. • Mitigation of damage to fish, wildlife, and natural resources. • Implementation of a federally approved marine/coastal management plan, including fisheries monitoring. • Workforce development and job creation. • Improvements to state parks affected by the oil spill. • Infrastructure projects benefitting the economy or ecological resources, including ports. • Flood protection and infrastructure. • Planning assistance. • Promotion of tourism, including recreational fishing. • Promotion of Gulf seafood consumption. • Administrative costs (up to 3%).	"Workforce development and job creation" is very open-ended, as is "Infrastructure projects benefitting the economy." Several provisions could potentially be damaging to the environment. Several provisions could potentially overlap with the ongoing NRDA in the Gulf (*but see* #1).

	Act §	Topic	Description	Notes
13.	§1603—CWA § 311(t)(1)(C)(i)	Florida funds	**75%** of Florida funds go to the eight Florida counties disproportionately affected by the incident; **25%** of funds go to the nondisproportionately impacted counties. Of the funds to nondisproportionately impacted counties, • 34% shall be based on the average population; • 33% based on the average per capita sales tax collections; and • 33% based on the inverse proportion of the average distance from the *Deepwater Horizon* oil rig to the nearest and farthest points of the shoreline.	It is necessary for RESTORE to specify county-by-county allocation in Florida because the coastal zone of Florida includes the entire state. The expenditure of RESTORE funds in Florida may be further restricted by Florida state law (*see* FLA. STAT. § 377.43, "Disbursement of funds received for damages caused by the Deepwater Horizon oil spill").
14.	§1603—CWA § 311(t)(1)(D)(i)	Louisiana funds	**70%** of Louisiana funds go directly to the state; **30%** of funds go to parishes in the coastal zone according to a formula: • 40% based on average number of oiled miles of parish shoreline; • 40% based on average parish population; and • 20% based on average land mass of parish. Each parish receiving funds must certify to the governor that it has completed a comprehensive land use plan.	The majority of Louisiana funds go to the state—not directly to oiled parishes. (*Compare with* allocation of Florida funds in #13). Questions remain regarding how many parishes do not have land use plans, as well as how expensive it is and how long it will take for parishes without land use plans to create them in order to be eligible to receive funds.

	Act §	Topic	Description	Notes
15.	§1603—CWA § 311(t)(1)(E)	Funding conditions	All states/localities receiving funds must meet audit and other requirements of the Secretary of Treasury; develop a multi-year implementation plan; and certify that: • Each project is "designed to restore and protect the natural resources, ecosystems, fisheries, marine and wildlife habitats, beaches, coastal wetlands, or economy of the Gulf Coast;" • Each project carries out one or more of the allowable uses in #12; • Projects were selected based on "meaningful" and "broad-based" public input, including from individuals, businesses, and NGOs; • Each natural resource restoration or protection project is based on the best available science; and • Project selections were consistent with the procurement rules for a comparable project in that state, including any competitive bidding and audit requirements.	Public participation requirements are vague and open-ended. Projects can be economy-based. Note also the reference back to the limited uses in #12, which include both natural resource restoration and economic development. Natural resource projects must be based on the "best available science," a term which is specifically defined in the statute (*see* #5 above).
16.	§1603—CWA § 311(t)(1)(F)	State entities	The following entities shall carry out the state's duties: • Alabama Gulf Coast Recovery Council; • Coastal Protection and Restoration Authority of Louisiana; • Mississippi Department of Environmental Quality; and • Texas Office of the Governor or appointee.	Note that there is no designated authority in Florida. As noted above, the expenditure of RESTORE funds in Florida may be further governed by Florida state law (*see* FLA. STAT. § 377.43).
17.	§1603—CWA § 311(t)(1)(G)-(H)	Compliance	If state/locality does not spend funds in accord with the funding conditions (e.g., audit requirements), it will be cut off until it restores misused amounts to the RTF and/or funding conditions are met.	It is unclear how well the Treasury will be able to monitor fund allocations and bring enforcement actions against states. Note that the Treasury's monitoring procedures must be developed subject to public notice and comment (*see* #7).

	Act §	Topic	Description	Notes
18.	§1603—CWA § 311(t)(1)(I)	Public Input	State may use any "appropriate" procedure for public input in that state, including consulting with task forces.	RESTORE has a very open-ended public input clause. Note that consultation with an existing task force satisfies this clause. Therefore, a state may not even have to open itself to comment from individuals or interest groups, but simply confer with a preexisting government task force.
19.	§1603—CWA § 311(t)(1)(J)	Previously approved projects	Previously approved projects can receive funds if they fall within the allowable funding uses and were approved by conditions similar to the required funding conditions.	
20.	§1603—CWA § 311(t)(1)(K)	Local hire preference	State may give a preference to individuals/companies "that reside in, are headquartered in, or are principally engaged in business in the State."	Note there is no local preference *requirement* (*compare with* #28). Also, the definition of "local" businesses is extremely broad.
21.	§1603—CWA § 311(t)(1)(M)	Judicial Review	State can seek judicial review in a district court within 90 days of the Treasury's denial of funds.	RESTORE contains no provision for judicial review of the state's use of funds; the public has to rely solely on the Treasury and Inspector General to monitor states (*see* #3, #7, #17).
22.	§1603—CWA § 311(t)(1)(N)	Non-federal matching funds	Funds can be used to satisfy the non-federal share of any project cost that meets the #12 allowable funding uses.	

	Act §	Topic	Description	Notes
Gulf Coast Ecosystem Restoration Council—30% of RTF + 50% of interest earned on RTF				
23.	§1603—CWA § 311(t)(2)(A)	Funding	The Gulf Coast Ecosystem Restoration Council (Council) shall receive 30% of RTF funds to carry out a Comprehensive Plan.	
24.	§1603—CWA § 311(t)(2)(B)(i)	Limited uses	Council shall undertake "projects and programs, using the best available science, that would restore and protect the natural resources, ecosystems, fisheries, marine and wildlife habitats, beaches, coastal wetlands, and economy of the Gulf Coast."	According to this language, it would appear that Council funds can be spent to restore the Gulf Coast economy, *but see* #30 for additional restrictions and explanation.
25.	§1603—CWA § 311(t)(2)(C)	Members	Members of the Council: • Secretary of Interior; • Secretary of the Army; • Secretary of Commerce; • EPA Administrator; • Secretary of Agriculture; • Head of department in which the Coast Guard operates; and • Governors of the five Gulf states. Governors shall select one federal member to be Council Chair.	There are six federal members versus five state members, but a majority of states plus the Chair can approve a project (*see* #26). Thus, the Chair plays a significant role in decision-making, which makes selecting the Chair a critical process. According to the Preliminary Recommendations of the Gulf Coast Ecosystem Restoration Task Force, it would terminate upon creation of the Council. Compared to the Task Force, the Council adds the Secretaries of the Army and Coast Guard, but removes the Heads of CEQ, Defense, Justice, Transportation, OMB, Office of Science and Technology Policy, and Domestic Policy Council. However, RESTORE anticipates that the Task Force will coordinate with the Council (*see* #31).

	Act §	Topic	Description	Notes
26.	§1603— CWA § 311(t)(2)(C)(vi)	Voting	"Significant" actions require the vote of the Chair + a majority of governors. "Significant" includes, but is not limited to, approving the Comprehensive Plan, state plans, reports to Congress, and transfers. For the approval of state plans, the certification of a state Governor that the plan satisfies the necessary requirements + the Chair's vote will satisfy the above voting requirement.	The Act seems to envision that "significant" actions might include more than just the few examples listed. Note that there is essentially no federal oversight of state plans, as a Governor plus the Chair can approve a state plan.
27.	§1603—CWA § 311(t)(2)(C)(vi)(IV)	Public transparency	"Appropriate" actions (including significant actions) and deliberations shall be made available to public via electronic means prior to any vote.	It is unclear which Council actions would be "appropriate." RESTORE contains no additional details on the publication process (except for the "via electronic means" clarification), such as a timeline or a guaranteed opportunity for the public to attend hearings.

	Act §	Topic	Description	Notes
28.	§1603—CWA §311(t)(2)(C)(vii)	Duties of the Council	The duties of the Council are to: • Develop the Comprehensive Plan; • Identify preexisting projects that could quickly be implemented to restore natural resources; • Establish advisory committees as necessary, including a scientific advisory committee and public policy advisory committee; • Collect and consider scientific research, including research carried out under RSOMT Program and Centers of Excellence Grants Program (*see* below); • Develop standard contract terms for Comprehensive Plan projects giving preference to individuals/companies "that reside in, are headquartered in, or are principally engaged in business in a Gulf Coast State"; • Prepare financial plan; and • Submit annual reports to Congress and make recommendations for modifications of existing laws as necessary to implement the Comprehensive Plan.	Presumably, the Council will establish a scientific advisory committee to determine whether Gulf restoration projects are based on the best available science. As opposed to state funding, the Council has to develop contract terms that will give priority to Gulf-based project applicants (*compare with* #20). The definition of "local" businesses is still very broad, however. Note that the Council must consider the research of the RSOMT Program and Centers of Excellence (*see* below). The Council would not have to submit a final report to Congress—just annual reports.
29.	§1603—CWA § 311(t)(1)(C)(ix)	Sunset	Council terminates on the date when all funds are spent.	*See* #9.

	Act §	Topic	Description	Notes
30.	§1603—CWA § 311(t)(2)(D)	Comprehensive Plan	Within 180 days, the Council must publish a proposed Comprehensive Plan to "restore and protect the natural resources, ecosystems, fisheries, marine and wildlife habitats, beaches, coastal wetlands of the Gulf Coast." The proposed Comprehensive Plan is subject to public notice and comment. Within one year, the Council must publish an initial Comprehensive Plan in the Federal Register. The Comprehensive Plan must include a ten-year funding plan and three-year list of specific projects and programs to be funded. The Comprehensive Plan must be updated every five years, and the three-year list must be updated annually.	This language is exactly that same as the general direction to the Council in #24, *except that* the "economy" language has been deleted. Thus, the Comprehensive Plan may *not* include economic recovery projects, unlike state plans (*see* #11, #12). The conflict between the two directions is likely a vestige of an earlier version of the Act. In earlier versions of the Act, the Council had to direct half of its allocated funds to the states for either environmental or economic restoration projects. In this final version of the Act, that language has been supplanted by the impact-based state allocation section. In all versions of the RESTORE Act, however, the Council's Comprehensive Plan has been limited only to natural resource restoration and protection projects. The Comprehensive Plan is subject to public comment, meaning the Council funding allocations may be more transparent than state funding allocations. It is unclear how the Council will be able to publish a proposed Comprehensive Plan by January 2013 if the total amount of CWA civil penalties is still unknown at that time.
31.	§1603—CWA §§ 311(t)(2)(D)(i)(II) & 311(t)(2)(D)(ii)(II)-(IV)	Gulf Coast Restoration Task Force	The Comprehensive Plan must include and incorporate the findings, information, and recommendations of the Gulf Coast Ecosystem Restoration Task Force. The initial Comprehensive Plan must be developed in close coordination with the Task Force.	The Task Force and Council must work together, and the Council will assume some of the Task Force's role; but it remains unclear how this relationship will play out in practice. *See also* #25.

	Act §	Topic	Description	Notes
32.	§1603—CWA §§ 311(t)(2)(D)(iii)	Restoration priorities	The Comprehensive Plan's three-year project list (except preauthorized projects) must be based on the best available science. The Council must give highest priority to projects that meet one or more of the following criteria: • Projects that make the greatest contribution to Gulf natural resources restoration or protection without regard to geographic location; • Large-scale restoration or protection projects; • Projects for natural resources restoration in state comprehensive plans; and • Projects that restore the "long-term resiliency" of natural resources most impacted by the oil spill.	Note the Comprehensive Plan generally must focus on the best available science and the most impacted areas, regardless of location. In practice, the category of preauthorized projects could be quite large. Thus, the exception of preauthorized projects from the best available science requirement could be significant. The Comprehensive Plan also must prioritize projects that are already identified in state comprehensive plans. In practice, this category of projects also could be quite large. There could potentially be some overlap between the ongoing NRDA and projects to restore the "long-term resiliency" of natural resources impacted by the oil spill (*but see* #1).
33.	§1603—CWA § 311(t)(2)(E)(i)-(ii)	Implementation	A state or agency represented on the Council shall expend RTF funds to carry out projects in the Comprehensive Plan. Primary authority and responsibility for each project shall be assigned to a state or federal Council member.	*See* #25 for a list of Council members.
34.	§1603—CWA §§ 311(t)(2)(E)(ii)(III)	Grants to NGOs	Agencies cannot make grants to or cooperative agreements with NGOs if the grant amount is 10% or more of the total project cost, unless the grantee is reported in the Federal Register 30 days prior and listed in the Council's annual report to Congress.	

Act §	Topic	Description	Notes
Impact-Based State Allocations—30% of RTF			
35.	§1603—CWA § 311(t)(3)(A)	Funding	Of all funds allocated to the RTF, 30% must go to Gulf states based on the formula: • 40% based on the portion of total shoreline miles oiled; • 40% based on the inverse proportion of the average distance of the *Deepwater Horizon* rig to the nearest and farthest points of oiled shoreline; and • 20% based on the average 2010 population of Gulf coastal counties. However the formula works out, each state must get at least 5% of the impact allocation funds. State funding is contingent on the state submitting a plan.	RESTORE includes complex formulas for how almost one-third of RTF funds are distributed, and it is not clear how these will work out in practice.
36.	§1603—CWA § 311(t)(3)(B)(i)-(ii)	Limited uses	Projects funded through impact allocation funds must meet the #12 allowable use requirements; contribute to the overall economic and environmental recovery of the Gulf; and take into consideration and be consistent with the Comprehensive Plan. A state's plan cannot use more than 25% of funds for infrastructure projects, unless the plan certifies that the infrastructure projects address ecosystem restoration and mitigate the impacts of the oil spill on the ecosystem or economy.	Note that the state plans for impact-based funds must be consistent with and consider the Comprehensive Plan, unlike the state plans for equal-share funds.
37.	§1603—CWA § 311(t)(3)(B)(iii)	State plans	State plans will be developed by: • Alabama Gulf Coast Recovery Council; • Consortia of Florida localities, including at least one representative from each affected county; • Louisiana Coastal Protection and Restoration Authority; • Mississippi Governor's Office or appointee; and • Texas Governor's Office or appointee.	Interestingly, the Texas and Mississippi Governor's Offices are in charge of state plan development instead of a coastal or Gulf recovery entity.

	Act §	Topic	Description	Notes
38.	§1603—CWA §§ 311(t)(3)(B)(iv), 311(t)(3)(C)	Council approval/ disapproval	The Council shall approve/disapprove state plans based on whether the plan meets the #12 allowable use requirements.	There are no requirements that the state plans, as opposed to the Comprehensive Plan, follow any kind of public participation processes. Only the Council has authority to enforce the conditions of the Act on the states. Recall that the Council's affirmative voting requirements are weakened during review of state plans (*see* #26).
39.	§1603—CWA § 311(t)(3)(E)	Judicial Review	States may obtain judicial review in district court within 90 days of the Council's failure to approve a state plan.	Again, only states can obtain judicial review.
40.	§1603—CWA § 311(t)(3)(F)	Cost-sharing	A state or locality may use impact allocation funds to satisfy the non-federal share of any cost-sharing project that meets the #12 allowable use requirements.	

	Act §	Topic	Description	Notes
Gulf Coast Restoration, Science, Observation, Monitoring, and Technology Program (RSOMT Program)—2.5% of RTF + 25% of interest earned on RTF				
41.	§1604(b)	Establishment	Within 180 days of enactment, the RSOMT Program shall be established to carry out research, observation, and monitoring to support the "long-term sustainability" of Gulf fisheries and fishing industries.	
42.	§1604(h)	Funding	In addition to interest funding, the RSOMT Program will receive 2.5% of RTF Funds made available in each fiscal year.	
43.	§1604(b), (c), (g)	Limitations on use of funds	Funds may be used for: • Marine and estuarine research; • Marine and estuarine monitoring and ocean observation; • Data collection and stock assessments; • Pilot data programs; • Cooperative research; and • Administrative expenses (up to 3%). Programs shall include all marine, estuarine, aquaculture, and fish species in state and federal Gulf waters. Funds cannot be used for: • Existing or planned NOAA research, unless agreed to in writing by the grant recipient; • Implementing or initiating regulations; and • Developing/approving limited access privilege programs in Atlantic fisheries.	Note that funded projects may include research on aquaculture species. It is unclear why the prohibition on using funds for existing or planned NOAA research has an exception if such use is "agreed to in writing by the grant recipient." This phrase is likely a vestige from a prior version of the bill, when this language was in the section of the Act related to the Centers of Excellence Grant Program instead of its current position in the section of the Act related to the RSOMT Program. Note that the prohibition on using funds to implement or initiate regulations could significantly impact NOAA's capacity to engage in fisheries reformation.

	Act §	Topic	Description	Notes
44.	§1604(b)(3)-(4), (f)	Cooperation and Coordination	Funds may be transferred to the Gulf States Marine Fisheries Commission to establish a monitoring and research program in the Gulf. The NOAA Administrator and Fish and Wildlife Service (FWS) Director shall consult with the Regional Gulf of Mexico Fishery Management Council and Gulf States Marine Fisheries Commission in carrying out the RSOMT Program. The NOAA Administrator and FWS Director shall develop a plan for coordinating RSOMT Program projects with existing federal and state science and technology programs, as well as with the Centers of Excellence.	It is unclear how all of the various parties—the Gulf States Marine Fisheries Commission, NOAA, FWS, Regional Gulf of Mexico Fishery Management Council, Centers of Excellence, and RSOMT Program—will work together in practice.
45.	§1604(d)-(e)	Research priorities	Priority shall be given to integrated, long-term, non-duplicative projects that address anticipated information needs.	
46.	§1604(i)	Sunset	RSOMT Program will terminate when all RFT funds are spent.	*See* #9.

	Act §	Topic	Description	Notes
Centers of Excellence Research Grants—2.5% of RTF + 25% of interest earned on RTF				
47.	§1605(a)	Funding	In addition to interest funding, the Gulf states will receive 2.5% of RTF Funds made available in each fiscal year, in equal shares, exclusively for grants to establish Centers of Excellence to conduct research on the Gulf Coast Region.	
48.	§1605(b)	Duties	Grants will be awarded by: • Alabama Gulf Coast Recovery Council; • Coastal Protection and Restoration Authority of Louisiana; • Mississippi Department of Environmental Quality; • Texas Office of the Governor or appointee; and • A Florida consortium of public and private research institutions within the state, including the Department of Environmental Protection and the Fish and Wildlife Conservation Commission.	
49.	§1605(c)	Grants	States shall use funds to make competitive grants to nongovernmental entities and consortia in the Gulf Coast region, including public and private higher education institutions.	
50.	§1605(c)(3), (d)	Priority and disciplines	States will grant priority to applicants with the broadest expertise in at least one of the following: • Coastal/deltaic sustainability; • Coastal fisheries and wildlife; • Offshore energy development, including research and technology to improve safety; • Sustainable growth, and economic and commercial development; and • Comprehensive monitoring/mapping. Each Center shall focus on science, technology, and monitoring in at least one of these disciplines.	Centers for Excellence can be primarily energy development or economic development organizations. There is no requirement that any Center focus on more than one of the listed disciplines, and no requirement that the Centers conduct research on natural resources.
51.	§1605(c)(4)	Reporting	Each state shall provide information on grants, including the amount, discipline and recipient(s), to the Council annually. The Council shall include this information in its annual report to Congress.	

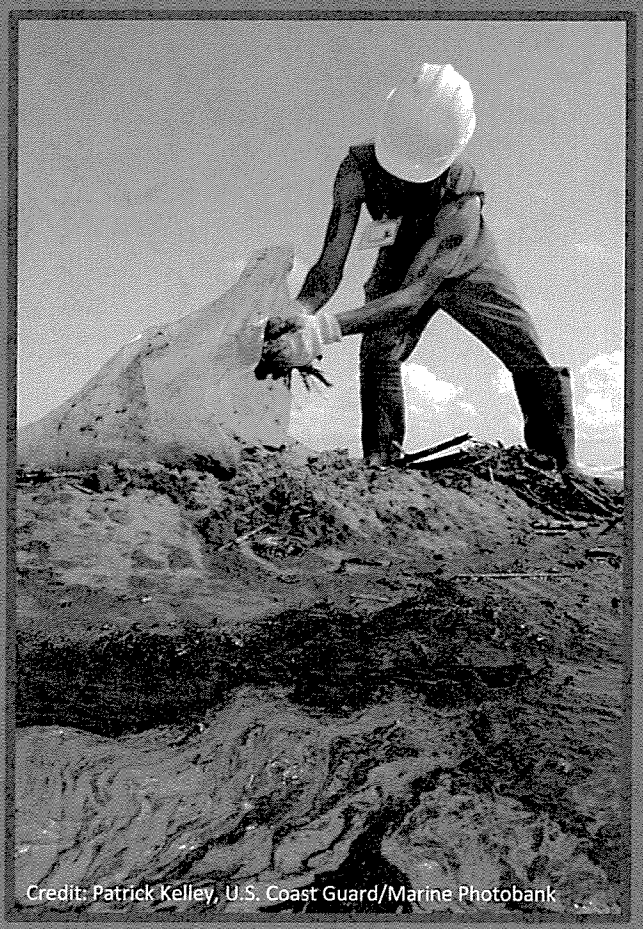
Act §	Topic	Description	Notes

Resource Guide:

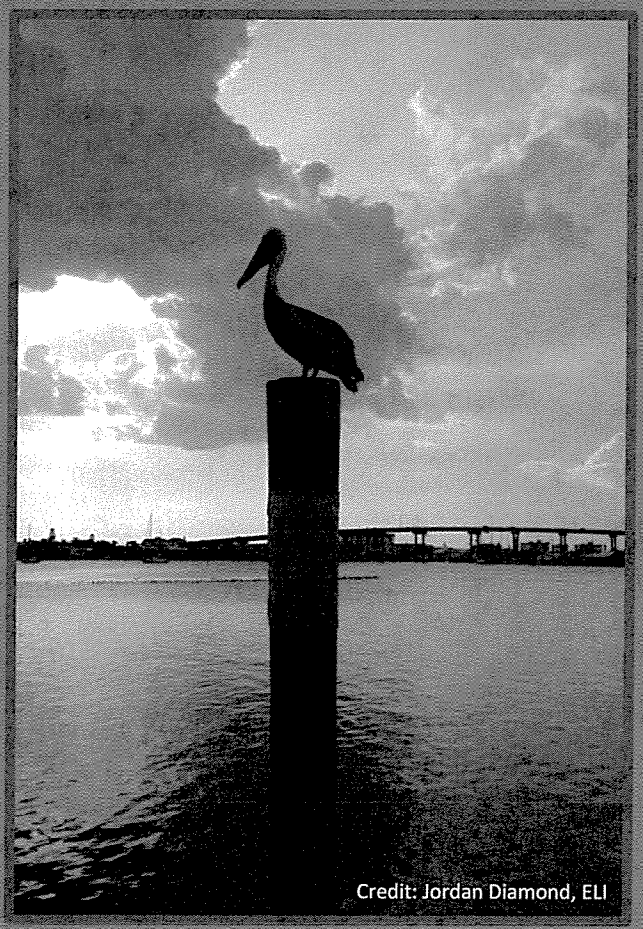
Engaging in *Deepwater Horizon* Restoration & Recovery



Credit: Ron Wooten/Marine Photobank



Credit: Patrick Kelley, U.S. Coast Guard/Marine Photobank



Credit: Jordan Diamond, ELI

Environmental Law Institute

Updated May 31, 2013

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Section 1 **Overview**

This section provides a general overview and timeline of the major recovery and restoration processes initiated in the wake of the Deepwater Horizon *disaster.*

Section 2 **Natural Resource Damage Assessment (NRDA)**

This section focuses on the Natural Resource Damage Assessment that is currently being implemented to assess damages caused to Gulf resources by the Deepwater Horizon *incident.*

Section 3 **Clean Water Act & RESTORE**

This section introduces the Resources and Ecosystems Sustainability, Tourist Opportunity, and Revived Economies of the Gulf States Act of 2012 (or the "RESTORE Act") and reviews the various funding mechanisms created by the RESTORE Act.

Section 4 **U.S. Settlements**

This section provides an introduction to U.S. settlements related to the Deepwater Horizon *incident.*

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SECTION 1

Overview

Upcoming Events

The following events are expected in the coming months as *Deepwater Horizon* restoration and recovery processes continue to unfold in the Gulf. The public will have the opportunity to engage in many of these.

Natural Resource Damage Assessment

Summer 2013?
Once released, the programmatic environmental impact statement (PEIS) for *Deepwater Horizon* restoration activities will be open for public comment.

Summer 2013?
The Trustees have announced their intent to propose Phase III Early Restoration projects. The announcement indicates that they will provide more information and will open proposals for public comment "[i]n the coming months."

Timing Unknown
The amount the responsible parties will pay for natural resource restoration could be determined via settlement. If so, the "consent decree" – the court judgment approving the settlement – would be open for public comment before it is finalized.

Clean Water Act & RESTORE

Originally due by Jan. 2, 2013
The U.S. Department of the Treasury must draft procedures for administering the RESTORE Act Restoration Trust Fund; the draft regulations will be open for public comment.

May 23 – June 24, 2013
The Gulf Coast Ecosystem Restoration Council's Draft Initial Comprehensive Plan is open for public comment for 30 days.

July 2013
The Gulf Coast Ecosystem Restoration Council has stated that it will release its final Initial Comprehensive Plan by July 6, according to the timelines identified in the RESTORE Act.

Claims & Litigation Process

Sept. 16, 2013 – ?
The second phase of the MDL 2179 trial is scheduled to begin on Sept. 16, 2013. Additional phases will be scheduled if triable issues remain after this phase is completed.

Timing Unknown
In the case of a settlement of Clean Water Act civil penalties (that have yet to be resolved), the "consent decree" – the court judgment approving the parties' settlement – would be open to the public for comment before it is finalized.

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BP Oil Disaster: Restoration & Recovery

MAY 2013

Gulf Coast Restoration: Timeline of Past & Future Events

This resource provides a timeline of events related to three key Gulf restoration and recovery processes:	
Natural Resource Damage Assessment	Under the Oil Pollution Act, the parties responsible for an oil spill must pay to restore the natural resources damaged by it. The amount the parties must pay is determined through a legal process called a Natural Resource Damage Assessment (NRDA). The *Deepwater Horizon* NRDA has been in progress since 2010, and is overseen by federal and state natural resource trustees.
Clean Water Act & RESTORE Act	The parties responsible for an oil spill face civil and possibly criminal penalties for violating the Clean Water Act. The RESTORE Act, which was enacted in July 2012, diverts 80% of any civil and administrative penalties paid in connection with *Deepwater Horizon* to Gulf ecosystem and economic restoration. The Gulf Coast Ecosystem Restoration Council created by the RESTORE Act has replaced the Gulf Coast Ecosystem Restoration Task Force that President Obama established in October 2010.
Claims & Litigation Process	The parties responsible for the oil spill must compensate people, businesses, and governments for related economic losses. In addition, individuals can file lawsuits for medical injuries caused by the oil spill or cleanup. Hundreds of lawsuits and claims have been filed. The U.S. Department of Justice is engaged in litigation with the parties responsible for the spill for removal costs, damages under the Oil Pollution Act, and civil penalties under the Clean Water Act. The government reserved the right to add new claims and defendants in the future.

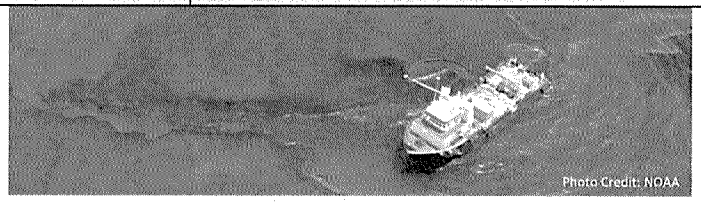


Photo Credit: NOAA

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Gulf Coast Restoration: Timeline

2010 | 2011

NRDA

Sept. 27, 2010
Trustees issue notice of intent (NOI) to conduct restoration planning

Feb. 17, 2011
Trustees issue NOI to begin restoration scoping and a programmatic environmental impact statement (PEIS)

Spring 2011
Trustees hold public meetings on PEIS in Gulf communities

Apr. 20, 2011
BP and trustees sign early restoration agreement

Dec. 14, 2011
Trustees release Draft Phase I Early Restoration Plan and Environmental Assessment

Clean Water Act & RESTORE

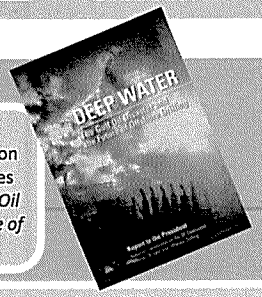
July 21, 2011
RESTORE Act is introduced in the Senate (S.1400)

Oct. 5, 2011
RESTORE Act is introduced in the House of Reps. (H.R.3096)

Gulf Coast Task Force

Sept. 21, 2010
Navy Sec. Ray Mabus releases *America's Gulf Coast: A Long Term Recovery Plan After the Deepwater Horizon Spill*

Jan. 11, 2011
National Commission on the BP Oil Spill releases *Deep Water: The Gulf Oil Disaster and the Future of Offshore Drilling*

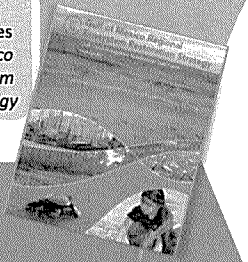


Oct. 5, 2010
Gulf Coast Ecosystem Restoration Task Force established by Executive Order 13,554

Oct. 2010 – Oct. 2011
Task Force holds 40 public meetings in Gulf communities

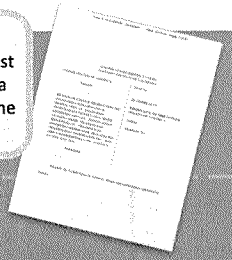
Oct. – Dec. 2011
Task Force opens draft restoration strategy for public comment

Dec. 4, 2011
Task Force releases final *Gulf of Mexico Regional Ecosystem Restoration Strategy*



U.S. Claims

Dec. 15, 2010
U.S. files a complaint against various parties, including a claim for penalties under the Clean Water Act (CWA)



Aug. 2010
Multi-District Litigation (MDL) 2179 created; cases start to be added

Private Claims

Aug. 23, 2010
Gulf Coast Claims Facility (GCCF) opens to process spill-related claims from individuals and businesses

Gulf Coast Restoration: Timeline

2012 → 2013

NRDA

Jan.–Feb. 2012
Trustees hold 12 public meetings for comments on Draft Phase I Early Restoration Plan and Environmental Assessment

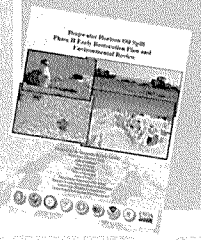
Apr. 18, 2012
Following public meetings and comment period, trustees release Final Phase I Early Restoration Plan and Environmental Assessment

Sept. 10, 2012
EPA and USDA added as NRDA trustees by Executive Order 13,626

Oct. 10, 2012
Trustees release Draft Phase II Early Restoration Plan and Environmental Assessment

Nov. 13, 2012
Trustees hold a public meeting for comments on Draft Phase II Plan and Environmental Review

Dec. 21, 2012
Following a public meeting and comment period, trustees release Final Phase II Early Restoration Plan and Environmental Review



May 6, 2013
Trustees announce intent to propose Phase III Early Restoration projects

Clean Water Act & RESTORE

June 29, 2012
RESTORE Act passes as part of surface transportation and federal aid highways act (MAP-21) [Pub. L. 112-141]

July 6, 2012
President Obama signs RESTORE Act, which establishes the Gulf Coast Ecosystem Restoration Council

Dec. 11, 2012
Restoration Council holds its first public meeting

Jan. 29, 2013
Restoration Council releases Proposed Comprehensive Plan

Feb. – Mar. 2013
Restoration Council holds public meetings to receive input

May 23, 2013
Restoration Council releases Draft Initial Comprehensive Plan and Draft Programmatic Environmental Assessment; 30-day public comment period begins

Gulf Coast Task Force

Sept. 10, 2012
Executive Order 13,626 provides that the Task Force will disband 60 days after the Restoration Council commences work

U.S. Claims

Feb. 17, 2012
DOJ, Coast Guard, EPA, and MOEX announce partial civil settlement (court approved June 18, 2012)

Nov. 15, 2012
DOJ and BP announce criminal settlement (court accepted Jan. 29, 2013)

Jan. 3, 2013
DOJ and Transocean announce criminal settlement (court accepted Feb. 14, 2013) and partial civil settlement (court approved Feb. 19, 2013)

Feb. 25 – Apr. 17, 2013
Phase I of the BP civil trial takes place in New Orleans, LA

Private Claims

Mar. 2012
BP and Plaintiffs' Steering Committee agree on key terms of economic damages and medical benefits settlements; transitional court-run claims process opens

June 4, 2012
Transitional process ends; Deepwater Horizon Claims Center opens

Nov. 8, 2012
Court holds fairness hearing on settlements

Dec. 21, 2012
Court approves economic damages settlement

Jan. 11, 2013
Court approves medical benefits settlement

SECTION 2

Natural Resource Damage Assessment (NRDA)

MAY 2013

Participating in Natural Resource Damage Assessment and Restoration

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As Gulf Coast residents have witnessed, the BP *Deepwater Horizon* oil spill has harmed the Gulf's air, water, sediment, wildlife, and habitats. Restoration of these natural resources is important to Gulf families, the region's economy, and the environment. It is also a legal requirement under the Oil Pollution Act of 1990 (OPA) and other laws.

The government is using a process called **Natural Resource Damage Assessment (NRDA)** to ascertain the injuries caused to natural resources, determine how to restore them, and then implement a restoration plan. While NRDA is a legal process, and therefore some of its stages are not open to the public, there are certain points at which the law states that the public has the right to participate. In addition, the unprecedented size and complexity of the Gulf spill may create new opportunities for citizens to get involved. **This fact sheet provides an overview of the NRDA process and highlights some of the opportunities to participate.**

What is NRDA?

An oil spill NRDA is the process that federal, state, and tribal governments use to determine the injury that a spill has caused to natural resources and to plan an approach for restoring those resources. The goal is to return natural resources to the condition they would have been in if the spill had not occurred (called "**baseline**"). The costs of restoration are paid by the parties responsible for the spill.

"Natural resource damages" include several types of damages

The term "natural resource damages" covers several types of damages. These include damages for injuries to natural resources, the lost use of those resources, and the costs of assessing damages. Many of these damages are difficult to estimate, either because it is hard to determine the exact value of something like lost use or because the extent of injury is not fully known. A NRDA strives to ensure that the estimates are fair and accurate.

The compensation received for natural resource damages can only be used for two purposes: (1) to cover the costs of the assessment; and (2) to recover the natural resources that were harmed by the spill. The compensation cannot be used to recover natural resources from harm caused by something other than the spill. The responsible parties are only required to fix what was injured by the spill, no more.



Who is involved in NRDA on the Gulf Coast?

NRDA is a legal process and primarily involves government representatives and the parties responsible for the oil spill. However, nongovernmental organizations, citizens, and other stakeholders can also contribute at certain points in the process.

Federal and state agencies are acting as "trustees" for the public and guiding the NRDA

Federal and state agencies across the Gulf are leading the NRDA process in their role as "**trustees**." To assess the spill's impacts, trustees determine pre-spill conditions, evaluate the injuries caused by the spill, and develop a plan for restoration. These activities support the trustees' legal case to obtain compensation from BP and other responsible parties for the harm caused to natural resources. The trustees for the Gulf NRDA process are listed in Table 1.

To better assess the spill's impacts, the trustees have formed **Technical Working Groups** (often referred to as TWGs, pronounced "twigs"), including groups studying birds, marine mammals, corals, and human uses of impacted natural resources. Each TWG is composed primarily of scientists and other subject matter experts who are working to assess the injuries suffered and lost use. The TWGs have assisted in the development of study plans for the assessment process.

The responsible parties pay for natural resource damages and participate in the assessment process

The trustees are required to invite the responsible parties to participate in the NRDA. Here, BP has accepted that invitation and has been participating in the assessment.

NRDA Trustees for the BP *Deepwater Horizon* Oil Spill

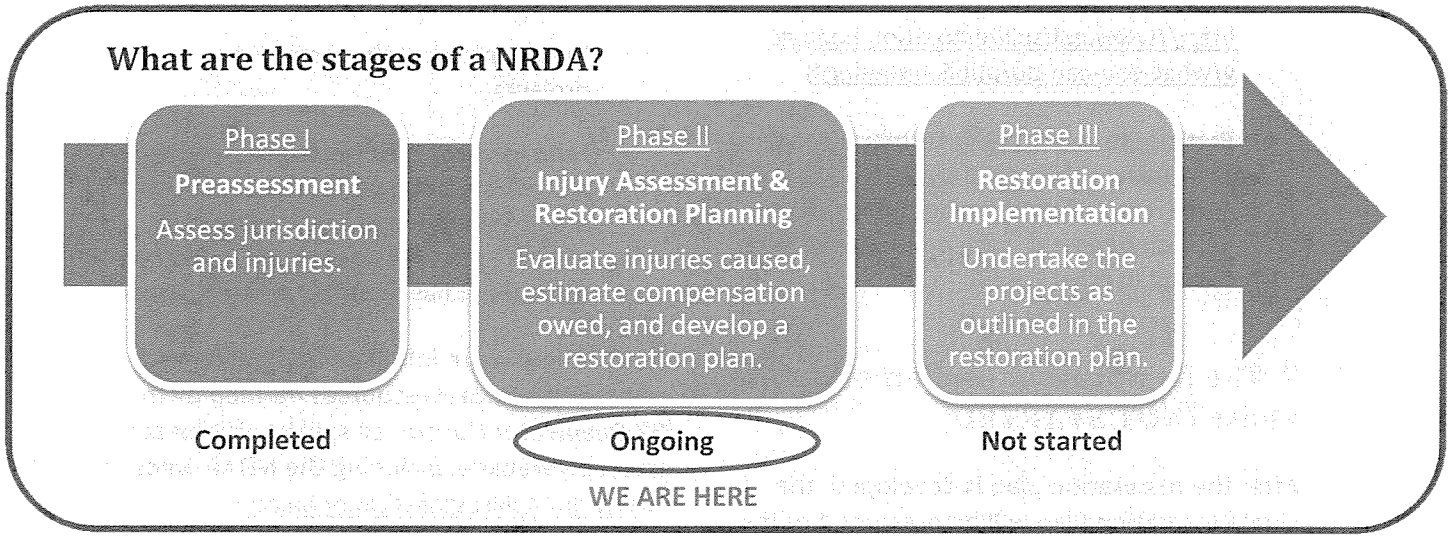
	Lead Trustee Agency	Additional Trustee Agencies
US Dept. of the Interior	US Fish and Wildlife Service	National Park Service; Bureau of Land Management
US Dept. of Commerce	National Oceanic and Atmospheric Administration	
US Dept. of Defense		
US Environmental Protection Agency*		
US Dept. of Agriculture*		
State of Louisiana	Coastal Protection and Restoration Authority	Oil Spill Coordinator's Office; Dept. of Environmental Quality; Dept. of Wildlife and Fisheries; Dept. of Natural Resources
State of Mississippi	Dept. of Environmental Quality	
State of Alabama	Dept. of Conservation and Natural Resources	Geological Survey of Alabama
State of Florida	Dept. of Environmental Protection	Fish and Wildlife Conservation Commission
State of Texas	Parks and Wildlife Dept.	General Land Office; Commission on Environmental Quality

* Designated as trustees on September 10, 2012 by Executive Order 13,626.

Where are they now in the NRDA process, and how can we participate?

Public participation in NRDA can help improve the restoration plan, from individual projects to the overall approach, to make sure that the process truly restores the natural resources harmed by the oil spill. It also helps ensure the process is transparent and accountable.

The NRDA process is divided into three stages: (1) **Preassessment**; (2) **Injury Assessment and Restoration Planning**; and (3) **Restoration Implementation** (see figure below).



1. The Preassessment Phase (COMPLETED)

This phase involves the determination that the trustees have jurisdiction to conduct a NRDA and it is appropriate for them to do so (e.g. there are injuries). Limited data are also collected during this phase. The preassessment phase was completed in this case in 2010.

2. The Injury Assessment and Restoration Planning Phase (ONGOING)

The trustees are currently evaluating the injuries, estimating the compensation owed as a result of these injuries, and planning for restoration.

Injury Assessment and Damage Quantification: To assess the extent of the injury, the trustees use data collected from the affected sites to establish pre-spill baseline conditions and injury.

Restoration Planning and Environmental Impact Assessment: After assembling a range of restoration project options, the trustees will evaluate the alternatives, select one as a preferred alternative, and prepare a restoration plan (or plans). An Environmental Impact Statement (EIS) must also be prepared. Drafts of both the restoration plan and the EIS must be circulated for public comment.

As a member of the public, you may be able to submit your observations of spill impacts to NRDA scientists, although this is not a legal requirement of the NRDA process. Through more formal channels, you can:

- **Suggest and submit ideas** for restoration projects (the web portal for restoration project submission is at http://www.gulfspillrestoration.noaa.gov/restoration/give-us-your-ideas)
- **Comment** on draft environmental impact assessments and restoration plans, including early restoration plans (which must be opened for public comment)
- **Provide feedback and suggestions** in person at meetings hosted by the trustees (check for meeting dates at http://www.gulfspillrestoration.noaa.gov/what-you-can-do/public-meetings)
- **Participate** in any public technical panels or advisory bodies that are formed to guide restoration planning (while not a legal requirement, such entities have been formed in other cases)

3. The Restoration Implementation Phase (NOT STARTED)

After the restoration plan is developed, the Final Restoration Plan will be presented to the responsible parties. If the responsible parties agree to the plan, they may implement the plan or fund the trustees' costs of implementing the plan. Implementation occurs over many years.

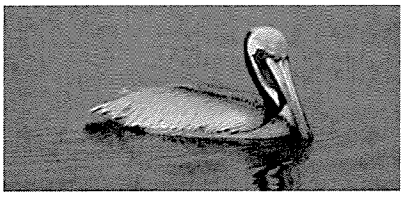
Early Restoration

In April 2011, the trustees announced that BP had agreed to enter into a $1 billion agreement to start some restoration projects early. Because NRDAs can take years to complete, this **early restoration agreement** allows the trustees to get started on mutually agreed-upon restoration projects before the assessment process has been completed.

As a member of the public, you can:

- **Participate** in any technical panels or advisory bodies that are formed to support restoration implementation (while these are not required, they have been created in other cases)
- **Help implement** the restoration projects
- **Help monitor** the effectiveness of the restoration projects, to make sure they are achieving the desired results over the long term (while participation is not required, it has occurred in other cases)

You can find more information on efforts to restore the natural resources harmed by the BP *Deepwater Horizon* oil spill by visiting each trustee's website, including the NOAA website (www.gulfspillrestoration.noaa.gov).



What's Going on Now?

Early Restoration: the trustees have finalized two rounds of early restoration projects worth about $71 million. In May 2013, the trustees announced their intent to propose a third round of early restoration projects worth roughly $600 million.

Injury Assessment and Restoration Planning: as part of this phase, the trustees are preparing a draft programmatic EIS. When this is complete, it will be made available to the public for comment.

SECTION 3

Clean Water Act & RESTORE

An Overview of the RESTORE Act

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What is the RESTORE Act?

The Resources and Ecosystem Sustainability Tourist Opportunities, and Revived Economies of the Gulf Coast States Act of 2012—better known as the "**RESTORE Act**"—was enacted on July 6, 2012.

The RESTORE Act creates a Gulf Coast Restoration Trust Fund (RTF), which will receive **80% of any Clean Water Act (CWA) civil and administrative penalties** paid by BP and other companies responsible for the *Deepwater Horizon* oil spill. The RTF will support a variety of ecological and economic restoration and recovery projects in the Gulf.

What are Clean Water Act penalties?

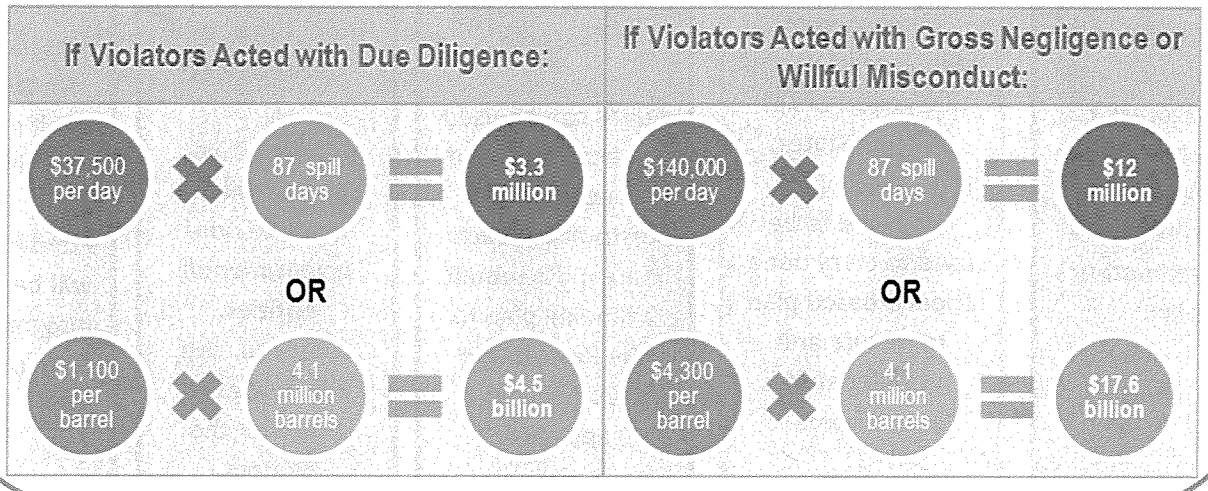
The CWA regulates the discharge of pollutants into U.S. waters. Parties responsible for discharging oil in violation of the CWA face penalties. The **U.S. Department of Justice** has filed a lawsuit seeking CWA civil penalties for *Deepwater Horizon*. The court has significant discretion to decide the final penalty amount during trial. If the parties settle, they may agree upon a penalty amount as part of the settlement.

Where do penalties normally go?

Without the RESTORE Act, all civil penalty monies would go to the **Oil Spill Liability Trust Fund** for use in cleaning up *future* oil spills.

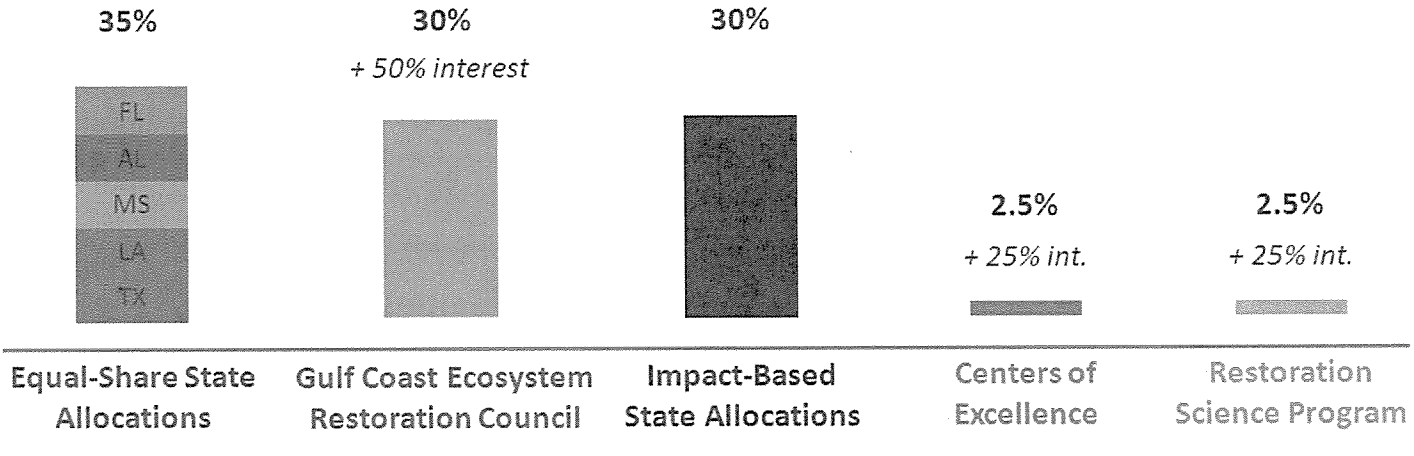
How much money might be involved?

The amount of civil penalties that are collected will depend on a number of factors. These include whether a per-barrel or per-day penalty is applied, whether the responsible parties acted with gross negligence or willful misconduct, whether the case settles, and factual findings about the spill. As a result, there is a wide range of possible penalty amounts.



What will the RESTORE Act do?

The largest portion of the RTF (35%) will be distributed directly to the Gulf Coast states in equal shares (7% each). Just under one-third of the funds (30% plus 50% of the interest earned) will go to a Gulf-wide Restoration Council. Slightly less (30%) will go to the Gulf States based on their oil spill impacts. The remainder of the RTF (5% plus 50% of the interest earned) will fund scientific research and monitoring through Centers of Excellence and a Restoration Science Program.



Give Money to States in Equal Shares for Local Recovery.

Just over one-third of the funds will go directly to the five Gulf States in equal shares.

Funds can be used for ecological and economic restoration. Each State must submit a multi-year implementation plan.

Give Money to a Gulf-wide "Restoration Council" for Local and Interstate Recovery.

The RESTORE Act creates a Gulf Coast Ecosystem Restoration Council composed of federal officials and the governors of the Gulf states.

Funds are to be used to carry out a science-based plan to restore and protect natural resources.

Give Money to States Based on Oil Impacts.

Almost one-third of the funds will be divided among Gulf states according to how severely they were impacted by the oil spill.

Funds can be used for ecological and economic restoration. Each State must submit a funding plan to the Restoration Council for approval.

Give Money to "Centers of Excellence" for Gulf Coast Research.

Centers of Excellence will be established to further Gulf Coast science, monitoring, and technology.

Competitive grants will be made to non-governmental entities, consortia, and universities to establish the centers.

Give Money to Fund Long-Term Monitoring of the Gulf.

The Act creates a program to fund research, observation, and monitoring to ensure long-term sustainability of Gulf ecosystems and fisheries.

Funding priority will be given to integrated, long-term projects.

How Can I Participate in the RESTORE Act?

The RESTORE Act provides several formal opportunities for the public to participate. These opportunities are listed below.

General Participation Opportunities

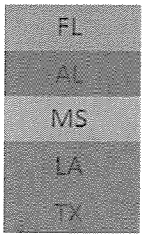
The **amount of civil penalties** that are paid by BP and other companies responsible for the spill may be determined through a settlement agreement. If so, the proposed agreement will be open for public comment before the court determines whether or not to approve it.

HOW TO PARTICIPATE: Comment on any settlement reached between the federal government and the companies responsible for the spill

The RESTORE Act called on the U.S. Department of the Treasury to **establish procedures for administering RESTORE Act funds and for assessing the compliance of funded projects by January 2, 2013**. The draft procedures must be made available to the public for comment.

HOW TO PARTICIPATE: Review and comment on any draft procedures

35%



Equal-Share State Allocations

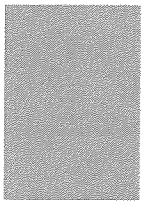
Before states receive their **equal-share funds**, they must, among other things, develop an implementation plan and confirm that each project or program to be funded was selected based on public input. The funds may be used to satisfy the non-federal share of any cost-sharing project.

HOW TO PARTICIPATE: Help develop or provide input on a project or program to be funded, including any cost-sharing projects

Louisiana coastal parishes must also complete a comprehensive land use plan before receiving funds.

HOW TO PARTICIPATE: Participate in comprehensive land use planning in Louisiana coastal parishes

30%
+ 50% int.



Gulf Coast Ecosystem Restoration Council

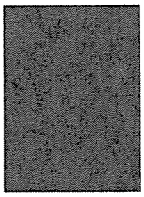
The **Gulf Coast Ecosystem Restoration Council** released its draft initial comprehensive plan for restoring the Gulf Coast on May 23, 2013. It is open for public comment until June 24, 2013. The Council intends to finalize the plan by July 6, 2013, in accordance with the timeline detailed in the RESTORE Act.

HOW TO PARTICIPATE: Review and comment on the draft plan

In addition, "appropriate" Council actions and deliberations must be made available to the public "via electronic means" prior to Council votes.

HOW TO PARTICIPATE: Monitor proposed Council actions and deliberations

30%



Impact-Based State Allocations

Before receiving **funds based on spill impacts**, Gulf states must develop funding plans listing the projects that will receive grants. Funds may be used to satisfy the non-federal share of any cost-sharing project.

HOW TO PARTICIPATE: Provide input on funding plans and **review and comment** on any cost-sharing projects

2.5%
+ 25% int.

Centers of Excellence

Each of the Gulf states will receive funds to be used to award competitive grants to Gulf Coast NGOs, consortia, or universities to establish **"Centers of Excellence."**

HOW TO PARTICIPATE: No specific opportunities identified in the Act

2.5%
+ 25% int.

Restoration Science Program

The National Oceanic and Atmospheric Administration (NOAA) is tasked with establishing the **Restoration Science Program** to carry out research, observation, and monitoring to support the "long-term sustainability" of Gulf ecosystems and fisheries.

HOW TO PARTICIPATE: No specific opportunities identified in the Act

Other Ways to Influence What Happens With RESTORE

There are myriad other ways to make your voice heard besides engaging in formal participation opportunities. These are often important, as it may be difficult to significantly impact a decision if you wait until decision-makers formally ask for your opinion. Some ways you can make your voice heard include:

- Meet with and write letters to members of the Gulf Coast Council, and to members of any state committees or advisory groups formed to allocate RESTORE Act funds
- Rally support for your position among other citizen groups
- Go to the press
- Draft an opinion piece ("op-ed") in your local newspaper
- Lobby an agency or involve a legislator



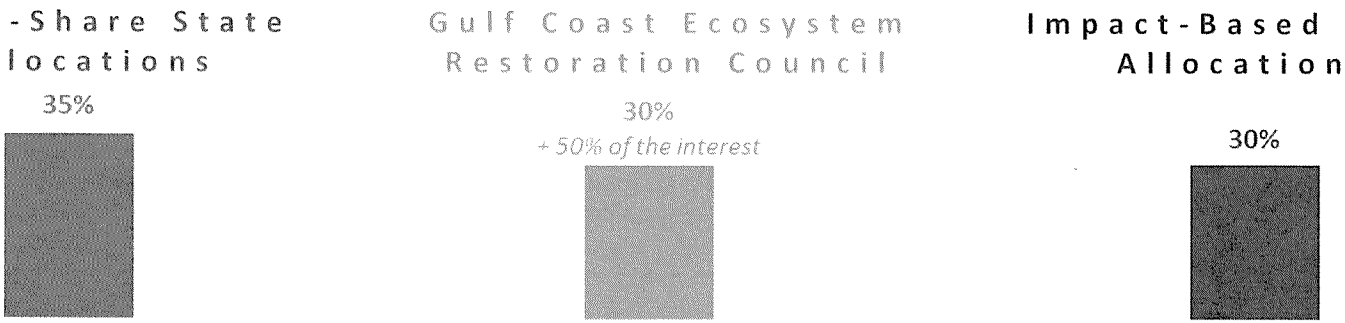
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MAY 2013

The RESTORE Act: Comparing the Funding Mechanisms

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The RESTORE Act, which became law on July 6, 2012, will divert 80% of any civil and administrative Clean Water Act penalties collected as a result of *Deepwater Horizon* (DWH) to the Gulf Coast for ecological and economic restoration. The following tables compare the requirements of the various mechanisms for distributing those funds.



	Equal-Share State Allocations	Gulf Coast Ecosystem Restoration Council	Impact-Based State Allocations
Lead Entity	• AL – Gulf Coast Recovery Council (AGCRC) • FL – Funds go directly to affected counties • LA – Coastal Protection & Restoration Authority (LCPRA) • MS – Dept. of Environmental Quality (MDEQ) • TX – Office of the Governor or appointee	11 federal and state members: • Secretaries of the Interior, Army, Commerce, Agriculture, and Homeland Security; • Administrator of the U.S. EPA; and • Governors of the five Gulf states (who shall select a federal member as Chair).	• AL – AGCRC • FL – Consortia of local political subdivisions (minimum one rep. of each affected county) • LA – LCPRA • MS – Office of the Governor or appointee • TX – Office of the Governor or appointee
Timing	*No timelines specified.*	The Council has **180 days** from the date of enactment (i.e., Jan. 2, 2013) to publish a proposed comprehensive plan (*see below*); then **one year** to publish an initial plan.	*No timelines specified.*
Funding Allocation	Each state receives an equal share (7%). The Act also specifies the division of funds in Florida... • 75% of the funds go to the eight disproportionately affected counties; and25% go to the nondisproportionately impacted counties. ... and in Louisiana: • 70% of the funds go to the State; and • 30% go to parishes by a formula based on shoreline oiled, population, and land mass.	*No specifications.*	Funds dispersed based on the weighted average of the following criteria: • 40% based on ratio of shoreline oiled pre-DWH to amount of shoreline oiled by DWH; • 40% based on inverse proportion of average distance from the DWH rig to nearest and farthest points of oiled shoreline; and • 20% based on average population of Gulf coastal counties (via 2010 census); • with a minimum of 5% of the total annual funds disbursed going to each state.

	Equal-Share State Allocations	Gulf Coast Ecosystem Restoration Council	Impact-Based State Allocations
Planning Requirements	**Multi-Year Implementation Plans (*do not require Council approval*)** Among other requirements, all states and/or localities receiving funds must develop a multi-year implementation plan. The state/locality must certify that projects and programs: • Are designed to restore and protect Gulf Coast resources; • Carry out one or more of the eligible activities (*see below*); • Were selected based on meaningful and broad-based public input; • Are based on the best available science; and • Were selected consistent with state procurement rules for comparable projects. There are no Council approval requirements.	**Comprehensive Plan (*developed by the Council*)** The Council has myriad responsibilities, including approving certain state plans and establishing advisory committees as necessary. One of its primary responsibilities is to develop a science-based Comprehensive Plan to restore and protect natural resources. The plan must: • Prioritize projects that contribute to Gulf restoration, regardless of geographic location; • Include provisions to "fully incorporate" the findings of the Gulf Coast Ecosystem Restoration Task Force; and • Include a ten-year funding plan (updated every five years) and three-year list of activities to be funded (updated annually).	**State Funding Plans (*require limited Council approval*)** All states receiving funds must develop funding plans that list the projects that will receive grants. The plans must take into consideration the Council's Comprehensive Plan, and be "consistent with" its goals and objectives. Each plan must be approved by the Council. However, this can be satisfied by certification of one State member of the Council and the affirmative vote of the Federal Chair.
Participation	All states/localities receiving funds must certify that projects were selected based on "meaningful" and "broad-based" public input, including from individuals, businesses, and nongovernmental organizations. States may use any "appropriate" procedure for public input in that state, including consulting with existing task forces.	"Appropriate" Council actions and deliberations must be made available to the public "via electronic means" prior to any Council vote. ("Appropriate" is not defined by the legislation.) The Comprehensive Plan must be subjected to notice-and-comment procedures before it is finalized.	*No participation requirements specified.*
Local Hire Provisions	All states and localities receiving funds must certify that project selections were consistent with the procurement rules for a comparable project in that state. A state *may* give preference to those "that reside in, are headquartered in, or are principally engaged in business in the State."	The Council must develop standard contract terms for Comprehensive Plan projects that give preference to individuals/companies "that reside in, are headquartered in, or are principally engaged in business in a Gulf Coast State."	*No local hire provisions specified.*

	Equal-Share State Allocations	Gulf Coast Ecosystem Restoration Council	Impact-Based State Allocations
Eligible Activities	**Funds must be used to achieve ecological and/or economic restoration of the Gulf Coast.** Activities, which can include previously approved projects, must target at least one of the following: • Restoration and protection of natural resources; • Mitigation of damage to natural resources; • Implementation of a federally approved marine or coastal management plan; • Workforce development and job creation; • Improving state parks affected by the spill; • Infrastructure projects benefitting the economy or ecological resources; • Flood protection and infrastructure; • Planning assistance; • Promotion of tourism; • Promotion of Gulf seafood consumption; and • Administrative costs (not more than 3%).	**The Plan must target restoration and protection of Gulf natural resources.** Except for already-authorized projects or programs that would further the purpose and goals of the Council and of the RESTORE Act, priority will be given to projects and programs that address one or more of the following criteria: • Projects that make the greatest contribution to restoring and protecting Gulf Coast natural resources; • Large-scale projects and programs that are projected to substantially contribute to natural resource restoration and protection; • Projects contained in existing Gulf Coast State comprehensive plans for natural resource restoration and protection; and/or • Projects that restore long-term resiliency of natural resources most impacted by the oil spill.	**Funds may be used "for projects, programs, and activities that will improve the ecosystems or economy of the Gulf Coast region."** They must: • Be eligible activities as defined for the equal-share funds (*see Column 1*); and • Contribute to the overall economic and ecological recovery of the Gulf Coast. Not more than 25% of the funds may be made available for infrastructure projects, unless the plan certifies that the State's ecosystem restoration needs are addressed by the plan and additional infrastructure investment is necessary to mitigate the impacts of DWH.
Compliance	*No provision for citizen enforcement specified.* The State or subdivision has 90 days to seek expedited review if the Secretary of the Treasury determines that the state or locality has not met requirements under the Act. If a state or locality spends funds in contravention of the conditions, it cannot receive additional funds until misused amounts are restored or it meets the conditions.	*No provision for citizen enforcement specified.*	*No provision for citizen enforcement specified.* If the Council fails to approve or take action on a plan within 60 days of submission, the State has 90 days to seek expedited review of that decision.

General Notes:

- The Treasury Secretary has 180 days from the enactment of RESTORE (i.e., Jan. 2, 2013) to develop auditing and monitoring regulations and other procedures to evaluate whether funded projects are compliant with the Act. The regulations and procedures will be subject to public notice and comment.
- No funds may be used for eminent domain or federal land acquisition, unless the acquisition is achieved by exchange or donation, or necessary for restoration and protection of the environment and consented to by the relevant state Governor.
- The Act explicitly authorizes states and local entities to use the equal-share and impacts-based funds to satisfy non-federal cost share requirements.

	Regional Science, Observation, Monitoring, and Technology Program 2.5% *+ 25% of the interest*	Centers of Excellence 2.5% *+ 25% of the interest*
Leads	• The NOAA Administrator, in consultation with (a) the Director of the Fish & Wildlife Service and the Centers of Excellence when developing a coordination Plan, and (b) in consultation with the Gulf Fisheries Management Council, and if desired also in cooperation with the Gulf States Marine Fisheries Commission, when implementing the Program.	• AL: AGCRC • FL: Consortium of public and private research institutions, state agencies • LA: LCPRA • MS: MDEQ • TX: Governor or appointee
Timing	The Regional Science, Observation, Monitoring, and Technology (RSOMT) Program must be established within **180 days** of the enactment of RESTORE (i.e., Jan. 2, 2013)	*None specified.*
Reqs.	The RSOMT Program will "carry out research, observation, and monitoring to support, to the maximum extent practicable, the long-term sustainability of the ecosystem, fish stocks, fish habitat, and the recreational, commercial, and charter fishing industry in the Gulf of Mexico."	Funds shall be used to make competitive grants to nongovernmental entities and consortia in the Gulf Coast region, including public and private higher education institutions. Each state shall report on grants (including amount, discipline, and recipient(s)) to the Council annually.
Eligible Activities	Priority shall be given to integrated, long-term, non-duplicative projects that address anticipated information needs. Funds may support: • Marine and estuarine research; • Marine and estuarine ecosystem monitoring and ocean observation; • Data collection and stock assessments; • Pilot data programs; • Cooperative research; and • Administrative expenses (up to 3%). Funds may not be used for: • Existing or planned NOAA research (unless agreed to by grant recipient); • Implementing or initiating regulations; or Developing or approving limited access privilege programs in Atlantic fisheries.	Each Center shall focus on science, technology, and monitoring in at least one of the following Gulf-focused disciplines: • Coastal/deltaic sustainability, restoration, and protection; • Coastal fisheries and wildlife ecosystem research and monitoring; • Offshore energy development, including research and technology to improve sustainable and safe development; • Sustainable and resilient growth, and economic and commercial development; and • Comprehensive observation, monitoring, and mapping. Priority will be given to those that "demonstrate the ability to establish the broadest cross-section of participants with interest and expertise" in the focus discipline.
Other	*No explicit provisions.*	*No explicit provisions.*

SECTION 4

U.S. Settlements

MOEX Settlement Fact Sheet

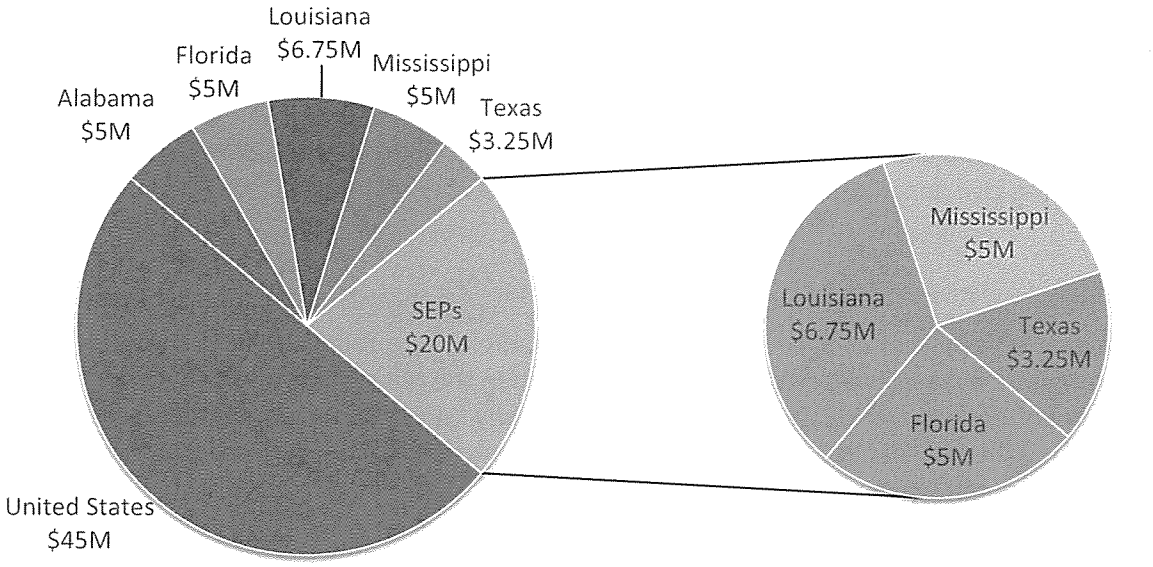
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On February 17, 2012, the U.S. Department of Justice, U.S. Coast Guard, and U.S. Environmental Protection Agency announced that they had reached a settlement with MOEX Offshore 2007 LLC on certain civil claims related to the *Deepwater Horizon* disaster. MOEX owned a 10% interest in the Macondo well lease. This fact sheet sets out the main terms of the settlement. Keep in mind that:

- **The court approved the settlement on June 18, 2012.** The settlement was open for public comment before final approval was given.
- **This settlement does not cover all potential claims against MOEX.** It does not address criminal charges or claims for natural resource damages.[1]
- **MOEX reached a separate settlement with BP in May 2011.** According to BP's press release, MOEX agreed to pay BP $1.065 billion in exchange for BP's agreement to cover any compensatory claims (for example, natural resource damages claims) against MOEX related to the *Deepwater Horizon* disaster. Civil and criminal fines and penalties were excluded.

Overview of the Settlement

In total, MOEX agreed to pay $90 million. This amount includes $70 million for civil penalties, and $20 million for Supplemental Environmental Projects (SEPs) focused on land acquisition and habitat protection. The amounts were allocated as follows:*



* *To receive its allocated portion of the civil penalties, each state was required to sign a covenant not to sue MOEX for civil and administrative penalties.*

[1] The consent decree releases MOEX from further civil and administrative penalties under the following provisions: (1) Clean Water Act, 33 USC §§ 1321(b)(6) and (7); (2) Outer Continental Shelf Lands Act, 43 USC § 1350(b); (3) Endangered Species Act, 16 USC § 1540(a)(1); (4) Marine Mammal Protection Act, 16 USC § 1375(a)(1); (5) National Marine Sanctuaries Act, 16 USC § 1436(1); and (6) Oil and Gas Royalty Management Act, 30 USC § 1719(a).

Where will the civil penalties go?

The $70 million in civil penalties were allocated among the United States and five Gulf states as set forth above. The penalties going to the United States went to the Oil Spill Liability Trust Fund, which is an account created by Congress to hold, among other things, certain payments, taxes, and penalties paid by oil and gas companies. The Fund is used to cover the costs of future oil spills. The penalties going to the states went to a variety of entities. For example, the $5 million in civil penalties received by Florida went to the state's Department of Environmental Protection.

What is a Supplemental Environmental Project (SEP)?

According to the U.S. Environmental Protection Agency, a supplemental environmental project (SEP) is an "environmentally beneficial project" that an individual or business agrees to implement "as part of a settlement of an enforcement action." SEPs must meet certain requirements to be implemented. One requirement is that there must be a connection between the SEP and the violation that led to the enforcement action. In this instance, MOEX has agreed to spend $20 million to implement land acquisition and habitat protection projects in Florida, Louisiana, Mississippi, and Texas. The acquired properties must "contain habitat and natural resources worthy of conservation in perpetuity, and/or . . . protect water quality in the Gulf of Mexico region."

What about Alabama?

Alabama was the only Gulf state that did not take part in the settlement. A spokesman for Alabama Governor Robert Bentley indicated that the state did not believe the settlement "was sufficient" for the state, and that Alabama would continue to pursue its claims against MOEX. Since Alabama would have been required to sign a covenant not to sue MOEX to receive a portion of the civil penalties, it will not be entitled to those penalties.

Have any SEPs been identified?

Yes, several SEPs have already been identified. For example, in Louisiana, the SEP money was used to acquire over 11,000 acres of forested wetlands in the Maurepas Swamp Wildlife Management Area. In Florida, the money was used to buy rights "to environmentally sensitive lands around the Panhandle." And, in Texas, part of the money was used to buy 80 acres of land for a state park to help protect whooping cranes.

Is there a timeline for completing the SEPs?

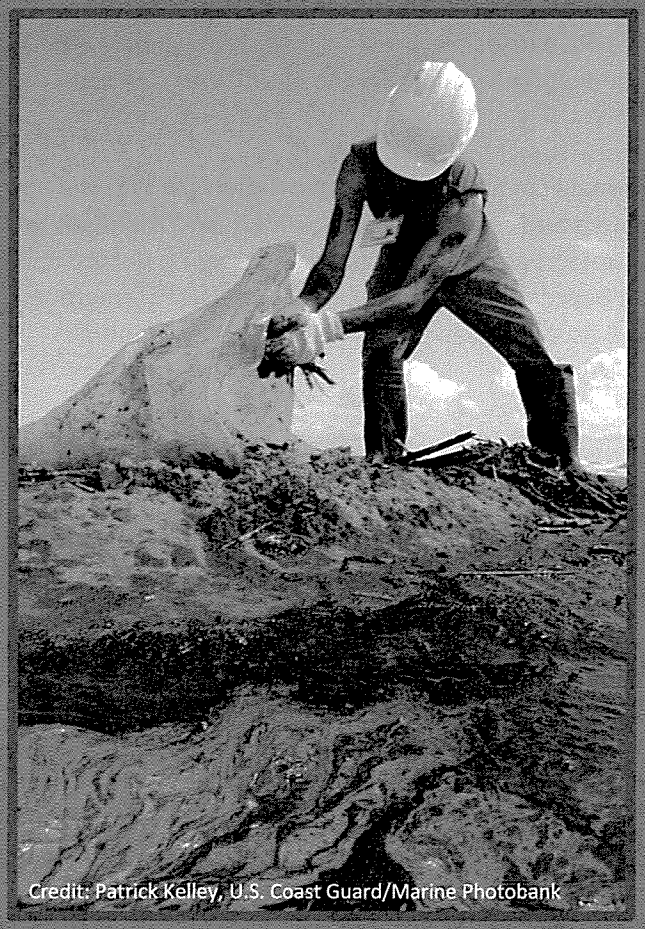
The SEPs must be completed within two years of the date the settlement was approved (i.e., by June 18, 2014).

RESOURCE GUIDE:

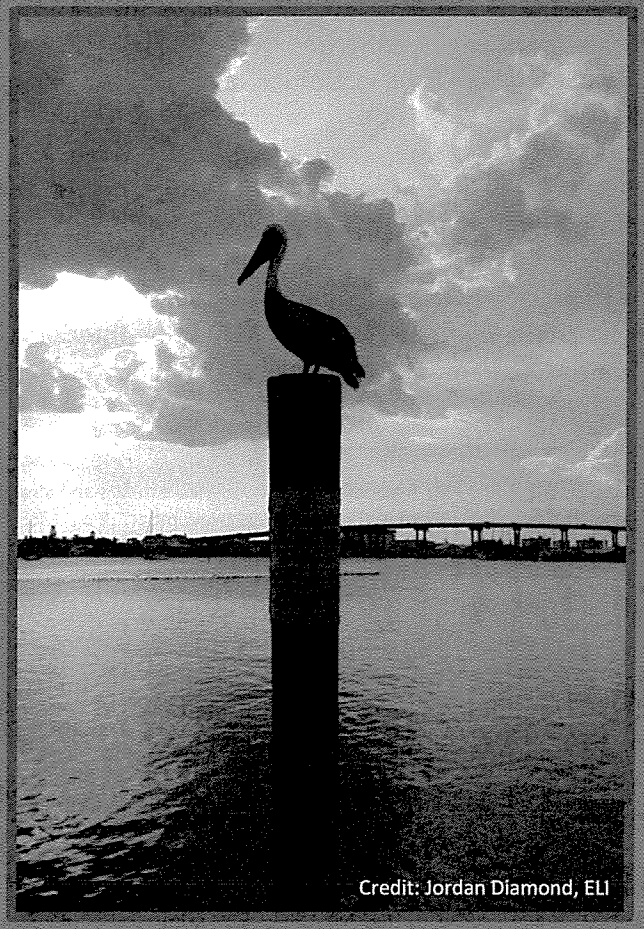
Engaging in *Deepwater Horizon* Restoration & Recovery



Credit: Ron Wooten/Marine Photobank



Credit: Patrick Kelley, U.S. Coast Guard/Marine Photobank



Credit: Jordan Diamond, ELI

ENVIRONMENTAL LAW INSTITUTE

UPDATED MAY 31, 2013

Where Will the Money Go?

The plea agreement specifies that the monies will go to four different entities:

Oil Spill Liability Trust Fund The **Oil Spill Liability Trust Fund** (OSLTF) is an account created by Congress to hold, among other things, certain payments, taxes, and penalties paid by oil and gas companies. Funds are used to cover the costs of future oil spills. The OSLTF consists of: the Emergency Fund, which pays for things like oil spill removal activities, and the Principal Fund, which pays for things like uncompensated oil spill damages (where parties responsible for the spill are unknown or cannot pay) and the administration of the Oil Pollution Act.

North American Wetlands Conservation Fund The **North American Wetlands Conservation Fund** provides funding for wetlands conservation projects. Funding comes from four different sources, including fines, penalties, and forfeitures collected for violations of the Migratory Bird Treaty Act. Funded projects must demonstrate a 1:1 match of non-federal funds. A nine-member council – the North American Wetlands Conservation Council – composed of the U.S. Fish and Wildlife Service (FWS) Director, the Secretary of the Board of the National Fish and Wildlife Foundation, and representatives from state fish and wildlife agencies and non-profit wetlands conservation organizations, submits projects to the Migratory Bird Conservation Commission (MBCC) for approval. The MBCC includes members of Congress, the Secretaries of Interior and Agriculture, and the EPA Administrator.

National Academy of Sciences The **National Academy of Sciences** (NAS) is a private, non-profit institution created by Congress in 1863 "to provide independent advice to the government on matters related to science and technology." NAS includes the National Research Council (NRC), the National Academy of Engineering, and the Institute of Medicine. NRC carries out most of the science policy and technical work of the institution, and relies on volunteer experts from across the country to complete its work.

National Fish and Wildlife Foundation The **National Fish and Wildlife Foundation** (NFWF) is a non-profit organization created by Congress in 1984 "to protect and restore fish and wildlife and their habitats." The organization funds a wide variety of conservation projects across the country, leveraging public funds with private investment dollars. NFWF is governed by a Board of Directors, which consists of 30 members who are approved by the Secretary of the Interior. The Board includes the leaders of the FWS and the National Oceanic and Atmospheric Administration (NOAA).

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[1] The Guilty Plea Agreement and associated exhibits and information are available online at http://www.justice.gov/opa/pr/2012/November/12-ag-1369.html The U.S. Department of Justice simultaneously announced the indictments of three BP employees, including a former BP executive and two supervisors onboard the *Deepwater Horizon* when the explosion occurred on April 20, 2010. The SEC simultaneously announced the settlement of civil securities fraud charges against BP for $525 million.

[2] In addition to the criminal fines and recoveries contained in the plea agreement, BP also reaffirmed its existing commitment to fund the Gulf of Mexico Research Initiative in a total amount of $500 million over 10 years ($50 million per year, ending in 2020). *See* Guilty Plea Agreement, Exhibit B Order ¶ 33.

[3] Guilty Plea Agreement, Exhibit B Order ¶¶ 34–35 & Exhibit B-1.

[4] Guilty Plea Agreement, § 4(b)(i)(A)–(D).

BP Oil Disaster: Restoration & Recovery

Transocean Settlement Fact Sheet

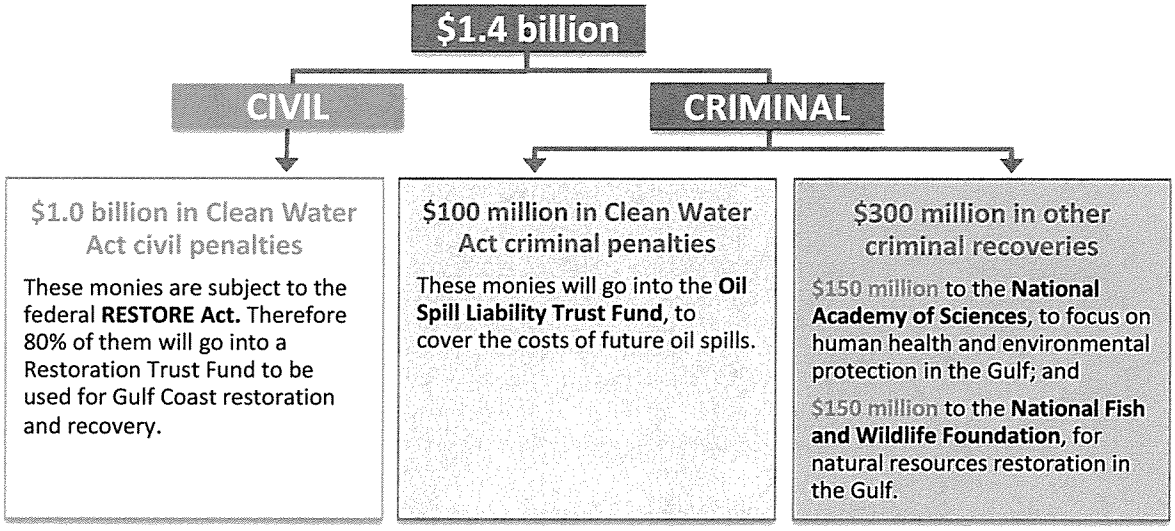
FEBRUARY 2013

On January 3, 2013, the U.S. Department of Justice (DOJ) announced that it had reached a settlement with Transocean related to its conduct in the *Deepwater Horizon* disaster. This fact sheet sets out the main terms of the settlement. Keep in mind that:

- **This settlement consists of two parts:** a partial consent decree, which covers the civil charges, and a guilty plea agreement, which covers the criminal charges.[1]
- **This settlement does not cover all potential claims against Transocean.** For example, it does not address claims for natural resource damages under the Oil Pollution Act.
- **The settlement has been approved by the court.** The guilty plea agreement was approved on February 14, 2013, and the partial consent decree was approved on February 19, 2013.

Overview of the Settlement

In total, Transocean agreed to pay $1.4 billion. This amount includes:



The civil agreement also requires Transocean to implement measures to improve its performance and prevent a recurrence. Transocean must produce a performance plan that, among other things, sets interim milestones for the measures, which include:

- Comply with operational oversight provisions;
- Adopt specific oil spill training and exercises;
- Submit an addendum to the Oil Spill Response Plan;
- Adhere to designated best practices (e.g., create an emergency response plan);
- Devote a minimum of $10 million to drilling technology innovation;
- Adopt transparency measures (e.g., a public website with compliance information);
- Adopt process safety measures (e.g., hire a third-party process safety consultant); and
- Hire a third-party auditor to oversee compliance with these measures.

Where Will the Money Go?

The settlement monies will go to four different entities:

RESTORE Act – Restoration Trust Fund The RESTORE Act created a **Gulf Coast Restoration Trust Fund** (RTF), which will receive 80% of all Clean Water Act civil and administrative penalties paid by companies responsible for the *Deepwater Horizon* oil spill. This includes Transocean. Funds in the RTF will be distributed in three ways to support ecological and economic restoration and recovery in the Gulf Coast region: the largest portion (35%) will be distributed directly to the Gulf Coast states in equal shares. Just under one-third of the funds (30% plus 50% of the interest earned) will go to a Gulf-wide Restoration Council for projects. Slightly less (30%) will go to the Gulf States based on their oil spill impacts. The remainder of the RTF (5% plus 50% of the interest earned) will fund scientific research and monitoring through Centers of Excellence and a Restoration Science Program.[2]

Oil Spill Liability Trust Fund The **Oil Spill Liability Trust Fund** (OSLTF) is an account created by Congress to hold, among other things, certain payments, taxes, and penalties paid by oil and gas companies. These funds are used to cover the costs of future oil spills. The OSLTF consists of: the Emergency Fund, which pays for things like oil spill removal activities, and the Principal Fund, which pays for things like uncompensated oil spill damages (where parties responsible for the spill are unknown or cannot pay) and the administration of the Oil Pollution Act.

National Academy of Sciences The **National Academy of Sciences** (NAS) is a private, non-profit institution created by Congress in 1863 "to provide independent advice to the government on matters related to science and technology." NAS includes the National Research Council (NRC), the National Academy of Engineering, and the Institute of Medicine. NRC carries out most of the science policy and technical work of the institution, and relies on volunteer experts from across the country to complete its work.

National Fish and Wildlife Foundation The **National Fish and Wildlife Foundation** (NFWF) is a non-profit organization created by Congress in 1984 "to protect and restore fish and wildlife and their habitats." The organization funds a wide variety of conservation projects across the country, leveraging public funds with private investment dollars. NFWF is governed by a Board of Directors, which consists of 30 members who are approved by the Secretary of the Interior. The Board includes the leaders of the U.S. Fish and Wildlife Service (FWS) and the National Oceanic and Atmospheric Administration (NOAA).

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[1] The Partial Consent Decree, the Cooperation Guilty Plea Agreement, and associated exhibits and information are available online at http://www.justice.gov/opa/pr/2013/January/13-ag-004.html.

[2] For more information on the RESTORE Act and what the funds may be used for, see ELI's overviews and analyses at http://eli-ocean.org/gulf/clean-water-act-restore/.

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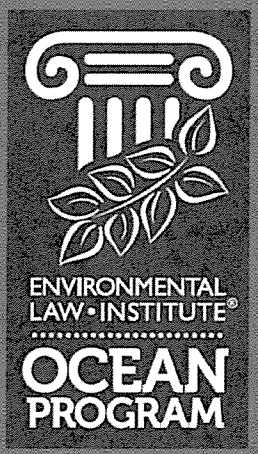
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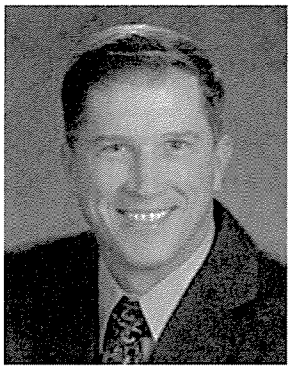
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Bryan W. Shaw, Ph.D.

Dr. Bryan W. Shaw of Elgin was appointed to the Texas Commission on Environmental Quality by Gov. Rick Perry on Nov. 1, 2007. The Texas Senate confirmed his appointment on May 5, 2009 and he was appointed chairman on Sept. 10, 2009. His term will expire on Aug. 31, 2013.



Shaw is an associate professor in the Biological and Agricultural Engineering Department of Texas A&M University (TAMU) with many of his courses focused on air pollution engineering. The majority of his research at TAMU concentrates on air pollution, air pollution abatement, dispersion model development and emission factor development. Shaw was formerly associate director of the Center for Agricultural Air Quality Engineering and Science, and formerly served as Acting Lead Scientist for Air Quality and Special Assistant to the Chief of the U.S. Department of Agriculture Natural Resources Conservation Service.

Shaw served as a member of the U.S. Environmental Protection Agency (EPA) Science Advisory Board (SAB) Committee on Integrated Nitrogen, as well as the EPA SAB Environmental Engineering Committee and the Ad Hoc Panel for review of EPA's Risk and Technology Review Assessment Plan. Additionally, he is a member of the U.S. Department of Agriculture–Agricultural Air Quality Task Force. Since his appointment to the TCEQ, Shaw has served on the Texas Environmental Flows Advisory Group and as chair of the Texas Advisory Panel on Federal Environmental Regulations.

Shaw received a bachelor's and master's degree in agricultural engineering from TAMU and a doctorate degree in agricultural engineering from the University of Illinois at Urbana-Champaign.

Ron Curry, Administrator for EPA's South Central Region (Region 6)

Ron Curry



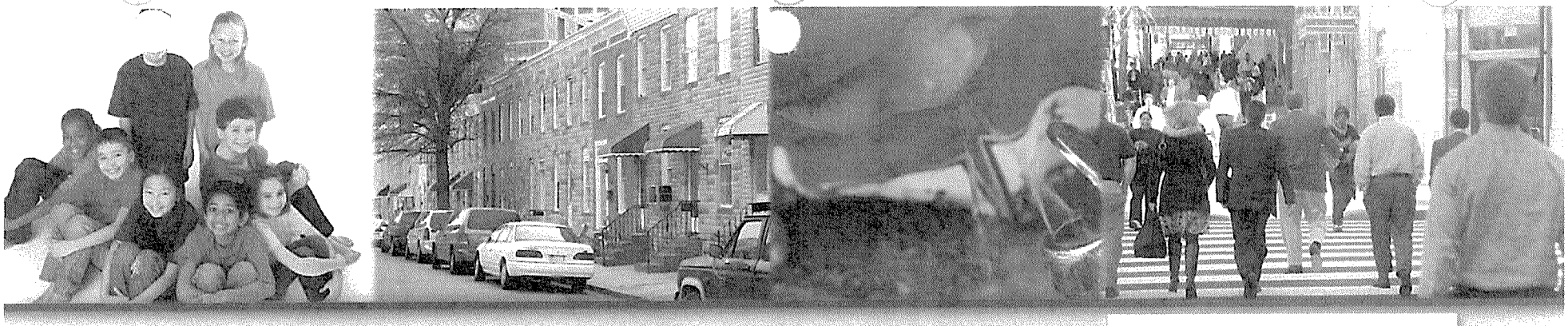
The Environmental Protection Agency (EPA) has appointed Ron Curry as Region Six Regional Administrator. Ron has more than 36 years of management experience in local, state, and federal government, as well as the private sector.

Most recently, Ron worked with the University of New Mexico on the development of their Energy/Water/Environment Nexus Studies program. Prior to that, Ron spent eight years serving in former New Mexico Governor Bill Richardson's administration as cabinet secretary of the Environment Department. In that position, he oversaw the regulation of the Los Alamos and Sandia National Laboratories and the implementation of standards to protect the air, water and land of New Mexico. He has extensive experience working closely with the EPA, the U.S. Department of Energy and the U.S. Department of Defense, as well as industry. He also served as administrator for the Village of Los Ranchos and as a city manager in Santa Fe.

Ron served on the Rocky Mountain Low-Level Radioactive Waste Board, an interstate government agency, from 2003 thru 2010. The Board administers the Rocky Mountain Low-Level Radioactive Waste Compact created by legislation passed by the member states: Colorado, Nevada, and New Mexico and Ron served as chair from 2005 thru 2010.

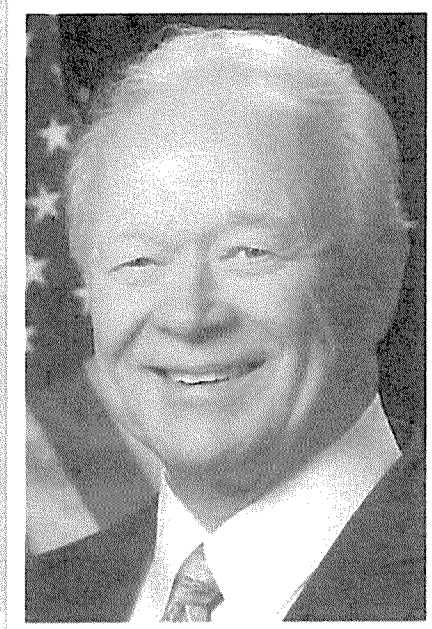
Earlier in his career, Ron was a senior public affairs specialist for Gram Inc. and vice president of CEI Enterprises, a manufacturing firm. Ron has over 20 years of experience in private business including 10 years owning a small business franchise started with his father.

Ron's interest in the environment grew during his manufacturing career while marketing products to the South Coast Air Quality District in California. He brings to the EPA a keen understanding of federal environmental regulations impacts on business owners and entrepreneurs as well as state and local governments.



Our Priorities

- ✔ Taking Action on Climate Change
- ✔ Improving Air Quality
- ✔ Assuring the Safety of Chemicals
- ✔ Cleaning Up our Communities
- ✔ Protecting America's Waters
- ✔ Expanding the Conversation on Environmentalism and Working for Environmental Justice
- ✔ Building Strong State and Tribal Partnerships



"These priorities are built around the challenges and opportunities inherent in our mission to protect human health and the environment. I have confidence in our ability to meet every challenge, and seize every opportunity."

STEPHEN MINICK
Texas Association of Business
1209 Nueces Street
Austin, Texas 78701
512.637.7707
sminick@txbiz.org



Stephen Minick currently holds the position of Vice President of Government Affairs with the Texas Association of Business where he represents business interests in the areas of environmental regulation, energy, transportation and water resource policy.

He has over 30 years of experience in both the private sector and state government in the natural resource and environmental area. He has worked in the fields of environmental impact assessment and public land management, both as a consultant and with the Texas General Land Office, focusing on commercial development and oil and gas activities on coastal public lands. He served with the Texas Commission on Environmental Quality (TCEQ) and its predecessor agencies from 1984 to 2008 where his responsibilities included work in hazardous waste regulatory programs, regulatory impact assessment of agency regulations, financial management of the agency, development and implementation of fee revenue programs, financial and strategic planning and legislative coordination.

While with the TCEQ, Stephen served as a liaison with the Texas Legislature and Director of the agency's Intergovernmental Relations Division with responsibility for the agency's legislative affairs. He is a graduate of the University of Texas at Austin and resides in Williamson County, Texas with his wife Laurie, who has taught in public schools in the Austin area for over 30 years. They are the parents of three daughters.

A Business Perspective on Cost Benefit Analysis
Re-assessing the Technical Justification for Environmental Rules

Stephen Minick
Texas Association of Business
August 2013

Introduction

A significant challenge in the world of environmental regulation is not only finding the proper balance between the benefits that result from reducing the effects of man's activities and the costs to society of that protection, it is also defining where that balance properly lies. Environmental law is directly and necessarily connected to the laws and principles of science. The law establishes the process and procedure through which what we know, or at least believe, about the science of human health is applied to the control of industrial and business activities and their effects on the environment.

We do not lack for laws and rules that presume to protect the environment. The current body of environmental law and regulation represents many thousands of pages of reference and probably an equal number of enforceable processes and procedures, all of which seem to increase exponentially each year. But the intent of the law is not primarily to establish process and procedure. The process is secondary to the goal of public welfare and it is through the application of science that we determine how certain activities affect public health and our environment and to what extent.

The promulgation and implementation of environmental regulations often creates tension between the regulated that must bear the immediate direct costs of regulations and those seeking to ensure that those subject to regulation are complying with requirements to protect the public. Such regulations must achieve a balance between the degree of protection that is required or technically feasible and what costs our economy and our institutions can absorb without negatively affecting overall productivity, employment and public well being. This tension is often reflected in the many legal challenges to various environmental rules that have arisen as various parties with different interests turn to the courts in their efforts to support interpretations of the law that are favorable to their perspective on what constitutes the appropriate balance between the effects of regulations and their impact on the regulated.

Many of these legal challenges rest on questions of legal interpretation or presumptions of procedural error in promulgating a rule. Generally, the courts are reluctant to enter into considerations of the merit of scientific or technical arguments and avoid the appearance of deciding what, as a matter of law, is "good" or "bad" science. As a result, the courts are more likely to review challenges to environmental regulations, regardless of the degree to which they

are grounded in scientific principle, to determine if the regulations imposing the requirements are consistent with the authority conveyed by statute, whether the promulgation adhered to all applicable administrative procedures and whether the rule represented a reasonable exercise of decision making by the administrative agency. Those in the legal profession and others who follow these cases are familiar with the legal precedent and foundation in case law for the deference that the courts are prepared to grant to administrative agencies when the issue is one of whether an environmental rule should be upheld when the justification is argued on the basis of scientific or technical merit and administrative agency discretion.

The Challenge of Balancing Costs and Benefits

The debate as to whether regulations to control industrial pollution are justified, regardless of their underlying legal authority, has been ongoing for decades, certainly since the significant state and federal regulatory programs began in the 1960's and accelerated through the enactment of the major federal initiatives under various statues, including the Clean Air Act, Clean Water Act, Resource Conservation and Recovery Act and Comprehensive Environmental Response, Compensation and Liability Act (Superfund). Clearly that debate continues today. This discussion has tended to represent two opposing points of view. Business interests have (and do) insist that increasingly stringent regulations risk damaging the economy, the competitive position of domestic employers and indirectly the livelihoods and well being of workers and consumers. At the same time, and with equal volume, public interest and environmental groups argue that these same regulations result in public health and ecological benefits the value of which exceed the costs of compliance by margins that suggest their justification is clearly evident.

The balance of these interests is all too often mischaracterized as a trade-off between public health and well being and the profitability and competitive position of businesses. These positions are not mutually exclusive. In fact, the decision to adopt an environmental rule must be one that balances the costs of imposing the rule with the benefits presumed to accrue from its implementation. Thus the cost-benefit analysis has become the focus of much of the ongoing debate as to whether environmental rules being proposed achieve that proper balance.

Some business interests, including the Texas Association of Business, firmly believe that new regulations are justified where real and demonstrable public health benefits can be documented and where the value of those benefits exceed all the costs reasonably attributable to compliance. Others may argue that a simplistic mathematical comparison is not always appropriate and that intrinsic factors related to public or ecological health must be given greater consideration and should not be held to an arbitrary standard that quantified benefits must exceed compliance costs before a regulation can be deemed appropriate. It may also be shown that the imposition of additional costs of regulation has the potential effect of negatively affecting public welfare and mitigating presumed benefits. Regardless of exactly how the cost benefit equation is defined, no

meaningful or rational debate of the justification of a proposed environmental rule can take place unless both the costs and the benefits can be accurately presented and both opponents and proponents can agree to and understand the basis for the representation.

Public Perceptions of Environmental Costs and Benefits

Proponents of more stringent environmental regulation have continually offered the opinion that business and industry representations of the negative effects of new rules have been routinely overestimated and that a clear record exists to support the contention that progressively stronger environmental controls have generally yielded positive net benefits. That position was echoed by EPA Administrator Lisa Jackson, in a well-publicized presentation to the National Press Club in March of 2010 in which she clearly articulated the position that representations by the business community as to the negative implications of environmental rules had historically overstated the impact of more stringent regulations and that the record of significant positive benefits was undisputed.[1]

Actually measuring the impact of environmental regulations on business activity, competition, export of jobs and production overseas, or corporate income has admittedly proven difficult. It has been equally difficult to attribute changes in business activity to specific regulations or to distinguish those effects from other domestic and global economic factors. Analysis of the impact of environmental regulations, however, is beginning to better characterize and document the effects on businesses and economic activity and more clearly demonstrate that new regulations can have significant negative effects on capital investment, productivity and job growth[2].

On the benefit side of the equation there is also a growing body of evidence that suggests that the benefits of environmental rules are, at best, equally difficult to characterize. It is increasingly clear that the presentation of the benefits of environmental rules to the public does not result in a meaningful awareness of risks or cost. For some rules, there is good reason to believe that an adequate foundation in scientific or technical merit is lacking. On the one hand, communicating detailed information concerning highly technical issues that relate to environmental regulations - epidemiology, physiology, modeling and statistical analysis – is never a simple or easy task for any agency responsible for the communication. It must be acknowledged that many of those to whom those communications are directed may lack the knowledge base or experience to properly interpret or apply the information conveyed. The most significant obstacle, however, to

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[1] http://blog.epa.gov/administrator/2010/03/08/administrator-jackson-environmental-protection-is-good-for-economic-growth/

[2] Greenstone, Michael. "The Impacts of Environmental Regulations on Industrial Activity: Evidence from the 1970 and 1977 Clean Air Act Amendments and the Census of Manufacturers." Journal of Political Economics Vol. 110, No. 6 (2002): 1175-1219.

ensuring that the presumed benefits of environmental rules are based on "good" science, and that benefits are accurately identified, is the lack of specific legal and procedural requirements that can be applied in the rulemaking process to ensure that appropriate standards of peer review, statistical analysis and comparison to empirical data are imposed.

Air Quality Regulations Under the Clean Air Act

Perhaps no environmental statute or body of agency rule has generated as much interest and response from regulated businesses and industries and raised more questions of scientific justification in recent years as has the Clean Air Act and the regulations promulgated under it. From enactment of the Act, EPA has adopted many rules which have significantly reduced air emissions. In spite of the dramatic increases in air quality, however, the number, scope and cumulative cost of additional rules continues to increase. EPA and supporters of this initiative have generally taken the position that these rules are both necessary to protect public health and justified because the public health benefits outweigh the costs to businesses and industry to comply. Recent analysis of EPA's methodology for determining the costs and benefits of new regulations, however, suggests that there are valid reasons to question whether or not there is a process in place to ensure that public health benefits are being appropriately identified and whether the costs of increasingly stringent rules can indeed be justified.

Legal Basis for Regulatory Analysis. Currently there is no statute or formal agency regulation adopted under statute that controls the process for establishing a rule's costs or benefits. Section 812 of the 1990 amendments to the Clean Air Act addresses both retrospective and periodic prospective assessment of the total costs and benefits for air quality regulations adopted under the Act. Regulatory Impact Analyses (RIAs) are addressed under certain Presidential Executive Orders and are presumably conducted for individual rules under specific policies and guidance[3], but these analyses are not subject to public or peer review. Although public comments on proposed rules may raise questions about the technical basis of the proposal, EPA is under no binding legal obligation to respond to specific questions or any critique of the methodology employed in a regulatory analysis brought by the public or affected parties.

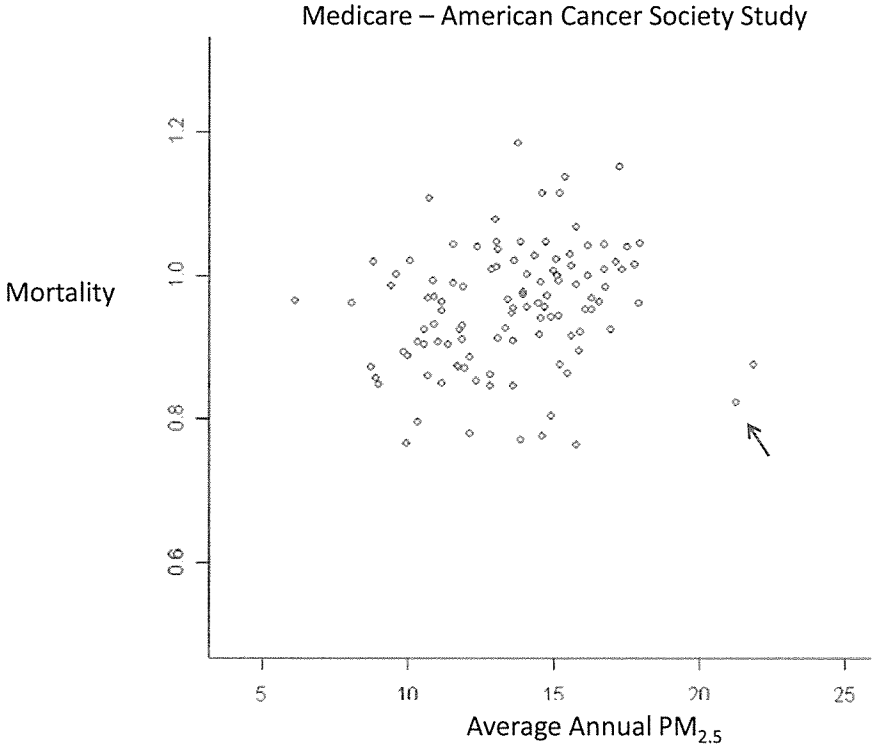
Reliance on Statistical Correlations. One critique of the regulatory analysis process is that EPA relies almost exclusively on observational epidemiological studies to establish a basis for additional regulations. These studies compare measures of health impacts (e.g., hospital admission or death statistics) with local or regional air quality data and attempt to assess whether there is any correlation. The statistical significance of the correlations found in these studies is often very weak and reflects a number of interdependent assumptions that are highly questionable, including for example the assumption that local or regional monitoring data

[3] http://www.epa.gov/ttn/ecas/econdata/Rmanual2/2.2.html

actually reflect exposure levels for those individuals captured in the studies. More importantly, these studies cannot be used to establish any direct cause-and-effect relationship and are not supported by actual clinical data. They are, in fact, often at odds with clinical data. As suggested earlier, there are few, if any, enforceable standards that EPA must adhere to in establishing what degree of statistical significance or correlation is adequate in order to support a proposed regulatory requirement.

Figure 1 provides a view of the data from a representative epidemiological study that purports to correlate mortality (as measured by recorded deaths in a city) with exposure to fine particulate matter (as measured by annual average $PM_{2.5}$ concentrations estimated from monitoring data for the same city). Disregarding the valid questions about how average annual concentrations correspond to actual exposure and the lack of a causal linkage, the random pattern of the data certainly suggest that a clear trend could be difficult to discern. Regardless, the researchers in this case, which was used as a reference by EPA in justifying a more stringent NAAQS for $PM_{2.5}$, have stated that this data does represent a statistically significant correlation between observed health effects and monitored annual average $PM_{2.5}$ concentrations.

Figure 1. Observational Epidemiology Studies



From Eftim et al. 2008. Epidemiology. 19:209-216.

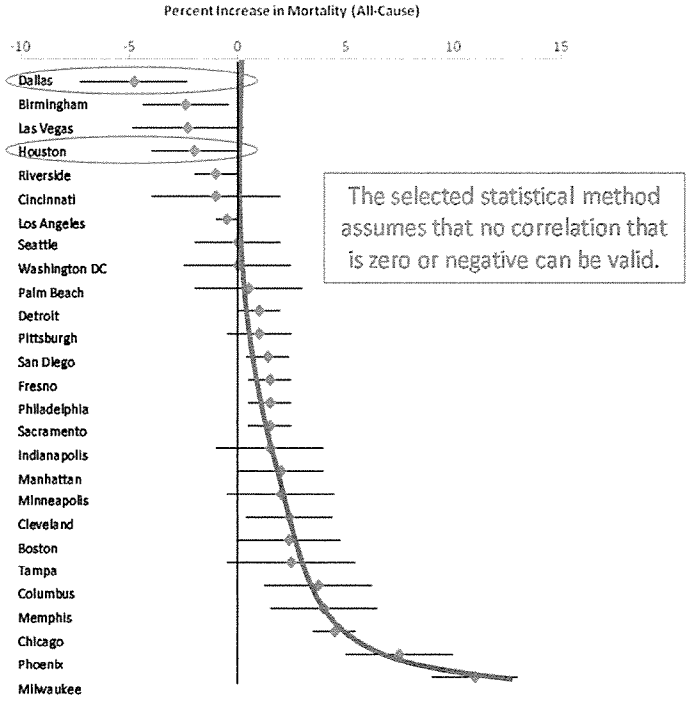
Lack of Objective Data. The use of published epidemiological studies rather than clinical data is understandable. We are a very long way from being able to support an environmental regulatory structure that can be properly founded on a base of knowledge derived from comprehensive scientific experience. The almost complete dependence on epidemiological studies, however, without acknowledging their limitations, compromises the validity and utility of the regulatory analyses. The value of studies of statistical correlation is the extent to which they inform and direct further research. Obviously, research that fails to suggest a correlation that might justify further investigation is less likely to attract the attention of the scientific community and certainly less likely to get published.

As it relates to establishing a justification for environmental rules, epidemiological studies that show no correlation between exposure and health effects are just as valid and informative as those that do. However, in the promulgation of many rules under the Clean Air Act, EPA's statistical methods essentially ignore studies that do not show a positive correlation between pollution and health effects. EPA's methodology arbitrarily assumes that studies that suggest a positive correlation between air quality and health effects are valid, while equally rigorous studies that show zero or a negative correlation are invalid.

As an illustration, Figure 2 describes how the choice of what studies to incorporate into an analysis and what statistical methodology is applied can significantly affect the outcome. In assessing the significance of studies that attempt to correlate $PM_{2.5}$ exposure and observed health effects, EPA has used a method of statistical analysis that presumes that any negative correlation is by definition invalid. As a result, studies of the potential effects of ambient $PM_{2.5}$ in Dallas, Birmingham, Las Vegas, Houston and Riverside, where no positive correlation between $PM_{2.5}$ and health effects was observed at all, were discounted and not considered. Although it may be difficult to accept that the negative correlations found in these cities could support an assumption that higher levels of $PM_{2.5}$ were actually conducive to improved public health, it must be acknowledged that the results for these cities readily support the possibility that, at least under certain conditions, there is no correlation between $PM_{2.5}$ and the health effects under review. The choice of statistical method ignores that very plausible conclusion. More importantly, discounting the results from those cities attributes positive benefits to significant population centers from $PM_{2.5}$ reductions where the data clearly suggests that such reductions will produce no such positive benefits.

Figure 2. Significance of Statistical Method

$PM_{2.5}$ -Mortality Coefficient Estimates and 95% CI



Estimates of the percent Increase in all-cause mortality with a 10 $\mu g/m^3$ increase in previous day's concentration $PM_{2.5}$

Adapted from Franklin, et al. 2007. Journal of Exposure Science and Environmental Epidemiology. 17:279-287.

Significant Changes in Regulatory Analysis Methodology

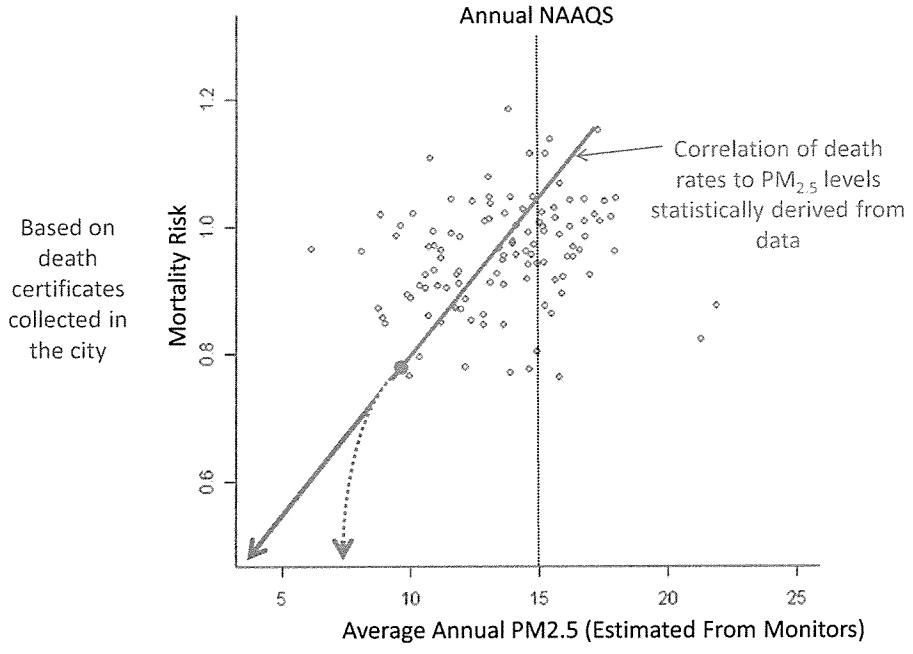
Much of the increased focus on regulatory impact analysis, at least in the air quality arena, can be traced to changes in EPA's assessment methodology that were implemented in 2009. These changes include revisions to the significance of statistical correlations between monitored air quality and observed health effects, arbitrary assumptions as to the causal relationships between air quality and health effects and the monetized valuation of presumed public health impacts.

No Threshold Model of Health Impact. One significant result of the change in methodology is that EPA often assumes that there is no safe level of a given pollutant, even at levels that reflect natural background concentrations or even levels below background. EPA is required under the Clean Air Act to establish national standards for air quality that protect public health with an adequate margin for safety. Having done that, EPA continues to project that reducing pollutant concentrations to zero will continue to have some progressive public health benefit. This assumption is an arbitrary policy decision – there is no clinical data to support a model that

assumes that there is no level below which health effects are undetectable. Moreover, this no threshold model is an unsupported exception to the rule, well documented in the toxicological literature, that many constituents clearly have thresholds for exposure below which negative health effects are not observed.[4]

Figure 3 adds to Figure 1 to demonstrate the result of just such an assumption that there is no threshold of a health effect from exposure. The upper solid line is representative of a presumed relationship between $PM_{2.5}$ levels and death rates that has been statistically derived from the data. The lower line as extended reflects the extrapolation of positive benefits, even to a concentration approaching zero. The dotted line represents a response curve more consistent with established experience in epidemiological literature. It should also be noted how many of the data points, presumably correlating $PM_{2.5}$ exposure to observed health effects, fall below the relative risk factor of 1 and below the existing NAAQS. In fact, it is important to recognize that, based on the assumption that there is not threshold to health effects, EPA has attributed ≈ 99% of the estimated mortality due to $PM_{2.5}$ levels to concentrations that were deemed to be protective of public health (i.e., levels below the NAAQS).[5]

Figure 3. Observational Epidemiology Studies



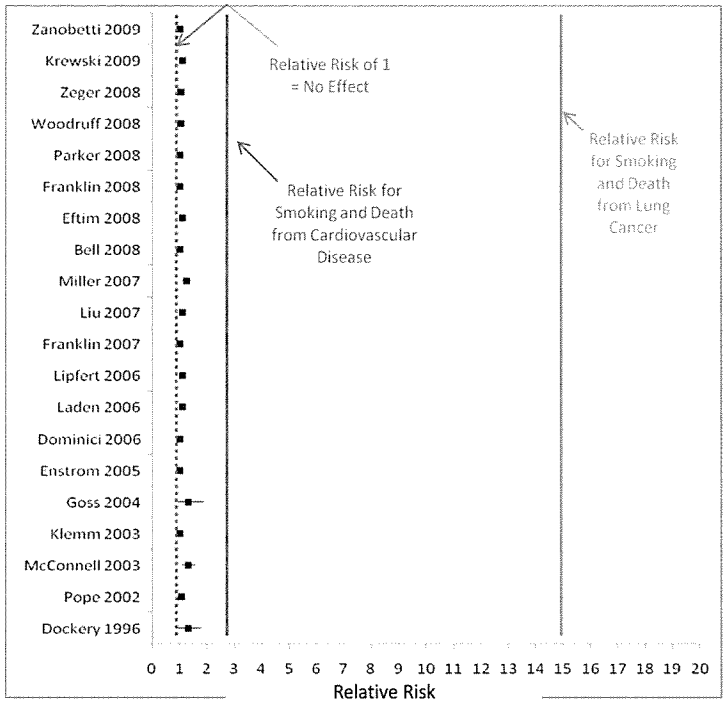
From Eftim et al. 2008. Epidemiology. 19:209-216

[4] http://www.ncbi.nlm.nih.gov/pmc/articles/PMC3038594/pdf/btxc12-001.pdf

[5] CAAA Benefit Cost Analysis, TCEQ Chief Engineer's Office, April 3, 2012 (Page 10)

Presumption of Causality. Another factor that significantly affects the outcome of statistical analysis of epidemiological data is the assumption that observed correlations between groups of data demonstrate a cause and effect relationship. Figure 4 summarizes the results of a number of epidemiological studies and shows the relative strength of the risks associated with exposure to $PM_{2.5}$. A relative risk of 1:1 indicates that there is no increased risk – those exposed to the pollutant in question are no more likely to manifest the health effect than those not exposed. The first apparent observation is that only a few of the studies show any measurable departure from a relative risk of 1:1 and, for those that do, the deviation is very small. One the whole, it is hard to argue that these studies show that the correlation between $PM_{2.5}$ exposure and observed health effects is significant. For comparison, the relative risk associated with health effects for which the causative factors are considered to be reasonably demonstrated are also shown. It should be noted that the relative risk approaching 3:1, the relative risk of death from cardiovascular correlated with smoking, is more typical of the threshold for a measure of risk consistent with an accepted causal relationship.

Figure 4. Relative Risk and Causality



From CAAA Benefit Cost Analysis, TCEQ Chief Engineer's Office, April 3, 2012.

The Value of a Statistical Life and Avoided Risk. EPA's representation of the public health benefits of regulations is often misleading and poorly understood by the public and affected stakeholders. The actual purported benefit of any new air quality regulation for any one individual is an extremely small reduction in risk. The risk reduction target for most constituents

of concern is a reduction on the order of 1 in 100,000 to 1 in one million (between one-one thousandths and one- ten thousandths of a percent). Under EPA's methodology, the total of these very small statistical differences are then aggregated across an entire population to arrive at a number of "statistical" lives. The aggregation of very small changes in individual risk across a population of many millions results in the often-mistaken characterization that new air quality regulations save many lives. Even assuming that EPA projections of health benefits are realistic, a rule can only extend any one life by a very small amount. Air quality regulations do not confer immortality. They cannot and do not save lives. Just as importantly, the public who are exposed to the representations of these presumed life-extending benefits have no context within which to compare these very small statistical risks to other common risks they face daily that may be of far greater magnitude and significance.

Attribution of Public Health Benefits To Pollutants Not Covered By Rules

Because there is a lack of valid scientific evidence of the health effects of further reductions in many air pollutants, EPA has increasingly justified new pollutant control regulations by relying on "co-benefits" from reductions in fine particulate ($PM_{2.5}$) emissions rather than reductions in the pollutants the rules are intended to address. For essentially every rule promulgated under the Clean Air Act Since 1997, reductions in $PM_{2.5}$ make up more than 50% of the presumed public health benefit of the rule, rather than the pollutant (ozone, mercury, SO_2, etc.) the rule was intended to address. For some rules, $PM_{2.5}$ is the only pollutant for which benefits are quantified at all.

Following the significant change in EPA's assessment methodology in 2009, the assessment of $PM_{2.5}$ reductions was revised with the result that $PM_{2.5}$ reductions have accounted for essentially all public health benefits for a majority of rules promulgated under the Clean Air Act since that date. The result is that essentially no health benefits can be attributed to reductions in the other pollutants the rules were actually intended to address.

Table 1 lists the major rules under the Clean Air Act for the period 1997 through 2011 that were not proposed to address $PM_{2.5}$ emissions, but for which at least 50% of the public health benefits claimed to result are attributable to $PM_{2.5}$ reductions. Perhaps more than any other observation, this information raises some concerns as to the validity and merit of the benefits that are attributed to most of these rule initiatives. There may also be valid legal questions as to the proper authority under which these rules are promulgated if indeed no public health benefits are attributable to the constituent for which the legal authority to adopt the rule is cited.

Table 1. Summary of the Degree of Reliance on $PM_{2.5}$-Related Co-Benefits in Regulatory Impact Assessments for Major Non-$PM_{2.5}$ Rulemakings Under the Federal Clean Air Act[6]

Year	Description of Rule	$PM_{2.5}$ Co-Benefits Are >50% of Total	$PM_{2.5}$ Co-Benefits Are 100% of Total*
1997	Ozone NAAQS (.12/1 hr. => .08/8 hr.)	X	
1997	Pulp and Paper NESHAP		
1998	NOx SIP Call and Section 126 Petitions		
1999	Regional Haze Rule	X	
1999	Final Section 126 Petition Rule	X	
2004	Stationary Reciprocating Internal Combustion Engines	X	
2004	Industrial Boilers and Process Heaters NESHAP	X	X
2005	Clean Air Mercury Rule	X	
2005	Clean Air Visibility Rule/BART Guidelines	X	
2006	Stationary Compression Ignition Internal Combustion		
2007	Control of HAPs from mobile sources	X	X
2008	Ozone NAAQS (.08/8 hr. => .075/8 hr.)	X	
2008	Lead (Pb) NAAQS	X	
2009	New Marine Compression Engines (> 30 l/cyl.)	X	
2010	Reciprocating Internal Combustion Engine NESHAP	X	X
2010	EPA/NHTSA Joint Light Duty GHG and CAFES		
2010	SO_2 NAAQS (75 ppb/1 hr.)	X	> 99.9% *
2010	Existing Stationary Compression Ignition Engines	X	X
2011	Industrial/Commercial/Institutional Boilers NESHAP	X	X
2011	Industrial/Comm./Institu. Boilers and Process Heaters	X	X
2011	Commercial/Industrial Solid Waste Incinerators NSPS	X	X
2011	Control of GHG from Medium and Heavy Duty Vehicles		
2011	Ozone Reconsideration NAAQS	X	
2011	Utility Boiler MACT /NESHAP (Final Rule)	X	≥ 99% *
2011	Mercury Cell Chlor-Alkali Plant Emissions	X	
2011	Sewage Sludge Incineration Units NSPS and Emissions	X	X
2011	Ferroalloys Production NESHAP Amendments	X	X

[6] Adapted from the Statement of Anne E. Smith, Ph.D., to the House Subcommittee on Energy and Power, Washington, D.C. (February 8, 2012).

Health Benefits are Potentially Double Counted

In adopting a National Ambient Air Quality Standard (NAAQS) for $PM_{2.5}$, EPA estimated the public health benefits that would accrue by meeting that standard. In successive rulemakings to address other pollutants, however, regulatory impact analyses have continued to allocate to those rules benefits that actually accrue only through ancillary $PM_{2.5}$ reductions. Arguably, these benefits were already attributed, at least in some measure, to the $PM_{2.5}$ NAAQS rule. Granted, some of these rules were changed from the form in which they were proposed, and the overlap of the schedules of multiple rule projects and related analyses would make an exact accounting of the allocation of the benefits of PM reductions very difficult. It must be acknowledged, however, that any demonstration that no double counting of these benefits has occurred would be at least equally difficult.

By comparison, the actual costs of compliance to affected businesses for each rule are unique and do not overlap. A reasonable conclusion is that for successive rules claiming incremental health benefits from $PM_{2.5}$ reductions, there is reason to question the total new benefits that have resulted. There is significantly less uncertainty that each new rule has added significant and discrete incremental costs to businesses, industry and ultimately consumers.

Estimates of Health Benefits That Conflict with Empirical Observation

One means of evaluating the validity of a regulatory assessment of public health benefits is a test of whether the results are consistent with laboratory or other empirical observations. Many of the representations that form the basis of the value of air quality benefits are not supported by actual laboratory analysis. These results also may not pass the test of common sense observation. For example, EPA's decision to change its method of estimating health impacts in 2009 resulted in an increase in presumed mortality attributed to $PM_{2.5}$ emissions from 88,000 to 320,000 deaths per year. This assessment would have one accept as plausible that 13% of all deaths in the U.S. are a result of $PM_{2.5}$ concentrations - *concentrations that with few exceptions meet current national air quality standards*. The estimate of 320,000 deaths is almost half of either of the two most common causes of death in the U.S. – heart disease and cancer – and almost 10 times the number of deaths due to traffic accidents. Even more difficult to understand is how $PM_{2.5}$ pollution can account for 320,000 deaths per year when the total number of deaths attributable to chronic respiratory disease is less than half that number – approximately 138,000 annually.[7]

Benefits and Costs of the Clean Air Act

In March of 2011 EPA released a report which attempts to demonstrate that regulations adopted under the Clean Air Act beginning in 1990 and projected to the year 2020 will have a positive benefit-to-cost ratio of 30-to-1. This ratio, however, is based on an error in the use of a total

[7] Center for Disease Control, National Vital Statistics Report, 61(4). May 8, 2013

number of deaths avoided as a factor in the calculation, rather than the appropriate factor – the total number of life-years preserved. When corrected to include the appropriate factor, the ratio is reduced from 30-to-one to 5-to-one. Without further analysis, that ratio would still reflect a much lower but still positive net benefit. As discussed above, however, there are valid reasons to suggest that specific elements of the chosen regulatory assessment methodology overstate the benefits that accrue from certain air quality regulations. Reasonable corrections to these questionable assumptions results in a benefit-to-cost ratio that is actually negative, meaning that the costs exceed the benefits. But, even if fully half of the questionable benefits estimated under the current methodology are credited, however, the benefit-to-cost ratio is still not clearly positive. This clearer understanding of the benefits of air quality regulations strongly suggests that a review of the methodology for quantifying such benefits is in order.

The Public Health Effects of Increased Regulatory Costs

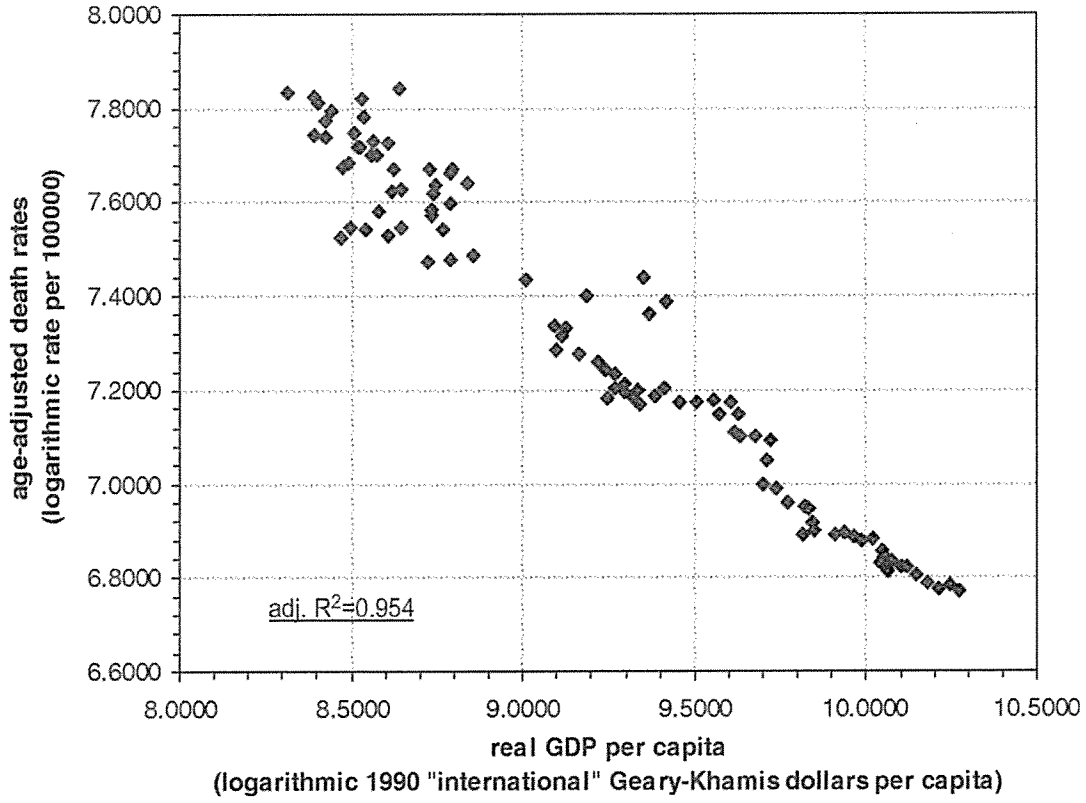
Although the question of costs and benefits of regulations is typically viewed as a simple equation with costs on one side and benefits on the other, in reality the issue is somewhat more complex. The fact is that costs imposed by new environmental regulations are directly reflected in the costs to consumers or indirectly result from the increased costs on manufacturers, service providers and institutions. It is also well established that personal economic well being is directly and positively correlated with physical health and life expectancy. It must be recognized that an assessment of costs that may be justified when compared to the benefits those costs are assumed to "buy" must also take into account that those costs potentially impose conditions that may represent ancillary costs that mitigate calculated benefits. Figure 5 summarizes data from a significant number of studies, each of which investigates the correlation between economic health (per capita GDP) and death rates. The positive statistical correlation portrayed here is clear and obvious – people live longer when they have access to greater financial resources and death rates increase when those resources are diminished. The author of the study that presented these findings summarized the results as follows:

> "It is now among the *firmest of epidemiological findings*, across industrialized societies, that socioeconomic status is inversely related to health status. In particular, higher income has been routinely shown to be a significant inverse predictor of morbidity and mortality. Similarly, the large and growing literature on unemployment and health is highly consistent in demonstrating elevated morbidity and mortality associated with unemployment and withdrawal from the labour force. It follows that economic growth, the major source of socioeconomic status improvement, should lead to lower morbidity and mortality rates, whereas economic decline—especially in conjunction with high unemployment—should increase mortality rates."

While the links between new air quality regulations and additional public health benefits may, in fact, be tenuous, it can be clearly demonstrated that the economic well being of an individual has a direct and significant correlation with that person's physical well being and longevity.

Regulations that drive up the cost of essential goods and services, increase energy costs and reduce employment and economic opportunities force individuals to make economic choices that without question affect their health and welfare.

Figure 5.
Relation of real GDP per capita to age-adjusted death rates, US 1900–2000



Brenner M H Int. J. Epidemiol. 2005;34:1214-1221

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International Journal of
Epidemiology

Conclusion

Much of what is offered here has been presented in other forums and by others with similar interest in the matter. Regardless of these discussions, there remains a general lack of appreciation of the degree of uncertainty that may be appropriately attached to recent analyses of environmental regulations and the implications of that uncertainty for both our economic and personal health. The purpose of this discussion is to provide examples of evidence that support the position that has been offered by the business community that the benefits of certain environmental rules have been overstated and the implications of increased costs to businesses, institutions and the public underestimated.

Although these observations may have value, the objective is not simply to critique the policy decisions of federal or state regulatory agencies, but to document the results of charging agencies with expansive rulemaking authority while failing to provide sufficient statutory and policy direction to ensure that environmental regulations, which are often highly technical in nature, are subject to an evaluation and assessment process that adequately and fairly reflects the best scientific knowledge. Defining that direction and guidance and supporting its implementation will not only improve the regulatory process, but also provide the basis for regulatory agencies to focus on those activities that represent the greatest risk to public health with a stronger base of knowledge to support agency decisions.

A Business Perspective on Cost-Benefit Analysis

Assessing the Technical Justification for Environmental Regulations



Texas Environmental Law Superconference 2013

The Role of Cost Benefit Analysis

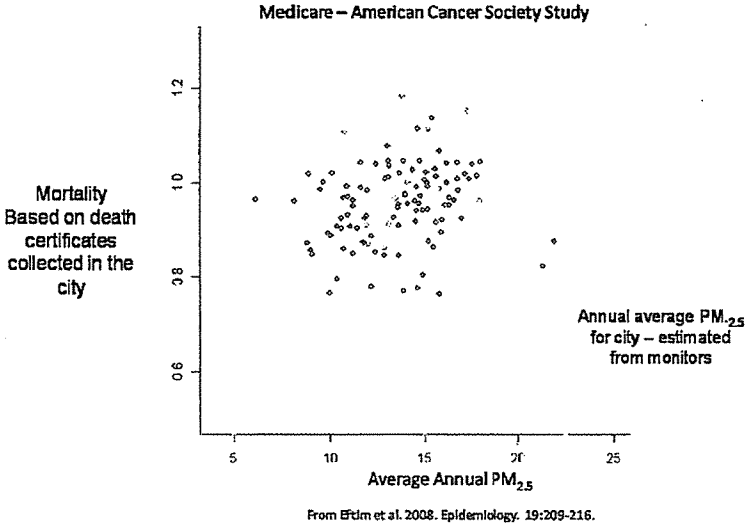
- Debate over environmental regulation is focused on costs and benefits.
- New regulations are justified where benefits can be demonstrated and the value of those benefits exceeds the costs of compliance.
- Estimates of costs have been questioned, but we also need to re-assess the benefits assumed to accrue from recent rules.
- An analysis to justify a rule is only as valid as the accurate measure of both costs and benefits.

Potential Issues with Cost Benefit Analysis of Air Quality Rules

- Reliance on Statistical Correlations (Epidemiology)
- Data Bias
- Use of Selective Statistical Technique
- Choice of Analysis Methodology (2009)
  - No Threshold of Effect
  - Presumption of Causality
  - Dollar Value of Benefit (Statistical Life).
  - Co-Benefits of Other Pollutants
- Conflicts with Empirical Observation
- Failure to Apply Statistical Correlations Equally

3

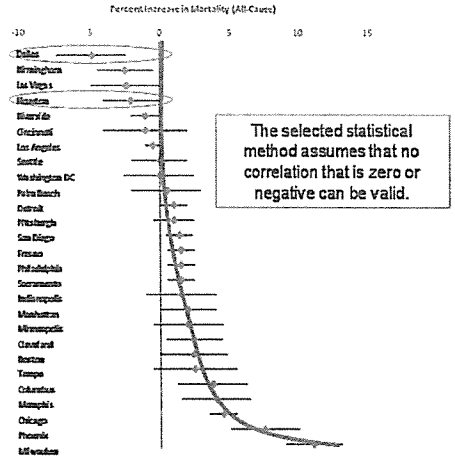
Figure 1. Observational Epidemiology Studies



From Eftim et al. 2008. Epidemiology. 19:209-216.

Figure 2. Significance of Statistical Method

$PM_{2.5}$ -Mortality Coefficient Estimates and 95% CI

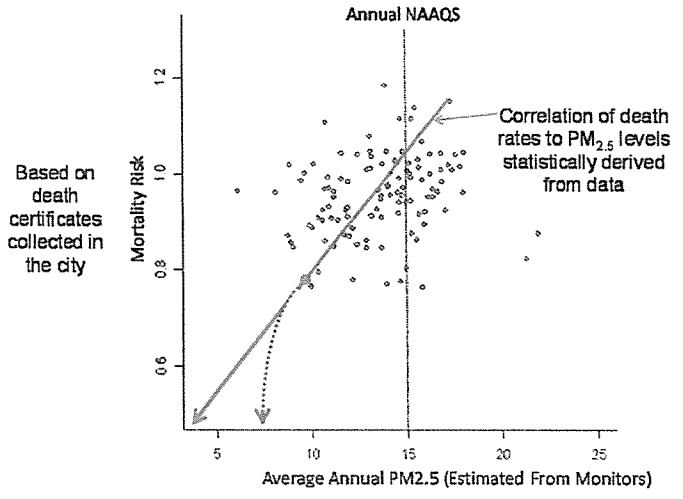


Estimates of the percent increase in all-cause mortality with a 10 µg/m³ increase in previous day's concentration $PM_{2.5}$

Adapted from Franklin, et al. 2007. Journal of Exposure Science and Environmental Epidemiology. 17:279-287.

5

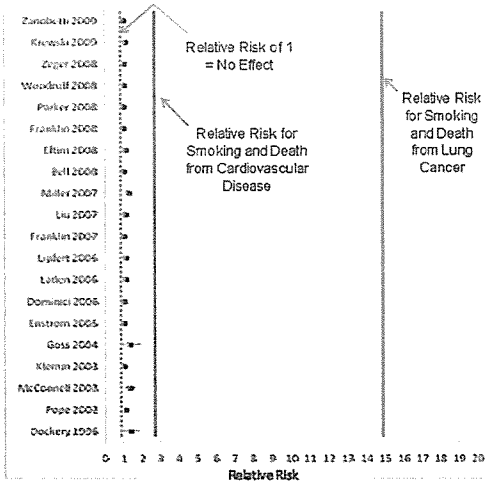
Figure 3. Observational Epidemiology Studies



From Eftim et al. 2008. Epidemiology. 19:209-216

Figure 4. Relative Risk and Causality

$PM_{2.5}$ Exposure and Premature Mortality



From CAAA Benefit Cost Analysis, TCEQ Chief Engineer's Office, April 3, 2012.

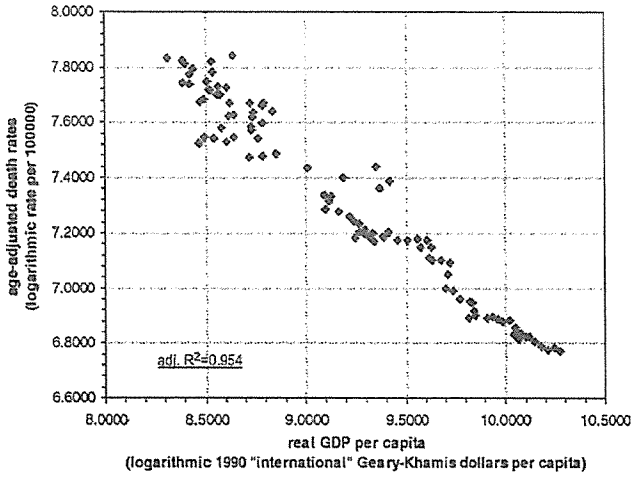
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Table 1. $PM_{2.5}$ Co-Benefits in RIAs for Major Non-$PM_{2.5}$ Rules Under the FCAA

Adapted from the Statement of Anne E. Smith, Ph.D., to the House Subcommittee on Energy and Power, Washington, D.C. (February 8, 2012).

Year	Description of Rule	$PM_{2.5}$ Co-Benefits Are >50% of Total	$PM_{2.5}$ Co-Benefits Are 100% of Total*
1997	Ozone NAAQS (.12/1 hr. => .08/8 hr.)	X	
1997	Pulp and Paper NESHAP		
1998	NOx SIP Call and Section 126 Petitions		
1999	Regional Haze Rule	X	
1999	Final Section 126 Petition Rule	X	
2004	Stationary Reciprocating Internal Combustion Engines	X	
2004	Industrial Boilers and Process Heaters NESHAP	X	X
2005	Clean Air Mercury Rule	X	
2005	Clean Air Visibility Rule/BART Guidelines	X	
2006	Stationary Compression Ignition Internal Combustion		
2007	Control of HAPs from mobile sources	X	X
2008	Ozone NAAQS (.08/8 hr. => .075/8 hr.)	X	
2008	Lead (Pb) NAAQS	X	
2009	New Marine Compression Engines (> 30 l/cyl.)	X	
2010	Reciprocating Internal Combustion Engine NESHAP	X	X
2010	EPA/NHTSA Joint Light Duty GHG and CAFES		
2010	SO_2 NAAQS (75 ppb/1 hr.)	X	> 99.9% *
2010	Existing Stationary Compression Ignition Engines	X	X
2011	Industrial/Commercial/Institutional Boilers NESHAP	X	X
2011	Industrial/Comm./institu. Boilers and Process Heaters	X	X
2011	Commercial/Industrial Solid Waste Incinerators NSPS	X	X
2011	Control of GHG from Medium and Heavy Duty Vehicles		
2011	Ozone Reconsideration NAAQS	X	
2011	Utility Boiler MACT /NESHAP (Final Rule)	X	≥ 99% *
2011	Mercury Cell Chlor-Alkali Plant Emissions	X	
2011	Sewage Sludge Incineration Units NSPS and Emissions	X	X
2011	Ferroalloys Production NESHAP Amendments	X	X

Figure 5.
Relation of real GDP per capita to age-adjusted death rates, US 1900–2000



Brenner MH Int. J. Epidemiol. 2005;34:1214-1221

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International Journal of Epidemiology

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Conclusions

- Regulatory decisions are only as valuable as the assessment of their costs and benefits.
- Current regulatory analysis does not insure that environmental rules are adequately justified or that benefits are realistic.
- Uncertainties with the process suggest that some costs are undocumented or that strategies of greater benefit are unexplored.
- Regulatory analyses are not presented in a form that gives the public an opportunity to comprehend costs and risks.
- Additional guidance and direction is needed to define a more appropriate regulatory analysis process.

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11



Becky Motal
General Manager
Lower Colorado River Authority (LCRA)

Office: 512-473-4033
becky.motal@lcra.org

Summary

Becky Motal has more than 30 years of professional experience in the water and electric utility industries. She currently is general manager of LCRA, a Texas public service agency that provides energy, water and community services in and around Central Texas without tax dollars.

As general manager, Motal carries out LCRA Board policy, manages LCRA's relationships with its customers, appoints and directs the executive staff, and oversees the business planning process and projects and operations that support LCRA's public service mission.

Motal's previous LCRA experience includes serving as executive manager of External Affairs. In this role, she coordinated LCRA's activities with the various agencies that have regulatory and environmental oversight responsibilities over LCRA. She oversaw Public Affairs, including relationships with county and local governments, corporate environmental affairs and LCRA's customer service support functions. She also has managed LCRA's Economic and Financial Planning, where she oversaw strategic and financial planning, economic and electric load forecasting, and preparation of annual financial and business plans.

Prior to joining LCRA in 1987, Motal held executive positions in state regulatory agencies overseeing water quality planning and state and federal loan and grant programs that relate to water quality and development. She also was director of Legal Services with the Texas State Board of Insurance, where she represented the commissioner of insurance on rate and regulatory matters.

Motal's management expertise includes strategic planning, policy analysis, regulatory oversight, forecasting and budgeting, policy development, regulatory oversight, rate development and professional staff development.

Appointments and Honors

Member – State Bar of Texas (licensed May 1976); Ex-Students Association of The University of Texas at Austin

Board Member – Capital Area Crime Stoppers, Chair 2003 – 2004

Past President – Stephen F. Austin High School Parent-Teacher Association

Academic Honors – Phi Delta Phi Legal Fraternity; Beta Gamma Sigma Business Fraternity; Dean's Award for Academic Excellence; and George Kozmetsky Award for Outstanding Academic Achievement (The University of Texas Graduate School of Business Executive MBA Program)

Career Track

Lower Colorado River Authority, Austin, Texas, 1987 – Present

General Manager

Executive Manager, External Affairs

Manager, External Affairs

Manager, Regulatory Services

Manager, Economic and Financial Planning

Texas Association of School Boards, Austin, Texas, 1986 – 1987

Attorney for Financial Services and Insurance Trusts

Texas State Board of Insurance, Austin, Texas, 1984 – 1986

Director of Legal Services

Texas Department of Water Resources, Austin, Texas, 1976 – 1984

Assistant Director, Construction Grants and Water Quality Planning

Assistant General Counsel, Staff Attorney

Education

The University of Texas at Austin, Bachelor of Arts in Mathematics

The University of Texas School of Law, Doctor of Jurisprudence

The University of Texas Graduate School of Business, Master of Business Administration



CHRISTOPHER D. SMITH

Associate, Thompson & Knight LLP

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RELATED PRACTICES

Environmental; Administrative and Judicial Proceedings; Compliance Counseling; Environmental and Toxic Tort Litigation; Environmental Auditing and Environmental Management Systems; Environmental Due Diligence; Government/Regulatory; Regulatory Development and Legislative Lobbying; Trial; White Collar Environmental Criminal Defense

RELATED INDUSTRIES

Manufacturing; Nonprofits; Oil, Gas, and Energy

PROFILE

Chris Smith focuses his practice on environmental enforcement and administrative litigation. Particular areas of expertise include wetlands enforcement actions under § 404 of the Federal Clean Water Act (CWA), Endangered Species Act (ESA) enforcement actions, Texas and Federal Clean Air Act (CAA) enforcement cases and citizen suits, and property and groundwater contamination litigation.

Chris' administrative practice involves contested case hearings before the Texas State Office of Administrative Hearings (SOAH), Texas Commission on Environmental Quality (TCEQ) permitting matters, Public Utility Commission of Texas (PUCT) transmission line siting cases, Texas Department of Insurance enforcement actions, Texas Department of Motor Vehicle franchise disputes, Texas Alcoholic Beverage Commission (TABC) enforcement cases, and issues related to the Texas Public Information Act.

Chris also counsels clients on litigation avoidance, including the use of the Texas Environmental, Health, and Safety Audit Privilege Act and the U.S. EPA's Audit Policy to limit potential liability, and he assists clients in conducting internal investigations and audits. In addition to his environmental and administrative practice, Mr. Smith represents clients in connection with commercial disputes and state and federal civil litigation.

EXPERIENCE

- Advised unconventional natural gas exploration and production (E&P) companies on emerging environmental issues related to shale gas in the Bakken, Barnett, Eagle Ford, Fayetteville, Haynesville, and Marcellus shale plays, including wetlands permitting and enforcement in connection with the construction of wells and pipelines, endangered species, hydraulic fracturing, water supply issues, and air regulations in connection with natural gas processing facilities
- Assisted E&P company in-house counsel in conducting internal investigation related to alleged violations of the ESA by company contractors and defended company in threatened prosecution alleging criminal violations of the ESA

- Regularly advised publicly traded E&P and oil field service companies regarding hydraulic fracturing, climate change, and water issues as they pertain to U.S. Securities and Exchange (SEC) filings and required disclosures
- Defended refinery in a TCEQ enforcement action alleging violations of regulations promulgated under Title V of the CAA and the Texas State Implementation Plan (SIP); specific tasks included assessing potential exposure, negotiating with the TCEQ, and working with the client to develop a long-term plan to achieve compliance
- Represented multiple land owners in SOAH contested cases related to the siting of electrical transmission lines before the PUCT and in appeals in Texas state courts; specific issues addressed included the extent to which the route preferred by the utility and alternative routes complied with PUCT statutory and regulatory routing criteria
- Represented a major manufacturing facility in a TCEQ enforcement action under the Texas Solid Waste Disposal Act and an EPA investigation under the Resource Conservation and Recovery Act (RCRA) and the Emergency Planning and Community Right to Know Act (EPCRA)
- Represented chemical pipeline company in a lawsuit brought by more than 300 individuals alleging personal injury damages related to a pipeline explosion
- Advised purchaser of a Texas Retail Electric Provider (REP) on compliance with respect to PUCT REP regulations and the transfer of an REP certificate
- Counseled health care client in conducting environmental audit and developing an air regulations compliance plan for emergency generators located in a CAA nonattainment area
- Defended restaurant holding a liquor license in a TABC enforcement action seeking the revocation of license
- Represented a developer-owned water utility in decertification contested case hearing before SOAH and TCEQ, as well as a subsequent appeal in Texas state court
- Assisted nonprofit organization in negotiation with the U.S. Fish and Wildlife Service related to the establishment of a safe harbor agreement and conservation easement bank under the ESA
- Represented a client in challenging EPA's interpretation of the Toxic Substances Control Act (TSCA) before the U.S. Court of Appeals for the District of Columbia Circuit
- Counseled clients regarding property remediation under the Texas Voluntary Cleanup Program (VCP) and Texas Dry Cleaner Remediation Program (DCRP)

PRIOR EXPERIENCE

- Volunteer, U.S. Peace Corps, Jamaica, 1999-2001

DISTINCTIONS/HONORS

- *Texas Rising Stars*® by Thomson Reuters (Environmental); 2013

ACTIVITIES (MEMBERSHIPS/AFFILIATIONS)

- Member, American Bar Association; Environment, Energy, and Resources Law Section
- Member, State Bar of Texas; Environmental and Natural Resources Law Section
- Member, Texas Young Lawyers Association
- Member, Austin Bar Association; Publications Committee of the Environmental, Natural Resources, and Water Law Section

PUBS/PRESENTATIONS

- "Reviewing the Impact of Natural Resource Protection Laws on Energy Production," Texas Energy Production Land Law Seminar, HalfMoon Education Inc., January 2013
- "Business Development from the Associate's Prospective," Thompson & Knight Panel Presentation, January 23, 2013
- Client Alert: EPA Finalizes Amendments to Air Emission Rules Affecting Stationary Reciprocating Internal Combustion Engines, January 22, 2013
- "Water Contamination from Hydrofracing," Environmental Issues in Natural Gas Production Seminar, HalfMoon LLC, Houston, Texas, September 20, 2012
- Client Alert: EPA Issues New Air Regulations for Oil and Natural Gas Facilities, April 19, 2012
- Client Alert: EPA Releases New Construction Stormwater Permit, March 26, 2012
- Client Alert: Railroad Commission of Texas Approves Hydraulic Fracturing Chemical Disclosure Rules, January 03, 2012
- Client Alert: EPA to Develop Natural Gas Wastewater Standards, October 24, 2011
- Client Alert: Proposed Listing of the Dunes Sagebrush Lizard Threatens Oil and Gas Operations in New Mexico and Texas, May 03, 2011
- Client Alert: Hydraulic Fracturing Disclosure Bill Filed in the Texas Legislature, March 07, 2011
- Client Alert: Railroad Commission of Texas Enacts Emergency Amendments to Statewide Rule 15, February 25, 2011
- Client Alert: Railroad Commission of Texas Statewide Rule 15, February 01, 2011
- Client Alert: TCEQ to Hold Public Meeting Regarding Proposed Changes to Oil and Gas Facility Air emissions Rules, August 26, 2010
- Client Alert: EPA Proposes Revisions to the Emissions Factors Program, October 27, 2009
- Client Alert: Has the Appraisal District Over-Valued Your Property?, May 14, 2009
- Pocket part update to 46 Texas Practice Series - Environmental Law, *Border Activities*, December 2006
- Environmental Law, Annual Survey of Texas Law, *SMU Law Review*, 2006
- "The Potential Impact of *South Florida Water Management District v. Miccosukee Tribe of Indians*," *Texas Environmental Law Journal*, Vol. 35, No. 2, Winter 2005

NEWS

- Chris Smith Quoted in *Houston Business Journal* on Fracking Regulations, April 27, 2012
- T&K Assists Sumitomo in Marcellus Shale Joint Venture with Rex Energy, September 07, 2010

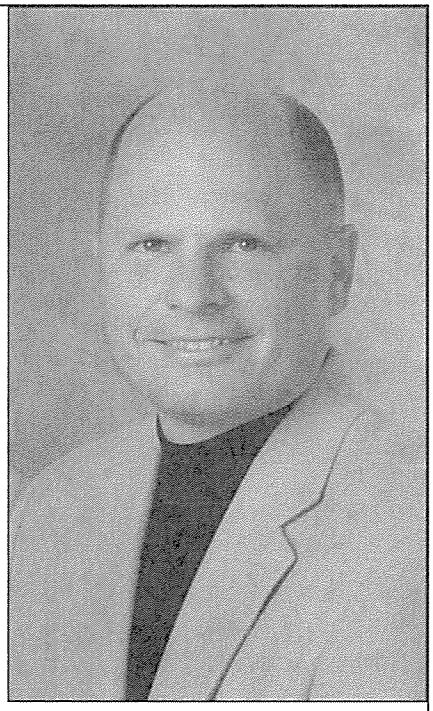
EDUCATION

- J.D., 2005, with honors, The University of Texas School of Law
- Master of Public Affairs, 2005, Lyndon B. Johnson School of Public Affairs
- B.S., Biology, 1999, with honors, University of Maryland
- B.A., Government, 1999, *cum laude*, University of Maryland; Phi Beta Kappa

ADMISSIONS

- Texas, 2005
- U.S. Dist. Ct., E. Dist. Texas, 2007
- U.S. Dist. Ct., N. Dist. Texas, 2007
- U.S. Dist. Ct., S. Dist. Texas, 2007
- U.S. Dist. Ct., W. Dist. Texas, 2007

J. Michael (Mike) Hawthorne, PG, REM, CAPM



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Founder, Editor, Chairman of the Review Board
Applied NAPL Science Review
www.NAPL-ANSR.com

Mike Hawthorne has been working in the environmental industry for 25 years. His experience covers a diverse array of technical, regulatory and industrial sectors, with a strong background in the oil and gas industry. He is proud to be a Texan, and grateful to have had the opportunity to work across much of the United States over his career.

Mike is active in ASTM International, Inc., most recently participating in the development of the standard guide for calculation of LNAPL transmissivity, and currently helping to write the updated guide to development of LNAPL Conceptual Site Models. In addition, he assisted with development of the TCEQ TRRP 32 NAPL Management guidance, and worked on the (unpublished) TRRP-12A guidance team. Mike has also lead or participated in numerous advocacy and training efforts with Federal and State regulatory agencies. He is also an author with numerous published technical articles in geology and NAPL conceptual site modeling.

Mike is a frequent speaker at national and state level conferences, public and private webinars, and national/international webinars. In the last three years he has been a speaker at the Texas Commission on Environmental Quality Trade Fair, the Battelle Conference on Chlorinated / Organic Compounds (twice), the AEHS East and West Coast Conferences, and is a four time NGWA Webinar Presenter. He has given multiple presentations to USEPA Region 5 and Region 6, webinars to the Missouri Department of Environmental Quality, served as Session Chair and Presenter at the IPEC Environmental Conference, and given many private presentations.

In 2011 Mike founded Applied NAPL Science Review, a technical ejournal dedicated to demystifying NAPL science by publishing short articles in plain English on current NAPL science topics and tools that can be readily applied. In only two years ANSR has grown substantially with readers in over 80 countries and all 50 United States. ANSR is blessed to have the guidance of a highly experienced Technical Review Board with members from the University of Texas, United States Environmental Protection Agency, Los Angeles Regional Water Quality Control Board, BP, Chevron, ExxonMobil, Shell, and private consulting firms.

In his spare time Mike is an avid reader, a target shooter and bird hunter, a long-time basketball coach, and rides his Ducati motorcycle through the Texas countryside when he can get away. Spring and early summer always find him working with his wife Kay on their lawn and gardens, with help from their two boys, three dogs, two cats, three ferrets, and lizard.

The Use of Modeling in Site Remediation

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Abstract

Remediation of soil and groundwater impacted by contaminants can be complex and costly. In order to ensure successful mitigation or elimination of contaminant risks while maintaining reasonable project control, a comprehensive conceptual site model relative to the potential risks present is required. This conceptual site model is the compendium of all relevant site investigation, data analysis, and modeling tasks performed for the site. Even the most comprehensive site investigations virtually never directly measure more than a small fraction of the total subsurface. Consequently, scientists require tools to facilitate comprehensive site wide analyses based on limited measurements. Modeling provides the scientific tools to conceptualize, analyze and predict processes and conditions for a site so that adequate, cost-effective remedies may be designed and applied. Modeling occurs throughout the site characterization and remediation process, and is not limited to the classical flow or fate and transport model processes.

1 What is Modeling?

1.1 Definition

Modeling consists of conceptualizing, analyzing and predicting processes, concepts, or operations of systems in either physical, visual or mathematical form, and may be implemented either by hand or via computer program (http://dictionary.reference.com). Virtually every aspect of site remediation incorporates some type or scale of modeling. Examples of modeling tasks include geologic cross-section development, groundwater contouring, contaminant plume mapping in liquid and vapor phases, groundwater capture zone analysis, contaminant migration potential risk analysis, and many other similar tasks.

Models are either physical or abstract. Physical models are rarely used outside research laboratories. An abstract model can be either conceptual or mathematical. Mathematical models are subdivided into empirical, probabilistic and deterministic models. Empirical models predict site conditions from measured site data. Probabilistic models use statistical approaches to model probabilities for a site. Deterministic models apply physical laws to predict how systems will respond. Most models used in site remediation decision making are deterministic, either analytical or numerical. Analytical models tend to simplify complex subsurface processes, are usually relatively simple to run, and are therefore often used as screening tools as well as stand-alone models. Numerical models are more complex, but may provide a better representation of complex subsurface processes (Kresic and Mikszewski, 2013).

In general, we can break modeling up into five broad categories:

1. Conceptual Site Modeling
2. Flow Modeling
3. Fate and Transport Modeling
4. Process Modeling
5. Visualization

The single most important type of model for a site is the conceptual site model that forms the basis for all interpretations. Modeling of a site is typically iterative. An investigation might begin with a generalized conceptual model, and as data are collected and analyzed, the conceptual site model will be updated and used to specify the next phase of investigation and analysis. That next phase is then performed, and the results are used to further update the conceptual site model. This iterative process continues until such time as sufficient information has been collected, analyzed and modeled to answer all of the questions that need to be answered for a given site with a sufficient level of certainty to reasonably manage any risks posed by contamination.

The conceptual site model is the umbrella that covers all other investigation, analysis and modeling that occurs. A good conceptual site model has a purpose – which in our case is to support site remediation. The conceptual site model will include all relevant information, analyses, and models for a site, and will summarize this information in a readily understood and accessible format capable of providing the scientific understanding required to quantify risk and to design and implement strategies to mitigate or eliminate that risk.

In order for scientists to correctly understand, interpret, and predict site conditions, they must understand geology, hydrogeology, geochemistry, multiphase fluid flow, and many other processes in an enormously complex and dynamic system that even a small site potentially represents. And they must do this with measured data that typically represents only a portion of the total subsurface volume of concern. Modeling is the scientific tool that lets us conceptualize, analyze and predict the future for these sites and systems, all while evaluating the level of uncertainty in model results stemming from uncertainty in model inputs. Thus, models have one very straightforward function – to answer questions.

1.2 Questions Modeling Can Answer

If modeling starts with a question, then often that first question is "What is the site geology and hydrogeology?" Answering this question is the start of a conceptual site model. For example, if we know that we have flow of groundwater through sand grains instead of through rock fractures, then we automatically have a general picture of how groundwater and contaminants might migrate, which helps to correctly design a field investigation to confirm or correct the initial conceptual site model.

Table 1 provides some common site remediation questions and modeling that can answer those questions.

Question	Example Model Types	Example Output
Is LNAPL unconfined, confined, or perched hydrogeologically?	Empirical Analytical Models	• Diagnostic Gauge Plots
Where do contaminants occur and what are their concentrations?	2D and 3D Contaminant Distribution Models	• Contaminant Plume Maps • 3D Contaminant Plume Models
How many wells and what pumping rates are needed to hydraulically capture the contaminant plume?	Analytical or Numerical Flow Modeling with or without Particle Tracking	• Flowline & Particle Tracking Maps • Capture Zone Maps • Animated Flow Models
What size equipment is required to treat produced groundwater?	Analytical Process Models	• Air Stripper Sizing Calculations • Carbon Breakthrough Rates
What quantity of air emissions will a remediation system generate?	Analytical Process Models	• Air Stripper Off-Gas Calculations • Oxidizer Destruction & Removal Efficiency Calculations
Is the contaminant plume stable and will it continue to be stable?	Spatial Moments Analysis Analytical or Numerical Fate and Transport Models Statistical Trend Models	• Historic Plume Center Maps • Plume Mass Trend Analysis • Contaminant Degradation Graph Over Time & Space • Maps of Predicted Plume Dimensions Over Time
Are contaminant concentrations at the site protective of onsite and offsite receptors?	Analytical or Numerical Fate and Transport Models	• TRRP Tier 2 Exposure Pathway Models and PCL Comparisons to Source Zone Concentrations
What is the geologic framework and what controls are in place to prevent contaminant migration?	2D and 3D Geologic, Hydrogeologic, and Contaminant Distribution Models	• High-Resolution 3D Block Geo, Hydro & Contaminant Models • Cross-Sections & Fence Diagrams With Geo, Hydro & Contaminant Distributions
Where did the plume come from?	Contaminant Distribution Models Fate and Transport Models	• Plume Evolution Maps • Animated or Static 3D Contaminant Distribution Models Showing Multiple Lines of Evidence

2 Examples of Models and Their Use in TRRP Site Remediation

Following are selected site models that may be used at various points in site remediation under the Texas Risk Reduction Program (TRRP). This list of examples is not comprehensive, but is intended to provide a broad range of examples of models that are often used and useful.

2.1 Hydrogeologic Condition Modeling

One of the first and most important questions that must be answered for a site where light non-aqueous phase liquid (LNAPL) is present is whether the LNAPL is unconfined, confined or perched hydrogeologically, because this understanding will have a profound impact on site characterization methods, modeling inputs, and potential remediation technologies under TRRP-32. For each well with LNAPL present, diagnostic gauge plot models should be prepared (Hawthorne, 2011). If an LNAPL baildown test has been performed for any of these wells, then a discharge vs. drawdown plot should also be prepared (Hawthorne and Kirkman, 2011). The diagnostic gauge plot models and discharge vs. drawdown models represent empirical models of measured site data that are diagnostic of a given hydrogeologic LNAPL condition. Figures 1 and 2 are a diagnostic gauge plot and a discharge vs. drawdown plot for a well with LNAPL. The generally stable air/NAPL interface and rapid apparent NAPL thickness increase with small changes in groundwater elevation on the diagnostic gauge plot model are diagnostic of perched LNAPL (Hawthorne et al, 2011), which is similar to, though not identical to, perched groundwater. The vertical middle portion of the discharge vs. drawdown model represents constant discharge diagnostic of either confined or perched LNAPL. In combination with the diagnostic gauge plot model, we know that the discharge vs. drawdown model represents perched LNAPL.

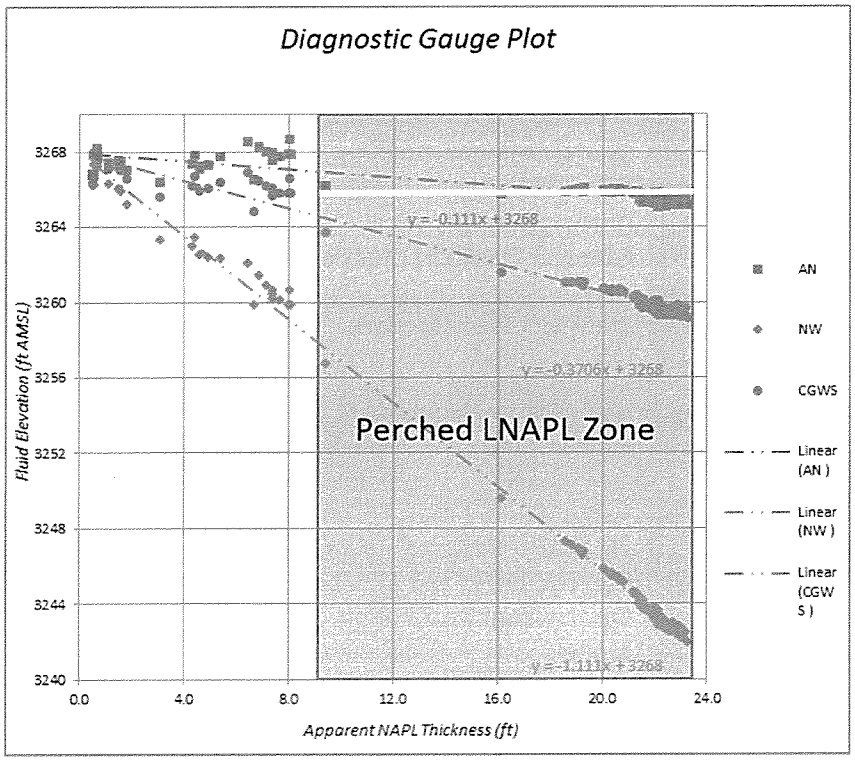


Figure 1. Diagnostic gauge plot showing perched LNAPL conditions. Blue shaded area represents the zone of perched LNAPL (previously higher groundwater elevations to the left represent unconfined conditions). The yellow line demonstrates the general stability of the air/NAPL interface in the perched LNAPL zone (a diagnostic trait of perched LNAPL).

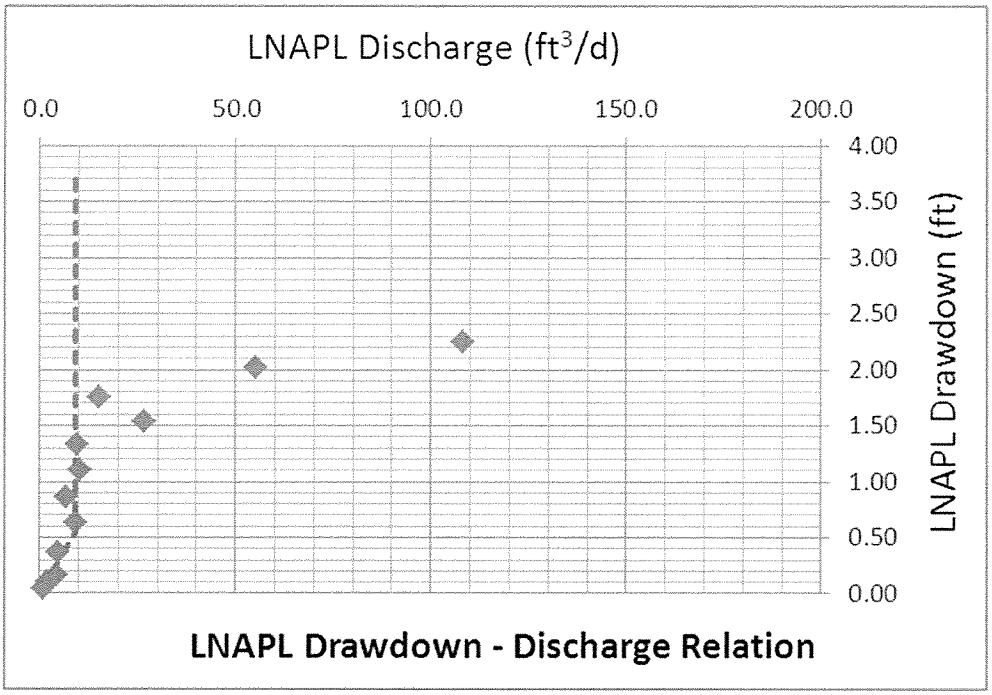


Figure 2. LNAPL Discharge vs. Drawdown plot showing constant discharge from 1.5 to 0.5 feet of drawdown, demonstrating either confined or perched LNAPL conditions. In combination with the diagnostic gauge plot showing perched LNAPL conditions (Figure 1) and other stratigraphic data for the site, this Discharge vs. Drawdown plot reflects perched LNAPL conditions.

2.2 Flow Modeling

2.2.1 Groundwater Contour Flow Modeling

Perhaps the simplest flow model is development of a groundwater elevation contour map based on geostatistical analysis of measured groundwater elevations. Such maps are so commonly developed that many do not realize they are a form of groundwater flow modeling. Groundwater contour maps show direction and gradient for groundwater flow, and in combination with aquifer effective porosity may be used to calculate groundwater seepage velocity. Spacing of contour lines may indicate areas of relatively higher or lower groundwater transmissivity (i.e., areas of higher or lower groundwater flow, respectively). The gradients from groundwater contour maps are used in numerous mathematical models such as LNAPL tracer testing and groundwater capture zone modeling. Figure 3 depicts a series of complex groundwater flow contour maps showing the development of converging flow from two aquifers at relatively low groundwater elevations and flooding of the smaller aquifer by the larger during relatively higher groundwater elevations. Note the arrows providing groundwater flow directions, and the changing gradients in this complex flow system.

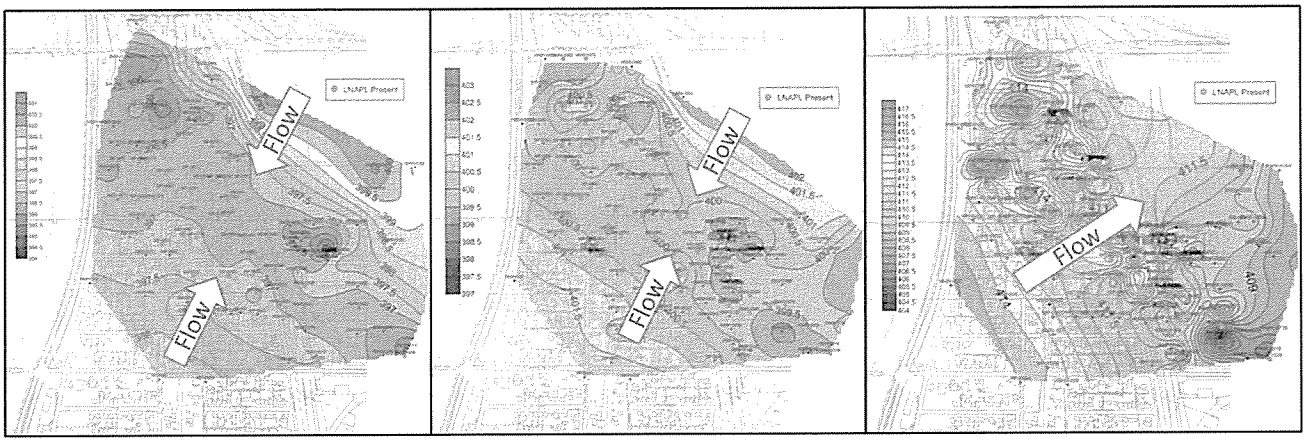


Figure 3. Time series groundwater flow contour maps demonstrating converging flow from two aquifers at low groundwater elevations (left), a narrowed convergence zone at moderate groundwater elevations (center), and fully converged and homogenized flow at higher groundwater elevations (right).

2.2.2 Capture Zone Calculations

Hydraulic capture of contaminated groundwater is often referred to as "pump and treat" since the groundwater is typically pumped from one or more wells to alter the groundwater gradient sufficiently to capture all of the contaminated groundwater so that it cannot migrate offsite to adjacent receptors. Capture zone modeling must be performed as a basis for system design in order to determine the number of wells, spacing between those wells, and the groundwater pumping rates each well must achieve to ensure capture of all impacted groundwater. Once the system has been designed, installed, and is operational, then capture zone modeling of performance data for the wells should be periodically performed to ensure that they continue to achieve capture.

Multiple types of capture zone modeling may be performed, including (USEPA, 2008):

1. Groundwater contour mapping
2. Analytical equations to calculate the capture zone geometry around one or more wells
3. Geostatistical analytical modeling of groundwater flow with or without particle tracking
4. Numerical modeling to simulate complex flow conditions in complex hydrogeologic settings to identify flow pathways and capture zones for one or more wells

Figure 4 provides a graphical depiction of calculated capture zone geometries around a single well using analytical equations, and Figure 5 provides a geostatistical analytical model of groundwater flow with particle tracking for a series of wells demonstrating capture zones.

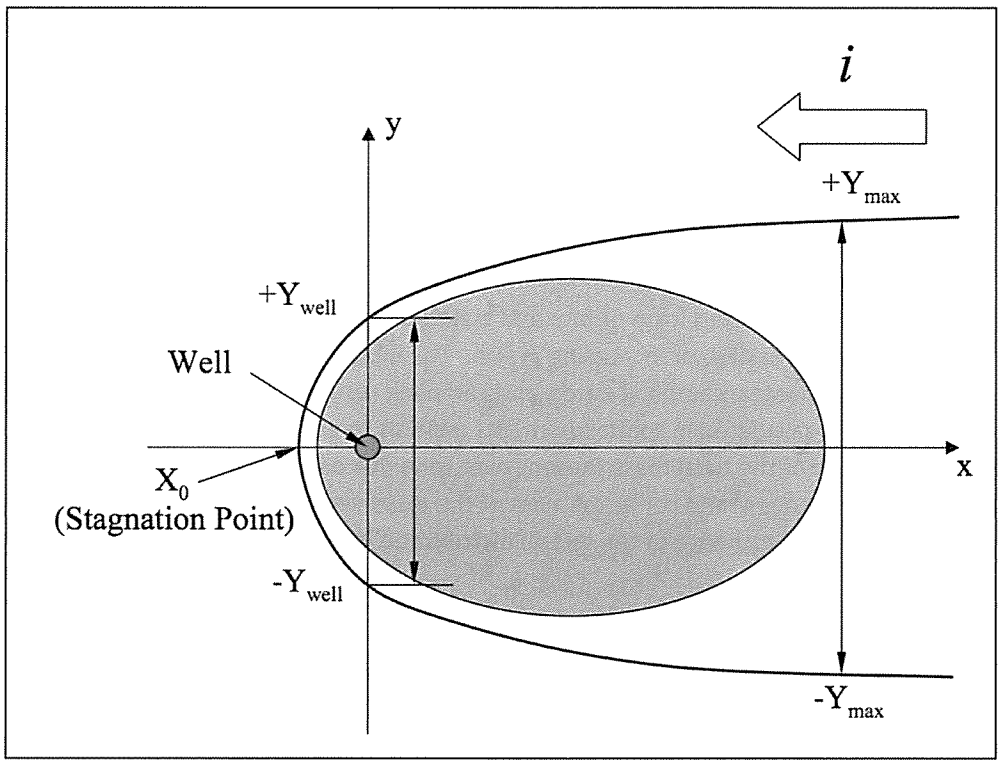


Figure 4. Depiction of the analytically modeled capture zone for a single well with flow from right to left. Solid black line is the modeled capture zone and the green shading is the plume extent to be captured (USEPA, 2008).

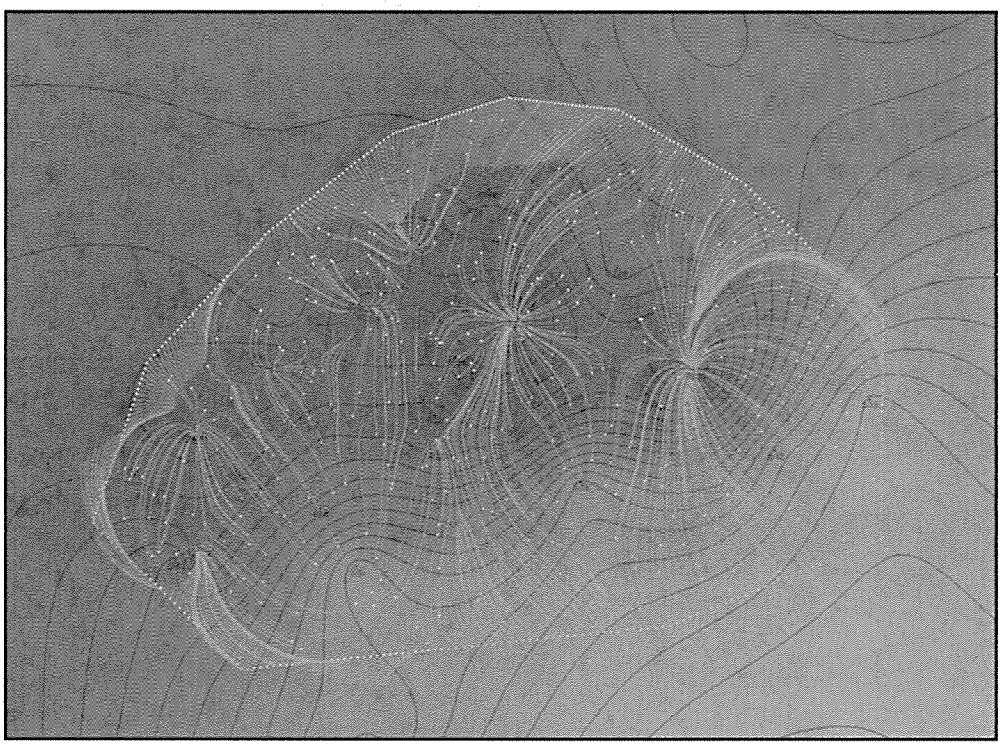


Figure 5. Geostistical analytical model of groundwater capture with particle tracking. Groundwater elevation contours are in blue. Particles are yellow. Particle flow paths are orange. Note converging flow paths for particles at pumping wells visually demonstrating the capture zone for each individual well.

2.3 Fate and Transport Modeling

Many different types of fate and transport modeling are available, depending upon the media to be modeled (e.g., groundwater, air/vapor) and the type of model desired. Fate and transport modeling may be used to determine if a plume is stable or will be stable over a given period of time, it may be used to determine if a given receptor will be exposed to unsafe levels of contaminant in the future, or it may be used to determine if an active remediation system is achieving full capture of all impacted groundwater.

2.3.1 Spatial Moments Analysis

Spatial moments analysis is a specialized form of fate and transport modeling designed to determine if a plume has been historically stable, decreasing, or increasing in size. The inputs for spatial moments analysis include well names and location coordinates, sampling dates, and sampling results. There are three mass spatial moments that are commonly calculated in spatial moments analysis to evaluate plume stability. The zeroith moment provides an estimate of the total mass present over time in a dissolved phase contaminant plume. The first moment provides an estimate of the center of mass of the dissolved phase contaminant plume over time. The second moment provides an estimate of the lateral distribution of the dissolved phase contaminant mass dimensions over time.

Each of these moments is typically evaluated for a series of time periods over the lifetime of available data (e.g., annual estimates for ten years). The results may then be imported into a geographic information system (e.g., ArcGIS) and plotted on a site map or trended graphically and statistically to determine if a meaningful trend exists. For example, the zeroith moment estimate of total mass could be calculated annually for ten years and then plotted on a scatter plot graph versus year to determine if the total mass is decreasing each year. If so, then the plume may be decreasing. While the individual moments may be analyzed individually, spatial moments analysis is most powerful when all three moments are calculated and analyzed together to determine if the plume is stable (GSI, 2012).

Figure 6 is a graph depicting benzene dissolved phase plume mass over time for a dissolved phase benzene plume in groundwater. Figure 7 is a map of the center of plume mass over time for the same site. Figure 8 is a summary table of plume stability demonstrating that the plume is stable to decreasing for benzene based on the spatial moments analysis.

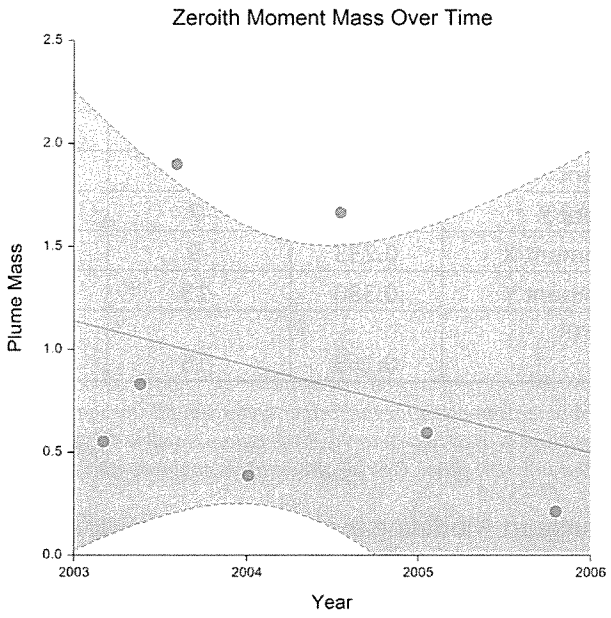


Figure 6. Graph of estimated benzene plume mass over time with year on the x (horizontal) axis and mass on the y (vertical) axis. Red circles represent benzene mass per year. Red line is the regression line showing the decreasing trend in mass. Dashed lines and shaded area represent the 95% confidence limits around the regression line.

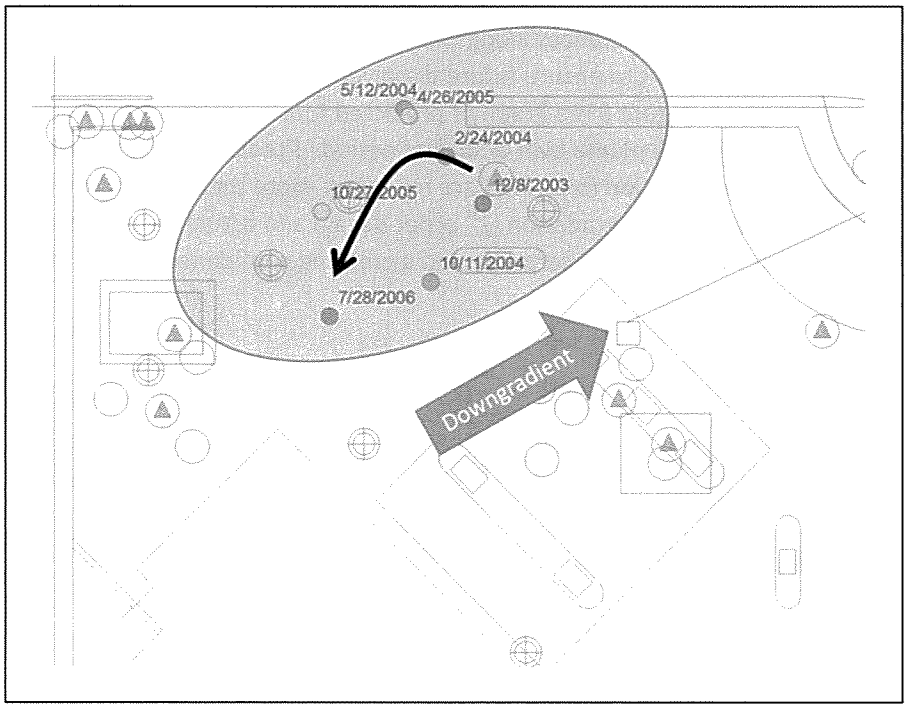


Figure 7. ArcGIS Map of the calculated center of mass of benzene over time. Shaded area is the original estimated dissolved phase benzene plume extent. Dates are color coded and the solid black arrow shows the overall upgradient movement of the plume center of mass over time. Colors progress from red (oldest) through orange and yellow to green (most recent).

Benzene	Zero Moment	1.199	-11	0.777	
Benzene	First Moment X	0.022	-15	0.985	
Benzene	First Moment Y	0.055	-7	0.809	
Benzene	Second Moment X	0.233	-9	0.881	
Benzene	Second Moment Y	0.386	-13	0.965	
Benzene	First Moment Distance	0.165	-15	0.985	

Figure 8. Table summarizing the spatial moments analysis for the former underground storage tank site. A combination of spatial moments analysis and statistical trend analysis is used to determine if the plume is stable (S), decreasing (D) or increasing (I). No Trend (NT) indicates no trend could be calculated from the data. Overall, this analysis suggests that the benzene plume is stable to decreasing.

2.3.2 Analytical Fate and Transport Modeling for Monitored Natural Attenuation

Bioscreen™ is an analytical fate and transport model originally developed by Groundwater Services, Inc. (GSI) to model transport and degradation (natural attenuation) of petroleum hydrocarbon contaminants in groundwater. This model is typically used to model the concentrations of individual contaminants of concern that will occur downgradient of a contaminant source area over time under the influence of groundwater flow, dispersion, diffusion and biological degradation. Inputs for the model include aquifer physical parameters and soil data, plume geometry and biodegradation data, source zone concentration, and site concentration data along the plume centerline. The model should be compared to site-specific data along the plume centerline in order to increase the accuracy of the model simulation. This calibrated model may then be used to model and predict future concentrations at varying distances along the plume centerline and transects to determine if natural attenuation for a site is sufficient to ensure future dissolved phase plume stability or shrinkage without impacting downgradient receptors. Figure 9 is a graph of predicted future benzene concentrations downgradient of a benzene source area plume over a 30 year period. Predicted concentrations with no degradation (red line) and with degradation (blue line) are modeled. Note the close match between modeled downgradient concentrations assuming degradation (1st order decay) and actual measured concentrations (yellow plus in black box), thereby reducing uncertainty and increasing confidence in the validity of the model.

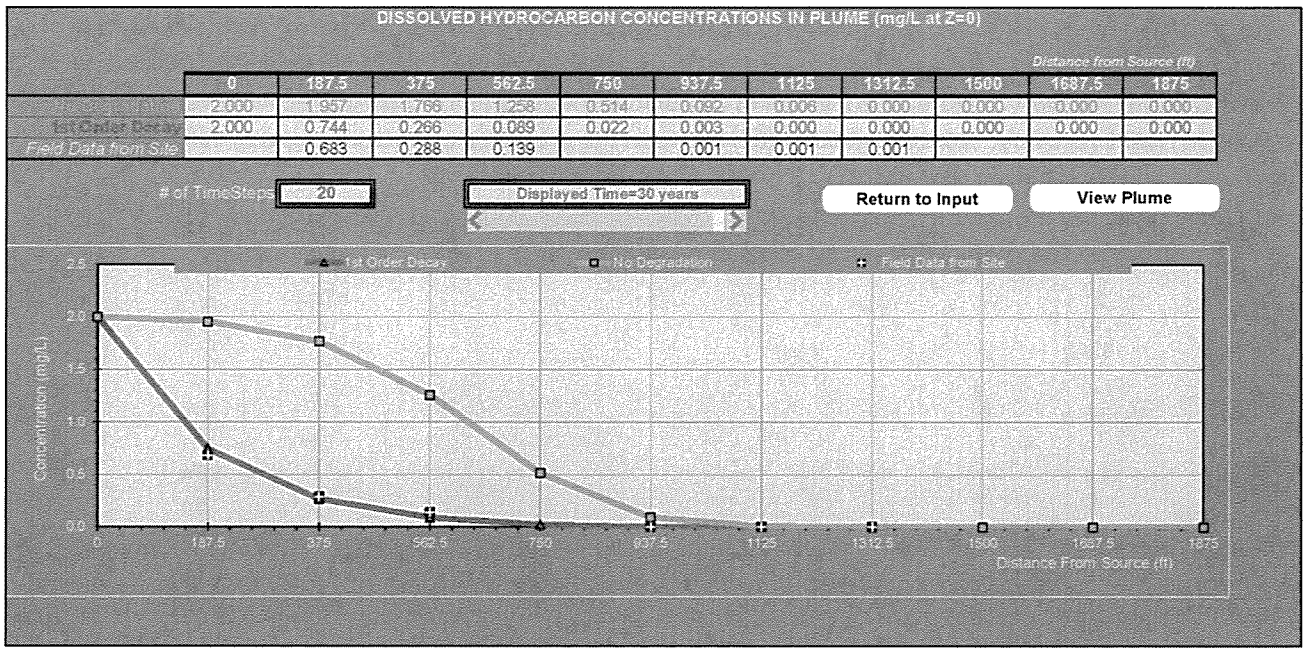


Figure 9. Bioscreen graph of predicted 30 year dissolved phase benzene concentrations downgradient of a benzene source area.

2.3.3 Analytical Exposure Pathway Modeling for Individual TRRP Pathways

The Texas Risk Reduction Program (TRRP) is based on the ASTM International, Inc. Risk-Based Corrective Action (RBCA) program. TRRP recognizes multiple potential exposure pathways and requires backwards modeling for each potentially complete pathway from the point of exposure to the source area to determine if current source area concentrations in soil or groundwater could result in an exceedance of protective concentration levels at the various points of exposure. These models are built-in to the various protective concentration level equations. In addition, for sites where a plume management zone has been implemented then alternate action levels must be calculated for a series of attenuation monitoring points established down the longitudinal axis of the plume management zone. The alternate action levels may be calculated via a simplistic graphical method or via modeling (typically via the Domenico model). If the modeling method is used, then this model must be calibrated to site-specific data.

2.3.4 LNAPL Distribution and Recovery Model (LDRM)

The LNAPL Distribution and Recovery Model (LDRM)(Charbeneau, 2007) was developed by Dr. Randall Charbeneau of the University of Texas and is distributed freely by the American Petroleum Institute (www.API.org). LDRM is essentially two models in one – it can calculate the distribution of LNAPL and water adjacent to a well, and it can also model predicted recovery rates of LNAPL for four different technologies once the basic LNAPL distribution model has been established. LDRM is a multiphase analytical fate and transport model that provides valuable predictive recovery performance to compare various LNAPL remediation technologies during the site remediation design phase. LDRM is particularly powerful when calibrated to site and well-specific LNAPL transmissivity values. Inputs include gauged LNAPL thickness, relative fluid elevations, LNAPL and groundwater physical properties, soil/aquifer physical properties, and aquifer hydraulic conductivity. Outputs include a variety of graphs and tables providing LNAPL and water saturations and relative permeability values, LNAPL transmissivity, hydraulically recoverable LNAPL and LNAPL specific volume, predictive LNAPL recovery curves and predictive cumulative LNAPL recovery graphs.

Figure 10 is a graph of LNAPL and groundwater saturation distributions and relative permeabilities for a well exhibiting LNAPL. Figure 11 is a graph of incremental model predicted LNAPL recovery versus actual values measured during recovery. Figure 12 is a graph of cumulative model predicted LNAPL recovery versus actual cumulative LNAPL recovery. Note the good match between the predicted and actual recovery values for incremental and cumulative recovery.

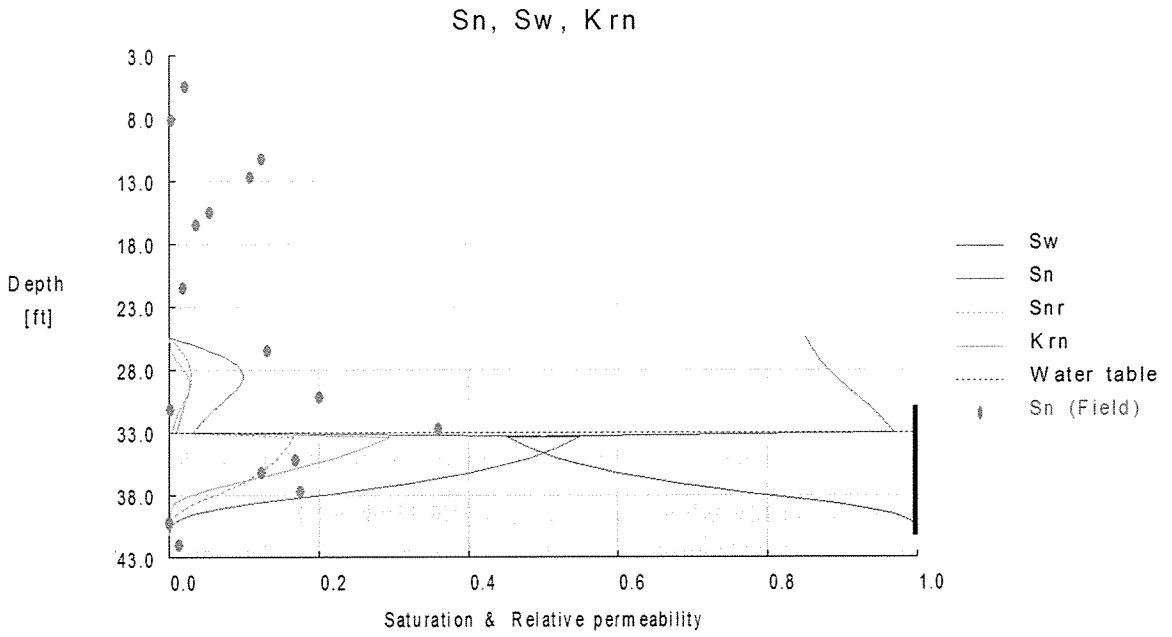


Figure 10. LDRM graph of LNAPL saturation (Sn), LNAPL residual saturation (Snr), groundwater saturation (Sw), and LNAPL relative permeability (Krn) for the well modeled. Note the model's idealized saturation and relative permeability profiles versus the measured LNAPL saturation data (green dots)(Charbeneau, 2007).

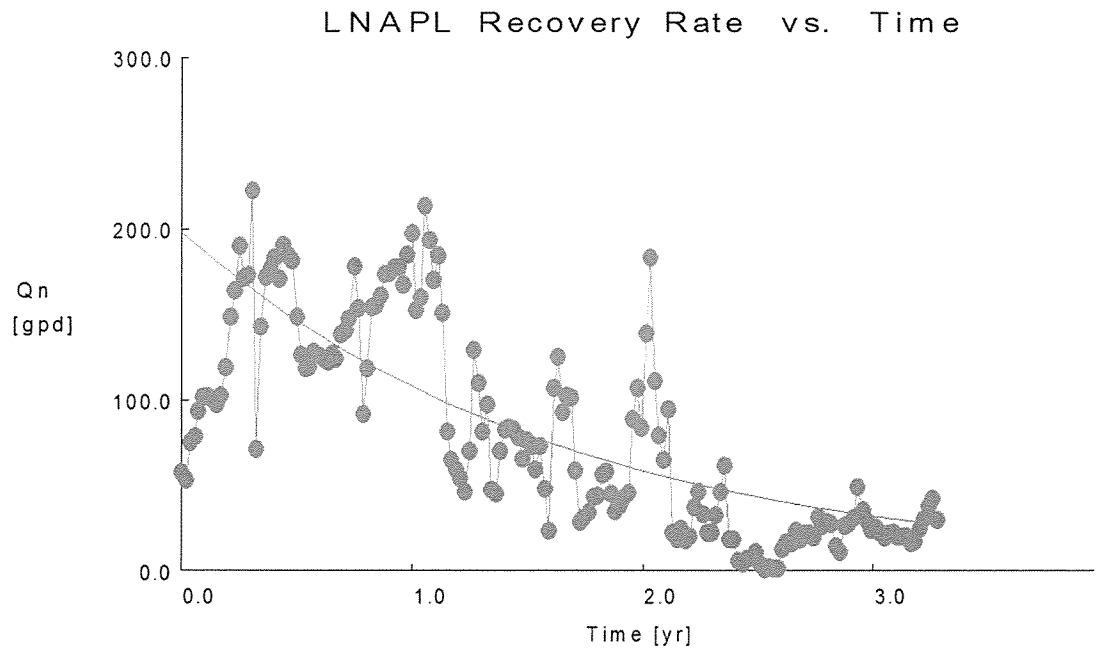


Figure 11. LDRM graph of incremental modeled recovery over time (blue line) versus actual incremental recovery over time (green circles). Note the initial buildup of recovery common to remediation systems and the subsequent scatter of actual recovery data. However, overall the trend of the actual recovery data very closely matches the trend of the modeled recovery data (Charbeneau, 2007).

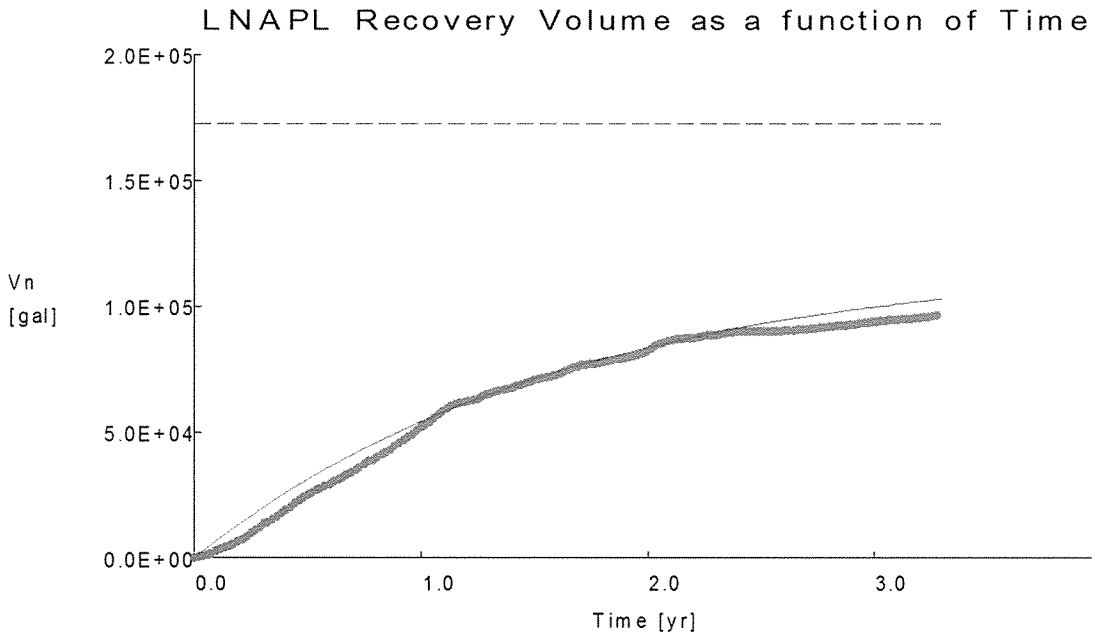


Figure 12. LDRM graph of cumulative modeled LNAPL recovery (blue line) versus actual cumulative LNAPL recovery (green line). Note the overall excellent match between modeled and measured cumulative recoveries (Charbeneau, 2007).

2.3.5 Plume Evolution Maps

Historical plume evolution and/or stability may be readily evaluated by developing contaminant plume distribution maps over time and then animating the resulting maps to generate a movie of plume evolution and stability evaluation. This technique works best when a consistent color contouring scheme and contour interval

is used for all maps. Development and animation of plume evolution maps may facilitate identification of source areas and preferential transport pathways if any are present.

Figure 13 presents a small multiple series of dissolved phase benzene plume maps over time (upper left to lower right) for a former underground storage tank site. Note that the benzene plume migrated along a potential preferential utility pathway on the western (left) edge of the plume and commingled with a second plume in the upper right (first small multiple figure). Subsequently, the two plumes separate and the lower plume shrinks down. In combination with other analyses for the site such as spatial moments analysis, the interpretation is of a stable to declining benzene dissolved phase plume.

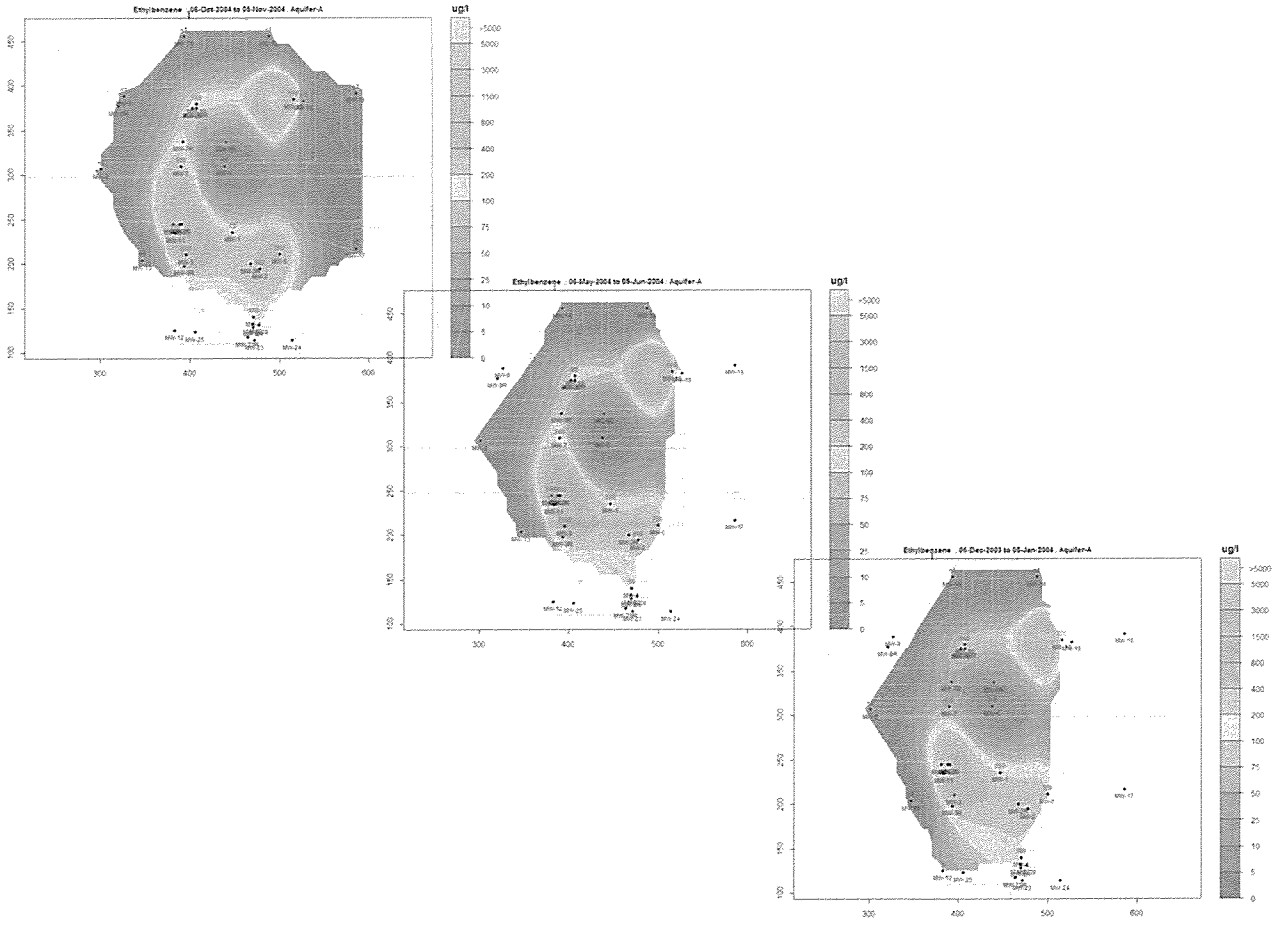


Figure 13. Small multiple plume maps for three consecutive sampling events (upper left to lower right) of dissolved phase benzene concentrations demonstrating separation of two commingled source plumes and shrinkage of the lower plume over time.

2.4 Visual Modeling

A conceptual site model for site remediation incorporates multiple complex elements of three dimensional geology, hydrogeology, contaminant distribution, surface topography and land use, groundwater elevations, and other physical elements. Two- and three-dimensional models are powerful tools to demonstrate and analyze physical relationships between stratigraphy, groundwater elevations and flow, contaminant distribution, potential source elements, potential receptors, and potential flow paths and exposure pathways. Visual models are powerful tools to assist site remediation scientists, but are absolutely crucial in communicating complex 3D conceptual site model elements to non-technical stakeholders or regulators. One picture can do a far better job of explaining a conceptual site model than hundreds of pages of complex text.

2.4.1 3D Block Geology

Structural and stratigraphic geologic units and their interrelationships are particularly well suited to visualization using 2D and 3D visual models. The model may be animated to initially show the boring log or other controls from which the model is developed, and then transition to the geostatistically interpolated model, which can then be rotated and sliced in any dimension to clearly demonstrate structural and stratigraphic geologic relationships.

Figure 14 is a cross-section developed from a 3D block geology model demonstrating the complex interbedded relationships and lateral variability of silts, sands and clays in a near shore marine environment industrial facility. Light non-aqueous phase liquid (LNAPL) is present in the subsurface. Historical minimum NAPL/water interface elevations, maximum top of liquid (water or LNAPL) interface elevations, and mean calculated (corrected) groundwater surface elevations are depicted to show the distribution of LNAPL in the sand units, and demonstrate the relationship between lateral replacement of sands with clays in the downgradient direction that results in confined LNAPL.

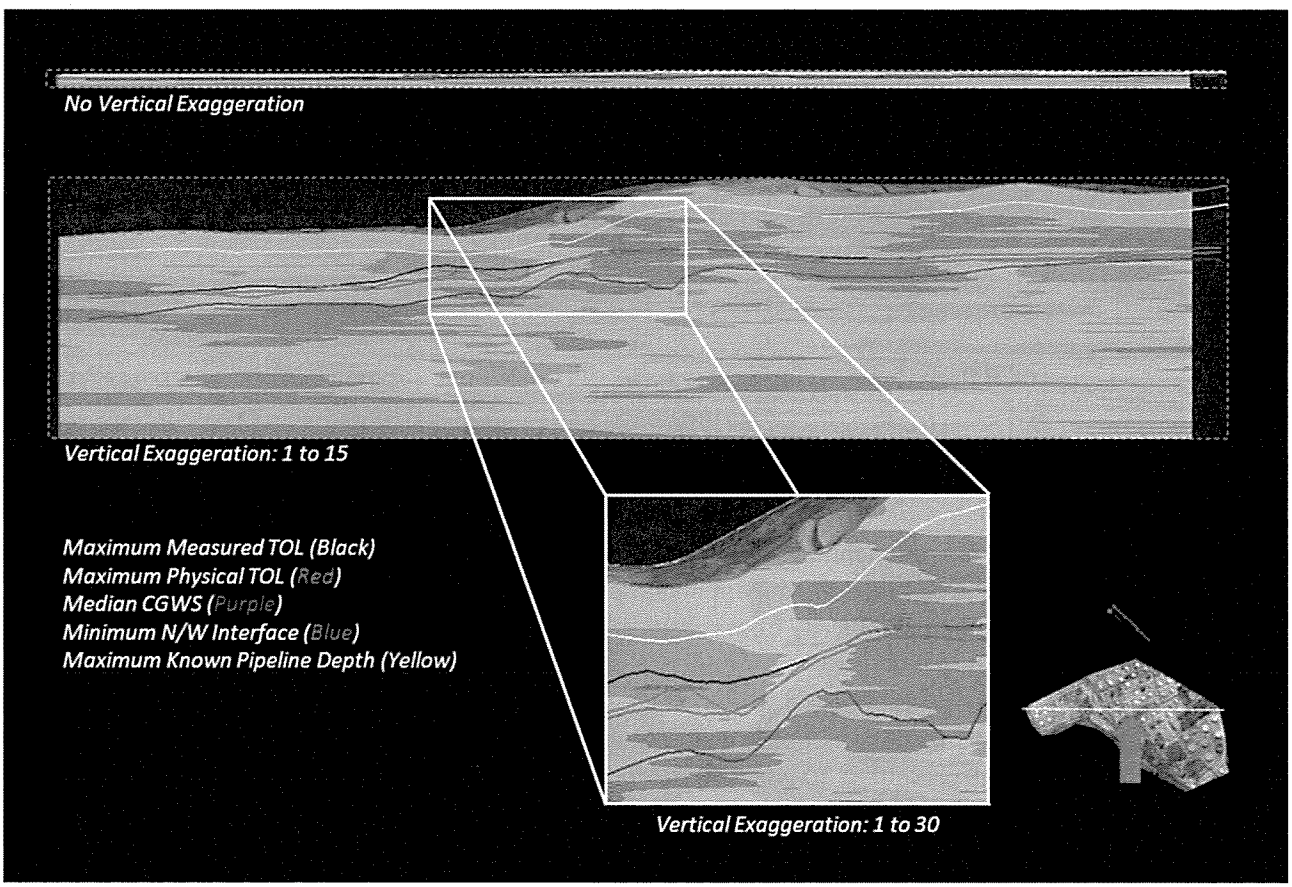


Figure 14. Cross-sectional slice derived from a 3D block model demonstrating complex stratigraphic relationships and their impact to the distribution and hydrogeologic condition of LNAPL. LNAPL is confined where the maximum measured top of liquid (TOL) in a well is higher than the maximum physical TOL in the formation. The maximum range of mobile LNAPL in the aquifer is indicated by the spacing between the minimum NAPL/water (N/W) interface (blue line) and the maximum physical TOL (red line).

2.4.2 LNAPL Distribution vs. Stratigraphy

The next logical step is to combine the 3D structural and stratigraphic geologic model with a model of the distribution of contaminants, in this case LNAPL. Figure 15 presents a model consisting of CPT logs demonstrating soil types, a red volumetric iso-surface of laser induced fluorescence data representing the

distribution of LNAPL, and the elevation of a confining layer limiting the vertical and horizontal migration of LNAPL. This model demonstrates the stratigraphic confining control on LNAPL migration, which is a critical regulatory requirement for this site, and also explains the exaggerated apparent NAPL thicknesses gauged in wells as a result of the confined LNAPL conditions. The model also demonstrates the strong relationship between soil type (sand – green) and LNAPL distribution.

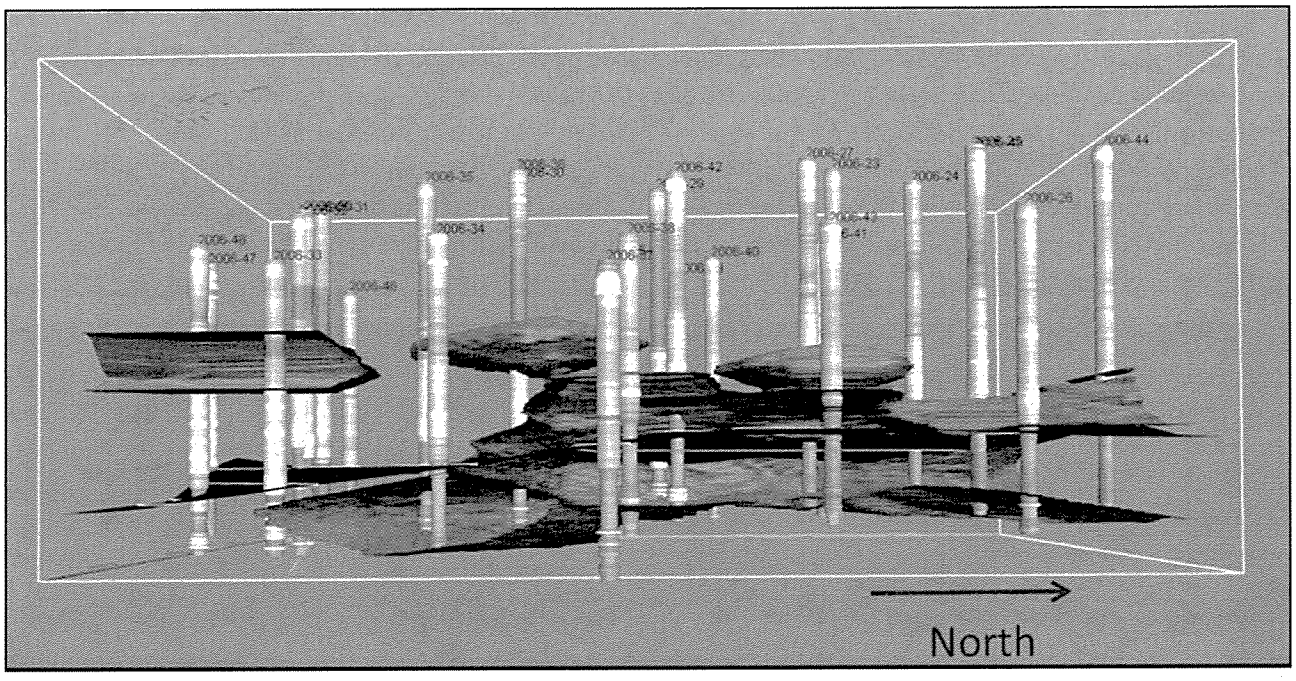


Figure 15. 3D model showing boring logs with soil types noted (sand is green, silty clay is tan to brown), the base of the confining layer (black surface), and the distribution of LNAPL as interpreted from laser induced fluorescence data (red isosurface). Note the close relationship between the presence of sand and the distribution of LNAPL in this confined LNAPL hydrogeologic system.

2.4.3 Historical Plume Migration Pathway and Provenance

One powerful use of a 3D visualization model incorporating stratigraphic, groundwater, and contaminant distribution data is to trace the path of contaminant migration backwards to identify the potential source area, or at least to eliminate a given area or facility from consideration as a potential source. Such models are most powerful when they incorporate multiple lines of evidence such as stratigraphic relationships, groundwater elevations, 3D dissolved phase contaminant distribution plumes, 3D contaminant distribution plumes for soil laboratory analytical and Photoionization Detection (PID) data, laser induced fluorescence (LIF) data, and LNAPL transmissivity data. Figure 16 presents a 3D visual model focused on laser induced fluorescence data as a surrogate for LNAPL saturation that clearly demonstrates an offsite origin for the LNAPL plume at the site. Such a model can be a powerful tool to facilitate negotiations with regulatory agencies, stakeholders and potentially responsible third parties.

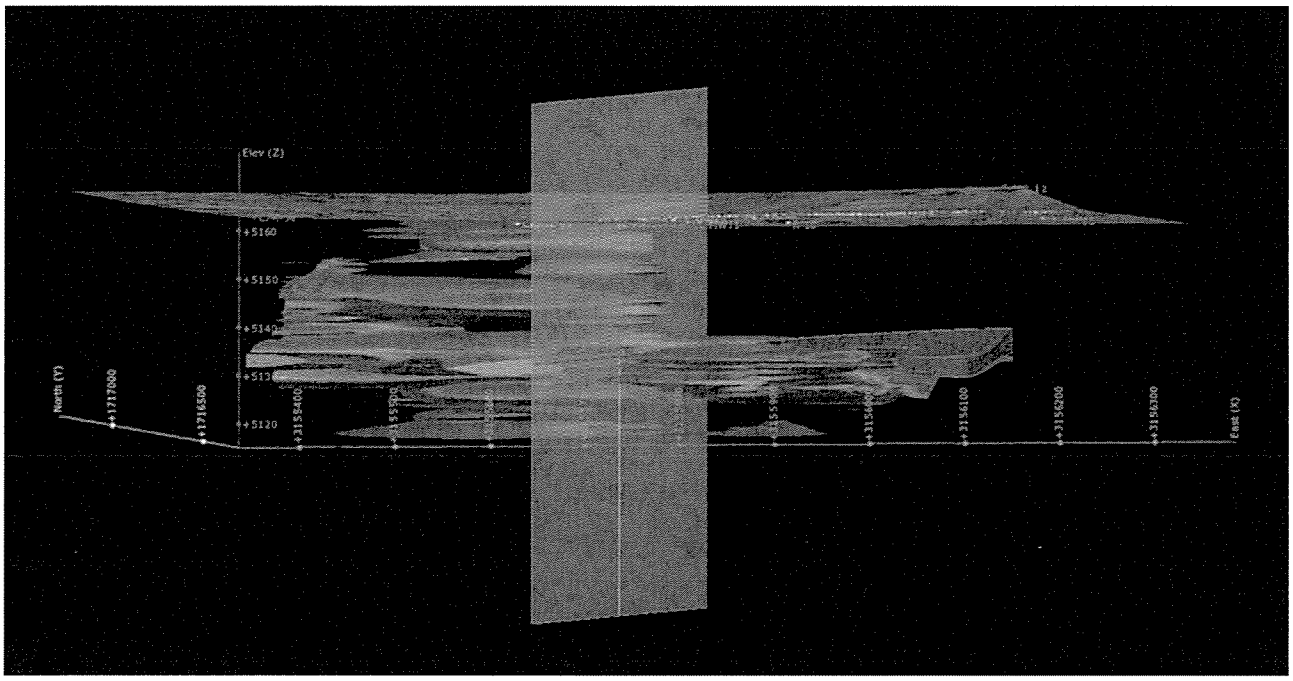


Figure 16. 3D block model showing the distribution of LNAPL as interpreted from laser induced fluorescence data (red volume render) and the presence of silty clay units (blue to blue-green) in an overall gravelly sand to sand section (not shown). Two facilities are depicted with onsite to the right and offsite to the left. The semi-transparent vertical plane in the center marks the property boundary. Note the distribution of LNAPL (red) onsite that is present only at the water table at a significant depth, and the gradual step up of the LNAPL plume to potential offsite surface sources. This is a powerful depiction of LNAPL plume migration pathways and potential provenance.

3 Summary

Modeling is an integral tool with widespread use in site remediation. Virtually every site remediation task incorporates some type of model. These models are integral components of a conceptual site model that provides the framework within which risks are quantified, remedies are selected and designed and implemented, and attainment of site remedy goals and objectives is evaluated. A strong conceptual site model will facilitate effective remedy engineering design that results in an efficient remedy selection and implementation process. A weak conceptual model will likely lead to rework and potential remedy failure. Consequently, the question a responsible party or other responsible entity should ask before proceeding to the site remedy selection, design or implementation phase is "How good is my conceptual site model?"

In order to answer that question you have to drill down and ask more detailed questions like:

- "How good is the data for input into the various models?"
- "How good are the modelers?"
- "Will the models withstand scrutiny by potentially adverse regulators, stakeholders or litigants?"
- "Will the models provide good enough answers to the questions necessary to correctly quantify risks and design controls or remedies to mitigate those risks in a reasonable and cost-effective manner?"

If you are uncomfortable with the answers to any of those questions, then you probably need to revisit your conceptual site model and reevaluate the many individual visual, analytical or numerical models that form the backbone of the conceptual site model.

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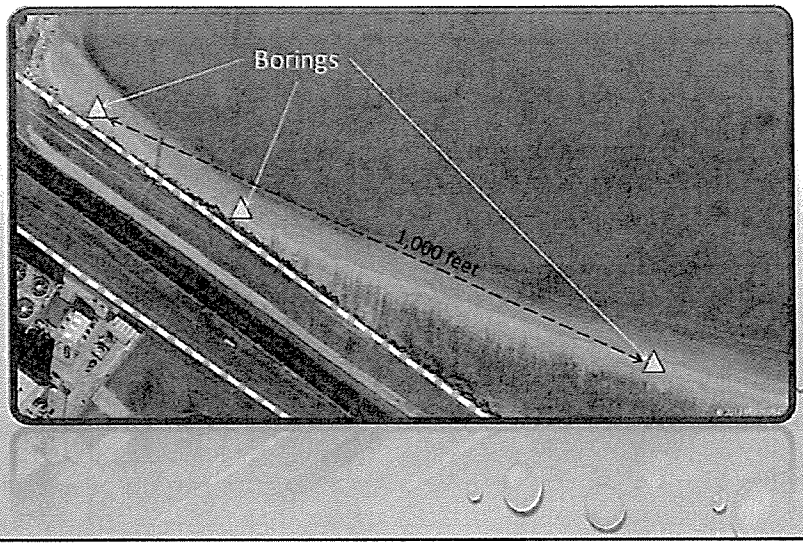
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THE USE OF MODELING IN SITE REMEDIATION

- DEFINITION
- EXAMPLES
  - FLOW MODELING
  - FATE AND TRANSPORT MODELING
  - VISUAL MODELING
- SUMMARY

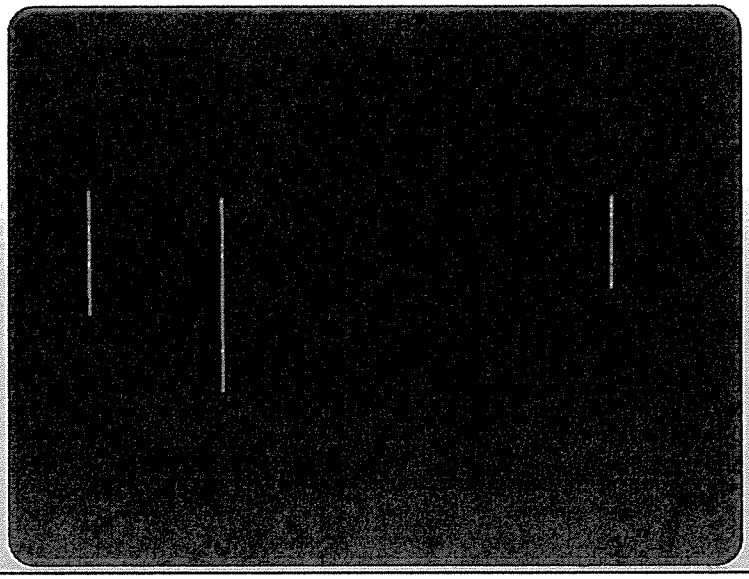
WHAT IT MEANS TO "MODEL"



THE SILVER BULLET

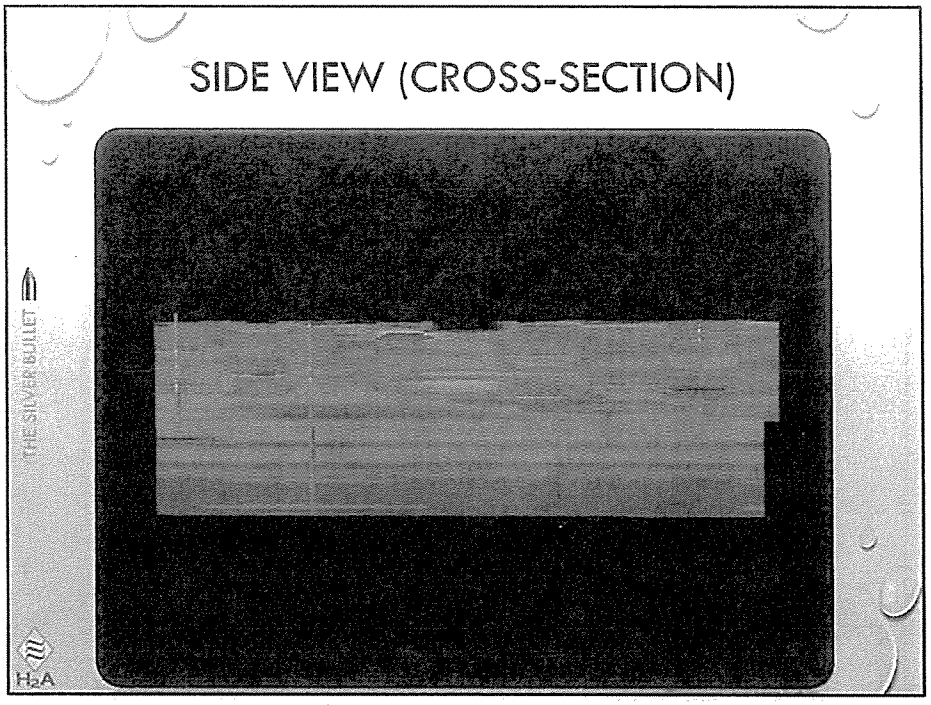
H₂A

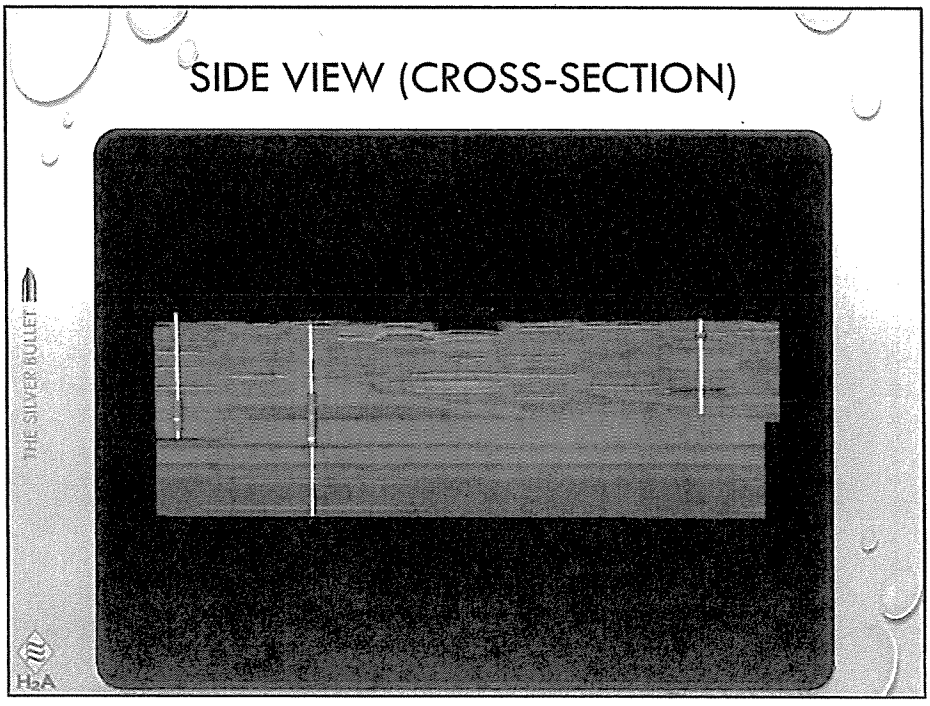
SIDE VIEW (CROSS-SECTION)

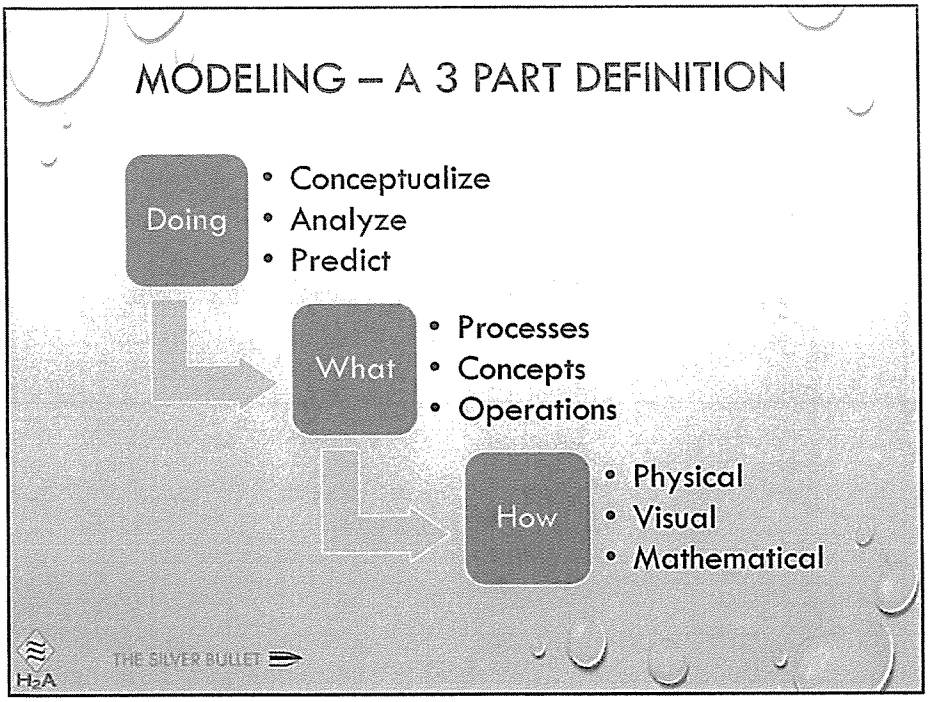


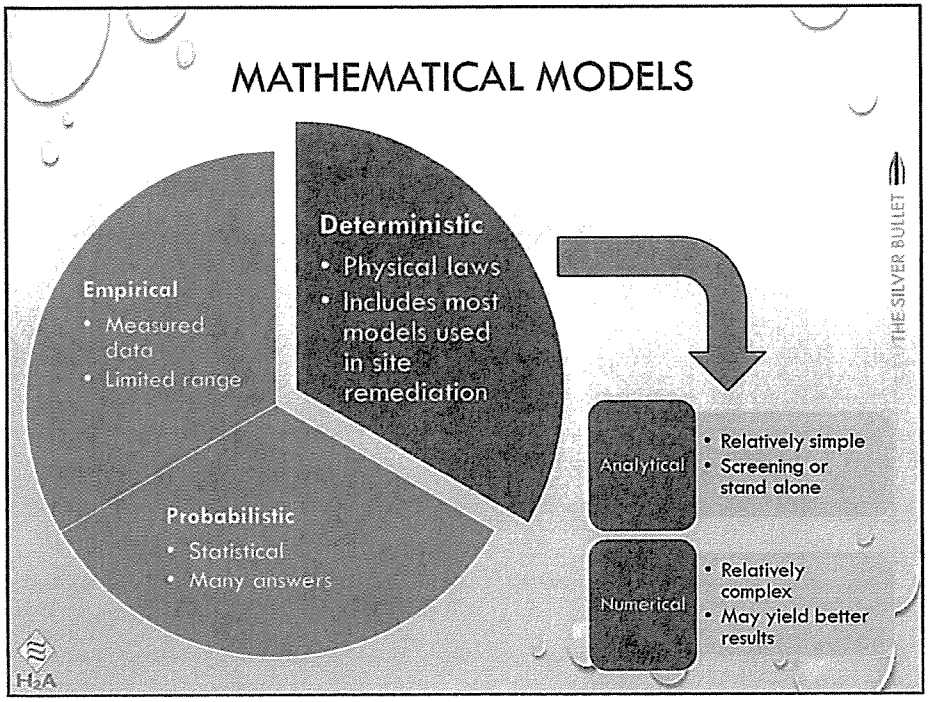
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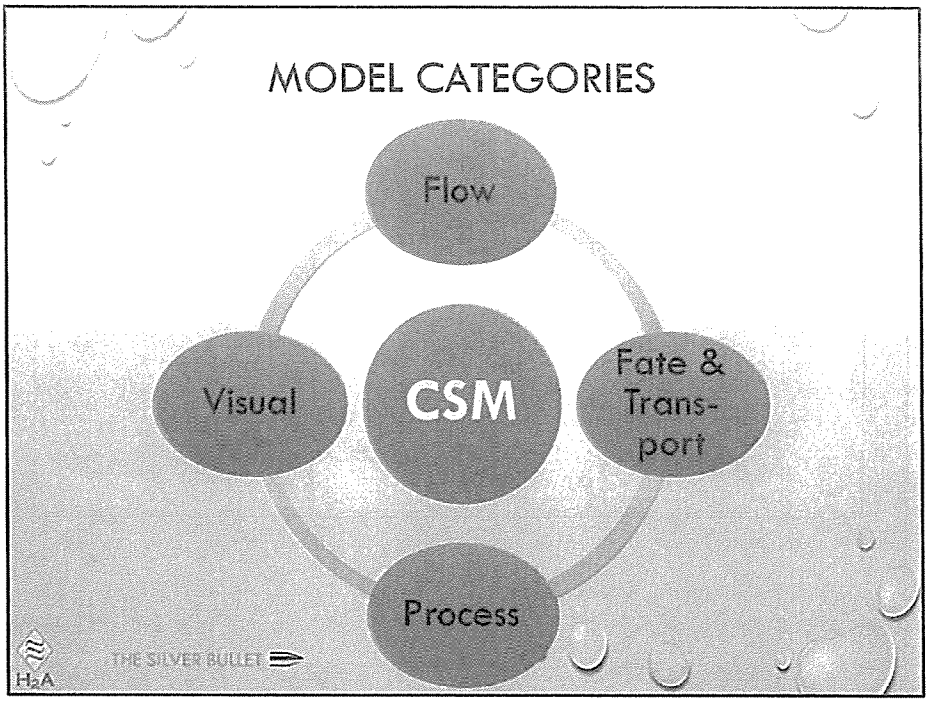
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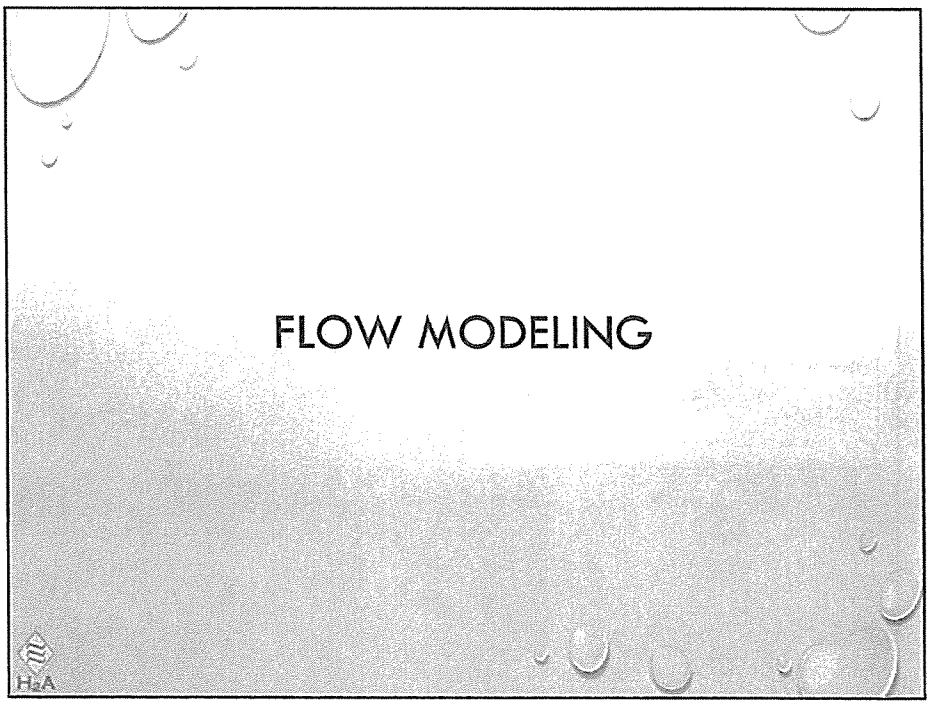

SIDE VIEW (CROSS-SECTION)
THE SILVER BULLET
H2A


SIDE VIEW (CROSS-SECTION)
THE SILVER BULLET
H2A

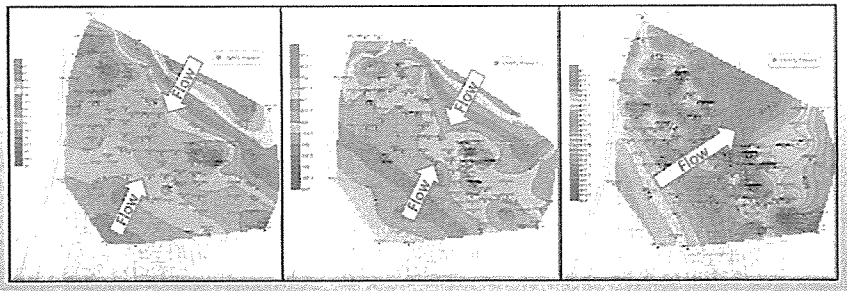

MODELING – A 3 PART DEFINITION
Doing
• Conceptualize
• Analyze
• Predict
What
• Processes
• Concepts
• Operations
How
• Physical
• Visual
• Mathematical
THE SILVER BULLET
H2A


MATHEMATICAL MODELS
Empirical
• Measured data
• Limited range
Deterministic
• Physical laws
• Includes most models used in site remediation
Probabilistic
• Statistical
• Many answers
Analytical
• Relatively simple
• Screening or stand alone
Numerical
• Relatively complex
• May yield better results
THE SILVER BULLET
H2A

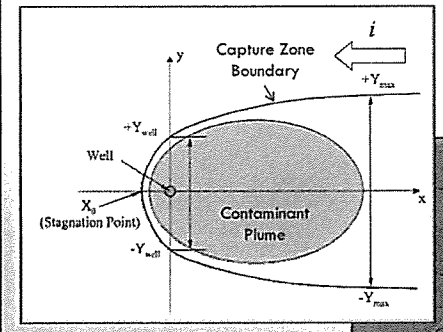

MODEL CATEGORIES
Flow
Visual
CSM
Fate & Trans-port
Process
H2A
THE SILVER BULLET

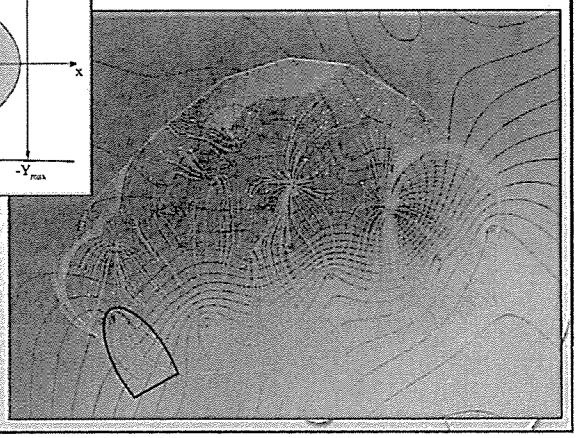

FLOW MODELING
H2A

GROUNDWATER CONTOUR FLOW MODELS



CAPTURE ZONE FLOW MODELS

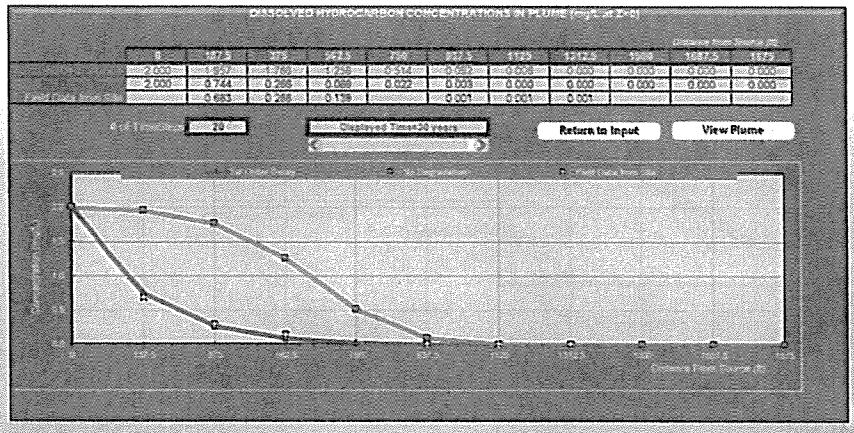




FATE & TRANSPORT MODELING

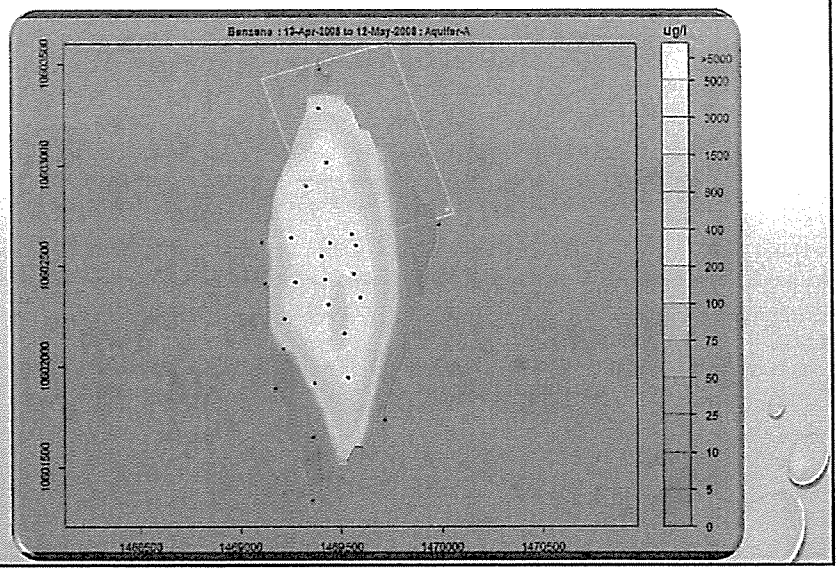
H₂A

MONITORED NATURAL ATTENUATION ANALYTICAL FATE & TRANSPORT MODEL



H₂A THE SILVER BULLET

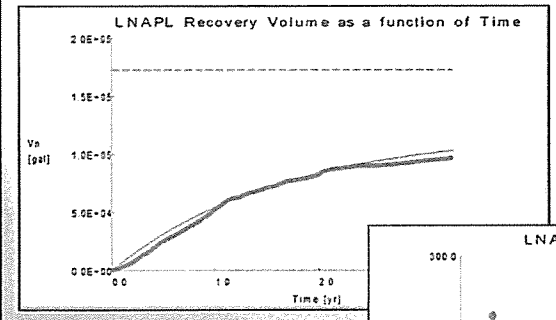
BENZENE PLUME ANIMATION FATE AND TRANSPORT MODEL

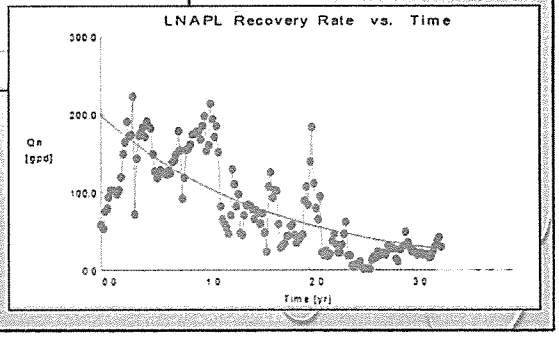


THE SILVER BULLET

H2A

LNAPL DISTRIBUTION & RECOVERY ANALYTICAL FATE & TRANSPORT MODEL





Source: Charbeneau, 2007

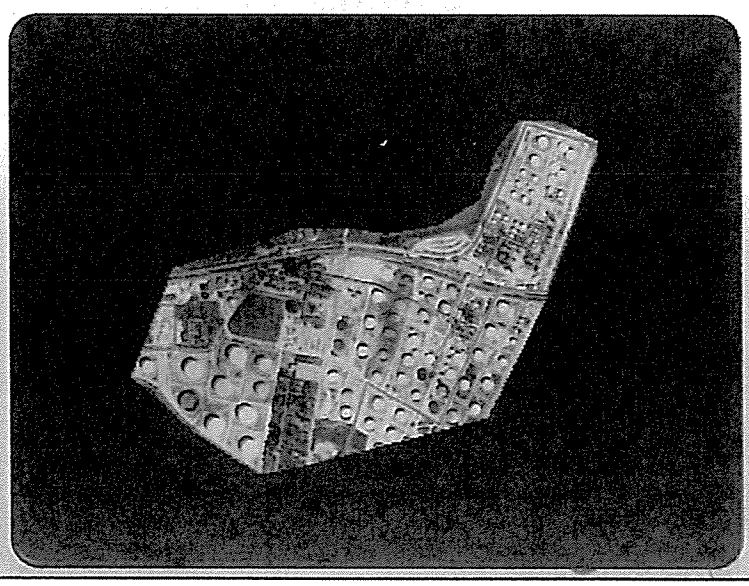
THE SILVER BULLET

H2A

VISUAL MODELING

H2A

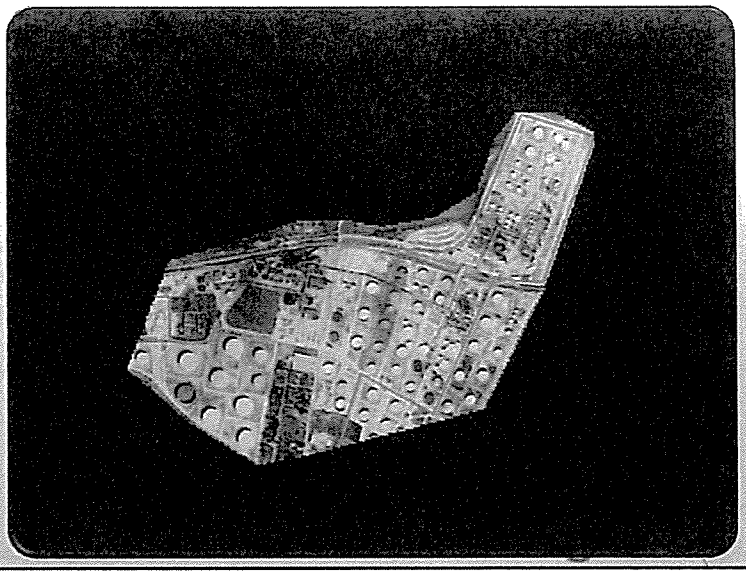
3D BLOCK GEOLOGY VISUAL MODEL



THE SILVER BULLET

H2A

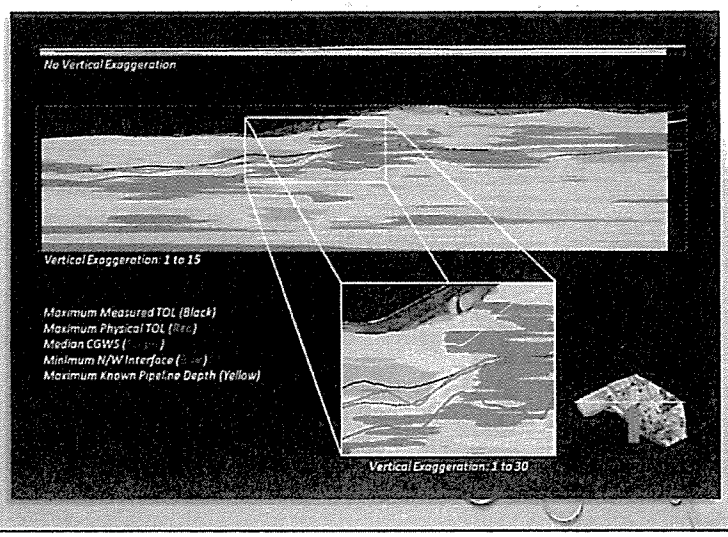
3D CROSS SECTION BUILDUP VISUAL MODEL



THE SILVER BULLET

H2A

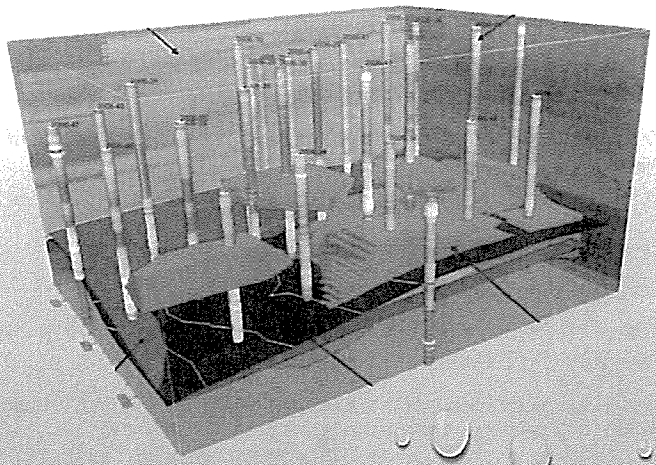
GEOLOGIC CROSS SECTION WITH GROUNDWATER & MOBILE LNAPL



THE SILVER BULLET

H2A

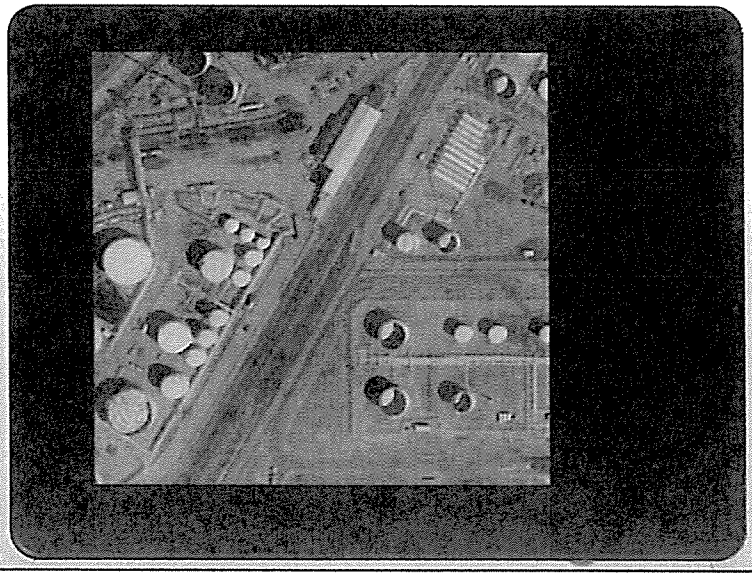
STRATIGRAPHY & LNAPL DISTRIBUTION 3D VISUAL MODEL



THE SILVER BULLET

H2A

LNAPL MIGRATION PATH 3D ANIMATED VISUAL MODEL



THE SILVER BULLET

H2A

SUMMARY

- MODELING IS THE SILVER BULLET OF SITE REMEDIATION SO WE CAN
  CONCEPTUALIZE, ANALYZE & PREDICT
  THE BEST PATH TO SITE CLOSURE
- TODAY'S MODELING PROGRAMS ARE POWERFUL AND COST-EFFECTIVE
  BUT **SCIENTIFIC EXPERTISE IS STILL CRUCIAL**
- A GOOD CONCEPTUAL SITE MODEL (CSM) PROVIDES A CLEAR ROAD MAP FOR A SUCCESSFUL SITE REMEDY
- A BAD CSM CAN LEAD TO REMEDY FAILURE AND INCREASED COST TO CLOSURE
- REMEDIATION DECISIONS ARE DRIVEN BY THE CSM
- EVERY SITE HAS A CSM
- EVERY CSM IS COMPOSED OF MULTIPLE MATHEMATICAL MODELS THAT ARE **EMPIRICAL, PROBABILISTIC, OR DETERMINISTIC**
- MOST ARE DETERMINISTIC SO WE GET ANSWERS THAT LET US CONCEPTUALIZE, ANALYZE AND PREDICT THE PATH TO SITE CLOSURE







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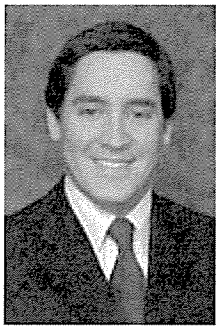
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Regulatory Preemption:
When Common Law and Environmental Regulations Collide

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Texas Environmental Superconference
August 2, 2013



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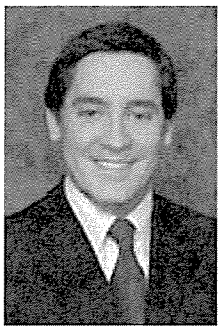
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Regulatory Preemption:
When Common Law and Environmental Regulations Collide

By Karen Precella and Vincent Circelli

I. Introduction

The practice of environmental law often involves the interaction between complex regulatory schemes and the common law. This interplay can, in some cases, lead to a direct conflict between the regulations established to protect the environment and claims brought against alleged environmental violators.

This paper examines the interface of these two aspects of our legal system and discusses the potential for conflict when common law claims encroach on complex environmental regulatory schemes. This paper specifically examines the preemptory power of the complex regulatory schemes set forth in the federal Clean Air Act (and its Texas counterpart) over common law nuisance and trespass claims.

II. Examples of Regulatory and Common Law Interplay

Common law claims may have a direct interplay with regulatory law in numerous circumstances, including the following:

- Information required by regulation may be used as evidence in a common law case, including information shown on permit applications or in communications with regulators;
- Issuance of permit may be relevant to damages and breaches: lack of permit may show lack of compliance; existence of permit may not necessarily show compliance;
- Nuisance complaints filed with regulatory agencies are sometimes used by claimants to build a record for later common law claims;
- Regulatory programs may require entities to generate data (such as self-testing reports) that can be used in common law claims (both for and against the entity);
- Regulatory requirements may be used as applicable "clean-up" standards in an attempt to increase a restoration cost award without regard to applicable contract limitations.

Whiles this paper does not address all of the issues above, entities subject to regulation should manage regulatory risks through compliance and common law risks by acting reasonably. By documenting and preserving evidence of compliance with applicable regulations, an entity may be able to demonstrate that the regulatory scheme preempts common law claims. The following section discusses the potential power of state and federal air quality regulation laws to preempt or bar common law nuisance and trespass claims.

III. Preemption by the federal and state Clean Air Acts.

A common law air pollution claim for nuisance or trespass may be preempted by federal and state statutory and regulatory standards in certain contexts.

A. Background on complex regulatory structure governing air quality.

1. The Federal Clean Air Act.

The federal Clean Air Act ("CAA") extensively regulates emissions nationwide, setting National Ambient Air Quality Standards ("NAAQS") that set a minimum uniform level of air quality across the country. 42 U.S.C. § 7409. The CAA requires the establishment of specific regulatory standards for listed hazardous air pollutants. 42 U.S.C. § 7412 (b), (d).

The United States Supreme Court has noted that the CAA (and its counterpart, the Clean Water Act ["CWA"]) was intended to establish "clear and identifiable" standards as compared to the "vague" and "indeterminate" standards of a common-law nuisance claim. *See, e.g., Int'l Paper Co. v. Ouellette*, 479 U.S. 481, 486 (1987). A state is free to adopt more stringent standards by legislation than the NAAQS. *Id.* at 497.

2. The Texas Clean Air Act.

Regulation of the source of emissions under the CAA is left to each state under a State Implementation Plan ("SIP") that provides for "implementation, maintenance, and enforcement of NAAQS...within each state" and must be approved by the Environmental Protection Agency

("EPA"). 42 U.S.C. §§ 7410, 7604, § 7412(l). Thus, pursuant to the CAA, states play the primary role in implementation and enforcement of the CAA at the source sites. 42 U.S.C. § 7401.

As mandated under the CAA, the Texas Clean Air Act ("TCAA") was enacted to "safeguard the state's air resources from pollution by controlling or abating air pollution and emission of air contaminants, consistent with the protection of public health, general welfare, and physical property...." TEX. HEALTH & SAFETY CODE § 382.002(a). Pursuant to the TCAA, the Texas Commission on Environmental Quality ("TCEQ") controls the quality of the state's air through the control of air contaminants and ***"shall...establish the level of air quality"*** to be maintained in the state. *Id.* § 382.011 (emphasis added). The TCEQ adopts and enforces air quality standards, emission control requirements and other regulations and has exclusive authority in matters of issuing permits and setting emissions ceilings for "air contaminants. *See State v. Assoc. Metals & Minerals Corp.*, 635 S.W.2d 407, 409 (Tex. 1982).

B. Standards for field and conflict preemption.

A state law can be preempted by federal statute expressly, impliedly by occupation of the field, and impliedly to "the extent that it actually conflicts with a federal statute. Such conflict will be found when the state law stands as an obstacle to the accomplishment and execution of the full purposes and objectives of Congress." *Ouellette*, 479 U.S. at 491-92 (construing Clean Water Act ["CWA"]).

"A state law also is preempted if it interferes with the methods by which the federal statute was designed to reach [its] goal." *Id.; see also Pac. Gas & Elec. v. Energy Resources Comm'n,* 461 U.S. 190, 204 (1983) ("Even where Congress has not entirely displaced state regulation in a specific area, state law is pre-empted to the extent that it actually conflicts with federal law. Such a conflict arises when 'compliance with both federal and state regulations is a physical impossibility,' *Florida Lime & Avocado Growers, Inc. v. Paul,* 373 U.S. 132, 142-143 (1963), or where state law 'stands as an obstacle to the accomplishment and execution of the full

purposes and objectives of Congress.' *Hines v. Davidowitz,* 312 U.S. 52, 67 (1941)."). Moreover, the Court admonished against the toleration of "common-law suits that have the potential to undermine [the] regulatory structure." *Ouellette*, 479 U.S. at 497.

C. The CAAs preclude common-law standards that interfere and conflict with the comprehensive federal and state clean air schemes.

1. Federal cases.

The United States Supreme Court has admonished against toleration of "common-law suits that have the potential to undermine [the] regulatory structure" of an environmental law. *See Int'l Paper Co. v. Ouellette,* 479 U.S. 481, 497 (1987) (construing federal Clean Water Act). Indeed, the Court recently held that the CAA preempted federal common law nuisance claims. *Am. Elec. Power Co. v. Connecticut*, 131 S. Ct. 2527, 2539 (2011). Although the parties did not argue or brief the state-law claim preemption issue in *AEP*,[1] the Fourth Circuit had earlier explained with regard to state law claims:

> A field of state law, here public nuisance law, would be preempted if 'a scheme of federal regulation...[is] so pervasive as to make reasonable the inference that Congress left no room for the States to supplement it. Here, of course, the role envisions for the states has been made clear. Where Congress has chosen to grant states an extensive role in the Clean Air Act's regulatory regime through the SIP and permitting process, ***field and conflict preemption*** *principles caution at a minimum against according states a wholly different role and allowing state nuisance law to contradict joint federal-state rules so meticulously drafted.*

TVA, 615 F.3d at 303 (citation omitted, emphasis added); *see also Carter*, 251 S.W.3d at 506 (state law claim is preempted under the obstruction of federal objectives aspect of implied preemption analysis if state law imposes duties that conflict with the federal regulatory scheme). 131 S.Ct. at 2540.

Other federal courts have reached similar conclusions. *See, e.g., North Carolina v. Tennessee Valley Authority*, 615 F.3d 291, 303 (4th Cir. 2010). (not holding flatly that Congress "entirely preempted the field of emissions regulation" through CAA but "*Oullette* was emphatic

[1] Citing *Oullette*, however, the Court in *AEP* noted that the "availability *vel non* of a state lawsuit depends, *inter alia*, on the preemptive effect of the federal Act." *Id.*

that a state law is preempted 'if it interferes with the methods by which the federal statute was designed to reach its goal'"); *U.S. v. EME Homer City Gen. L.P.*, 823 F.Supp.2d 274, 296 (W.D. Pa. 2011) (state law public nuisance claim preempted by comprehensive clean air federal and state schemes); *see also Ouellette*, 479 U.S. at 497 ("CWA precludes only those suits that may require standards of effluent control that are incompatible with those established by the procedures set forth in the Act."). As such, federal courts have recognized that the CAA and TCAA procedures, guidelines and emission standards wholly occupy the clean air field or otherwise preclude any common-law claim based on emission standards that conflict with the federal- and state-mandated standards.

2. Recent Supreme Court of Texas case.

The Texas Supreme Court recently clarified that a city is preempted from enacting regulations that would make operations approved by the TCAA or TCEQ unlawful. *Southern Crushed Concrete, LLC v. City of Houston*, No. 11-0270, 56 Tex. Sup. J. 295, 2013 Tex. LEXIS 96 (Tex. Feb. 15, 2013). Under *Southern Crushed Concrete* and other controlling precedent, municipalities and individual claimants alike may be preempted from enacting or enforcing different emission standards on a covered entity than those explicitly approved by the TCEQ and TCAA.

In 2003, Southern Crushed Concrete, LLC ("SCC") applied to the TCEQ for an air quality permit to move a concrete-crushing facility to a new location in the City of Houston. *Id.* *2-*3. In May 2007, the City passed an ordinance requiring concrete-crushing facility operators to obtain a municipal permit. Under the City ordinance, new concrete-crushing operations were required to meet certain City-determined requirements, "which are more restrictive than those imposed under the TCAA and the [TCEQ] rules." *Id.* The TCEQ granted SCC's requested air quality permit in 2008, "concluding that the...operations would not violate the location requirements contained in the TCAA and Commission rules." *Id.* at *3-*4. After receiving

approval from the TCEQ, SCC applied to the City of Houston for a municipal permit, which was denied because the operations would violate the City's more strenuous restrictions. *Id.*

SCC sued the City, seeking a declaration that the Ordinance is preempted by the TCAA, which provides that a city ordinance "may not make unlawful a condition or act approved or authorized under [the TCAA] or the [TCEQ's] rules or orders." *Id.* The parties filed cross-motions for summary judgment, the trial court granted the City's motion, denied SCC's motion, and dismissed SCC's claims with prejudice, and the appellate court affirmed.

The Texas Supreme Court focused on "whether the Ordinance makes unlawful an act approved or authorized under the TCAA or the Commission's rules or orders." *Id.* at *5. Noting that the City's action in passing a more stringent ordinance "makes it unlawful to build a concrete-crushing facility at a location that was ***specifically authorized*** under the [TCEQ's] orders," the Court concluded the City's "Ordinance…**is preempted by the TCAA and [is] unenforceable**." *Id.* at *9 (emphasis added).

As part of its preemption analysis, the Court noted that "[t]he TCAA's policy and purpose is 'to safeguard the state's air resources from pollution by controlling or abating air pollution and emissions of air contaminants.'" *Id.* at *6 (citing TEX. HEALTH & SAFETY CODE § 382.002(a)). The Court rejected the City's argument that the TCEQ's approval of the SCC plant "merely removed one government-imposed barrier to operations but did not affirmatively authorize anything." *Id.* at *7. Accordingly, the Texas Supreme Court ruled that the City's Ordinance was preempted by the TCAA, reversed the trial and appellate courts' rulings, and rendered judgment in favor of SCC based on SCC's motion for summary judgment in the trial court. *Id.*

3. Cases from other jurisdictions.

The New Mexico Supreme Court upheld the dismissal of common law nuisance claims related to mercury emissions against a plant operator who had complied with state clean air

legislation. *See New Mexico v. Arizona Pub. Servs. Co.*, 510 P.2d 98 (N.M. 1973) ("[I]n cases raising issues of fact not within the conventional experience of judges or cases requiring the exercise of administrative discretion, **agencies created by Congress for regulating the subject matter should not be passed over**.") (citing *Far East Conference v. United States*, 342 U.S. 570, 574 (1952)) (emphasis added). The New Mexico Supreme Court relied on another holding that "it would be **improper** for this Court to exercise its equitable jurisdiction **to interfere with the comprehensive programs** designed to solve a complex social, economic and technological problem. Quite simply, **we choose not to pollute the scene with still more...standards**." *Id.* (quoting *Chicago v. Gen. Motors Corp.*, 332 F. Supp. 285 (N.D. Ill. 1971)) (emphasis added).

4. Statutory savings clauses.

Sometimes an environment regulation will contain a "savings" clause that reserves a person's right "under any statute or common law" to seek to enforce that regulation. *See, e.g.,* 42 U.S.C. § 7604(e) (CAA savings clause). However, a statutory savings clause does not necessarily preclude preemption of state law claims by other provisions of an environmental act or regulation. *See Ouellette*, 479 U.S. at 497; *BIC Pen Corp. v. Carter*, 251 S.W.3d 500, 506 (Tex. 2008) ("[T]he saving clause [] allows state-law tort claims, but **does not permit claims that actually conflict with the federal regulations**.").

The CAA savings clause provides: "Nothing in this section shall restrict any right which any person (or class of persons) may have under any statute or common law to seek enforcement of any emission standard or limitation or to seek any other relief (including relief against the Administrator or a State agency)." 42 U.S.C. § 7604(e). "For purposes of this section, the term 'emission standard or limitation under this chapter' means...a schedule or timetable of compliance, emission limitation, standard of performance or emission standard." *Id.* § 7604(f). The CAA clause thus contemplates saving only claims that seek relief related to the administrative setting of and complaints of noncompliance with the TCAA standards.

The mandate that savings clause will not allow a higher standards (with lower emission numbers) set judicially on a case-by-case basis through common-law claims is based on the fear that such claims would obstruct the CAA's uniformity goal, interfere with the procedures implemented pursuant to the CAA and TCAA, and impose duties in conflict with the federal/state regulatory scheme of those Acts. As such, state common-law claims that seek to impose standards different from and in conflict with the state regulatory standards may be preempted by federal and state law. *See TVA*, 615 F.3d at 302-04.

Thus, the mere existence of the statutory savings clause does not preclude preemption by other provisions of the Act, as has been held in cases noted above. *See Ouellette*, 479 U.S. at 497; *Southern Crushed Concrete*, 56 Tex. Sup. J.at 295; *TVA*, 615 F.3d at 303; *Homer City Gen. L.P.*, 823 F.Supp.2d at 296; *Arizona Pub. Servs.*, 510 P.2d 98.

IV. The political question doctrine also impacts common law environmental claims.

In *AEP*, the Supreme Court made significant observations applicable to the political question doctrine and to the displacement of CAA and TCAA regulations with vague state common-law claims:

> [T]his prescribed order of decision making—the first decider under the Act is the expert administrative agency [in regulating emissions under its rulemaking authority], the second, federal judges [in reviewing the rulemaking for arbitrariness, capriciousness or abuses of discretion]—is yet another reason to resist setting emissions standards by judicial decree under federal tort law. The appropriate amount of regulation...cannot be prescribed in a vacuum: as with other questions of national or international policy, informed assessment of competing interests is required. Along with the environmental benefit potentially achievable, our Nation's energy needs and the possibility of economic disruption must weigh in the balance.
>
> The Clean Air Act entrusts such complex balancing to EPA in the first instance, in combination with state regulators....
>
> It is altogether fitting that Congress designated an expert agency, here, [the] EPA, as best suited to serve as primary regulation of greenhouse gas emissions. The expert agency is surely better equipped to do the job than individual district judges issuing, ad hoc, case-by-case injunctions. Federal judges lack the

> scientific, economic, and technological resources an agency can utilize in coping with issues of this order.

131 S.Ct. at 2539-40. The nonjusticiability of a political question is a function of the separation of powers doctrine. *Neeley v. W. Orange-Cove Cons. Indep. School Dist.*, 176 S.W.3d 746, 778 n.172 (Tex. 2005).

Although not often applicable, one court recognized that the context summarized in *AEP* represents the exact circumstances when the political question doctrine does apply. *Comer v. Murphy Oil USA, Inc.*, 839 F. Supp.3d 849 (S.D. Miss. 2012) (citing *Baker v. Carr*, 369 U. S. 186, 217 (1962)).[2] Relying on *AEP*'s reasoning, the *Comer* court ruled that the plaintiff's state law trespass and negligence and state and federal law nuisance claims were barred under the political question doctrine. *Id.* at 865. The claimants asked the court to determine whether the emissions at issue were "unreasonable." *Id.* The court noted that determination would interfere with and potentially conflict with the EPA's determination, and such a determination would invoke questions of policy that weigh the harm of the emissions against the benefits of the products produced. *Id.* at 862-65. As such, a lack of judicially discoverable standards and the necessity to make policy determinations entrusted to the EPA made the controversy nonjusticiable. *Id.* at 865. The court also found that the CAA displaced (*i.e.,* preempted) the federal and state common law nuisance, trespass and negligence claims that rested on determinations of unreasonableness. *Id.* at 865; *see also Native Village of Kivalina v. ExxonMobil Corp.*, 2012 WL 4215921 (9th Cir. Sept. 21, 2012) ("The doctrine of displacement is an issue of separation of powers between the judicial and legislative branches....").

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[2] "Prominent on the surface of any case held to involve a political question is found [1] a textually demonstrable constitutional commitment of the issue to a coordinate political department; or [2] a lack of judicially discoverable and manageable standards for resolving it; or [3] the impossibility of deciding without an initial policy determination of a kind clearly for nonjudicial discretion; or [4] the impossibility of a court's undertaking independent resolution without expressing lack of the respect due coordinate branches of government; or [5] an unusual need for unquestioning adherence to a political decision already made; or [6] the potentiality of embarrassment from multifarious pronouncements by various departments on one question." *Baker*, 369 U.S. at 217.

Thus, one should consider both the political question and preemption doctrines when assessing common law claims impacted by the CAA and TCAA.

V. Operation within regulatory guidelines as basis for summary disposition.

One should also consider whether operation within statutory guidelines impacts the merits of the common law claim. The TCEQ has the exclusive authority to establish and control the level of quality of the state's air and to control air contaminants by all practical and economically feasible methods. TEX. HEALTH & SAFETY CODE § 382.011. Thus, courts have looked to compliance with environmental regulations when faced with the merits of a claim based on conduct in compliance with the regulations.

Although sometimes relying on slightly different rationales, Texas courts have summarily disposed of common law claims when there are no unreasonable emissions, no duty to emit at lower levels or any violation of the applicable standard of care, no duty to remove or abate any emissions, and no abnormally dangerous conduct as a matter of law when the emissions comply with the CAA and TCAA statutory and regulatory schemes. *See, e.g., Z.A.O., Inc. v. Yarbrough Drive Ctr. Joint Venture*, 50 S.W.3d 531, 543-44 (Tex. App.—El Paso 2001, no pet.) (following *Taco Cabana*); *Taco Cabana, Inc. v. Exxon Corp.*, 5 S.W.3d 773, 780 (Tex. App.—San Antonio 1999, pet. denied) ("To the extent that any common law duties regarding removal of contamination existed, such duties have then displaced by the Water Code and implementing administrative regulations because the Legislature has delegated to the TWC the task of determining appropriate cleanup standards."); *Auto. Gas Co. v. Dudding*, 189 S.W.2d 780, 782 (Tex. Civ. App.—Texarkana 1945) ("One engaging in such business in compliance with said rules is protected in the use of his property and it cannot be declared a nuisance by a court."); *Abundiz v. Explorer Pipeline Co.*, No. 300CV2029H, 2003 WL 23096018, *9 (N.D. Tex. 2003) (dismissing plaintiffs' claims for trespass because plaintiffs could "provide no evidence that the current levels of contaminants on their properties exceed state action levels").

VI. Conclusion

The battle is sure to rage on in the conflict between ever-widening environmental laws and long-standing common law principles. Regulated entities and environmental practitioners should closely examine the interplay between regulatory and common law standards when dealing with common law claims, as complex environmental regulations may preempt and bar certain types of common law claims, especially where a regulated entity can show that it operated within regulatory guidelines.

ALBERTO G. TOHMÉ, M.S.

Vice President/Senior Program Manager **Tetra Tech - Houston**

EDUCATION

Master of Science, Toxicology, The George Washington University, Washington, D.C. 1989
Bachelor of Arts, Chemistry, University of St. Thomas, Houston, Texas 1987

TECHNICAL TRAINING/CONTINUING EDUCATION

Use of Toxicological and Epidemiological data in Determining
Safe Levels of Human Exposure, Continuing Education Course
Annual Meeting of the Society of Toxicology (4 hour) 2011

The Biology and Toxicology of the Peri- and Post-Natal Development
Continuing Education Course
Annual Meeting of the Society of Toxicology (4 hour) 2011

Comparative Endocrine Toxicology, Workshop,
Annual Meeting of the Society of Toxicology (4 hour) 2006

Reproductive Toxicology, Workshop,
Annual Meeting of the Society of Toxicology (4 hour) 2006

Risk Assessment for Metals, Workshop,
Annual Meeting of the Society of Toxicology (4 hour) 2001

Lessons learned from the USEPA/AIHC Risk Assessment
Demonstration Project, Annual Meeting of the Society for Risk Analysis (4 hour) 1997

International Perspectives on Health Risk Assessment, International
Congress of Toxicology VII, Seattle, Washington (4 hour) 1995

Quantifying Uncertainty in Risk Assessment, Workshop,
Annual Meeting of the Society of Toxicology (4 hour) 1995

Environmental Toxicology Course, Foundation for Advanced
Education in Science, National Institutes of Health, Bethesda, Maryland (trimester) 1993

Epidemiology and Biostatistics, Centers For Disease Control and
Prevention certified course. Foundation for Advanced Education in Science,
National Institutes of Health, Bethesda, Maryland (trimester) 1992

QUALIFICATIONS

Mr. Alberto G. Tohmé is a toxicologist and environmental professional with 24 years of experience in applied toxicology, quantitative risk assessment, environmental regulatory compliance (CERCLA, RCRA, and CAA), and environmental due diligence in several industry markets. He has a diverse professional background in the environmental arena, which includes employment with the Texas environmental regulatory agency, the chemical industry, and environmental consulting firms. During his employment as a regulator, Mr. Tohmé provided toxicology, exposure assessment, risk assessment, and risk communication services in support of the Texas contested case hearing process and air, water, and waste programs. During his employment in the chemical industry, he supported risk assessment issues, including federal and state-level advocacy efforts. As a consultant, Mr. Tohmé has provided toxic tort litigation support services involving alleged exposures to several chemicals, including volatile organic compounds, heavy metals, particulate matter, silicates, carbon monoxide, sodium azide, and asbestos. He has provided a wide range of litigation support services, including defense strategy development, review of medical records, scientific literature review (including critical evaluations of epidemiologic and toxicologic studies to examine potential associations and causation for alleged health effects), development of affidavits in support of summary judgment motions, and expert testimony. He has supported contested case hearing defense activities for air permit applications in Texas. He has provided extensive regulatory compliance and environmental due diligence support services in private sector client markets, including oil & gas, energy, manufacturing, and residential and commercial development, both nationally and internationally.

RELEVANT EXPERIENCE

Environmental Due Diligence

2012 Confidential Multinational Energy Company – Due Diligence for Wind Farm Development in Mexico, project manager and principal regulatory interface and client coordinator for a confidential wind farm permitting and environmental due diligence in the state of Oaxaca, Mexico.

2007-2013 Confidential National Homebuilder Client - Large Phase I/II Portfolio, Quality Control Coordinator for large Phase I/II account. Responsibilities include work product quality, site condition evaluations, and liability assessment reviews.

2011-2013 Confidential National Homebuilder Client –Arsenic assessment and bioavailability in soil, residential development in Maryland. Provided support for arsenic assessment and bioavailability in soil, including development of work plans, and interface with multiple stakeholders (regulatory, legal, technical).

2006-2007 Phase I Environmental Site Assessment and Tenant Operations Inspections, GE Capital de México, Multiple Locations in Mexico. Project Manager for large due diligence portfolios (20-50 sites) which included Phase I ESA and inspections of tenant operations at

commercial real estate properties throughout Mexico. Performed this project as a subcontractor to another consulting firm. Work involved coordination with multiple stakeholders for access, site visits, and data gathering. Coordinated closely with client regarding recommendations for further investigations.

Texas Risk Reduction Program and Other Regulatory Compliance

2006-2013 Confidential Chemical Industry Client, Texas. Project Manager and quality control coordinator for multiple site investigations, remediation, and regulatory closure projects at multiple plants in Texas. Typical contaminants of concern included petroleum hydrocarbons and chlorinated solvents.

2003-2012 Confidential Metal Manufacturing Plant in Houston. Project Manager for soil and groundwater investigation and remediation project under the TCEQ Voluntary Cleanup Program (VCP). Obtained a Municipal Setting Designation (MSD) in the City of Houston in anticipation of the TCEQ MSD approval.

2004-2006 Texas Commission on Environmental Quality, Corrective Action Section, Texas Risk Reduction Program Closure for Metal Parts Manufacturing Client, Beaumont, Texas. Project Manager for TRRP closure of a site with commingled chlorinated solvent plumes in multiple water-bearing zones and metals and Total Petroleum Hydrocarbons (TPH) in soil. Project work includes site investigation for soil and groundwater, including well installation in multiple water-bearing zones, and development of TRRP deliverables, including Affected Property Assessment Report and Response Action Plan, development of Tier 2 Protective Concentration Levels (PCLs), and excavation of affected soils. Interfaced with client and client attorneys to evaluate regulatory closure, legal, and financial strategies. Obtained a Municipal Setting Designation (MSD) certificate (MSD Certificate No. 9) and used to expedite final closure of all plumes with no further action.

2002- present Texas Commission on Environmental Quality, Voluntary Cleanup Program, Texas Risk Reduction Program Closure for Metal Parts Manufacturing Client, Houston, Texas. Project Manager for TRRP VCP closure of a site with chlorinated solvent plumes in multiple groundwater-bearing zones and metals and TPH in soil. Project work includes site investigation for soil and groundwater, including well installation in multiple water-bearing zones, and development of TRRP deliverables, including Affected Property Assessment Report and Response Action Plan, development of Tier 2 PCLs, and VCP status reports. Interfaced with client (former site owner) and client attorneys to evaluate regulatory closure, legal, and financial strategies.

2004 – 2009 Texas Commission on Environmental Quality, Voluntary Cleanup Program, Texas Risk Reduction Program Closure for Dry Cleaner Site, Houston, Texas. Project Manager for TRRP VCP closure of a site with chlorinated solvent plume in the first groundwater-bearing zone. Project work includes site investigation for soil and groundwater, including well installation in the first water-bearing zone, and development of TRRP deliverables, including Affected Property Assessment Report and Response Action Plan and VCP status reports.

Interfaced with client and client attorneys to evaluate regulatory closure, legal, and financial strategies.

2002 – 2010 Texas Commission on Environmental Quality, Voluntary Cleanup Program, Texas Risk Reduction Program Closure for Tire Recycling Client, Baytown, Texas. Project Manager for VCP closure of a site, which experienced two tire fire events and which enrolled in the VCP to investigate and remediate soil and groundwater contamination on-site and in adjacent properties. Project work included on-site groundwater investigation, agency interface, monthly VCP status reports, and off-site access negotiations. The site is currently in the process of obtaining off-site access to complete its soil and groundwater investigation.

Litigation Support

2006-2007 Contested Case Hearing Toxicology Support, Private Refinery Client, Port Arthur, Texas. Designated as an expert toxicologist to render opinions on the health protectiveness of emissions from proposed refinery expansion. Support activities included evaluating air modeling results, the most recent scientific information regarding the National Ambient Air Quality Standards (NAAQS), fence line state standards, and the basis and health protectiveness of Effects Screening Levels (ESLs) in Texas.

2004-present Toxic Tort Litigation (Asbestos), Private National Client, Greater than 600 cases in Texas. Expert toxicologist in a toxic tort involving alleged occupational exposures to asbestos in building materials. The cases are currently in the early stages of discovery. Litigation support services (non-testifying) include defense strategy development, review of medical records, compilation and review of relevant scientific literature (including critical evaluations of epidemiologic and toxicologic studies to examine potential associations and causation for alleged health effects), and development of affidavits in support of summary judgment motions.

2002-2004 Personal Injury/Worker Compensation, Private Garment Manufacturing Client, Multiple Locations in South Texas (Valley). Expert toxicologist in multiple worker compensation lawsuits involving alleged adverse health effect related to occupational exposures to particulate matter. Litigation support services include defense strategy development, comprehensive industrial hygiene testing and evaluation, review of medical records, scientific literature review (including critical evaluations of epidemiologic and toxicologic studies), causation research and analysis, design of retrospective exposure assessment study, and expert testimony.

2002-2004 Toxic Tort Litigation (Lead & other metal exposures), Electronics Manufacturing Client, South Texas (Valley). Consulting expert in occupational exposure case in which neurodevelopmental effects were alleged following in utero exposures to lead and other chemicals generated during circuit board soldering activities. Litigation support services include defense strategy development, scientific literature review, causation research and analysis. Case is early stages of discovery.

2000- 2001 Toxic Tort Litigation (Asbestos), Private Oil and Gas Client, El Paso, Texas. Expert toxicologist in a toxic tort involving alleged occupational exposures to asbestos. Litigation support services (non-testifying) included defense strategy development, review of medical records, scientific literature review (including critical evaluations of epidemiologic and toxicologic studies to examine potential associations and causation for alleged health effects), and development of affidavits in support of summary judgment motions.

1999-2002 Toxicology Research in Anticipation of Potential Litigation, Private Apparel Industry Client, San Francisco, California. Conducted extensive dermal toxicity research regarding garment dyeing and finishing, finishing plant health and safety and operations audits.

1999-2001 Toxic Tort Litigation (Benzene and Other Refinery Emissions), Private Oil and Gas Client, El Paso, Texas. Conducted extensive litigation support for a toxic tort involving ambient exposures to routine refinery emissions. Litigation support consisted of assistance in deposition questions, conducting critical evaluations of epidemiologic and toxicologic studies to examine potential associations and causation for alleged health effects, participation in defense strategy development, and development of affidavits in support of summary judgment motions.

Public Meetings/Hearings/Expert Testimony

1993-1995 Expert Testimony, TNRCC. Testified in a contested case hearing for an air permit regarding potential health impacts of facility emissions at an insulation manufacturing facility in North Texas. The case involved resilient opposition from a small group of concerned citizens. Public concerns were not resolved at two public meetings prior to the hearings.

1994 Residential Soil Contamination, Corpus Christi, Texas. Conducted public meeting regarding potential health impacts resulting from exposure to lead and cadmium contaminated residential soils in the Donna Park neighborhood in Corpus Christi, Texas. Addressed public concern and public outcry regarding potential exposures and communicated risks associated with potential exposures.

1993-1995 Air Permit Toxicology Reviews, TNRCC. Attended several public meetings in Southeast and Central Texas to discuss toxicological reviews of permit emissions and to address public concerns regarding permit renewals, modifications, or new construction.

1993 Accidental Releases/Personal Exposures (1,3-Butadiene), OxyChem, Corpus Christi, Texas. As part of the Texas Natural Resource Conservation Commission (TNRCC) contingent to a public meeting, presented toxicological analysis of 1,3-butadiene accidental emissions from the OxyChem Corpus Christi plant. Addressed public outcry regarding incident and communicated with members of the media regarding the TNRCC's toxicological review and conclusions. Issued memorandum regarding toxicological interpretation and potential health impacts of the accidental release.

EMPLOYMENT HISTORY

Tetra Tech, Inc., Houston, Texas
March 2001 – Present
Vice President/Senior Program Manager

ManTech Environmental Corporation, Houston, Texas
January 1999 – March 2001
Director, Toxicology and Risk Assessment

ICF Kaiser International, Inc., Houston, Texas
January 1997 – January 1999
Senior Toxicologist/Project Manager

DuPont Environmental Remediation Services, Inc., Houston, Texas
January 1995 – January 1997
Senior Toxicologist

Texas Natural Resource Conservation Commission, Austin, Texas
June 1993 – January 1995
Staff Toxicologist/Project Leader

Karch & Associates, Inc., Washington, D.C.
September 1989 – May 1993
Staff Scientist

LANGUAGES

Fluent in Spanish, French, and Arabic.

PROFESSIONAL MEMBERSHIPS/LICENSES

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Lisa's practice focuses on environmental, health and safety counseling, compliance and liability. She has extensive experience analyzing environmental, health and safety issues associated with corporate and securities matters as well as transactions involving contaminated properties including Brownfield redevelopment. Lisa works with a broad array of industries from chemical and semiconductor companies to the full spectrum of energy companies from coal and oil and gas to renewables and clean fuels such as solar, wind and bio mass projects. She has worked with industry associations and companies to address air, waste, water, wetlands and toxics issues in permitting, enforcement and regulatory forums. Her work includes the development of global compliance and environmental health and safety management systems and performance of environmental health and safety audits and investigations.

Lisa serves as the chair of the firm's Environmental Practice. Prior to joining Andrews Kurth, Lisa was Senior Environmental Counsel for a Fortune 100 company and handled environmental, health- and safety-related compliance, risk and transactional issues worldwide.

REPRESENTATIVE EXPERIENCE

- Represented an energy company in its project financing of a LNG export facility. Provided an environmental opinion covering federal environmental permits required for construction and operation.
- Represented a power operations and management company in its stock purchase of three power plants in Florida. Representation involved the assessment of environmental permitting issues and potential environmental liabilities.
- Representation of an investment firm focused on mid-market infrastructure deals in the power, renewable energy, utilities, transportation and water industries in its acquisition of an investment

INDUSTRIES
Administrative
Alternative Energy
Banking
Banking/Finance
Biofuels
Clean Technology
Construction
Energy
Energy Transactions
Government
Hospitality
Hotel
Insurance
Liquefied Natural Gas (LNG)
Manufacturing and Sales
Oil and Gas
Real Estate
Solar
State Regulatory
Technology
Wind

PRACTICE AREAS
Corporate
Environmental
Environmental Disputes, Contested Proceedings and Litigation
Environmental Litigation
Environmental Transactional Counsel
Real Estate
Regulatory Agency and Environmental Experience

Lisa Montgomery Shelton, Continued

manager's ownership stake in an inland marine shipping company. Environmental matters involved the assessment of permitting issues and potential environmental liabilities including the shipping company's potential status as a potentially responsible party (PRP) in a Superfund site.

- Represented an electric power holding company with environmental issues regarding the project financing of a 200 MW wind farm in Texas.
- Representation of a construction company in the sale of its former 136-acre headquarters campus in Houston, Texas. Environmental mattes include those related to due diligence, post-closing remediation and associated agreements and insurance.
- Representing the borrower/sponsor in the project financing of a natural gas-to-gasoline facility. Assisting in environmental permitting issues associated with the construction of a methanol plant as well as liabilities and agreements associated with leasing a site at an industrial park previously operated as a chemical company, including provisions and protections associated with long term remediation by the chemical company.
- Representation of an investment management company in environmental matters including the environmental risk assessment of investment properties and real estate development projects, including Brownfields, for a major big box retailer.
- Representation of the underwriters on environmental issues regarding the initial public offering of a major pipeline master limited partnership.
- Represented a publicly traded master limited partnership on environmental issues related to the acquisition of certain refining and terminal assets of a refining company out of bankruptcy. The refinery processes crude oils and condensates from across South Texas, including the rapidly developing Eagle Ford shale reserve.
- Represented a joint venture on environmental issues, including Title V permitting, in the acquisition of an integrated ammonia and methanol production facility located on the Gulf Coast near Beaumont, Texas.
- Represented a power operations and management company in its purchase of a 746 megawatt natural gas-fired combined-cycle power plant and associated assets located near Ackerman, Mississippi. Representation included the assessment of environmental permitting issues.
- Represented public company on environmental risks, liabilities and compliance issues associated with merger with independent refiner and marketer including issues associated with sites undergoing state

EDUCATION

JD, 1987, Texas Tech University School of Law, Phi Delta Phi

BA, 1979, The University of Vermont

ADMISSIONS

Texas 1987

and federal remediation actions
- Represented company with respect to environmental liabilities associated with legacy contamination sites under the Clean Water Act, Resource Conservation Act, Comprehensive Environmental Response, Compensation and Liability Act, Natural Resource Damages Act and Water Resource Development Act
- Represented Fortune 100 company with respect to environmental health and safety risks associated with purchase of former manufacturing site being remediated under the Voluntary Cleanup Program for development as a commercial property including negotiation of manuscripted insurance policy
- Represented biodiesel company with regard to environmental health and safety risks, liability and compliance associated with purchase of assets used for the manufacture of herbicides, including a Superfund site, for redevelopment as biodiesel plant
- Represented pipeline company with respect to railroad commission compliance and indemnity issues associated with litigation resolving liability for remediation of large pipeline leaks
- Represented international manufacturing company with respect to environmental, health and safety risks, liabilities and compliance issues associated with purchase of assets of company that manufactures machinery for the petrochemical and process industries
- Represented LNG company with respect to environmental health and safety disclosures associated with debt offering
- Represented issuer with respect to environmental risk, liability, compliance and disclosure issues associated with initial public offering of coal mining company
- Represented Fortune 100 company with respect to environmental, health and safety risks and liabilities associated with spin off of semiconductor business including securities disclosures
- Represented investor on assessment of environmental risks and liabilities associated with acquisition of tube manufacturing company whose properties had historic contamination issues
- Represented developer in enforcement action associated with development in wetlands resulting in After-the-Fact permit and no penalty
- Represented OEM with respect to take back issues associated with reseller agreement
- Worked on many real estate transactions involving contaminated properties covered under Superfund, the Texas Voluntary Cleanup Program, Innocent Owner Operator Program and Municipal Settings Designation
- Worked on compliance issues associated with wind energy projects in support of environmental opinion letters
- Worked on real estate transactions requiring nationwide wetlands permits and mitigation actions

PUBLICATIONS

- Key Texas Environmental Legislation Highlights (June 26, 2013)
- New Air Emissions Standards for the Oil and Gas Industry (April 24, 2012)
- Assessing & Allocating Environmental Risk in Acquisitions (October 12, 2011)
- Oil and Gas Companies Should Expect Increased SEC Scrutiny of Operations and Reserves (September 6, 2011)

Lisa Montgomery Shelton, Continued

- EPA Greenhouse Gas Reporting Rules Expanded to Oil and Gas - Update (November 11, 2010)
- EPA Issues Final "Tailoring" Rule for Greenhouse Gas Emissions (May 24, 2010)
- EPA Greenhouse Gas Reporting Rules Expanded to Oil and Gas, Enhanced Oil Recovery (March 31, 2010)
- EPA Rulemaking Hotline (March 3, 2010)
- EPA Issues New Renewable Fuels Standard (February 12, 2010)
- Stricter Smog Standards to Burden Municipalities and Industry (January 26, 2010)
- Increased Governmental Scrutiny on Oil and Gas Development (January 11, 2010)
- EPA Greenhouse Gas Reporting Starts January 2010 (November 16, 2009)
- "Corporate Initiatives: Product Lifecycles, Disclosure and Reporting"

PROFESSIONAL RECOGNITION

- Profiled as one of the leading Environmental lawyers in Texas, *Chambers & Partners USA: America's Leading Business Lawyer,* 2010-2013

BRIEFINGS, SEMINARS & SPEECHES

- Panelist, "BACT Guidance for Greenhouse Gases," 2011 Carbon and Climate Change Conference, Austin, Texas (February 9, 2011)
- "Corporate Initiative: Product Lifecycles, Disclosure and Reporting," presented at Texas Environmental Super Conference (August 2003)

AFFILIATIONS

- State Bar of Texas
- American Bar Association

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Site Assessment Pitfalls

Introduction

Why perform assessments. Uncertainty creates many difficulties in the handling of potential environmental risks and liabilities that are often associated with transactions, whether the transaction involves the purchase of real estate or the merger of companies. Properly done, environmental site assessments can assist in the identification of potential risks and liabilities. Once identified, mechanisms are available to limit and allocate exposure to environmental risks and liabilities which increase the likelihood of coming to agreement and closing the deal.

When to perform. Typically, environmental site assessments are performed early on during the due diligence period. After the buyer completes due diligence, the parties can negotiate various options to mitigate and allocate risk. Options range from excluding facilities that have contamination or non-compliance issues to using risk management tools. These tools include addressing the contamination or compliance issues prior to closing, allocating liability in the terms of the deal, using statutory programs to address environmental conditions and avoiding liability on statutory grounds, reducing the purchase price, or managing risks through insurance and environmental liability transfer programs.

Considerations. An environmental site assessment itself can create liability; particularly, where invasive testing is performed. Invasive testing, or so-called Phase II testing, can lead to potential reporting obligations for the owner or seller which may lead to remediation obligations and liability. Rather than eliminating risks, testing can create issues that must be addressed during the negotiation of the transaction. Consideration should be given as to how information developed during an environmental assessment will be handled (especially invasive testing) and how negative results might impact the transaction prior to performing any tests. Part of that consideration should be the balancing of the overall environmental risks inherent in the transaction.

Attorney-Client Privilege. One mechanism that can be used to protect the work product of the consultant is to have the environmental assessment performed at the direction of an attorney in order to assist the attorney in providing legal advice. If proper steps are taken, the work product of the third party consultant can be covered under the attorney client privilege. Beware, simply having an attorney involved in the project is not sufficient to invoke the privilege, and there is always the risk that a court will not recognize a privilege.

Identifying and Assessing Environmental Risks

Scope of due diligence. Environmental risk assessment takes many forms, often driven by the level of inquiry needed in a particular transaction. Though often thought of as **the** environmental assessment, an American Society for Testing and Materials (known as ASTM) Phase I performed in accordance with ASTM Standard E1527-05 (ASTM Phase I) is only one form of assessment. The level of inquiry depends on such factors as risk tolerance, deal structure, timeline of the transaction, as well as the number, type and environmental complexity of the properties and assets. For mergers and stock purchase transactions, the buyer succeeds to the liabilities of the acquired entity or acquires exposure to liabilities based on stock ownership. Accordingly, business combinations may justify a higher level of review than asset acquisitions. Mergers often pose special challenges due to confidentiality restrictions, the speed of negotiations, and limited access to persons with knowledge of environmental due diligence. Asset purchases involve deal specific issues, depending on the mix of assets.

Lisa Montgomery Shelton
Andrews Kurth LLP

Identifying potential releases. A primary form of assessment is the ASTM Phase I. However, it may not be practical in some cases and may not be sufficient in others. The goal of an ASTM Phase I is to identify Recognized Environmental Conditions or RECs. These are usually conditions that indicate releases or potential releases of hazardous substances or petroleum products. However, environmental risk goes beyond releases and contamination to compliance and development issues, which are not covered by a Phase I assessment.

Phase I reports. In addition to identifying RECs, ASTM Phase I reports may also benefit the buyer by setting up defenses to liability under the Comprehensive Environmental Response, Compensation and Liability Act, or CERCLA. However, CERCLA defenses do not offer protection from other federal statutes such as RCRA (the Resource Conservation and Recovery Act, the principal federal law governing the generation, transportation and disposal of solid waste and hazardous waste) and may not be sufficient to set up defenses to state laws or common law theories such as trespass or nuisance. To determine the extent of an environmental assessment, the parties should evaluate potential risks, benefits and specific aspects of the deal, including any requirements imposed by third parties such as lenders.

Analyzing merits and limits of the ASTM Phase I:

- **Practicality:** Is an ASTM Phase I impractical? The buyer might elect to modify a Phase I for the purchase of a midstream energy company with many miles of pipeline to avoid reviewing all records from within 1/4 to 1/2 mile of the entire pipeline.
- **Scope:** Is an ASTM Phase I too narrow? A power plant may not have many issues with on-site contamination but may have looming environmental regulation which will make future operations more difficult and expensive. An ASTM Phase I might be helpful, but the buyer might elect to focus on permits and regulatory requirements. An ASTM Phase I assessment of exploration and production assets may not cover most spills associated with those activities as such spills are generally not regulated as solid or hazardous waste and are often covered by programs not included in the list of databases typically reviewed for ASTM Phase I reports.
- **Contractual indemnities:** Are there agreements in effect that govern environmental liabilities? An old refinery or chemical plant might have legacy environmental issues that are already handled under separate agreements, and an ASTM Phase I would merely identify these known legacy issues. Under these circumstances, a buyer might prefer to focus on the acceptability of the related agreements and indemnities and other operational issues rather than the traditional Phase I information.
- **Priorities and timing:** Are issues other than releases more material or important to the deal? If a developer is purchasing greenfield real estate with wetlands on-site, the developer might focus its attention on completing the wetlands permitting process in a timely manner rather than focus on the Phase I.
- **Lenders:** Notwithstanding the issues noted above, lenders often require an Phase I as a matter of course. Freddie Mac/Fannie Mae, the Small Business Administration and the U.S. Department of Housing and Urban Development generally require ASTM Phase I assessments as part of the loan process. Many investment banks also require ASTM Phase I assessments.

Environmental Risks Associated with Transactions

Environmental risks associated with transactions generally fall into three categories, as further described below: 1) liability for contamination, 2) compliance and 3) development. Environmental assessments should be tailored to fit a particular transaction after considering all categories.

1) Liability for contamination

Sources of liability: Liability for contamination can arise from conditions on the property, as well as conditions that cause contamination off-site, for example, on adjacent properties or in ground water. Liability can also arise from improper handling and disposal of material at off-site locations. Property contamination can result in strict liability for the seller and buyer, and deal-breaking expenses for all of the costs of a response action from investigation, removal and remediation costs to government oversight costs, alternative water supplies and damages assessed for harming natural resources.

Strict liability for property contamination under federal law: CERCLA is the federal strict liability statute most commonly associated with liability for property contamination. Current owners, past owners at the time of a release, arrangers and operators may all be held liable under the statute. Under the arranger liability provision, liability can attach for contamination at other property where material was shipped for disposal.

Defenses under CERCLA: CERCLA includes several defenses to liability: 1) the innocent landowner, 2) bona fide prospective purchaser and 3) the contiguous property owner. All of these defenses require that "All Appropriate Inquiry" (known as AAI standards) be met. In addition, statutorily required continuing obligations must be satisfied, such as the prevention of continuing or future releases. AAI standards of due diligence are defined by EPA in regulations at 40 CFR Part 312. ASTM Standard E1527-05 was designed to meet AAI standards for due diligence in the form of an ASTM compliant Phase I. In order to obtain the statutory benefits of meeting AAI standards, the buyer should confirm that the Phase I assessment performed complies with current ASTM requirements. Note, the ASTM standard for Phase I assessments is currently undergoing revision and the requirements may change.

Further testing—Phase II: If contamination appears to be present on the property, the buyer will often consider a Phase II. A Phase II includes invasive testing, best done with the benefit of an agreement that includes the terms of access and testing. If the property is leased, there may be issues with invasive testing. Property owners themselves may also be sensitive to testing as invasive procedures may discover additional issues that may increase potential liability and remediation obligations for the owner.

Alternatives to invasive testing: The parties may consider other options if the Phase I indicates potential releases at the property, and testing is not authorized. Off-site investigations such as testing in nearby rights of way or more intensive reviews of public records and interviews can help to identify potential risks without conducting a Phase II. Other provisions of the transaction agreements can also address potential future liability, as described below.

Basics of environmental assessment:

- **Availability of defenses:** Should due diligence be performed to meet requirements that help set up defenses to liability?
- **Requirements of Phase I:** If the Phase I is being used to set up a defense to CERCLA, does it meet the ASTM Standard E1527-05 requirements?
- **Shipments and offsite exposure:** Do the operations involve the shipment of transformers, chemicals, hazardous waste or batteries? These shipments often result in off-site exposure.
- **Terms of access:** Will an Access Agreement be required? What terms should be covered?
- **Non-ASTM considerations:** Should the Phase I be expanded to include other environmental business risks or compliance issues?

Practice tip—beyond Phase I: Recent cases suggest that more than a Phase I may be required to establish the bona fide prospective purchaser defense. A buyer may consider what additional steps a prudent person would take under the circumstances. Also, requirements beyond the Phase I must be undertaken to meet the statutory requirements, such as the exercise of due care with respect to the hazardous substances found during the environmental assessment.

Practice tip—legal review of draft report: Phase I reports containing recommendations which are not followed or undertaken can weaken defenses that may be available in the future. In addition, Phase I reports are typically available to future potential purchasers, and a legal review of the draft report prior to finalization can be prudent.

2) Compliance

The ASTM standards for Phase I investigations do not require a review of compliance. However, the consultant can perform a compliance review concurrently with the Phase I. A buyer can include compliance inquiries along with interviews of plant personnel and the review of company documents. Depending on risk tolerance levels and the nature of the deal, a buyer may also rely on representations and warranties in the transaction documents.

Basics of Compliance:

- **Compliance with permits:** Determine whether all permits necessary to operate are in place and whether the facility can operate in compliance with the terms of the permits.
- **Permit renewals:** Review permit renewal dates. Renewals can be time consuming and expensive (and sometimes uncertain), especially if a new company does not have access to all of the knowledge and documentation of a prior company.
- **Potential limitations on operations:** Existing and proposed environmental rules may restrict future operating parameters and productivity. Rules covering air emissions, including greenhouse gases, and wastewater discharge limitations require particular scrutiny.
- **Potential violations:** Review existing and threatened compliance issues. Potential violations, orders and citations can result in penalties, including future stipulated penalties, limits on operations and requirements to install and monitor expensive controls.

If changes to operations are planned, the buyer should ask the following permitting questions:

- Can amendments be obtained within the timeline required?
- Will proposed changes trigger more stringent requirements?
- Will emissions reduction credits be required, and how can credits be obtained?
- As a matter of corporate policy, does the buyer seek to exceed permitting standards?

Practice tip—consents and transfers: Environmental permits cannot be unilaterally assigned by a company. Usually, there is at least a ministerial mechanism for agency approval before the transfer of the permit, and the parties typically agree to cooperate in seeking permits. Some transfers must be initiated before closing, and others may be initiated after closing. If not properly factored into the timeline of the transaction, the timing of permit transfers may delay closing.

3) Development

If the buyer expects to develop a property or modify a footprint during or after the deal, other environmental programs may come into play.

Basics of development:

- **Wetlands:** If there are wetlands on the property, dredging and filling cannot occur without a general permit (regional or nationwide) or individual permit. Obtaining an individual permit can take a year or more.
- **Special designations:** Migratory birds, endangered species and historical and archaeological designations can impact development. Solar and wind development projects in particular may need to be redesigned to meet programmatic requirements or may face delays and hearings related to these issues.
- **Environmental impacts:** A NEPA review under the National Environmental Policy Act, potentially including an environmental impact statement, may be required in deals that involve a major federal action such as federal funding, federal project land or federal approval. NEPA reviews can delay the closing of the deal and require public notice and the opportunity for public comment. A NEPA review may include an Environmental Assessment or EA as defined under that statute but such assessments are beyond the scope of this paper.

Practice tip—specialists: Developmental issues often require specialized environmental consultants. Phase I consultants are engineers or geologists. Migratory birds, endangered species and wetlands reviews require training in biology. Historical and archaeological surveys also require specialists.

Allocation of Environmental Risk

Risk allocation issues differ for the buyer and seller. Risk allocation also differs depending on the structure of the transaction. Asset purchase transactions generally allow greater flexibility in allocating environmental risks. Below are some common environmental risks and tools.

1) Indemnity provisions

Indemnity provisions allocate risk and often include specific language related to existing or potential future environmental liabilities. If the target has significant environmental risks, the parties may negotiate a specific indemnity for potential future environmental liability. Indemnities can include provisions to divide up environmental responsibility, such as:

- **Adjustment over indemnity period:** The seller's indemnification obligations may decrease over time by specified percentages or by specified dollar amounts.
- **Survival of the seller's obligations:** The seller's indemnification obligations may expire at the end of a particular time period or may decrease over a variety of specified time periods.
- **Basket:** A "basket," or dollar threshold, for damages may need to be met before seller's indemnification obligations are triggered.
- **Deductible or threshold:** The basket may be structured as a true deductible or as a "tipping basket," which allows buyer to recover damages from dollar one.
- **Cap:** Seller's indemnification obligations may be capped, may decrease over time and may be different for known contamination versus potential third party or governmental claims.
- **Known liabilities:** A seller's indemnity may also be limited to liabilities that are identified in a Phase II environmental site assessment report and require remediation or corrective action under applicable environmental laws.
- **Exclusive remedy:** The parties may agree that the terms of the environmental indemnity are the exclusive remedies of the parties for environmental liabilities.
- **Assignment:** The seller's indemnification obligations may or may not be assignable by the buyer or may be assignable only if the buyer sells substantially all of its assets.
- **Environmental Defect:** The parties may agree that the purchase price will be reduced by the costs associated with rectifying environmental defects. This mechanism is particularly prevalent in upstream and midstream oil and gas transactions.

Depending on the transaction and the associated risks, the parties can negotiate customized provisions to deal with known and unknown environmental liabilities.

Practice tip—public company or bankruptcy: If the transaction is a public company merger, or the seller is in bankruptcy or otherwise in distress, the structure of the transaction does not allow for post-closing indemnities. In these transactions, the acquiring company relies on its pre-closing due diligence and carefully drafted conditions to closing, such as remediation or absence of a material adverse change. In the case of a bankruptcy, a liquidating trust can be formed to provide indemnities. Insurance can be used in lieu of an indemnity or to supplement indemnities.

Practice tip—private company: In private company transactions, an escrow agreement can provide a mechanism to fund existing or potential future environmental liabilities. Escrow arrangements may offer particular comfort to a buyer if 1) the seller is selling substantially all of its assets and will likely distribute the sales proceeds and dissolve, 2) the future financial viability of the seller is otherwise suspect or 3) the seller is owned by individuals of uncertain creditworthiness (as opposed to a company that will continue to operate and generate cash post-closing).

2) Insurance

Environmental insurance can be used to address environmental risks, with the allocation of costs to be negotiated between the parties. Pollution legal liability insurance (known as PLL) is the primary form, however, environmental insurance companies also offer specialized products. PLL insurance has a menu of coverage and can cover potential contamination risks for property damage and bodily injury. PLL insurance typically requires a significant self-insured retention, and premiums must be paid in advance. PLL insurance is a 'claims made' form of policy which means a claim must be made during the term of the policy. Policies often extend for ten-year terms but may be five or up to 20 year terms. Cost cap insurance has been used in the past, but it is increasingly difficult to get such coverage. Under cost cap insurance, the expected cleanup cost is assessed, and the insurance covers additional sums.

Practice tip—expansion of coverage after remediation: In cases of known contamination, PLL policies can often be manuscripted to add a condition that coverage will be expanded after remediation is complete.

3) Remediation options

Remediation standards. The parties can address known contamination by requiring the seller to remediate to some predetermined level prior to the sale or for the seller to retain obligations associated with remediation. Remediation arrangements require careful consideration of potential future issues, including cooperation between the parties and failure to achieve cleanup objectives. If the seller retains responsibility for the cleanup after closing, the agreement should address access issues, as well as the expected standard for cleanup. If the seller will be allowed to meet a cleanup standard that would require deed restrictions on the property, the parties should define the kind of restrictions.

Baseline. The parties may also consider developing a baseline for remediation. A baseline can establish existing versus potential future contamination, and the parties can allocate responsibilities for cleanup accordingly. A baseline offers important benefits in circumstances where past and future contamination might mix and can be performed as part of an environmental assessment.

Sale of property. If known contamination requires long-term cleanup, there are companies that purchase contaminated property and assume the associated liability. Transactions that do not center around the contaminated property may benefit from this type of arrangement.

Environmental Liability Transfer. A number of companies offer various environmental liability transfer options. The particulars vary and should be reviewed to determine an appropriate fit.

Institutional Controls: Contaminated property remediation can be aided through the use of institutional controls. Institutional controls limit the uses of a property to prevent exposure to residual contamination.

4) Other transactional mechanisms

Many provisions can be negotiated to allocate environmental risks. Specific examples include:

- **Conditions to closing:** Closing conditions can include a "walk right" for the buyer if the buyer is not satisfied with environmental due diligence or if the seller does not meet some specified level of cleanup or removal of particular concerns, such as underground storage tanks. Such provisions require careful drafting.
- **Asset purchase agreements—seller retained liabilities**: The language should clearly state how liability for environmental conditions will be allocated, including conditions arising before and after closing that relate to contamination existing at the time of closing. The seller may agree to retain liability for a particular asset that is excluded from the purchase agreement. However, if the asset has environmental liabilities and the buyer is purchasing substantially all of the seller's assets, then the buyer should give careful consideration to the potential claims of successor liability by third parties or governmental authorities and potential clean-up liabilities that might be imposed on the buyer as a successor. Much of this analysis depends upon state law and the application of CERCLA and other federal statutes discussed above, as well as various potentially available defenses to these claims.
- **Price reductions or escrows:** Price adjustments and escrow mechanisms cover potential future costs and require the parties to agree as to the cost of remediation. Price adjustments and escrows generally entail a lengthy process of investigation and negotiation but may offer a useful tool if the parties seek to avoid disputes over post-closing indemnification obligations.
- **"No dig" provisions:** A seller of industrial property can address a future discovery of contamination through the use of "no dig" provisions, which release the seller from its indemnification obligations if contamination is discovered during the course of certain buyer actions.

5) Agency programs

The parties may also mitigate environmental risk using agency documentation and programs such as the following:

- **Voluntary cleanup:** In many states, including Texas, prospective purchasers can obtain protection from future liability through a Voluntary Cleanup Program. The property typically must be entered into the program prior to closing.
- **No further action letters**: Closure following corrective action can be evidenced by a No Further Action letter or NFA. They are useful in demonstrating that regulatory requirements for closure have been satisfied although they do not preclude further regulatory involvement.
- **Municipal setting designations:** Various states, including Texas, have developed programs that can eliminate the need for investigation or response actions to address contaminant impacts to groundwater that has been restricted from use as potable water. Municipal setting designations will not only accelerate regulatory closure but also reduce costs.
- **Prospective purchase agreements:** The U.S. Environmental Protection Agency or EPA and some states sometimes agree to review the issues and enter into prospective purchaser agreements. These programs have become less popular after the advent of AAI defenses. Timing of government response may rule out purchaser agreements from a practical standpoint.
- **Audits.** Many states and the EPA have audit privileges that can be used to limit potential liability for compliance issues. Audits performed after closing may still afford protection.

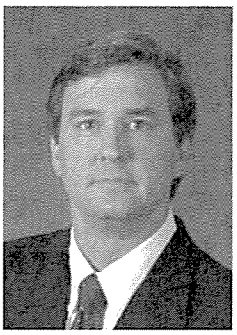
- **Innocent landowner provisions.** If contamination can be shown to come from adjacent property, the parties may consider statutory protections such as the Innocent Landowner provisions of the Texas Solid Waste Disposal Act.

Recent Developments

Key recent developments in environmental due diligence that will now need to be factored into the identification and analysis of risk in transactions include the following:

- **Revisions to ASTM Phase I Standard.** Changes to the current ASTM Phase I Standard are underway. Significant proposed revisions being considered include: (i) the addition of the new concept of "controlled recognized environmental condition" (to be used where sites at which past releases have occurred are subject to institutional controls) and (ii) requiring the environmental professional to consider the vapor intrusion pathway and to review agency files in the context of determining the existence of recognized environmental conditions. If adopted, these changes are likely to increase the time and cost associated with environmental site assessments.
- **EPA Vapor Intrusion Guidance.** EPA recently released for public comment two long-awaited guidance documents on vapor intrusion signaling the agency's increased focus on vapor intrusion issues during regulatory oversight of site remediation. When finalized, these new guidance documents will likely influence state regulatory actions and citizen suits, as well as environmental due diligence.
- **EPA BFPP Guidance.** In December of 2012, EPA released its *Revised Enforcement Guidance Regarding the Treatment of Tenants Under the CERCLA Bona Fide Prospective Purchaser Provision.* EPA has now provided notice that it will exercise its enforcement discretion such that tenants may now independently qualify for the bona fide prospective purchase defense under CERCLA.
- **Institutional Controls.** EPA has issued two guidance documents focused on so-called institutional controls which include recommendations that such measures be implemented through administrative orders, consent agreements, permits and regulations in addition to traditional real estate instruments. One guideline is entitled "Institutional Controls: A Guide to Planning, Implementing, Maintaining and Enforcing Institutional Controls at Contaminated Sites, OSWER 9355.0-89/EPA-540-R-001 (December 2012) and the other is entitled "Institutional Controls: A Guide to Preparing Institutional Control Implementation and Assurance Plans at Contaminated Sites," OSWER 9200.0-77/EPA-540-R-09-002 (December 2012). Environmental assessment of sites requiring institutional controls may be further complicated by many of the recommendations in these guidance documents.
- **Expansion of Audit Privilege to Prospective Purchasers.** Under recent amendments to the Texas Environmental, Health, and Safety Audit Privilege Act, a purchaser of new assets in Texas may now avail itself of the privilege and immunity protections under the Act. These changes create new opportunities for managing risk associated with the identification of violations discovered during due diligence by new owners that are similar to those which exist under EPA's audit policy for new owners.

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Peter Gregg's 21-year legal career has been devoted to the practice of environmental law. His practice includes a focus on environmental issues involving waste management and contaminated properties, including state and federal CERCLA matters, RCRA corrective action and compliance counseling, transactions involving contaminated properties, and counseling on state and federal regulatory cleanup programs. He also represents clients on all manner of air, water, waste management, and water and wastewater utility regulatory issues (permitting, enforcement, and general compliance matters).

Mr. Gregg began his career at the Texas Commission on Environmental Quality (TCEQ), where he provided program development and legal/litigation support for various air, water quality, and industrial and hazardous waste programs. He also spent several years as in-house environmental counsel at an international energy company. During his years in private practice, he has represented national and international clients within the chemical, petroleum refining, and natural gas production, processing and transportation industries, among others, as well as various local and regional manufacturing and utility interests.

Mr. Gregg is a former Chair of the Texas Bar's Environmental and Natural Resources Law Section and a former Chair of the Houston Bar Association's Environmental Law Section. He is listed in *The Best Lawyers in America* in the specialty of Environmental Law and has been distinguished as a "Super Lawyer" in Environmental/Land Use Law by *Texas Monthly* and *Law & Politics* Magazine. He is AV Peer Review Rated.

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Heather Corken offers clients in-depth environmental regulatory knowledge and extensive experience in energy-related environmental issues. As a partner in the Environmental Department, Heather helps energy, petrochemical and pipeline companies and private equity firms that are seeking guidance on environmental compliance and the allocation of environmental liabilities in mergers and acquisitions.

Heather practices all aspects of environmental law, advising clients on regulatory requirements, assisting them in the evaluation and negotiation of corporate and real estate transactions and representing them in environmental litigation and enforcement matters. Her areas of expertise include onshore and offshore oil and gas regulation; solid and hazardous waste; oil and gas waste; environmental remediation; water quality; water rights; wetlands; endangered species; Superfund litigation; and compliance with the National Environmental Policy Act. She plays a major role in advising clients on the environmental issues surrounding shale play development, hydraulic fracturing and the permitting, construction and operation of liquefied natural gas (LNG) import/export facilities in the U.S., and she currently serves as co-editor of Fulbright's hydraulic fracking blog.

Heather has assisted clients in the allocation of environmental liabilities in connection with the acquisition and divestiture of oil and gas properties in all of North America's major shale plays, including the Bakken, Barnett, Eagle Ford, Haynesville, Marcellus, Pearsall and Utica fields. She also counsels corporations on compliance with the Sarbanes-Oxley Act, disclosure of environmental matters in public filings and meeting the requirements of the Bureau of Safety and Environmental Enforcement's Safety and Environmental Management Systems (SEMS) regulations.

Areas of Concentration

- Environmental
- Mergers and acquisitions
- Shale and hydraulic fracturing
- Offshore oil and gas
- Climate change
- Litigation
- Banking and Finance
- Business Services
- Chemicals
- Energy and Utilities

Representative Experience

Representative Oil and Gas Transactions

- Advised oil and gas companies and private equity investors on the allocation of environmental liabilities in connection with the acquisition and divestiture of oil and gas properties in the Bakken, Barnett, Eagle Ford, Haynesville, Marcellus, Pearsall, and Utica Shales and the Uinta Basin
- Represented a privately held independent oil and gas company in the $1.45 billion sale of oil and gas properties in the Bakken shale in North Dakota
- Represented a New York Stock Exchange-listed oil and gas exploration and production company in multiple acquisitions of oil and gas properties in the major shale plays in the U.S., totalling more than $400 million
- Represented an independent petroleum and natural gas exploration and production company in the sale of 35% of their interest in oil and gas leases located in the Pearsall Shale in Texas to Japan's second largest gas company
- Represented a Fortune 500 company in its $2.16 billion acquisition of a major manufacturer of chemicals used in operating oil and gas wells

Representative Environmental Counseling Matters

- Represented a New York Stock Exchange-listed energy company in connection with the construction, permitting and operation of LNG import/export facilities in Sabine Pass, Louisiana and Corpus Christi, Texas
- Advised a major independent oil and natural gas exploration and production company on compliance with BSEE's Safety and Environmental Management Systems (SEMS) regulations in the U.S. Gulf of Mexico and assisted in development of the company's SEMS program
- Provided counsel to international oil and gas, energy and manufacturing companies on the disclosure of the financial impacts of environmental compliance and loss contingencies, including the potential impact of climate change, greenhouse gas emissions, and hydraulic fracturing on business operations and financial performance, in their 10-Ks, 10-Qs and other public filings
- Assisted in obtaining Section 404 permits from the U.S. Army Corps of Engineers (USACE) and negotiating contracts for the acquisition of wetlands mitigation credits in connection with the construction of a major energy project

Representative Environmental Enforcement Matters

- Provided counsel to clients named as potentially responsible parties under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) at state and federal Superfund sites in Alabama, Arkansas, Arizona, California, Georgia, New Jersey, Oklahoma, Pennsylvania, Tennessee and Texas, including serving as common counsel in connection with the Many Diversified Interests Superfund Site in Houston, Texas
  - Negotiated with the United States Environmental Protection Agency (EPA), the United States Department of Justice (DOJ) and other federal and state regulatory agencies to reduce settlement amounts on behalf of clients

- Defended a client in a multimillion dollar enforcement action brought by the EPA and the DOJ under the Resource Conservation and Recovery Act (RCRA) and corresponding state law
- Negotiated reduced settlement amounts for clients in enforcement actions brought by the EPA and states under RCRA, the Emergency Planning and Community Right-to-Know Act (EPCRA), the Clean Water Act (CWA), and the Clean Air Act (CAA)

Professional Activities

- Houston Bar Association
  - Environmental Law Section, Board Member
  - Oil, Gas and Mineral Law Section
- State Bar of Texas
  - Environmental and Natural Resources Law Section
  - Litigation Section
- American Bar Association
  - Litigation Section
  - Environmental Litigation Committee
  - Mass Torts Litigation Committee
  - Energy Litigation Committee
  - Section of Environment, Energy, and Resources
  - Special Committee on Environmental Disclosure
  - Superfund and Natural Resource Damages Litigation Committee
  - Environmental Transactions and Brownfields Committee
  - Environmental Litigation and Toxic Torts Committee

Professional Honors

- *Chambers USA: America's Leading Lawyers for Business* (2006 - 2012)
- *The Best Lawyers in America*
- *Super Lawyers*, Thomson Reuters
  - "Texas Super Lawyer" (2010 - 2012)
  - "Rising Star," Environmental Law (2006 - 2008)
- *Lawdragon* 3000 Leading Lawyers in the United States (2010 - 2011)
- "500 New Stars, New Worlds," *Lawdragon* (2006)
- "Houston's Top Lawyers," *H Texas* magazine (2007)

- *Who's Who in America*
- *Who's Who in American Law*

Publications

- Co-author, "Texas Railroad Commission Adopts Hydraulic Fracturing Chemical Disclosure Rule, Effective February 1, 2012," *Fulbright Alert*, December 14, 2011
- "Navigating 'Waters of the United States'," *Law360*, May 4, 2011
- Co-author, "Western Lands & Energy," *Fulbright Western Lands & Energy Monthly Update - May 2011*, May 3, 2011
- "U.S. EPA and Army Corps of Engineers Issue Draft Guidance on Scope of 'Waters of the United States' Under Clean Water Act," *Fulbright Briefing*, April 29, 2011
- Co-author, "BNSF A Year Later: Joint and Several Liability," *Law 360*, April 27, 2010

Speeches

- "Environmental Hurdles to LNG Export Approval," American Law Institute Webinar, June 2013
- "Environmental Considerations in Oil and Gas Leases," American Bar Association Webinar, June 2013
- "Offshore Environmental Issues: Things to Consider," PetroSkills, April 2013
- "The Path to Global Best Practices in Offshore Drilling," Texas Minority Counsel Program, October 2012
- "Environmental Considerations for Leases of Real Property," Fulbright & Jaworski L.L.P. Environmental Law Update, September 2012
- "Regulatory and Environmental Considerations for Hydraulic Fracturing," Fulbright & Jaworski L.L.P. CLE Presentation, September 2012
- "The New Texas Gold: Texas Regulation of Shale Gas in the Barnett, Haynesville and Eagle Ford Shales," West Virginia University College of Law Shale Gas Symposium, October 2011
- "RCRA Case Law Update," Fulbright & Jaworski L.L.P. Environmental Law Update, October 2011
- "Environmental Issues Associated with Shale Gas," Fulbright & Jaworski L.L.P. Shale Gas Seminar, October 2011
- "Hot Topics in Document Production and Retention," Twenty-Third Annual Texas Environmental Superconference, August 2011
- "Keeping Kids Safe on the Internet," Fulbright & Jaworski L.L.P. Privacy Seminar, November 2010
- "Ethical Considerations for the Environmental Practitioner," Fulbright & Jaworski L.L.P. Environmental Law Update, October 2010
- "Disclosure of Environmental Issues in SEC Filings," American Bar Association Conference on Environmental Issues in Region 6, June 2010

- "State and Federal Site Contamination Law," Texas Land Law Conference for Civil Engineers and Land Surveyors, March 2010
- "Ethical Considerations for the Wetlands Practitioner," Texas Wetlands Conference, February 2010

Educational Background

1994 - J.D., Vanderbilt University
1991 - B.A., cum laude, History and International Studies, Rhodes College

Heather was admitted to practice law in Texas in 1994.

Interests

Heather is an avid sports fan with a passion for Houston Astros baseball and Dallas Cowboys football. She enjoys running and has completed a marathon and five half marathons.

Civic Involvement

- United Way of Greater Houston, Alexis de Tocqueville Society, Steering Committee Member
- United Way of Greater Houston, Women's Initiative, Steering Committee Member

ENVIRONMENTAL DISCLOSURES

Heather M. Corken
Partner, Fulbright & Jaworski LLP
Texas Environmental Superconference
August 2, 2013

The United States Congress has granted the Securities and Exchange Commission ("SEC") the authority to promulgate regulations and issue guidance on what information public companies must disclose in their public filings. The SEC has imposed disclosure requirements specifically for environmental matters for more than thirty years. Guidance issued by the SEC in 2010 has expanded the matters that must be reported to specifically include disclosures related to climate change. As a result, companies that might not have considered climate change relevant to their business in the past must now consider the potential impacts of climate change on their company's financial condition and results of operations. In addition, subpoenas issued by the SEC in August 2011 to several shale gas producers relating to the reported performance of their shale gas wells, as well as recent comments made by SEC staff to energy company filings, indicate increased scrutiny on the disclosure of risks associated with hydraulic fracturing activities.

This paper will examine the existing SEC rules and regulations governing disclosure of environmental matters, analyze the SEC guidance on disclosure of climate change risks in public filings, and discuss recent developments regarding disclosures involving hydraulic fracturing.

I. SEC REGULATION OF DISCLOSURES IN PUBLIC FILINGS

A. Regulation S-K

Regulation S-K, promulgated by the SEC in 1982, sets forth the requirements applicable to the content of the non-financial statement portions of filings required under the Securities Act of 1933 and the Securities Exchange Act of 1934.[1] In addition to the information expressly required by SEC regulation, Securities Act Rule 408 and Exchange Act 12b-20 require a public company to disclose "such further material information, if any, as may be necessary to make the required statements, in light of the circumstances under which they are made, not misleading."[2]

There are four items in Regulation S-K that address disclosure of environmental costs and liabilities.

1. Item 101 of Regulation S-K – Description of Business

Item 101 of Regulation S-K requires disclosure of the material effects, if any, that compliance with federal, state and local environmental regulations may have upon the capital expenditures, earnings and competitive position of the registrant and its subsidiaries.[3] Disclosure

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1 17 C.F.R. § 229.10.

2 *Id.* §§ 230.408, 240.12b-30.

3 *Id.* § 229.101(c)(1)(xii).

of material estimated future capital expenditures for environmental control facilities is also required.[4] The focus of Item 101 is on the impact of existing regulations on a company's operations.

In determining whether an environmental matter is "material," and thus should be disclosed, "the registrant should take into account both quantitative and qualitative factors, such as the significance of the matter to the registrant (*e.g.*, whether a matter with a relatively minor impact on the registrant's business is represented by management to be important to its future profitability), the pervasiveness of the matter (*e.g.*, whether it affects or may affect numerous items in the segment information), and the impact of the matter (*e.g.*, whether it distorts the trends reflected in the segment information)."[5] Generally, an item is material if there is a substantial likelihood its disclosure would be viewed by a reasonable investor as having significantly altered the "total mix" of information made available.[6] The SEC has cautioned companies against making materiality determinations based solely on quantitative "rules of thumb," such as 5% or 10% of total assets.[7]

Registrants take different approaches with regard to this environmental disclosure requirement. Some include a detailed description of environmental liabilities in Item 1 of the Form 10-K. Others address the bulk of environmental disclosure in other portions of the Form 10-K, for example in Item 3, Management's Discussion and Analysis of Financial Condition and Results of Operations ("MD&A") and the notes to the financial statements.

2. Item 103 of Regulation S-K - Legal Proceedings

Item 103 of Regulation S-K requires a brief description of material pending legal proceedings, other than "ordinary routine litigation incidental to the business," to which the registrant or any of its subsidiaries is a party or of which any of their property is the subject.[8] The name of the court or agency in which the proceeding is pending, the date instituted, the principal parties, the relief sought, and a description of the factual basis alleged to underlie the proceeding must be included.[9] Similar information is also required as to proceedings known to be contemplated by governmental agencies.[10]

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4 *Id.*

5 *Id.* § 229.101, Instruction 1.

6 *See TSC Indus. v. Northway, Inc.*, 426 U.S. 438, 449 (1976); *see also* FEDERAL ACCOUNTING STANDARDS BOARD Statement of Financial Accounting Concepts No. 2, Glossary of Terms (1980) ("The omission or misstatement of an item in a financial report is material if, in the light of surrounding circumstances, the magnitude of the item is such that it is probable that the judgment of a reasonable person relying upon the report would have been changed or influenced by the inclusion or correction of the item.").

7 SEC Staff Accounting Bulletin No. 99, 64 Fed. Reg. 45,150 (Aug. 19, 1999) ("SAB 99"). SAB 99 addresses the issue of materiality in the context of the preparation of financial statements and performance of audits of those financial statements. SAB 99 requires both quantitative and qualitative analysis in order to determine what should be deemed material.

8 17 C.F.R. § 229.103.

9 *Id.*

10 *Id.*

Under Item 103, a proceeding is material if the amount claimed (exclusive of interest and court costs) exceeds 10% of the current assets of the registrant and its subsidiaries determined on a consolidated basis.[11] If, however, a proceeding presents in large measure the same legal and factual issues as other proceedings pending or known to be contemplated, the amount involved in those other proceedings must be included in computing the amount involved.[12]

Registrants are not required to disclose ordinary routine litigation that is usual for their business.[13] For example, if a registrant's business ordinarily results in actions for negligence or other claims, such actions or claims need not be disclosed.[14]

Specific types of proceedings which have been determined by the SEC not to be ordinary, routine litigation incidental to the registrant's business are described in Instructions 3, 4, and 5 to Item 103.[15] Instruction 5 provides that an administrative or judicial proceeding arising under any federal, state, or local provisions regulating the discharge of materials into the environment or primarily for the purpose of protecting the environment shall not be deemed "ordinary routine litigation incidental to the business" and shall be described if:

- Such proceeding is material to the business or financial condition of the registrant;

- Such proceeding involves primarily a claim for damages, or involves potential monetary sanctions, capital expenditures, deferred charges or charges to income and the amount involved, exclusive of interest and costs, exceeds 10% of the current assets of the registrant and its subsidiaries on a consolidated basis; or

- A governmental authority is a party to such proceeding and such proceeding involves potential monetary sanctions, unless the registrant reasonably believes that such proceeding will result in no monetary sanctions, or in monetary sanctions (exclusive of interest and costs) of less than $100,000; however, proceedings which are similar in nature may be grouped and described generically.[16]

Although the SEC has not defined or described the point at which administrative activities may qualify as "proceedings," the SEC has expressed the view that the term "proceedings" should not be narrowly construed and has stated that all administrative orders

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11 *Id.*, Instruction 2.

12 *Id.*

13 *Id.* § 229.103.

14 *Id.*, Instruction 1.

15 *Id.*, Instructions 3, 4, & 5.

16 *Id.*, Instruction 5.

relating to environmental matters, whether or not those orders follow a formal proceeding, may be reportable.[17]

3. Item 503(c) of Regulation S-K – Risk Factors

Item 503(c) of Regulation S-K requires a registrant to provide, where appropriate, a discussion of the most significant factors that make an investment in the registrant speculative or risky.[18] Such disclosure generally appears under the heading "Risk Factors" in the Form 10-K. Item 503(c) specifies that the disclosure should clearly state the risk and specify how the particular risk affects the particular company; companies should not present risks that could apply to any issuer or any offering.[19]

4. Item 303 of Regulation S-K – Management's Discussion and Analysis

Item 303 of Regulation S-K contains a general requirement to disclose "any known trends or uncertainties that have had or that the registrant reasonably expects will have a material favorable or unfavorable impact on net sales or revenues or income from continuing operations."[20] The purpose of the MD&A is to provide relevant information to investors and other users for assessing the financial condition and results of operations of the registrant as determined by evaluating the amounts and certainty of cash flows from operations and from outside sources.[21] Item 303 looks beyond the specific effects of existing regulatory requirements to events and uncertainties that are known to management and are expected to be material, but may not yet be reflected in current financial statements.

The SEC has developed a two-part test to assist companies in determining whether disclosure is required in the MD&A.[22] Management must first determine whether the trend or event is not reasonably likely to occur, in which case no disclosure is required.[23] If management cannot make that determination, then disclosure is required unless management can determine that, assuming it occurs, such trend or event is not reasonably likely to be material.[24] Under the "reasonably likely" standard, doubts about the likelihood that an event or uncertainty will occur, or will be material, should be resolved in favor of disclosure.[25]

To monitor compliance with the disclosure requirements, the SEC's Division of Corporation Finance periodically reviews registrants' filings and issues comment letters, if necessary, to request additional information, amendments of prior filings, or specific disclosures

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17 *See* SEC Release No. 33-6130, 44 Fed. Reg. 56,924 (Sept. 27, 1979).

18 17 C.F.R. § 229.503(c).

19 *Id.*

20 17 C.F.R. § 229.303(a)(3)(ii).

21 *Id.*, Instruction 2.

22 Securities Act Release No. 6835, 54 Fed. Reg. 22,427, 22,430 (May 18, 1989) ("1989 Release").

23 *Id.*

24 *Id.*

25 *Id.*

in future filings. The SEC has warned that if a material change in financial condition or results of operation occurs and was not discussed in prior MD&A disclosures, the SEC staff will inquire into the circumstances of the prior MD&A filings to determine whether the registrant failed to meet the requirements of Item 303.[26] Since 2002, comments from the SEC requesting more particularized disclosures in the MD&A discussion regarding environmental costs and loss contingencies have become increasingly common.

II. SEC GUIDANCE REGARDING DISCLOSURE RELATED TO CLIMATE CHANGE

On February 8, 2010, the SEC published an interpretive release to provide guidance to public companies regarding the SEC's existing disclosure requirements as they apply to climate change matters ("Guidance").[27] According to the SEC, the Guidance does not create new legal requirements or modify existing ones, rather it is merely intended to provide clarity and enhance consistency for public companies and their investors.[28] The Guidance responds to the growing concerns of investors about climate change risks and provides a roadmap for disclosing such risks under the federal securities laws and regulations.

Although the Guidance was published as an interpretive release rather than as a formal new rule, SEC guidance is generally treated as binding, and the SEC has stated that it "will monitor the impact of this interpretive release on company filings as part of [its] ongoing disclosure review program."[29] Therefore, it is critical that companies consider climate change and its consequences when preparing their public filings.

The Guidance highlights four principal areas where climate change may present material risks that trigger disclosure requirements: (1) impact of legislation and regulation; (2) impact of international accords; (3) indirect consequences of regulation or business trends; and (4) physical impacts of climate change.[30]

A. Impact of Legislation and Regulation

Recently, there have been significant developments in federal, state and local climate change legislation and regulation that may trigger disclosure obligations under SEC rules and regulations. For example, the U.S. Congress is currently considering climate change legislation, and the U.S. Environmental Protection Agency ("EPA") has promulgated regulations requiring the mandatory reporting of greenhouse gas emissions. Item 101 of Regulation S-K requires

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26 *Id.* at 22,430 n.28.

27 *See* 75 Fed. Reg. 6289 (Feb. 8, 2010).

28 *See* Speech by SEC Chairman: Statement Before the Open Commission Meeting on Disclosure Related to Business or Legislative Events on the Issue of Climate Change, Jan. 27, 2010, *available at* www.sec.gov/news/speech/2010/spch012710mls-climate.htm ("Chairman's Statement").

29 *Id.*

30 75 Fed. Reg. at 6295-97.

disclosure of any material estimated capital expenditures for environmental control facilities, which could include controls to regulate greenhouse gas emissions.[31]

Under Item 303 of Regulation S-K, registrants must also assess the extent to which climate change regulation or legislation is reasonably likely to have a material effect on the registrant's financial condition or results of operation.[32] When evaluating known uncertainty, such as pending climate change legislation or regulation, registrants must evaluate: (1) whether the pending legislation or regulation is reasonably likely to be enacted; and (2) whether it is reasonably likely to have a material effect on the registrant, its financial condition or results of operation.[33] Unless management determines that the pending legislation is not reasonably likely to be enacted or that, if enacted, it is not reasonably likely to have a material effect on the company, disclosure is required.[34]

Possible consequences of pending climate change legislation and regulation include:

- Costs to purchase, or profits from sales of, allowances or credits under a "cap and trade" system;
- Costs required to improve facilities and equipment to reduce emissions in order to comply with regulatory limits or to mitigate the financial consequences of a "cap and trade" regime; and
- Changes to profit or loss arising from increased or decreased demand for goods and services produced by the company arising directly from legislation or regulation, and indirectly from changes in costs of goods sold.[35]

In the Guidance, the SEC cautions that because climate change regulation is a rapidly developing area, registrants need to regularly assess their potential disclosure obligations in light of new developments.[36]

B. Impact of International Accords

Registrants must also consider and disclose material impacts on their business attributable to international accords or treaties relating to climate change, such as the Kyoto Protocol.[37] The Guidance recommends that registrants whose businesses are reasonably likely to

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31 17 C.F.R. § 229.101.

32 *See* 1989 Release, *supra* note 22.

33 75 Fed. Reg. at 6296.

34 *Id.*

35 *Id.*

36 *Id.*

37 *Id.*

be affected by international climate change agreements consider the possible impacts of those agreements when evaluating their potential disclosure obligations.[38]

C. Indirect Consequences of Regulation or Business Trends

The Guidance recognizes that legal, technological, political and scientific developments relating to climate change may create new risks and opportunities for companies.[39] The Guidance identifies potential indirect consequences of climate change legislation, including:

- Decreased demand for goods that produce significant greenhouse gas emissions;
- Increased demand for goods that result in lower emissions than competing products;
- Increased competition to develop innovative new products;
- Increased demand for generation and transmission of energy from alternative energy sources; and
- Decreased demand for services related to carbon-based energy sources, such as drilling services or equipment maintenance services.[40]

According to the SEC, these business risks or trends may be required to be disclosed as risk factors or in the MD&A.[41] In addition, if these developments could have a material impact on a registrant's business, disclosure may also be required under Item 101.[42] The Guidance also notes that a registrant may be required to disclose reputational risks if public perception regarding its greenhouse gas emissions could expose the company to potential adverse business or financial consequences resulting from damage to its reputation.[43]

D. Physical Impacts of Climate Change

Although the SEC claims that in issuing the Guidance it is "not opining on whether the world's climate is changing, at what pace it might be changing, or due to what causes,"[44] the SEC does specifically link climate change to physical changes in nature. The Guidance states that "[s]ignificant physical effects of climate change, such as effects on the severity of weather (for example, floods or hurricanes), sea levels, the arability of farmland, and water availability

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38 *Id.*

39 *Id.*

40 *Id.*

41 *Id.*

42 *Id.*

43 *Id.*

44 Chairman's Statement, *supra* note 28.

and quality, have the potential to affect a registrant's operations and results."[45] As a result, disclosure of the physical impacts of climate change may be required under the SEC rules and regulations.[46]

According to the SEC, the possible material consequences of severe weather caused by climate change could include:

- For registrants with operations concentrated on coastlines, property damage and disruptions to operations, including manufacturing operations or the transport of manufactured products;
- Indirect financial and operational impacts from disruptions to the operations of major customers or suppliers from severe weather, such as hurricanes or floods;
- Increased insurance claims and liabilities for insurance and reinsurance companies;
- Decreased agricultural production capacity in areas affected by drought or other weather-related changes; and
- Increased insurance premiums and deductibles, or a decrease in the availability of coverage, for registrants with plants or operations in areas subject to severe weather.[47]

III. HYDRAULIC FRACTURING DISCLOSURES

Unlike climate change, the SEC has not provided formal guidance to public companies regarding the disclosure requirements as they apply to hydraulic fracturing activities. However, the SEC apparently takes the position that the SEC rules and regulations presently require certain registrants to disclose the risks associated with hydraulic fracturing in their public filings.

In August 2011, the SEC issued subpoenas to a number of oil and gas companies engaged in shale gas production seeking information relating to the reported performance of their shale gas wells.[48] The subpoenas sought documents and information regarding the actual performance of shale gas wells against forecasted or projected performance, the propriety of decline curves for the wells, and the calculation and public disclosure of full-cycle margins. In the subpoenas, the SEC noted that the investigation arose out of recent media reports questioning the projected decline curves and economics of shale gas wells.

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45 75 Fed. Reg. at 6296-97.

46 *Id.* at 6297.

47 *Id.*

48 *See* Deborah Solomon, *SEC Bears Down on Fracking*, The Wall Street Journal, Aug. 25, 2011.

The New York Attorney General also issued subpoenas in August 2011 to several oil and gas companies seeking information on estimated reserves from their shale gas wells as part of an investigation under New York's Martin Act.[49] According to published reports, the subpoenas sought information as to whether the companies had accurately disclosed: (1) the estimated productive life of their shale gas wells; (2) the anticipated prospects for their natural gas wells; and (3) reserve estimates. The inquiry was focused on whether the companies could actually produce the levels of gas they told investors they can and whether the timeline they had established to reach that level of production was credible.[50] This investigation followed the New York Attorney General's issuance of subpoenas in June 2011 to five shale gas companies as part of a Martin Act inquiry into whether the companies had accurately disclosed the environmental risks from hydraulic fracturing to investors.[51]

In addition, over the past two years, the staff of the SEC's Division of Corporation Finance has issued comment letters to registrants in the oil and gas business seeking detailed disclosures on hydraulic fracturing and environmental risks and liabilities. Examples of SEC staff comments include the following:

- "We note your disclosure here and elsewhere that you engage in hydraulic fracturing, that natural gas accounts for the majority of your proved reserves and that you have operations in the Eagle Ford and Haynesville shale formations. Accordingly, in an appropriate location, please provide a more detailed discussion of the hydraulic fracturing process, what t entails, how it is done, etc. Also, if material, please provide risk-factor disclosure addressing the specific operational and financial risks associated with hydraulic fracturing."

- "Please clarify whether (and if material, the extent to which) you currently engage in hydraulic fracturing activities. In addition, to the extent that hydraulic fracturing activities are material to your operations, please revise this risk factor to address any material operational and financial risks associated with hydraulic fracturing. For example, any material risks related to underground migration or surface spillage or mishandling of fluids, including chemical additives that may be toxic."

- "In this risk factor, you disclose that regulations curtailing exploration and development of oil and gas fields would adversely affect your operations by limiting demand for your services, and also that you have the potential for environmental liabilities. Please add a new risk factor to disclose in necessary detail the regulatory, financial and/or operational risks posed to you by your provision of hydraulic fracturing services, including the risks posed to you by regulations that have been adopted by states in which you operate and/or by the federal government."

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[49] *Id.*; Ian Urbina, *New York Subpoenas Energy Firms*, N.Y. Times, Aug. 18, 2011.

[50] Greg Ryan, *NY AG Subpoenas Energy Giants Over Drilling Forecasts*, Law360, Aug. 18, 2011.

[51] Ian Urbina, *Lawmakers Seek Inquiry of Natural Gas Industry*, N.Y. Times, June 28, 2011.

- "We note disclosure here concerning various operational hazards in your business . . . and elsewhere in your filing concerning your routine use of hydraulic fracturing techniques and the prospect of increasing regulation related to hydraulic fracturing. We further note the information you provide on the registry FracFocus.org concerning the chemicals you use. If material, please revise this risk factor or add a new risk factor to disclose the specific operational and financial risks associated with hydraulic fracturing. For instance, we note that you do not discuss any risks associated with potential underground migration or surface spillage or mishandling of fluids or wastewater disposal."

- "With regard to your use of hydraulic fracturing, please also tell us what steps you, or the third-party contractors you hire, have taken to minimize any potential environmental impact."

The SEC staff has also asked some companies to describe the chemicals used in their hydraulic fracturing fluids, including the volume and concentration of the fluid formulation. In addition, the staff has questioned whether those companies have evaluated the environmental impact of additives in the hydraulic fracturing fluid.

Finally, shareholder resolutions on hydraulic fracturing operations have also increased in the past two years.[52] Investors such as socially responsible investment firms, pension funds, and faith-based institutional investors have submitted shareholder proposals for the proxy statements of several major oil and gas companies seeking disclosure of legal and regulatory risks, chemicals used in the hydraulic fracturing process, and identification and reduction of potential hazards associated with hydraulic fracturing activities.[53]

For example, The Sisters of St. Francis of Philadelphia recently filed a resolution asking one oil and gas company "to report to shareholders, via quantitative indicators, the result of company policies, procedures and practices above and beyond regulatory requirements, to minimize the adverse environmental and community impacts from the company's shale energy operations."[54] An identical proposal was filed by As You Sow and the New York City Pensions Fund against another major oil company in May 2013.[55] In yet another instance, the New York State Comptroller, as trustee of the $150.1 billion New York State Common Retirement Fund, recently reached an agreement with another oil and gas company to publicly disclose its policies and procedures for eliminating or minimizing the use of toxic substances in its hydraulic

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[52] Avery Fellow, *Investors Demand Climate-Risk Disclosure in 2013 Proxies*, Bloomberg, Feb. 25, 2013.

[53] *Id.*

[54] Letter dated Apr. 30, 2013 from The Sisters of St. Francis of Philadelphia to Chevron Corporation Shareholders, *available at* www.osfphila.org/files/file/CVX%20fracking%20memo%20final%204-30-13.pdf.

[55] As You Sow, 2013 Shareholder Resolution, Exxon Mobil, Qualitative Risk Management Reporting for Natural Gas Operations, *available at* www.asyousow.org/publications/2013/filings/Exxon-resolution-20130203.pdf.

fracturing fluids, even though the company already discloses the components of such fluids in the FracFocus.org Chemical Disclosure Registry.[56]

IV. CONCLUSION

Increased scrutiny of companies' environmental disclosures in public filings is expected to continue. Although the SEC maintains that its 2010 guidance on climate change disclosure did not create new legal requirements or modify existing ones, the breadth and scope of climate change disclosures required in public filings has changed significantly since the guidance was issued. Companies must now consider the risks and opportunities of climate change when determining what environmental issues need to be disclosed under federal securities laws and regulations. In addition, the SEC staff and company shareholders are now demanding detailed disclosures of the risks associated with hydraulic fracturing activities. If companies fail to take into consideration the risks associated with climate change and hydraulic fracturing, they can expect the SEC and investors to soon be knocking on their door asking why.

[56] Office of the New York State Comptroller Thomas P. DiNapoli, *DiNapoli Reaches Agreement with Cabot Oil and Gas to Disclose Policies on Hydraulic Fracturing Fluid*, Feb. 1, 2013, *available at* www.osc.state.ny.us/press/releases/feb13/020513.htm.

Herb Yuan – CTO, DexaSystems

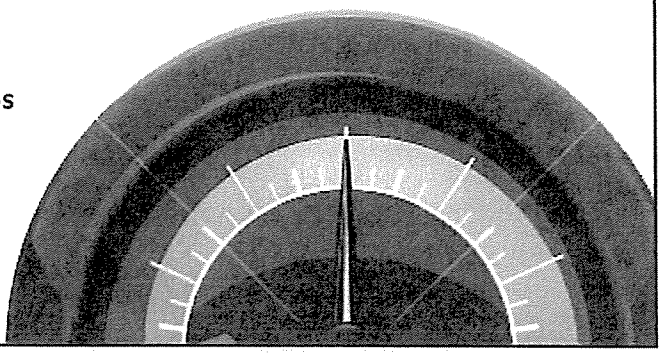
Herb Yuan is CTO for Dexa Systems. As CTO, Herb is charged with developing new approaches to security in light of the latest threats affecting critical infrastructure enterprises. Herb has worked with numerous clients on addressing enterprise security challenges. Herb retired from Shell after 33 years in a variety of technology and upstream management positions. His last assignment was CIO for Shell's upstream head office, which included technology and exploration organizations with priorities on high performance computing, information management and software engineering. Herb also served on leadership teams associated with technology organizations as well as initiating the Shell Gamechanger enterprise innovation process. He is serving and has served on a variety of boards. Herb is a member of the SPE. Herb enjoys cycling, golf and reading. Herb received his PhD in Chemical Physics from the Massachusetts Institute of Technology and his undergraduate degree in Chemistry and Math from the Australian National University.

Dexa Systems

ENVIRONMENTAL and legal CONCERNS POSED BY CYBER ATTACKS

Herbert Yuan
CTO, DexaSystems

2013
Texas Environmental SuperConference
Aug 2, 2013



Dexa Systems

About Dexa Systems

- **Dexa is an energy security company, which was spun off from Schlumberger (2008).**
  - **Developed first PKI based smart card for network authentication (as part of Schlumberger Electronic Transaction Group)**
- **Our management team are executives from the oil and gas industry.**
- **We focus on security products and services for critical infrastructure companies - clients include Fortune 100 companies.**

3

Dexa Systems

My Goals for This Talk:

1. Describe critical infrastructure (CI) protection needs in light of cyber threats that can now cause disruption to operations.
   - CI Incidents can easily have environmental impacts
2. Create awareness of regulatory trends concerning cyber security.
3. Outline a cyber defense plan for those in the legal profession.

4

Dexa Systems

Key Messages of my Talk

1. Cyber attacks can cause physical damage due to pervasive use of "smart technologies".
   - Risk assessment processes must incorporate cyber risk perspective especially as part of environmental assessments.
2. Law firms are a key target of cyber threats.
3. Regulations are coming.
   - Executive Order and Presidential Policy Directive of Feb, 2013 are first indications of more regulations on the horizon.

5

Dexa Systems

Outline

1. "Game Changing" Headlines
2. Trends in Protecting Critical Infrastructure
3. Regulatory Climate
4. Thoughts on law firm protection
5. Wrap-Up

6

Dexa Systems

Outline

1. "Game Changing" Headlines
2. [illegible]
3. [illegible]
4. [illegible]
5. [illegible]

7

Dexa Systems

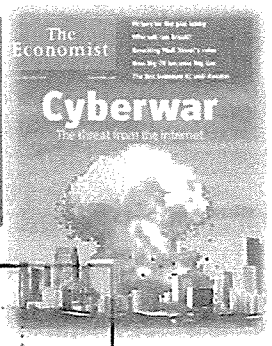
Headlines

2010

The Christian Science Monitor

US oil industry hit by cyberattacks: Was China involved?

MONITOR EXCLUSIVE: Breaches show how sophisticated industrial espionage is becoming. The big question: Who's behind them?



2011

DC Magazine > News > Chinese hackers break into oil companies' networks

Chinese hackers break into oil companies' networks

Angela Moscaritolo

Gamechanger: Sophisticated malware causing cyber compromise that remains difficult to detect - Advanced Persistent Threat (APT)

8

Dexa Systems

APT Kill Chain

Reconnaissance	• Harvesting email addresses, conference information, etc
Weaponization	• Coupling exploit with backdoor into deliverable payload
Delivery	• Delivering weaponized bundle to the victim via email, web, USB, etc
Exploitation	• Exploiting a vulnerability to execute code on victim system
Installation	• Installing malware on the asset
Command & Control	• Command channel for remote manipulation of victim
Actions on Objectives	• With "Hands on Keyboard" access, intruders accomplish their original goal

9

Dexa Systems

More Headlines

Mystery malware wreaks havoc on energy sector computers

Like malware that attacked Iran, Shamoon permanently destroys hard disk data

by Dan Goodin - Aug 16 2012, 1:25pm CDT

Aug 16, 2012

Aug 27, 2012

Cyber attack takes Qatar's RasGas offline

ARTICLE READER COMMENTS (3)

By Patrick Osgood Thursday, 30 August 2012 10:55 AM

Gamechanger: Cyber compromise focused on disruption and physical damage!

10

Dexa Systems

Cyber attacks move to Infrastructure Destruction

- **In 2012, 2 cyber attacks of O&G companies show attacks are moving from Intellectual Property theft to Cyber Destruction**
- **The attacks were 2 weeks apart to different middle eastern companies**
- **The attack disabled large numbers of business systems in both companies, taking weeks/months to recover.**
- **Process control systems were not affected (because the business was able to continue) but could have been**
- 2nd attack was more destructive than the first

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Other Headlines

Bloomberg Our Company Professional Anywhere

HOME QUICK NEWS OPINION MARKET DATA PERSONAL FINANCE TECH POLITICS SUSTAIN

China-Based Hackers Target Law Firms to Get Secret Deal Data

By Michael A. Riley & Sophia Pearson - Jan 31, 2012 3:37 PM CT



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What Are They After?

Your confidential information, such as:

- **Business negotiation plans (Oil, Technology, Patents)**
- **Source Code, Databases, Emails, Laptops, Hard Drives**
- **Decision Documents and Intellectual Property, Contracts**
- **SCADA [Supervisory Control & Data Acquisition] Configurations**
- **Schematics, Blueprints, CAD/CAMs, or Formulas**



Information that must have integrity or Have high availability

As well as disruption to your operations!

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Key Threat Agents
Motive, Opportunity, Means

Industrial Espionage
- Who: China? Russia? N. Korea? Iran?
- Why: Economic advantage.
- How: Advanced malware

Hactivist (Hack + Activist)
- Who: Nationals & non-Nationals, Underground Groups, Anon, etc
- Why: "The Court of Public Opinion"
- How: DDOS; Information release

Cyber Terrorist / Organized Crime
- Who: Motive w/less means. Non-sanctioned but sponsored.
- Why: Political/Economic/Belief motive
- How: Identify theft; blackmail

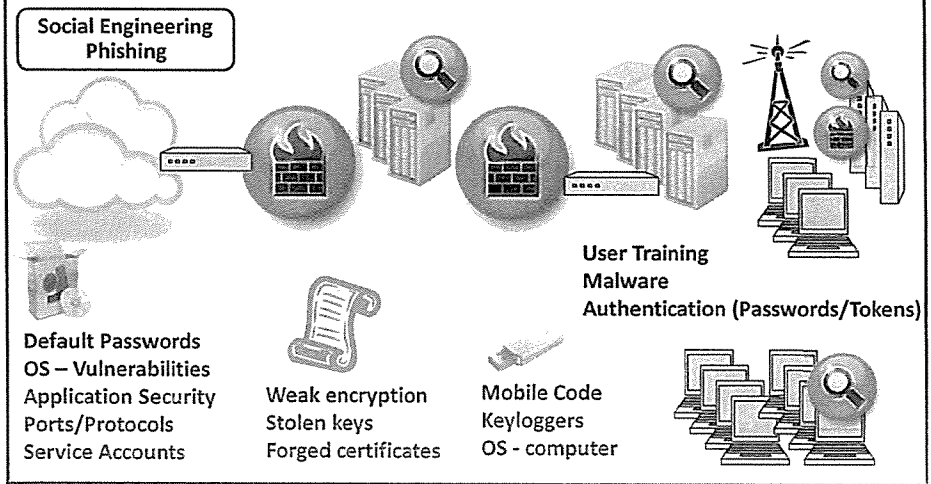
CyberForce – Military on www
- Who: Growing list of nations
- Why: SuperPower Status, Politi-nomics
- How: Disruptive Malware, Chipping

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Where do Hackers Look?

Finding where Defense in Depth wasn't too Deep.



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Outline

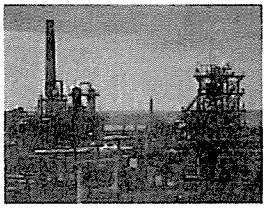
1.
2. **Trends in Protecting Critical Infrastructure**
3.
4.
5.

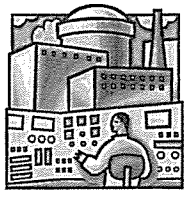
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"Worst Case Scenario": Critical Infrastructure

- **Utility: Water, Electricity, Sewer**
- **Energy**
- **Chemical**
- **Transportation**
- **Medical**
- **Financial**
- **Agriculture**
- **Defense / Homeland Sec.**







You may not be the "First", but you don't want to be the "Worst".

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Automation Evolution



BEFORE 1970s

- 1st PLCs!
- Farming
- Business
- Finance



1980s

- Plant Floor Networks
- Computer Integrated Manufacture



1990s

- "Device-Net"
- Labs to Libraries
- TCP/IP



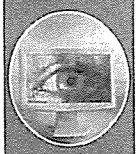
2000s

- Integrated Systems
- Shop Floor to Top Floor



2010

- Autonomous Systems
- tellers, airlines, medical, accountants & actuaries



2020

- Intelligent Systems
- Legal Discovery
- IT Security?

18

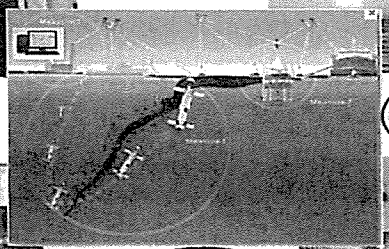
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Example: Oil and Gas Automation "Digital Oilfield"



Intelligent Operations



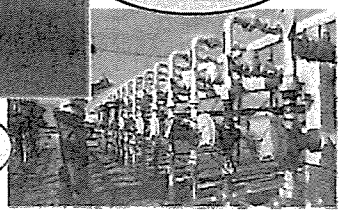


Production Monitoring Centers

Real time Drilling Centers



Remote Operations

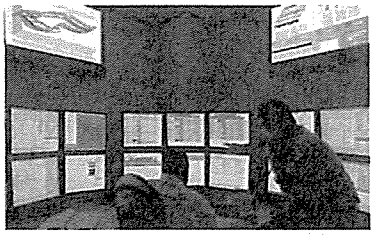


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Secure Systems – Characteristics

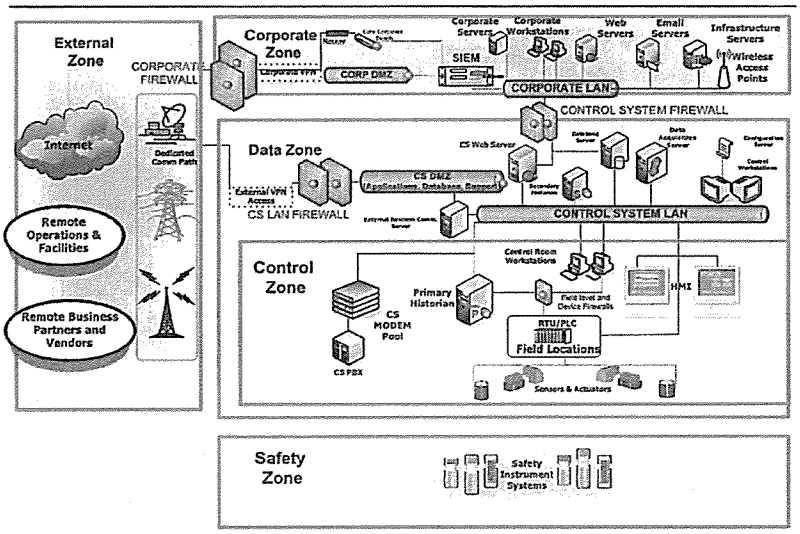
- Information Security: Confidentiality/Integrity/Availability
- Control System Security
  - Correct in Construction
  - Resistant to Attack
  - Fault Tolerant / Change Managed
- Data Security
  - In transit
  - In storage
  - In processing
- Physical Security
- Operations Security
- Personnel Security – Background checks
- Supply chain security



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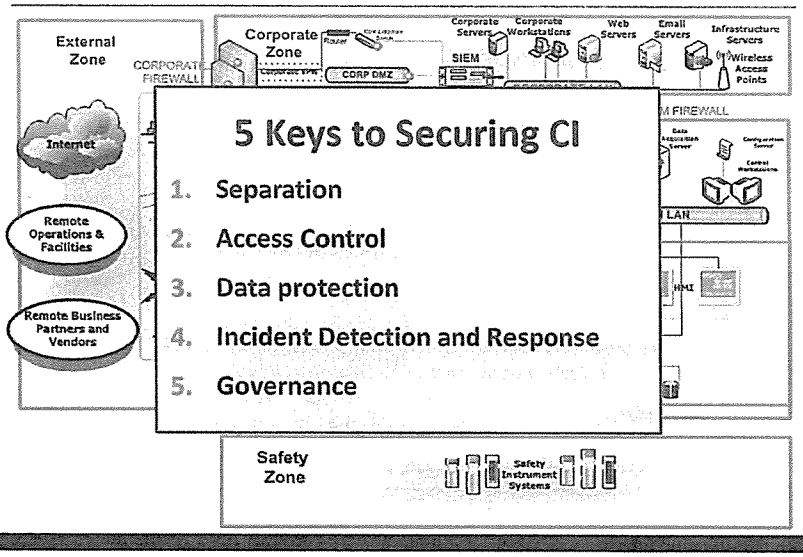
DHS / INL Best Practices



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DHS / INL Best Practices



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Outline

1.
2.
3. **Regulatory Climate**
4.
5.

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Regulatory Climate affecting CI

"Cybersecurity Act of 2012".

A BILL

Not passed

...the security and resiliency of the cyber and ...mmunications infrastructure of the United States.

Critical Infrastructure Protection

DRAFT of Presidential Executive Order

Purpose

To strengthen and maintain secure, functioning, and resilient critical infrastructure by updating United States policy to promote a national unity of effort for critical infrastructure protection.

Introduction

Critical infrastructure provides the essential services that underpin American society. Proactive

- Regulations coming requiring improved security of critical infrastructure

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The Executive Order and The Presidential Policy Directive - 21

For Immediate Release February 12, 2013

Executive Order -- Improving Critical Infrastructure Cybersecurity

EXECUTIVE ORDER

...ROVING CRITICAL INFRASTRUCTURE CYBERSECURITY

Feb 12, 2013

EO:

- Focus on NIST standards
- Largely advisory unless you do business with the govt.

For Immediate Release February 12, 2013

Presidential Policy Directive -- Critical Infrastructure Security and Resilience

PRESIDENTIAL POLICY DIRECTIVE/PPD-21

SUBJECT: Critical Infrastructure Security and Resilience

PPD-21:

- Seeking improved coordination among federal agencies
- Focus on information sharing
- Improve planning and operational decisions on CI
- Looking for 'voluntary compliance' from private firms via a "public-private partnership"

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SEC Guideline

U.S. Securities and Exchange Commission

Division of Corporation Finance
Securities and Exchange Commission

CF Disclosure Guidance: Topic No. 2

Cybersecurity

Date: October 13, 2011

Summary: This guidance provides the Division of Corporation Finance's views regarding disclosure obligations relating to cybersecurity risks and cyber incidents.

- Treat cyber security as a business risk
- Report to shareholders required on losses or potential losses due to cyber compromise "when material"
- Companies are beginning to report on cyber security incidents
- A wake-up call to take cyber security seriously

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Outline

1.
2.
3.
4. **Thoughts on law firm cyber protection**
5.

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Law Firm Information Security Drivers

- Client Requirements
  - RFP's with security requirements
  - Healthcare, Energy sector
  - Protecting IP, Merger Acquisition Data
- Regulatory
  - HIPAA Business Associate Agreements
  - State data breach notifications (PII)
- Ethical Obligations
  - ABA Commission on Ethics 20/20 Revisions to Model Rules of Professional Conduct
  - State Bar Ethics Opinions
  - State Disciplinary Rules of Professional Conduct
- Reputation

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Model Rules of Professional Conduct Recent Revision (rule 1.6)

Duty to Protect Client Information:

Reasonable Care

"A lawyer shall make reasonable efforts to prevent the inadvertent or unauthorized disclosure of, or unauthorized access to, information relating to the representation of a client."

ABA Center for Professional Responsibility

ABA Commission on Ethics 20/20

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Martial Arts Theory of IT Security

- Your attacker is someone unknown to you
- Can NOT stop an attack
- Shrink the Attack Surface
- Focus attacks on non-vital data
- Use momentum to your advantage



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Information Security Planning for Law Firms

- Establish policies and procedures
  - Communicate appropriate way to store /handle sensitive information
  - Working on matters with heightened security requirements
- Technology information mediums to focus on:
  - Document management systems (historically open)
  - Network shared drives
  - Email (desktop/mobile)
  - Safe web surfing
  - Social networks
  - Text messages (SMS)
  - Insecure networks (traveling, Wi-Fi, using insecure protocols like FTP instead of secure FTP)
  - Untrusted computers (e.g., hotel business center)
  - Laptops when traveling
  - Portable devices

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Outline

1.
2.
3.
4. Thoughts on way forward
5. **Wrap-Up**

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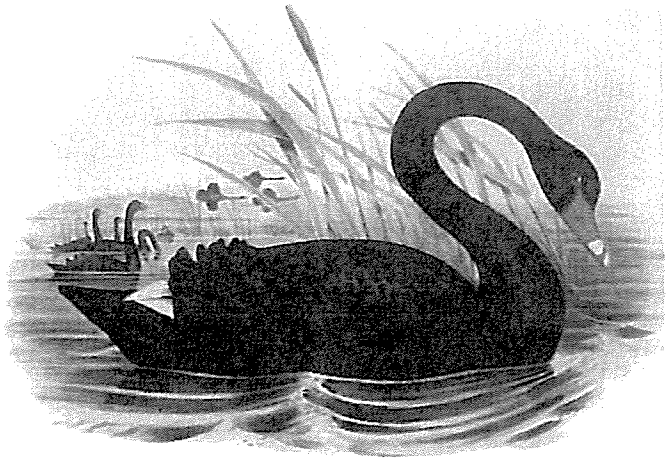
Wrap-up

- **Critical infrastructure is a very high priority security focus. Cyber incidents on critical infrastructure can have environmental impact.**
- **Malware is increasing in sophistication and prevalence. The likelihood of cyber-caused operational disruption is growing.**
- **While there is no magic bullet for complete protection, it is essential to take steps to manage incidents and decrease security incident severity. Review protection of your supply chain.**
- **Integration of cyber and physical security programs will better protect assets and staff.**
- Regulations are coming.

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Q & A



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www.dexasystems.com

John Blevins joined Region 6 in January 2005 as Director of the Compliance Assurance and Enforcement Division with the U.S. Environmental Protection Agency (EPA) Region 6 in Dallas, Texas. He is responsible for the regulatory enforcement and compliance monitoring of the environmental statutes regulating air, water, toxic substances and land.

In addition to positions in EPA regional offices in Atlanta and San Francisco, Mr. Blevins has worked for state environmental agencies in both Oregon and Delaware. His work in state agencies gave him a unique perspective of compliance issues. He appreciates the importance of working closely with our state partners to preserve our environment and protect public health. He is also committed to fair and consistent enforcement. Preventing the few bad players from gaining an unfair advantage strengthens our economy.

Mr. Blevins received a number of EPA awards in recognition of his leadership and managerial skills including the Special Achievement Award 1989-2000. He earned his bachelor's degree in environmental studies from Warren Wilson College in Ashville, North Carolina, and his master's in environmental engineering from the University of North Carolina at Charlotte.

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Arnoldo Medina is Senior Counsel with the Chevron Legal Department, Environmental & Safety Law Group in the Houston, Texas. He advises clients on environmental and safety law matters and regulatory compliance, permitting, remediation and enforcement on air quality, water, waste, and Endangered Species Act/Migratory Bird Treaty Act/NEPA issues. Arnoldo primarily supports upstream exploration and production assets in the U.S. for onshore and offshore operations.

From 2003 to 2011, Arnoldo was a Senior Legal Counsel with Shell Oil Company where he advised a broad range of petroleum and chemical manufacturing, distribution, and alternative energy/fuels clients on multi-media environmental issues. Previously, he was a Senior Associate with Campbell, George, & Strong, LLP, and he represented corporate clients in environmental permitting, compliance and enforcement matters before the U.S. EPA and the TCEQ. Arnoldo began his environmental law career as a TCEQ staff attorney in the Office of Legal Services from 1997 to 2002. He worked in the areas of air quality, industrial and hazardous waste, and radioactive material regulation, permitting, and rulemaking. Arnoldo represented the Executive Director in complex legal matters before the Commission and in evidentiary contested case hearings before the State Office of Administrative Hearings.

Arnoldo 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. He 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, environmental law and emergency response issues in the Gulf of Mexico. He currently serves on the Executive Committee as Treasurer of the State Bar of Texas Environmental & Natural Resources Law Section.

Kinnan Golemon is the founder and President of KG Strategies, LLC in Austin, Texas. He has provided professional advice, counsel, strategic planning and public advocacy on complex environmental, energy and natural resources issues for more than 45 years, including 15 years of service as General Counsel for the Texas Chemical Council. He represents the largest shale oil and gas producer in the Barnett Shale Play, Devon Energy, and Shell Oil Company, another significant shale oil and gas producer. A founding member of the State Bar of Texas Environmental and Natural Resources Law Section (Chair in early 1970s) he also has been a prominent leader within the American Bar Association over the past 30 years, including, being that Section's representative on the Board of Governors, 2009-2012. He was inducted as an Initial Fellow in American College of Environmental Lawyers (ACOEL) in 2008. He serves on the Advisory Board of the Center for Global Energy, International Arbitration and Environment at the University of Texas School of Law, (where approximately 20 years ago, the R. Kinnan Golemon Endowed Presidential Scholarship in Environmental Law was established) and also as a member of Constellation's Public Sector Energy Advisory Board.

SHALE PLAYS – WHITE SILVER SANDS

FRACING – WHY WORRY ABOUT IT?

R. Kinnan Golemon
President, KG Strategies, LLC
Austin, Texas

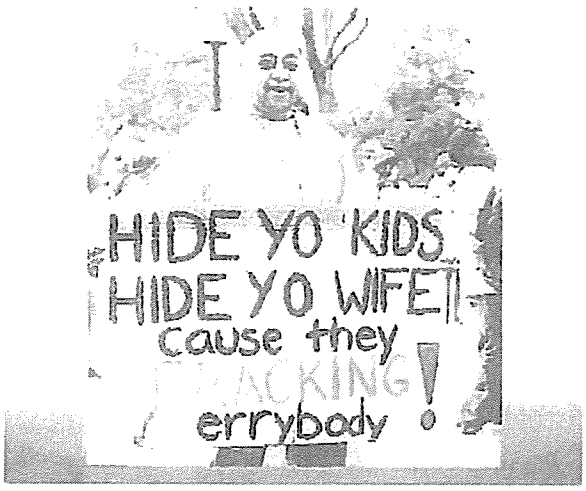
STATE BAR OF TEXAS ENVIRONMENTAL
SUPERCONFERENCE
FOUR SEASONS HOTEL
AUSTIN, Texas

August 2, 2013

SHALE PLAYS - WHITE SILVER SANDS

FRACING – WHY WORRY ABOUT IT?

As vividly demonstrated by the photos below, many in our nation have been persuaded to become gravely concerned about hydraulic fracture stimulation (i.e., "frac" or "Fracing") of unconventional oil and gas wells, while others are very appreciative that deployment of new innovations are providing access to a bountiful supply of domestic energy reserves. This activity has inaugurated what the International Energy Agency (IEA) has identified as an "energy renaissance."[1] Why is there such concern with respect to a well completion technology that has over a 60 year history of widespread use? Are the real environmental issues associated with shale oil and gas development actually being evaluated, addressed and reasonably managed?





This paper addresses certain aspects of the history of what has become known as the "Shale Gale" (i.e., unconventional oil and gas resource recovery)[2], the present day environmental concerns and issues associated with the same, and some aspects of this new phenomenon that are most often overlooked or receive considerably less attention than deserved.

Brief History of Shale Development

In a nationwide television appearance on April 18, 1977, President Jimmy Carter declared to the U.S. citizenry we were "running out of gas and oil."[3]

George Mitchell, now 94 years of age, defied conventional wisdom for some 20 years and continued to drill vertical wells in the Barnett Shale in North Texas in an effort to recover hydrocarbons that he knew were locked up in this very low permeability, highly porous rock formation, mostly to no avail[4]. Throughout this period, a wide variety of hydraulic fracture stimulation techniques were employed with little success. (Hydraulic fracture stimulation was initially commercially proven in late 1940's and has been widely utilized for 60 plus years.) It was only in the mid-1990's that he and his staff, and the Mitchell Energy Company contractors, acting on a worker's suggestion of a budget frac, i.e. mostly water instead of expensive gel-based fluid, that an effective way to fracture the rock in such a manner to be able to obtain abundant hydrocarbon recovery was finally found.[5]

In 1999, as he was turning 80 years of age, Mr. Mitchell tried to sell his company – there were "No Bidders". Thereafter, in 2002, he again put his company up for sale; whereupon, Devon Energy, paid $3.5 Billion for its assets[6] [Devon's stock took a big dip following the announcement of this intended purchase on August 14, 2001].

New Phenomonen "Shale Gale"

The acquisition of George Mitchell's technological experience, coupled with Devon Energy's expertise in horizontal drilling and full deployment of the slickwater frac technology developed by Union Pacific Resources Corporation ("UPRC", now Anadarko) led to the development of what soon became the largest U.S. domestic natural gas field – The Barnett Shale (located in some 18 counties in N. Texas)[7].

At the start of this century, less than 2% of U.S. domestic oil and gas was being produced from tight formations. It is expected that by 2015 greater than 50% of U.S. domestic oil and gas production will come from these formations. Recent Wall Street Journal articles "Shale a New Kingmaker in Energy Geopolitics" (September 31, 2012), "U.S. Redraws World Oil Map" (November 13, 2012), and "U.S. Oil Boom Divides OPEC (May 28, 2013) provide an insight into the geo-political ramifications that are

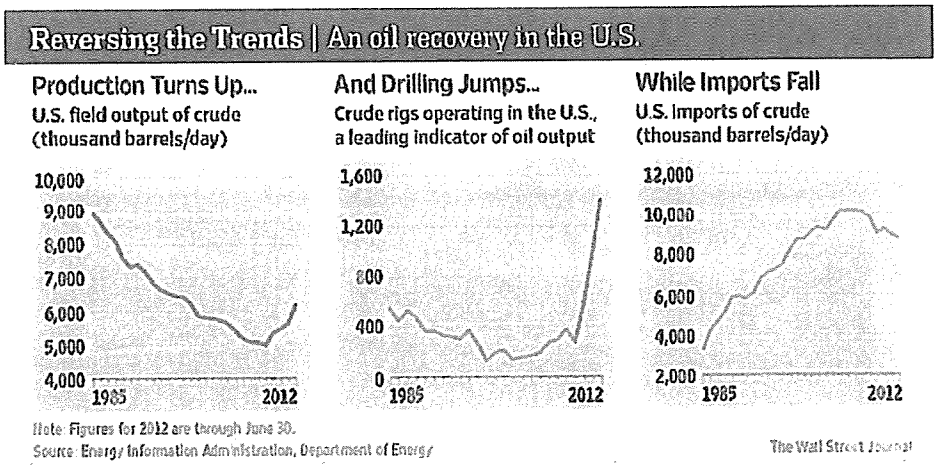
presently taking place due to the effective deployment of this new technology in the U.S.

Unconventional oil and gas development impacts oftentimes are not fully understood, for example:

- Upstream unconventional oil and gas sector employment in the U.S. was nearly 1.8 million in 2012 and will grow to approximately 2.5 million by 2015;[8]
- As late as 2008, the U.S. was planning for **importation** of liquefied natural gas and in 2013 two applications have been granted for new facilities to **export** this product and several other export facility applications are pending;
- The glut of natural gas within the U.S. has lowered the price to levels that are the lowest in decades – creating huge industrial feedstock and fuel, home heating and electricity cost savings;
- Due to the glut – U.S. natural gas will cost 50-70% less than in Europe and Japan in the next several decades – a huge savings for manufacturing;[9]
- Massive ($50+ billion) U.S. domestic investments in refining, gas processing, pipelines, sand mining , chemical and base metal manufacturing facility expenditures are ether taking place or in advance planning and the investments will impact all 50 states (see "Tech Effect: How Innovation in Oil and Gas Exploration is Spurring the U.S. Economy, ICF International Report, www.clean skies.org [Oct. 2012])

At the time of the 2008 Presidential election, the theme was the U.S. was going to be running out of oil. This past election cycle, there was not any such rhetoric, since the U.S. oil importation has fallen from 60% to 42% annually and is predicted to fall considerably lower in the coming years.

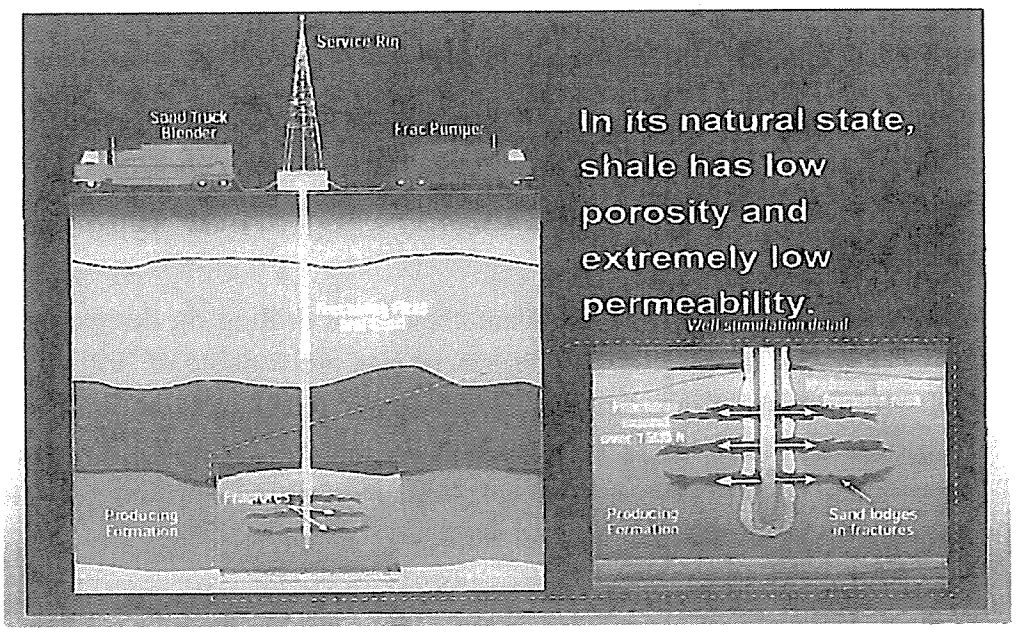
Since November 2012, the U.S. average daily production of oil has exceeded averaged in excess of 7.1 million bbls per day (a rate last seen in 1990[10]) and it is anticipated that this production level will continue to rise once additional pipelines and processing facilities are brought on line to accommodate natural gas liquids (NGL) and oil production occurring in relatively new fields (e.g. Bakken , Cana Woodford, Eagle Ford, Granite Wash, Mississippian, Spraberry/Wolfcamp and Utica Shales).

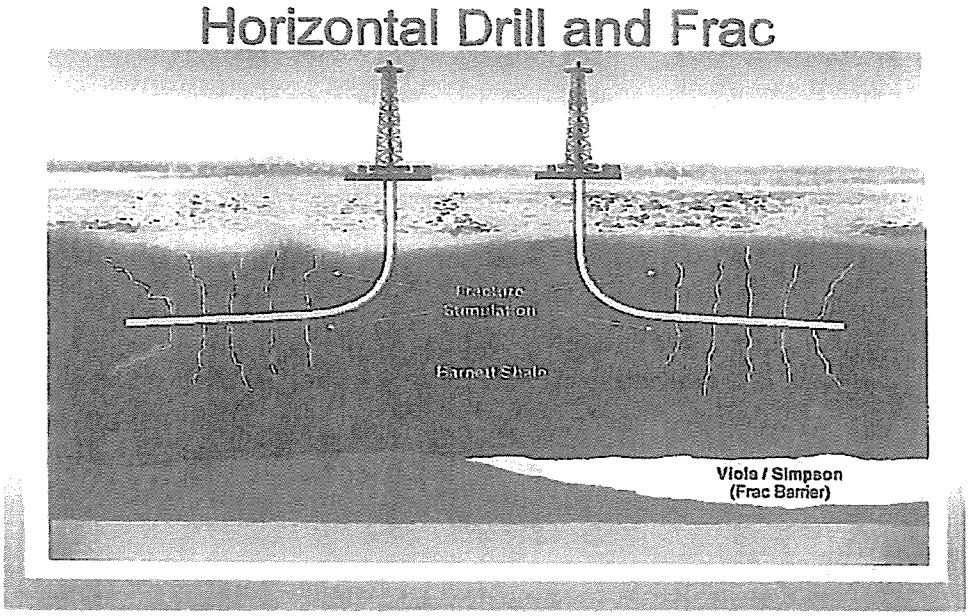


1st Key to the "Shale Gale"

The following graphics display (1) the typical conventional effort to extract oil & gas using a vertical well and hydraulic fracture stimulation, and (2) the horizontal drill and fracture stimulation.

CONVENTIONAL DRILL and FRAC





As can be seen from these graphics, both wells start in the same fashion with a vertical well string and appropriate placement of protective surface casing to a depth well below useable groundwater depth. However, in the horizontal drilling scenario when the drill stem reaches a depth of some 4,000 to 5,000 (or greater) foot of vertical drilling depth, the drill stem is turned above the target hydrocarbon reservoir into a lateral drilling mode in order to have the well bore enter the target area horizontally.

The horizontal well bore entry into the target reservoir exposes the well bore to considerably more reservoir rock than can be achieved by a vertical well. Thus, there is much greater opportunity to access the same reservoir volume of hydrocarbon by fewer well penetrations.

Currently, due to very significant changes in drilling rig design and construction that has occurred in the past decade, newer rigs are capable of drilling more than 32 lateral wells from a single drilling pad site; thus, achieving far fewer surface disturbances and many other efficiencies than was not possible only a few years ago. For example, Devon Energy at Benbook, Texas has a single drilling pad site that has 34 lateral wells, plus a saltwater disposal well.

2nd Key – Hydraulic Fracture Stimulation

Hydraulic fracture stimulation has a long history – first tried in 1903 and finally achieved commercial development and utilization in the late 1940's. To date, well over 1 million frac jobs have occurred in the U.S., the vast majority of which have been in the conventional oil and gas context using very different constituents than the small volume of considerably more benign chemical compounds that are presently utilized in shale oil and gas recovery.

Fracing is not a drilling process, rather it is an element of well completion and production (thus, a short phase at the tail end of the effort to extract recoverable hydrocarbons). In simple terms, fluid under pressure is deployed at a depth to create artificial porosity (fractures) in the very dense subsurface hydrocarbon bearing formations. Most often, this fluid is water with sand (or other proppants) and approximately 0.5% high viscosity chemical additives that combine to form a gel which promotes flow and enhanced stimulation of the hydrocarbon reserve and are injected in a multistage operation with fracture stimulations occurring sequentially in each of the previously - perforated well bore sections.

The fracture stimulation, which occurs during a very brief period of time in the life of either a natural gas or oil well, has long been the key element to maximization of return on investment. This has been captured by Stephen A. Holditch, Petroleum Engineering Head, Texas A&M University (who has focused his career in this field) as follows: "*The most important time in the life of a well completed in an unconventional reservoir is when the fracture treatments are pumped. You can have perfect geology and drilling, run the perfect casing string, and build the perfect pipeline, but if the optimum fracture treatment is not designed and pumped, the operator can leave a lot of money on the table. Many times the operator doesn't even know it.*"[11]

Contrary to popular belief, the fracing process has generally been regulated at the individual state level, most often as a subset of the applicable drilling and completion regulations.

ENVIRONMEMTAL CONCERN AND ISSUES

During the past several years "fracing" has been an almost daily news item throughout the U.S. (this has spread to the European continent and elsewhere). Of course, like most of modern day media, the actual content of these stories seldom has a scientific reference:

- Newspapers >20%
- Broadcast news approx. 25%
- Online news accounts approx.33%

(see "Separating Fact from Fiction in Shale Gas Development", Energy Institute, University of Texas, Feb. 2012- withdrawn on Dec 7, 2012)

The tone of the media coverage was also addressed in this same study which disclosed that across all forms of media the coverage was between 64-70% negative, 15-30% neutral and 3- 18% (local TV) positive.

There has also been the openly distorted EPA effort to cast claims of contamination caused by "fracing" at drilling operations in Dimock, PA[12], Parker County, Texas[13] and Pavillion, WY[14] – all of which ultimately have led to the federal agency having to backtrack significantly from its early declarations.

What has most often been absent is an effort to look at the realities relating to the shale oil and gas drilling impacts, because as with all efforts to meet our nation's energy supply needs, there are some real very issues that need to be better understood and addressed responsibly.

Groundwater Contamination.

There are numerous allegations about "fracing" being a significant threat to useable groundwater; however, after a million or more wells having employed the technology, it is evident that protection of groundwater comes from proper well bore integrity devices and cementing (items essential for efficient hydrocarbon recovery) which are not unique to whether fracing takes place. Fortunately, in Texas during the past year, the Railroad Commission has updated Statewide Rule 13 (SWR 13) to insure

that well construction and integrity requirements are consistent with the latest technology capabilities.

One widely misunderstood aspect of nature is that our groundwater contains many naturally occurring constituents that exceed primary and secondary standards. For example, in areas where coal and other fossil fuels are present at depth, almost 25% of the groundwater has detectable methane[15]. In many instances, very significant concentrations of methane are identified as being present prior to any gas and oil exploration taking place; and methane presence in zones above the targeted hydrocarbon bearing rock occasionally result in blowouts when drilling fluids pressures are insufficient.

Based upon the past 100 years or so of oil and gas drilling activity, the principal threat to drinking water supplies actually derives from either spilling of fluids or the mishandling of drilling and production related fluids at the surface. (See "Separating Fact from Fiction in Shale Development, above)

Consumptive Water Use

The volume of water, often stated in terms of millions gallons or more per fracture stimulation completion, appears to many as too great of a demand on a limited resource, especially in water short areas of our nation.

Since water is essential for all types of energy production and energy is essential for water development [pumping, treating, and distribution] it becomes necessary to look closely at the energy/water nexus. In recent years, the study of this aspect has drawn considerable attention and has been the focus of a number of researchers and academics.

Interestingly, based on data developed by the U.S. Department of Energy (DOE) in 2006[16] the most efficient energy supply in terms of gallons of water used per MMBTU of energy produced are conventional and shale gas extraction. In addition, DOE found that conventional and unconventional oil recovery is also among the higher levels of energy/water efficiency (being essentially comparable to the water used for nuclear energy).

In Texas and other gas and oil producing states, the water needs and usage for exploration and production of gas and oil is in the low single digits percentage levels

(<1.0% statewide and 2-4% in active drilling areas) when compared to agriculture, municipal, commercial, industrial and electricity (the largest consumer in many areas), all of the latter uses are at least in double digits percentages.[17]

Water Quality

Needless to say, although the fracing fluids employed today are relatively benign as compared to those used in prior decades, these do represent surface capture and containment challenges. However, these challenges are really no different than those associated with various contaminated agricultural, municipal and industrial waste streams. The one likely difference is that in the gas and oil sector, there are many more diverse and wide spread operations, whereas, that is not the norm with most other such waste streams.

The initial flowback water from a well that has been fraced has a constituency very similar to the content of the injected frac fluid. The character of the produced water changes over time as more natural contaminants from the hydrocarbon reserve zone begin to appear in the fluid returns that come to the surface.

A very rapidly changing arena in the oil and gas sector is the area of water management. Historically, in conventional oil and gas drilling, the produced water, due to its high salinity, has most often been collected, transported by truck and injected into deep saline aquifers that are readily accessed throughout the Southwest. With the advent of shale gas and oil development (some occurring where there is an absence of deep saline aquifers, e.g. Pennsylvania, West Virginia, etc.) and the increased volume of generated contaminated produced water, there has been an urgent need for improvements in the technology for handling and treatment of these waters, both to meet the needs of the producing companies for more frac make-up water and to insure proper environmental protection.

Several aspects of oil and gas production have made the water treatment technology development more challenging, i.e. the extreme variability in the constituency of the contaminants in the produced water, the extreme heat content of the fluid and the pressure tolerance requirements for the waste water equipment are very different than what has been most often seen by the water treatment community.

Even after a decade of shale gas and oil development, the vast majority of the produced water is still handled in the traditional manner. Fortunately, however, there currently are significant changes taking place in the area of water treatment for recycle and reuse as advancements in waste water treatment technology are being deployed on a micro-scale presently throughout the U.S. and Canada. Many forward-looking companies are developing aggressive plans for wholistic water management in response to greater public scrutiny. Some companies are finding that frac fluids containing higher concentrations of total dissolved solids can sometimes be utilized in fracture stimulation without adverse impact on the hydrocarbon production. New technologies have also provided the ability to have treatment systems in place that can provide the quality of water needed for future frac jobs or to produce water for a variety of other beneficial uses.

The Texas Railroad Commission, in response to the rapidly changing aspects of unconventional oil and gas development, the need for a regulatory environment amenable to the deployment of new approaches for addressing the issues associated with produced water and the quickly changing aspects of water treatment needs of the industry adopted revisions to Statewide Rules 4 (Environmental Protection - Recycling) and 8 (Water Protection) at the end of March 2013.[18]

Air Quality

Another of the environmental concerns often raised by those concerned with shale gas and oil development relate to the air contaminant emissions, e.g. "toxics", greenhouse gases (GHG), etc.

The air contaminants that arise from shale gas and oil operations are no different than those that are associated with traditional oil and gas production. Such being the case, the emission control measures and devices deployed to minimize such emissions are the same. In addition, for the most part, these are emissions that are classified as "minor sources", a group of sources that fall primarily in the domain of state regulation under the federal Clean Air Act.

Obviously, the rapid development of the Barnett Shale in the North Texas Counties in the past decade led to numerous suggestions that the oil and gas development was causing exacerbation of the existing issues relative to D-FW area's compliance with the National Ambient Air Standard for ozone, as well as contentions

that a variety of air toxic health standards were being exceeded. Even as late as last year, supposed air quality experts were making such contentions based upon computer modeling data sets while virtually ignoring the empirical monitoring data that has been collected on a real time basis by TECQ. [The area of oil and gas drilling production is the most intensely monitored area within the state.][19]

The rapid growth of production from shale oil and gas has also brought about an increase in "flaring" of waste gas and this draws considerable public attention. The flaring of waste gas occurs in several circumstances (1) when the gas pressure upon well completion is not sufficient to overcome the existing pressure in available gas transmission lines; (2) when gas associated with the production of NGL and crude oil is in a locale with an absence of natural gas transmission lines; and (3) when low pressure gas is generated from production related units intermittently and such waste gas stream must go to a destruction device. In these instances, most state regulatory programs authorize the flaring of the gas with standards established as to the emission control device efficiency. The Texas Railroad Commission has regulated flaring in Texas under it "prevention of waste" Constitutional mandate for approximately 65 years and Texas is recognized as being a national leader in this aspect even as new shale plays have moved to the production forefront.[20]

Over the past several years, EPA has been in the process of the development of New Source Performance Standards (NSPS) and National Emission Standards for Hazardous Air Pollutants (NESHAPS) for certain oil and gas sector operations, fracing and re-fracturing of natural gas wells, natural gas processing plants and other equipment used in the production, transmission and storage of natural gas - these were finalized on August 16, 2012 (77 Fed. Reg. 49490-49600). The final rule was considerably better and more reasonable than earlier drafts that had been circulated by EPA. Nevertheless, various aspects of the promulgated rule were challenged by nine Petitions for Review filings in the D.C. Circuit Court of Appeals and a number of entities filing petitions for reconsideration with EPA.

On January 16, 2013, EPA requested the D.C. Circuit to hold both the challenges to the NSPS and NESHAP in abeyance. The EPA's motion explained that the agency wished to separate the NSPS and NESHAP challenges into two separate cases, with the former challenge being in abeyance until August 30, 2013; and the latter challenge being in abeyance until May 30, 2014. With respect to the NSPS challenges, on April

12, 2013, EPA proposed amendments to 40 CFR part 60, Subpart 0000, Standards of Performance for Crude Oil and Natural Gas Production, Transmission and Distribution primarily related to implementation of storage vessel provisions brought to the agency's attention in several of the administrative petitions for reconsideration. Among the prominent changes. EPA, among other things, also established a less than 4 tons per year (tpy) of VOC alternative emission limit and amended the definition of "storage vessel affected facility" to include the 6 tpy VOC emissions threshold. According to the representations of EPA in its requests for abeyance, the Subpart 0000 revisions should be finalized by July 31, 2013.

Earthquakes

The number and frequency of seismic activity being measured in relatively close proximity to many of the new shale gas and oil plays has also become a topic for significant public discussion and has served as the basis for numerous recent investigations.

Most technical observers have concluded that "fracing", due to the depth of its occurrence and the short duration of the fracture activity, is not associated with this phenomenon. A recent Canadian study takes a contrary position, linking fracturing operations in time and space to a series of seismic events in the Horn River Basin.[21]

The majority of those that have investigated and studied many of the recent minor earthquake events that have found some association with oil and gas activity, point to the injection of waste fluids under high pressure at injection well sites located in close proximity to faulting as being a cause for the increased seismic activity. This has led to scientists at the U.S. Geological Service and elsewhere to undertake comprehensive studies. The result of these investigative efforts will no doubt form the basis for additional state and, possibly federal, rules being promulgated in the near future impacting injection well operations.

Landscape and Community Impacts

The most significant actual impacts by the "shale gale" are the communal changes that take place as a result of the large-scale volume of industrial activity that is associated with the intense drilling activity and the processing and transmission of produced hydrocarbons. Formerly tranquil and remote communities become changed

almost overnight as a result of lack of available housing, insufficient existing infrastructure to support a doubling to ten-fold increase in daily population in the area, lack of available emergency medical and other services, etc.

A limited analysis of the transportation immediate impacts created by the "shale gale" on transportation related infrastructure was developed in 2012 by the Texas Department of Transportation:

> Increased truck traffic – a single gas well being brought into production results in 1184 heavy truck loads (>80,000 lbs.); thereafter, to maintain production annually results in 353 heavy truck loads; in addition, assuming a well re-fracture in the 5th year of production, a total of 975 heavy truck loads will occur (equivalent to 8 million cars in year 1 and 2 million cars annually for continued production).[22]

Another way of expressing the truck traffic impacts is to look at the road consumption that is associated with a given activity. This rate of consumption has been characterized by the State of Texas – a gas well's consumptive impact on road service life is approximately 30%/yr.; an oil well's consumption impact on the road service life is approximately 16%/yr. For municipal and county roads, the road service consumption for a single gas or oil well is 100% in the first year.[23]

Communal vs. Individual Interest Battles

Obviously, many in the communities where the "shale gas" is occurring are only indirect beneficiaries of this activity (lower electricity costs, cessation of tax increases [sometimes significant annual property tax decreases], etc., while others benefit directly in a very big way (lease bonus payments, water purchase agreement payments, royalties, better paying job opportunities, etc.) Thus, the local political dynamics frequently change dramatically in a very brief period of time. Those seeing no direct benefit tend to focus attention on community safety, protection of the environment, promotion of alternative forms of energy and discount the long term aspects of the economic boom and the potential for decreased dependency of meeting our national energy needs by reliance on fossil fuels produced and supplied by unfriendly regimes. On the other hand, the direct beneficiaries of the new economic boom press for maximizing the development of their mineral interest, promotion of their ability to sell water at a higher rate of return than for its former use and strive to have the focal point be the improved

employment and wage conditions, as well as the bountiful increase in local and state tax revenues. This all leads to very spirited battles as to whether the "shale gas" development will ultimately be governed locally, regionally or nationally, or by a combination of all these levels of government.

We are also seeing push back from individual surface estate owners, especially those that are being impacted by the rapid increase of activity associated with the obtaining of necessary rights of way for movement of hydrocarbons in all aspects of the development of these domestic resources. This is a subject that will become even more prominent in Texas in the near term. Its resolution will have much to do with whether more or less environmental risk of harm and degradation will be associated with the resource development.

As to the immediate future, the issues relative to which of the levels of government (as well as whether it will be addressed administratively or judicially) will control will be determined considerably more quickly in those areas of the U.S. that have previously experienced significant gas and oil exploration, production and development. In those jurisdictions where the "shale gale" is the initial exposure to the oil and gas industry activities, it will most likely be quite some time before details of various levels of governmental controls will be finally resolved.

Conclusion

Like every other aspect of mineral extraction, the drilling, completion and production of bountiful hydrocarbon resources contained in shale is not without some threats to the environment. However, in this instance, the threats are not really different from a control or management standpoint than which has been addressed in the context of environmental controls for conventional onshore oil and gas exploration projects.

Real Issues exist and need to be addressed:

- Community awareness, preparedness and responsive coping mechanisms must be significantly improved;
- Proper wholistic water quality management technology capability and deployment of same need to occur;

- Insuring adequate regulatory programs, unique to the area of drilling activity and new technology, are in place and enforcement and compliance are made a priority;
- Bountiful economic benefits should be a source of funding to minimize local adverse impacts and provide adequate infrastructure to sustain the continued production to meet future energy needs.

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[1] Term used by IEA. International Energy Agency, "the Global energy map is changing [and] is being redrawn by the resurgence in oil and gas production in the United States. (International Energy Agency, *World Energy Outlook 2012,* p. 74*)*

[2] The phrase "shale gale" signifying the wide-ranging impacts of natural gas from unconventional formations began appearing in 2007 (Yergin, D. & Ineson, R.[November 2, 2009]. America's Natural Gas Revolution, Wall Street Journal). "Shale gale" has also been said to include the use of natural gas as a petrochemical industry feedstock. Westervel, R. (October 15, 2012) Shale Gale Chemical Week, pp. 24-25.

[3] www.presidency.ucsb.edu/ws/?pid=7369

[4] Marketplace.org "The oil man who figured out fracking", June 8,2013, www.marketplace.org/topics/sustainability/oil-man-who-figured-out-fracking

[5] id

[6] Forbes "The Father of Shale Gas", July 6, 2009 http://www.forbes.com/2009/07/16/george-mitchell-gas-business-energy-shale.html

[7] Interview with Dan Steward, http://thebreakthrough.org/archive/interview_with_dan_steward_for

[8] Unconventional Oil and Gas Production Supports More Than 1.7 Million U.S. Jobs Today, Will Support Finds, October 23, 2012; http://press.ihs.com/press-release/commodities-pricing-cost/unconventional-oil-and-gas-production-supports-more-17-millio

[9] "Rising U.S. Exports - Plus Reshoring- Could Help to Create up to 5 Million Jobs by 2020", September 21, 2012; http://www.bcg.com/media/PressReleaseDetails.aspx?id=tcm:12-116389

[10] www.eia.gov/dnav/pet/hist/LeafHandler.ashx?n=PET&s=MCRFPUS1&f=m

[11] AMERICAN OIL AND GAS REPORTER, January 2012, p. 59

[12] Evaluation of Methane Sources in Groundwater in Northeastern Pennsylvania", L.J. Molofsky, et al, Groundwater 51, no 3:33-349

[13] Notice of Withdrawal of Imminent and Substantial Endangerment Order, Docket No. SDWA - 06-24-2011-1208", http://www.rangeresources.com/rangeresources/files/4b/4bdd072d-a0fc-4084-8a22-77defab10da7.pdf

[14] "EPA Abandons Investigation into Wyo. water contamination", June 21, 2013, www.eenews.net/stories/1059983265

[15] see footnote 12

[16] U.S. Department of Energy, (2006), "Energy demand of water resources - report to Congress o the interdependency of energy and water", Washington, D.C, http://www.sandia.gov/energy-water/docs/121-RptToCongress-EWWEIAcomments-Final.pdf

[17] Hydraulic Fracturing and Water Resources: A Texas Study Jean-Philippe (J-P) Nicot, Ft. Worth, Texas, February 26, 2012; www.searchanddiscovery.com/documents/2013/80287nicot/ndx_nicot.pdf

[18] Railroad Commission of Texas, News Release, March 26,2013, "Railroad Commission Today Adopts New Recycling Rules to Help Enhance Water Conservation by Oil & Gas Operators", http://www.rrc.state.tx.us/pressreleases/2013/032613.php

[19] Computer Models, Actual Data and Smog, www.energyindepth.org/tag/dfw/

[20] "Texas Cited by Democrat as Model for Less Flaring After Fracking", May 23, 2013; www.bloomberg.com/2013-05023/texas-cited-by-democrat-as-model-for-less-flaring-after-fracking.html

[21] Investigation of Observed Seismicity in the Horn River Basin, BC Oil and Gas Commission Report, August 2012, www.bcogc.ca/node/8046/download

[22] Phil Wilson, "Testimony: Impact of Energy Development Activities on the Texas Transportation Infrastructure", http://ftp.dot.state.tx.us/pub/txdot-info/energy/testimony_062612.pdf

[23] Ambarish Banerjee, Jolanda Prozzi and Jorge A. Prozzi, 2012. Evaluating the Impact of Natural Gas Developments on Highways: A Texas Case Study (Transportation Research Board Report #TRB 12-800) (http://docs.trb.org/prp/12-0800.pdf)

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Court Admissions and Affiliations

State Bar of Texas - Environmental and Natural Resources Law, Administrative Law and Appellate Law Sections

United States District Court for the Southern District of Texas

U.S. Court of Appeals for the Fifth Circuit

Austin Bar Association

Hispanic National Bar Association, Finance Committee Member

Futuro Fund of Austin, Founder

Texas Community Building with Attorney Resources (Texas C-BAR), State Advisory Board Member

Lloyd Lochridge American Inn of Court, Member

Concentration

Environmental litigation and compliance

Summary

Carlos Romo practices at the intersection of energy and environmental law, concentrating on environmental litigation matters relating to air, water, waste and endangered species statutes and regulations. He has helped clients in a variety of industries evaluate, litigate and resolve environmental concerns and has worked on enforcement, permitting, safety compliance and transactional matters.

Following graduation from law school, Mr. Romo served as a briefing attorney to the Honorable Wallace B. Jefferson, Chief Justice of the Supreme Court of Texas.

Representative Engagements

Clean Air Act

- Defended against challenges to power plant Clean Air Act permits in state court
- Developed defenses and led drafting of federal court motions in Clean Air Act citizen suit involving coal-fired power plant
- Evaluated potential challenges to NSPS regulations
- Analyzed applicability of various state and federal air permitting regulations to equipment upgrades, changes in operations and permit renewals

Clean Water Act and Water Rights

- Reviewed potential common law and injunctive remedies for protecting water rights during drought conditions

- Developed strategy for junior water rights holder to avoid enforcement issues during drought conditions
- Evaluated regulatory requirements for oil and gas water reuse and recycling projects in various states
- Analyzed availability of groundwater and surface water rights in Eagle Ford Shale area and recommended strategy for obtaining water
- Analyzed Texas groundwater conservation district regulations and rules related to exempt and non-exempt uses
- Recommended appropriate terms for water supply agreements addressing drought conditions
- Evaluated new facility's compliance with thermal discharge and cooling water intake structure requirements

Endangered Species Act

- Enlisted to represent intervenors in Fifth Circuit appeal of whooping crane take lawsuit against the State of Texas
- Developed pioneering Multi-State Regional Habitat Conservation Plan for the Lesser Prairie-Chicken
- Drafted industry association comments on proposed endangered species listing and evaluated legal issues associated with habitat conservation plan permits
- Developed innovative hybrid Candidate Conservation Agreement with Assurances and Habitat Conservation Plan for the Dunes Sagebrush Lizard resulting in FWS withdrawal of proposed listing
- Evaluated Section 7 consultation and permit requirements for pipeline company
- Developed strategies for multinational energy company to manage risks from Endangered Species Act actions
- Drafted and negotiated permit conditions for incidental take of endangered species
- Evaluated water rights issues and drafted motions in federal district court litigation over environmental flows and endangered species

Other

- Assisted in obtaining injunction against city ordinance restricting waste recycling
- Developed defenses for RCRA enforcement against hazardous

waste recycling facility

- Represented international energy companies in contested enforcement proceedings, resolving suits with significant reductions in penalties through successful settlement negotiations
- Defended low-level radioactive waste rulemaking from temporary injunction in federal court
- Represented multinational chemical company in RCRA enforcement suit filed by EPA
- Drafted strategy for national trade group response to EPA rulemaking
- Helped transmission lines company negotiate appropriate environmental indemnities and covenants for the purchase of power transmission line assets

Publications, Speeches and Presentations

- "Rethinking the ESA's 'Orderly Progression' -- Recovery Credit Systems and Energy Development on Public Lands," 49 Idaho L. R. 471 (2013)
- "Toxic Release Inventory - Short Term and Long-Term Outlook for Oil & Gas Development" 106th Air & Waste Management Association Annual Conference, June 2013
- "Regulatory Regimes for Recycling Produced and Frac Flowback Water," 105th Air & Waste Management Association Annual Conference, June 2012 (with Scott Janoe)
- "Shale Fracturing - Policy & Legal Implications," 105th Air & Waste Management Association Annual Conference, June 2012
- "Integrating Water Quality Standards into Water Management Programs," Essentials of Texas Water Resources, 2nd Edition, 2012 (with Sara Burgin et al.)
- "Endangered Species Act Developments," Baker Botts Annual Environmental Law Seminar, Houston, February 2012 (with Thomas Jackson)
- "Rulemaking Update," State Bar of Texas, 23rd Annual Advanced Administrative Law Course, June 2011 (with Pam Giblin)
- "Clean Water Initiatives," Baker Botts Annual Environmental Law Seminar, Houston, February 2011 (with Sara Burgin)
- "Playing To Win and Planning the End Game: The Critical Role of Process, Procedural Options, Forum Selection and Appeals to State and Federal Levels," Essential Administrative and Environmental Law for Energy Projects, The University of Texas School of Law,

Austin, November 2010 (with Pam Giblin)

White Silver Sands - Federal, State and Local Regulation of Hydraulic Fracturing

Carlos R. Romo

Baker Botts L.L.P.

Texas Environmental Superconference

August 2013

Regulation of hydraulic fracturing ("HF") has increased significantly in the last five years. As with other oil and gas activities, states take the primary lead in regulating HF. However, federal oversight over air, water, waste and endangered species concerns associated with HF is growing, and local ordinances controlling HF operations via zoning and other restrictions are an increasing trend. The purpose of this paper is to provide a brief background of how HF is regulated at the local, state and federal levels and to explore some of the growing tensions in this increasingly complex regulatory environment.

I. State Regulation of HF

Oil and gas activity is traditionally regulated by state agencies with responsibility over the productive use of state natural resources. In states with significant oil and gas production, including Texas, agencies that have long-regulated oil and gas development generally regulate activities associated with HF as part of existing well completion activities. Nevertheless, with increasing scrutiny over HF's impacts on groundwater and water use, states are beginning to develop rules to specifically address certain aspects of HF. New state regulations generally address the following areas: (A) disclosure of chemicals used in HF operations; (B) well integrity; (C) management of flowback water and HF fluids and the encouragement of reuse; and (D) air emissions regulation.

A. Disclosure rules

Much of the public attention over HF has stemmed from a concern that there is insufficient information about what chemicals are used in the practice. Industry has responded to these concerns with voluntary efforts to increase public awareness of the chemicals involved. Most notably, FracFocus is a national registry of chemicals used in HF.[1] The FracFocus website

[1] *See* http://fracfocus.org/welcome.

is operated by the Groundwater Protection Council and Interstate Oil and Gas Compact Commission. A growing number of states (16 at last count, including Texas, Oklahoma, Colorado, North Dakota and Louisiana) incorporate requirements to disclose chemicals used in HF through FracFocus's Chemical Disclosure Registry.[2]

The Texas Railroad Commission adopted chemical disclosure rules in December 2011 after the Texas Legislature passed legislation requiring a rulemaking.[3] As noted above, the new rules rely on the Chemical Disclosure Registry used by FracFocus and require the disclosure of chemicals used in HF operations. As with all states where disclosure rules have been adopted, the new rules allow for the protection of industry trade secrets, and provide a process by which affected persons such as landowners may seek to require information to be disclosed. Information must be disclosed to health professionals when necessary.

B. Well integrity

An additional concern that has driven state regulation of HF activities is protection of groundwater. Despite the lack of evidence that the HF process threatens groundwater (most stimulation activities occur thousands of feet below usable water), many states are adopting new or revised rules related to the drilling, cementing, and casing of wells to ensure that there is no leakage of HF chemicals into shallow groundwater sources. These requirements are generally referred to as "well integrity" rules.

Texas adopted revised well integrity rules in May 2013.[4] The rules require that various technical standards for well integrity be met, and they have been lauded by both environmental groups and industry as an appropriate technical update to Railroad Commission rules to address new drilling and completion activities, including HF. The rules also add new blowout prevention requirements to prevent spills from uncontrolled wells.

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[2] The Department of Interior and its Bureau of Land Management ("BLM") also proposed the use of FracFocus in its recent rulemaking to regulate HF on oil and gas leases on federal lands. *See* 78 Fed. Reg 31636 (May 24, 2013).
[3] 16 Tex. Admin. Code § 3.29
[4] *See* 16 Tex. Admin. Code § 3.13.

C. Control of water use and recycling

HF does require considerable amounts of water. Thus, a growing concern is the regulation of water sources used with HF. In addition, because much of the water (40% or more depending on the well) is returned as flowback water with produced water (high in salinity) generated from the formation, states have started to encourage reuse of water with HF operations through creative regulatory incentives. [5]

In Texas, operators looking for water to stimulate wells will either use surface water or groundwater depending on the location. In the Barnett Shale, up to 40% of water used for HF operations was surface water obtained through "mining use" water rights permits from the Texas Commission on Environmental Quality ("TCEQ") in one year.[6] But recent drought conditions have made surface water less reliable throughout the state.

Groundwater in Texas is generally regulated through local groundwater conservation districts. However, certain oil and gas wells are exempt from local groundwater conservation district water permitting requirements.[7] The Railroad Commission has specifically interpreted this statutory exemption to extend to water used in HF operations.[8] The Texas Legislature has periodically reviewed this exemption as a result of suggestions that oil and gas development is using significant amounts of water for HF operations. But a Railroad Commission report reviewing water use in the Barnett Shale noted that oil and gas development only used 1% of the total water use in the region.[9]

Emerging water recycling technologies allow for the reuse of flowback and produced water, particularly for future HF operations. As a result, many states have adopted new regulations to specifically encourage the reuse of water used in HF operations. The Railroad Commission originally adopted rules encouraging HF water recycling in 2006, and then recently streamlined these rules to encourage "on-lease" recycling operations conducted by mobile

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[5] For more background on water use with HF, see Carlos R. Romo and Scott Janoe, Baker Botts L.L.P., "Regulatory Regimes for Recycling Produced and Frac Flowback Water," paper for the 105th Air & Waste Management Association Annual Conference, June 2012 (available from authors).
[6] *See* http://www.rrc.state.tx.us/barnettshale/wateruse_barnettshale.php.
[7] *See* Tex. Water Code § 36.117(b)(2).
[8] See http://www.rrc.state.tx.us/about/faqs/wateruse.php.
[9] *See* http://www.rrc.state.tx.us/barnettshale/wateruse_barnettshale.php

facilities in March 2013.[10] The new rules encourage reuse by allowing for a mobile recycler to obtain a general permit to conduct recycling activities onsite for reuse with another well. Other types of water reuse facilities, such as stationary and centralized recycling facilities, are also encouraged, but the Texas rules strongly encourage on-lease recycling by operators looking to reuse water from one well with the next well to be stimulated. Other states are taking a similar approach to encourage reuse of water used in HF operations.

D. Air emissions regulation

Some states regulate air emissions from oil and gas operations, including HF, independent of a federal mandate to do so. In Texas, regulators at the TCEQ recently updated their "permit-by-rule" ("PBR") requirements related to oil and gas operations and specifically added new requirements for PBRs applicable to operations in the Barnett Shale as a result of concerns that HF operations were contributing to increased emissions near urban areas.[11] The new PBR adds best management practices to control emissions in this area. For new projects in Texas not in the Barnett Shale, a different PBR limiting total emissions from an oil and gas facility applies.[12] On July 3, 2013, TCEQ also released the draft final PBR for planned maintenance, startup, and shutdown ("MSS") activities at oil and gas sites.[13] The new PBR will give oil and gas operators a new streamlined method to authorize planned MSS emissions.

II. Federal Regulation of HF

Environmental groups continue to exert significant pressure on the federal government to increase regulation of HF. There are various drivers of these efforts. Some environmental groups simply prefer that renewable energy sources be given greater incentives over fossil fuel use and that oil and gas development should be more highly regulated to even the playing field. Others are concerned that HF may cause groundwater contamination or lead to excessive air emissions (including greenhouse gases that contribute to global climate change). Whatever the motivations, the Environmental Protection Agency ("EPA") has begun to more actively consider the need for HF regulations. The Agency is currently reviewing several petitions for rulemakings from various environmental groups that could add further requirements in the near

[10] *See* 16 Tex. Admin. Code Ch. 4 Subch. B.
[11] 30 Tex. Admin. Code §§ 106.352(a)-(k); *see also* 36 Tex. Reg. 943 (Feb. 18, 2011).
[12] 30 Tex. Admin. Code § 106.352(l).
[13] The final rule, if adopted, will be codified at 30 Tex. Admin. Code § 106.359.

term. The most significant recent developments related to HF from the federal level relate to control of air emissions under the Clean Air Act and planned changes to effluent limitation guidelines for discharges from oil and gas water treatment facilities. Regulation under the Endangered Species Act is an additional concern for oil and gas development generally, and several proposed listings and related actions cite HF as a threat to endangered and threatened species.

A. Clean Air Act Regulation of HF

On August 16, 2012, the EPA finalized a set of final rules to regulate air emissions from the oil and natural gas industry. The final rules establish New Source Performance Standards ("NSPS") and National Emissions Standards for Hazardous Air Pollutants ("NESHAPs") for several source categories, including natural gas wells, natural gas processing plants and natural gas gathering and transmission sites.[14] The rules specifically target air emissions from HF operations.

The goal of the new NSPS and NESHAPS is to reduce emissions of volatile organic compounds ("VOCs") and benzene from HF operations at natural gas wells and processing plants.[15] VOCs contribute to smog formation and benzene is a known carcinogen. As a "co-benefit" of the rule, methane emissions (which are a greenhouse gas) will also be controlled.[16] These chemicals are naturally present in natural gas and EPA was concerned about the levels of natural gas that escape natural gas wells during HF operations.

The new rules are now being phased in with state cooperation. The immediate focus is reduction of leaks and fugitive emissions from new and modified sources through flaring and leak controls (a well that is re-stimulated may be considered a modified source). The main requirement for new and modified sources going forward will be to use "green completions" with HF wells by 2015. Green completions generally refer to the capture of natural gas emissions that would otherwise be flared off or allowed to escape uncontrolled. Since some of this captured natural gas is usable, EPA calculated the cost-benefits of the rule to be net-

[14] *See* 40 C.F.R. 60 Subpart OOOO; 40 C.F.R. 63 Subpart HH.
[15] For more information, *see* http://www.epa.gov/airquality/oilandgas/.
[16] Greenhouse gas emissions from the oil and gas sector are also being monitored by EPA through its greenhouse gas reporting rules. See http://www.epa.gov/ghgreporting/reporters/subpart/w.html.

beneficial to the oil and gas industry. However, industry has questioned whether EPA's assumptions are valid, and in particular has noted that EPA accounts for the benefits of capturing methane as a greenhouse gas even though those benefits are highly speculative. EPA has granted a limited reconsideration of the rule to address issues over the required controls for oil and gas storage tanks, and other parts of the rule are still being contested.

B. Clean Water Act Effluent Limitation Guidelines

EPA's National Pollutant Discharge Elimination System ("NPDES") program regulates the pollutants that can be discharged into the nation's surface waters. As part of this program, EPA develops "effluent limitation guidelines" for specific industrial categories based on available control technologies to treat industrial water before it is discharged. Currently, EPA generally does not allow any direct discharges from most onshore oil and gas wells.[17] However, it is currently considering new effluent limitation guidelines and pretreatement standards (used when water is sent to a publicly owned treatment works), in part to address the boom in oil and gas development from coalbed methane and shale gas plays that use substantial amounts of water and generate significant amounts of produced water that may be able to be recycled and reused as opposed to disposed via injection wells.

A potential drawback of increased federal regulation through new effluent limitation guidelines or pretreatment standards could be a one size fits all approach that limits some of the flexibility that has encouraged states like Texas to adopt rules encouraging recycling and reuse from oil and gas operations. Coalbed methane development and shale gas development and use of water differs whether you are in Colorado, Pennsylvania, Texas or Wyoming.

A new effluent limitation guideline or pretreatment standard allowing for some discharges could also be beneficial to the extent it allows for new stationary recycling facilities to be developed in places like Pennsylvania that have little alternative oil and gas waste disposal

[17] Wells west of the 98th meridian may be allowed to discharge into evaporation pits. There is also a subcategory of oil and gas wells termed "agricultural and wildlife use" that allows discharge because the quality of the produced water is good enough for watering crops or wildlife.

options and that are constrained by the current discharge requirements. EPA is scheduled to update the oil and gas development guidelines and pretreatment standards in 2013 and 2014.[18]

C. Endangered Species Act Regulation

Under the federal Endangered Species Act ("ESA"), any activity that harms or significantly disturbs an endangered species is prohibited. The ESA is thus a powerful tool that can hinder development generally, and it is increasingly used by groups with broader environmental interests to impede oil and gas activity and HF.

A comprehensive settlement agreement between conservation organizations and the Department of Interior in 2011 establishes a timeline for listing decisions on hundreds of species that extends until 2018.[19] One proposed listing, the dunes sagebrush lizard, would have affected oil and gas development in the Permian Basin in New Mexico and Texas. The proposal was made in late 2010. The U.S. Fish & Wildlife Service ("Service") ultimately withdrew the listing in 2012 after industry and affected agricultural interests grouped together to develop an innovative conservation plan for the lizard to help conserve its habitat in the Permian Basin.[20]

The Service is currently considering listing the lesser prairie chicken as threatened in five states, including Colorado, Kansas, New Mexico, Oklahoma and Texas. One of the purported threats to the birds is noise from oil and gas activities, including HF.[21] Once again, industry and other stakeholders have developed innovative conservation plans to head off a listing. A six-month extension for the proposal was recently announced by the Service as a result of a "substantial disagreement" in the science underlying the listing, and a final listing decision will be made in March 2014.

D. Petitions for additional rulemakings

Environmental groups have also petitioned EPA to regulate HF in other ways. For example, in October 2012, the Environmental Integrity Project and seventeen other groups submitted a formal petition asking EPA to add the oil and gas extraction sector to the list of

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[18] *See* U.S. Environmental Protection Agency. Notice of Final 2010 Effluent Guidelines Program Plan. 76 Fed. Reg. 66286 (Oct. 26, 2011).
[19] *See* the workplan for listings at http://www.fws.gov/endangered/improving_ESA/listing_workplan.html.
[20] *See* http://texasahead.org/texasfirst/esa/task_force/priority/dsl.php.
[21] 77 Fed. Reg. 73828 (Dec. 11, 2012).

industries required to estimate emissions and releases of toxic chemicals through the Toxic Release Inventory ("TRI"). TRI is part of the Emergency Planning and Community Right-to-Know Act and is used to report and ultimately reduce chemicals released to the environment. However, much of the information that the groups want is already available through state regulations related to HF chemical disclosures and new air emission requirements adopted by EPA for greenhouse gases and VOCs. EPA has not yet responded to the TRI petition, but it is planning a TRI sector expansion rule for Fall 2013.

Another significant petition that remains pending is a petition to remove the exemption of oil and gas production and exploration wastes from the definition of hazardous wastes regulated by the Resource Conservation and Recovery Act.[22] In 2010, the Natural Resource Defense Council petitioned EPA to regulate wastes produced in oil and gas exploration and production as hazardous wastes.[23] The NRDC petition urges EPA to reconsider the exemption due to the increase in various chemicals mixed in with produced water and other wastes that EPA previously reviewed in making the determination to exempt oil and gas wastes. EPA has not yet responded to the petition.[24]

III. Local ordinances and HF

Local governmental authorities are starting to use their own powers, including jurisdiction over zoning and planning, to impose new requirements on HF. For example, cities like Boulder, Colorado have gone so far as to announce a moratorium on HF.[25] Even cities like Dallas near the Barnett Shale have proposed some restrictions on drilling locations involving HF.[26] There is also concern among municipalities that the significant truck traffic associated

[22] *See* http://www.epa.gov/osw/nonhaz/industrial/special/oil/oil-gas.pdf.
[23] *See* http://docs.nrdc.org/energy/files/ene_10091301a.pdf.
[24] There are several other pending federal actions related to HF. For example, on July 11, 2013, EPA formally announced that it was partly granting and partly denying a petition from Earthjustice, the Environmental Defense Fund, and the NRDC to promulgate rules under the Toxic Substances Control Act to require manufacturers and distributors of chemicals used in HF to conduct toxicity testing and make certain chemical information public. *See* 78 Fed. Reg. 41768 (July 11, 2013). On May 24, 2013, the BLM proposed a rulemaking to address HF on federal lands. *See* supra n. 3. And EPA is currently conducting a comprehensive study of HF, and will release a draft of the final report in December 2014 and different technical research papers in the interim for peer review. *See* http://www2.epa.gov/hfstudy.
[25] *See* http://www.dailycamera.com/news/boulder/ci_23390239/boulder-approves-one-year-fracking-moratorium.
[26] http://dfw.cbslocal.com/2013/06/20/dallas-proposed-tighter-gas-drilling-restrictions/.

with HF is damaging roads and cities are attempting to address those issues via local regulation.[27]

Preemption is a key issue with local regulation of HF. For example, the Pennsylvania Supreme Court ruled that state law preempts a municipal ordinance regulating drilling because it "purports to police many of the same aspects of oil and gas extraction activities that are addressed by the [State Statute]."[28] While local ordinances restricting HF have thus far not been used significantly in Texas, the Texas Supreme Court has ruled in several preemption cases involving other industries that local zoning and municipal requirements cannot interfere with comprehensive state government schemes.[29]

IV. Conclusion

Recent reports note that Texas oil production in March 2013 reached its highest level since 1984 (doubling in less than three years).[30] Other states where HF is used are going through similar production booms.

It is not surprising that, with all the oil and gas development activity created by HF, regulation will be called for to help ensure that development does not create significant impacts upon the environment. Indeed, regulation of HF at all levels—local, state, and federal—has increased significantly over the last few years as HF becomes more prevalent. Beyond the question of which level of government is most appropriate for regulating oil and gas development, there will always be some tension in how to best regulate a new industry. But it is encouraging that despite the dramatic increase in regulation over the last few years, oil and gas development and the economic output associated with HF is increasing apace.

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[27] Collier Township, PA Ordinance No. 592 § 1703.29.d(1)(2011).

[28] *Range Resources Appalachia, LLC v. Salem Tp.*, 600 Pa. 231 (2009).

[29] *See Southern Crushed Concrete LLC v. City of Houston*, No. 11-0270 (Tex. Feb. 15, 2013) (barring local zoning rule imposing distance restrictions because it was preempted by the Texas Clean Air Act).

[30] http://fuelfix.com/blog/2013/07/10/texas-oil-surges-to-highest-level-since-1984/.

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Biography

Sue Snyder is an experienced lawyer and policy advisor with a demonstrated track record of solving complex environmental, trade, and technology issues, both international and domestic. Sue concentrates in environmental and other issues for various industries including oil and gas companies and is a member of the firm's Hydraulic Fracturing and Water Task Forces. Sue started her career at Vinson & Elkins with a concentration in water and waste matters. Before rejoining Vinson & Elkins in 2012, Sue served as Executive Legal Counsel and Vice President of International Policy and Relations for a multi-national semiconductor company. In that capacity, she managed general law matters, environmental matters, corporate matters, litigation, and other areas; created the company's policy department; and oversaw corporate social responsibility. Sue taught courses at The University of Texas' McCombs School of Business in Business Law, International Business and Operations, and Ethics and Corporate Responsibility, which involved minimization of risk to businesses in a multitude of areas. She also served as an adjunct professor in environmental law at the University of Texas School of Law. Throughout her career, Sue has worked with world leaders, foreign dignitaries, government officials, and chief executives to resolve environmental issues and other global trade challenges, and to facilitate new investments in many jurisdictions, including Japan, the Republic of Korea, China, the European Union, Mexico, Brazil, Malaysia, Taiwan, and India. Sue also has been quite active in numerous professional endeavors. She has served as a chair of and a representative on various legal and policy committees of domestic and international trade associations in the high technology area. She was the first chair of the Travis County Bar Association High Tech Committee, hosted the Austin television program "Ask an Attorney," and served many years as the coordinator of the Austin Metropolitan Area In-House Counsel Group.

Representative Experience

Environmental/Energy

- Surveyed and analyzed legal issues related to water issues arising from hydraulic fracturing for a multinational construction and engineering company involved in numerous power, oil and water endeavors
- Represented reuse water provider involved in supplying water for hydraulic fracturing in Texas
- Provided guidance and counsel regarding water permit issues to a global chemical manufacturer
- Represented power generator in transactions relating to air pollution control equipment construction contracts
- Negotiated and implemented power plant contracts for engineering, procurement and construction
- Assisted industries including automotive and chemical companies in developing REACH (Registration, Evaluation, Authorization and Restriction of Chemicals) compliance strategies in the EU
- Created a trade association comprised of Fortune 500 companies to advocate development of solar power in Texas
- Developed U.S. and international environmental policy for waste, water, and air in the EU, U.S., China, South Korea, Japan, and Taiwan for semiconductor industry
- Developed proactive voluntary environmental compliance plans for government recognition in the EU and other jurisdictions
- Assisted client in the navigation of new EU legislation prohibiting certain imports containing lead and other materials
- Drafted chemical restriction amendments to legislation proposed and adopted in EU and China
- Represented tri-power generator plant in construction contracts and permitting in Europe
- Assisted pipeline projects in environmental and community relations matters

- Secured environmental permits for construction of semiconductor fabrication facility in Europe
- Resolved protected migratory bird issue that had forestalled relocation of company headquarters in California
- Coordinated transfer of all necessary environmental permits to spin-off company
- Resolved nuisance and noise matters related to manufacturing facility
- Successfully represented waste disposal company in wastewater permit renewal contested case hearing
- Represented chemical and technology companies before the Environmental Protection Agency with regard to enforcement and permitting matters
- Coordinated remediation activities at numerous Superfund site locations for Fortune 500 companies
- Conducted environmental due diligence in support of real estate transactions for purchases of lands involving hazardous waste sites
- Coordinated permit reviews, updates, and modifications for technology company
- Created environmental spill response manual for technology company

International/Business Expansion

- Supported the expansion of client sales, exports, and corporate presence in Brazil, China, Europe, India, Japan, Malaysia, Republic of Korea, and Taiwan
- Assisted with encouraging foreign direct investment in the U.S. from China, Mexico, and other countries
- Assisted a publicly-traded, U.S.-based manufacturing company to open an office in Hong Kong and a subsidiary in China
- Provided counsel to a provider of services to the Olympic Committee for the games in Beijing; negotiated extensive service contracts for U.S.-based vendors
- Assisted university expansions in study abroad agreements

- Assisted a university in research collaboration and legal issues in various countries, including Israel, Mexico, Saudi Arabia, Turkey, India, and Malawi
- Assisted Mexican investors in securing investments in the U.S.
- Advised a metropolitan chamber of commerce and others regarding EB5 centers

Public/Private Partnerships

- Advised on creation of multi-million dollar public/private partnership in the technology arena in the U.S.
- Created large public-private technology partnership in India with government and industry participant
- Provided guidance and negotiation on securing and retaining significant state government revenue incentives for a publicly-traded healthcare company and a foreign-owned technology company in the U.S.
- Negotiated the development of a research institution in collaboration with a large public U.S. university in Mexico
- Advised on the creation of a government-funded research park in Mexico in collaboration with an investor group
- Successfully transferred governmental incentives greater than $1.2 billion to a foreign entity as part of a multi-billion transaction for a Fortune 500 technology company in the U.S.

Additional Risk Management

- Assisted in creation of numerous corporate policies on matters ranging from environmental spills and anti-bribery to export controls
- Advised on international contracts involving matters for risk minimization with regard to international and domestic laws
- Assisted in review of issues related to compliance in environmental and foreign corruption matters
- Assisted in creation of risk management plans and strategies at Fortune 500 company

Prior results do not guarantee a similar outcome.

Education and Professional Background

- University of Texas School of Law, J.D., 1989 (Associate Editor, *Texas Law Review*; Order of the Coif; Phi Delta Phi Law Honor Society; Teaching Quizmaster)
- Cornell University, B.S. Civil and Environmental Engineering with Distinction, 1986 (Cornell Engineering Ambassador; Tau Beta Pi Honor Society; Chi Epsilon Honor Society; Selected for Cornell in Washington Program)
- University of Notre Dame, Executive Certificate in Negotiation, 2008
- Admitted to practice: Texas, 1989

Professional Recognition

- *Austin Business Journal*, Profiles in Power Award, Winner, 2009

Activities and Affiliations

- Breast Cancer Resource Centers of Texas, Member, Board of Directors
- Cornell Alumni Admissions Ambassador Network, Member
- Communities in Schools, Leadership Circle Member and Steering Committee Member of WISE (Women Investing in Success and Education)
- International Business and Law Roundtable, Co-Founder
- International Business Law Council of Texas, Co-Founder
- Austin Bar Association, Vice Chair of Programs for Technology Section

Publications and Presentations

- "Water and Shale Development: Use, Transportation, Storage, Recycling, and Disposal," Vinson & Elkins' Third Annual Hydraulic Fracturing Symposium, Houston, Texas, June 26, 2013
- "Supreme Court Ventures Into Charted Waters," *Law360*, June 21, 2013 (co-author)

- "Water Management Regulations Applicable to Hydraulic Fracturing," Texas Water Conservation Association 69th Annual Convention, Austin, Texas, March 7, 2013
- "Deferred Prosecution under the Foreign Corrupt Practices Act," original 2009 paper cited in PricewaterhouseCoopers, "Cleaning up Corruption: Why anti-corruption compliance is now on the C-Suite radar," PwC Forensic Services Practice, April 2012 (co-author)
- "Connecting the Dots: Building a Latin American Supply Chain," Solutions for Latin American Markets Conference, Austin, Texas, June 11, 2010
- "U.S. International Laws: Considerations in Distressed Asset Purchases Overseas," 21st Annual American Bar Association Real Property, Trust and Estate Law, Philadelphia, Pennsylvania, May 6, 2010
- "FCPA Enforcement Actions Causing Business Model Changes," Martindale.com, March 15, 2010
- "Knowing the Rules of the Game in China: Impact of the Legal, Environmental & IP Rights for U.S. Exporters," U.S.-China Business Forum: Green Texas 2009, Austin, Texas, November 12, 2009
- "Procurement Peril: the Buy American Provision of the Stimulus Act," *Association of Corporate Counsel 3rd Quarter Newsletter*, October 2009 (co-author)
- "Navigating the Buy American Provision of the Stimulus Act," *Texas Transnational Law Quarterly*, September 2009 (co-author)
- "REACH (Registration, Evaluation, Authorization and Restriction of Chemicals) and its Domestic Implications," 21 & Counting Texas Environmental Superconference, Austin, Texas, August 7, 2009
- "Keynote: U.S. -Mexico Business Opportunities," U.S./Mexico Sister Cities International Conference on Economic Impact and Community Involvement hosted by the Greater Austin Hispanic Chamber of Commerce and the Office of the Governor Economic Development & Tourism Division – Texas, Wide Open for Business, Austin, Texas, August 6, 2009
- "Solar and Semiconductors," Clean Technology Conference and Expo 2009, Houston, Texas, May 2009

- "Addressing Corruption on a Global Basis," State Bar of Texas International Law Section's 21st Annual Institute, Houston, Texas, March 5, 2009
- "New Chemical Regulation in EU could affect Austin Exporters," *Austin Business Journal*, October 2008 (co-author)
- "European Union Regulation "REACHes" (Registration, Evaluation, Authorization and Restriction of Chemicals) Local Business, *Austin Business Journal*, September 2008 (co-author)
- "Foreign Security at Risk? New Proposed Rules Regulate Foreign Investment," *Association of Corporate Counsel Newsletter*, Volume 7, July 2008 (co-author

ETHICAL CONSIDERATIONS FOR LAWYERS USING SOCIAL MEDIA

Sue Snyder and Jennifer Cornejo
Vinson & Elkins L.L.P.

25th Annual State Bar of Texas
Environmental Superconference
Austin, TX
August 1-2, 2013

I. Introduction

Technology and globalization have irrevocably transformed the practice of law in fundamental ways, especially in the last fifteen years with the advent of blogging and social media.[1] Since then, communications and commerce have become increasingly globalized and technology-based.[2] Legal work can be more easily disaggregated, business development can be accomplished with new tools, and new processes facilitate legal work and communication with clients.[3] And the changes are not over; the practice of law will continue to evolve as new technologies force alterations in the ways lawyers practice. New trends will come and go faster than state bars can implement rules to apply to them. As a result, lawyers must understand the relevant rules and tackle the ethical and regulatory challenges arising from these newfound realities.

Social networking websites offer its attorney-members a wide array of benefits, allowing them to reach out directly to their constituents, take a more active role in shaping their public image, and overcome longstanding institutional barriers.[4] In addition, social media allows lawyers to network and build relationships with other attorneys with whom they otherwise would be unable to connect due to time and distance obstacles.[5] Similarly, social media is changing the

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[1] *See* Dr. Anthony Curtis, *The Brief History of Social Media* (2013), http://www.uncp.edu/home/acurtis/NewMedia/SocialMedia/SocialMediaHistory.html (noting that blogging began in 1997, Friendster in 2002 and MySpace in 2003).

[2] Sucharita Mulpuru et al., *U.S. Online Retail Forecast, 2010 to 2015*, Forrester Research, Inc. (2011) (finding that, in 2010, U.S. online retail sales grew 12.6 percent, reaching $176.2 billion and that, by 2015, they are expected to reach $278.9 billion); *see also* Stephen Gillers, *A Profession If You Can Keep It: How Information Technology and Fading Borders Are Reshaping the Law Marketplace and What We Should Do About It*, 63 HASTINGS L.J. 953, 956 (2012).

[3] *See, e.g.*, Milton C. Regan, Jr. & Palmer T. Heenan, *Supply Chains and Porous Boundaries: The Disaggregation of Legal Services*, 78 FORDHAM L. REV. 2137 (2010).

[4] Stephen Stine & Joshua Poje, *The Good, the Bad and the Ugly of Blogging, Microblogging and Social Networking for Public Attorneys*, 17 PUB. LAW. 13, 18 (2009).

[5] PATRICIA E. SALKIN & JULIE A. TAPPENDORF, SOCIAL MEDIA AND LOCAL GOVERNMENTS: NAVIGATING THE NEW PUBLIC SQUARE 117 (2013).

way that clients find lawyers. The Internet provides immediate access to information about lawyers through search engines, websites, blogs, and ratings and rankings services.[6] Lawyers are using various Internet-based client development tools to attract new clients, such as pay-per-click and pay-per-lead services,[7] as well as social and professional networking sites, such as Facebook and LinkedIn.

With these benefits come various ethical concerns, however. Technology and social media have given rise to an increasing number of cross-jurisdictional issues. Lawyers can easily provide legal services to clients wherever they may be. Other issues raised by social networking include inadvertently creating attorney-client relationships, advertising, ex parte communications, and researching online profiles of witnesses, experts and jurors. This ability to provide legal services and socialize virtually has raised new ethical issues.

State bar ethics disciplinary authorities have already demonstrated how an attorney's social media use can be used against him or her. For instance, a Texas lawyer requested a continuance from her judge because she claimed her father had died. The judge granted the motion but later discovered via the lawyer's social media page that she had spent the week drinking and partying.[8] Similarly, the Florida state bar summoned a lawyer for complaining about a judge's conduct in the courtroom and alleging bias on his blog. The Florida state bar ultimately reprimanded the lawyer and assessed a $1,200 fine.[9]

The American Bar Association's ("ABA's") *Model Rules of Professional Conduct* (the "Model Rules") provide guidance to lawyers practicing in this technology-driven global economy. Because these are, indeed, only Model Rules, each state must consider whether and, if so, how to incorporate these changes into its own governing rules of professional conduct. Consequently, attorneys must be aware of their local ethical rules. Although many states' ethical standards are based on the Model Rules, some are not. Some may be based on the Model Rules but have different comments, and some may interpret rules differently. For instance, the Texas

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[6] *See* ABA Standing Comm. on the Delivery of Legal Services, *Perspectives on Finding Personal Legal Services* (2011), http://www.americanbar.org/content/dam/aba/administrative/delivery_legal_services/20110228_aba_harris_survey_report.authcheckdam.pdf.

[7] *See, e.g.*, N.J. Sup. Ct. Comm. on Att'y Advertising, *Internet Advertising, Misleading Content, and Impermissible Referral Services*, Ethics Op. 43 (2011); N.Y. State Bar Ass'n Comm. on Prof'l Ethics, Advisory Op. 897 (2011).

[8] Molly McDonough, *Facebooking Judge Catches Lawyer in Lie, Sees Ethical Breaches*, A.B.A. J. (July 31, 2009), http://www.abajournal.com/news/article/facebooking_judge_catches_lawyer_in_lies_crossing_ethical_lines_abachicago/ (last visited July 8, 2013).

[9] John Schwartz, *A Legal Battle: Online Attitude vs. Rules of the Bar*, N.Y. Times, Sept. 12, 2009, at A1, http://www.nytimes.com/2009/09/13/us/13lawyers.html (last visited July 2, 2013). The attorney in this case violated the rules prohibiting false and reckless statements regarding the qualifications and integrity of judges. Specifically, the state bar cited five violations of Florida ethics rules, including Rule 4-8.2(a) (making false or reckless statements regarding qualifications or integrity of a judge); Rule 4-8.4(d) (engaging in professional conduct that is prejudicial to the administration of justice). *Id.*

rules are patterned after, but not identical to, the Model Rules, and Texas has not yet adopted the most recent amendments to the Model Rules relating to technology and globalization.

II. The Widespread Use of Social Media

Just as advanced technology and globalization continually transforms the practice of law, the widespread use of social media among lawyers is profound and increasing. An ABA study estimated that more than fifty-six percent of lawyers are members of at least one social networking site.[10] This number will only grow: eighty-six percent of lawyers aged 25–35 are members of some social network, while sixty-six percent of lawyers over age forty-six are also members of a social network.[11] This data indicates that the majority of lawyers find the benefits of social media useful for both professional and personal purposes. As a result, attorneys must be prudent to avoid intentionally or negligently engaging in unprofessional or unethical conduct on social media platforms.

III. Ethical Considerations and Recommendations for Lawyers Using Social Media

The ABA in 1969 adopted the Model Code of Professional Responsibility and in 1983, the Model Rules. In 2009, the ABA created the Commission on Ethics 20/20 (the "Commission") to review the Model Rules with a focus on the prevalence of technology in the everyday practice of law. After a three-year study, the Commission submitted its proposed amendments to the House of Delegates, the policy-making body of the ABA. On August 6, 2012, the House of Delegates adopted all six proposals. The amendments provide guidance on how websites and electronic communications function in the context of advertising and solicitations. Additionally, the amendments clarify when the prospective client-lawyer relationship arises from these communications, as well as the rules relating to confidentiality and the unauthorized practice of law. Because these are only Model Rules, however, attorneys should recognize the state ethics rules governing his or her online activity.

A. Advertising and Solicitations

Social and business networking sites, blogs and other online tools have become popular avenues for lawyers to reach clients and potential clients. As with any other communication channel, when lawyers use social media to market their services, they are subject to ethical rules relating to advertising. Many states have provisions similar to the Model Rules that prohibit lawyers from making false or misleading communications about his or her services.[12] This rule includes even truthful statements that may nevertheless lead a reasonable person to misinterpret

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[10] Am. Bar Ass'n, *2010 Legal Technology Survey Report*, 4 WEB & COMMC'N TECH. 23–24 (2010; *see also* Margaret M. DiBianca, *Ethical Risks Arising from Attorneys' Use of (and Refusal to Use) Social Media*, 12 DEL. L. REV. 179, 179 (2011) (noting that social media usage by attorneys has increased by 250 percent from 2008 to 2009, and another thirty percent from 2009 to 2010); Steven C. Bennett, *Ethics of Lawyer Social Networking*, 73 ALA. L. REV. 113, 113–14 (2009).

[11] Schwartz, *supra* note 9.

[12] MODEL R. OF PROF'L CONDUCT R. 7.1.

the statement or form an unjustified expectation of the results of obtaining that attorney's services.[13] This would apply to communications made on social networks, including blogs, Facebook and Twitter. Texas Rule 7.2(a) states that a "lawyer shall not make or sponsor a false or misleading communication about the qualifications or the services of any lawyer or firm" and a "communication is false or misleading if it: (1) contains a material misrepresentation of fact or law, or omits a fact necessary to make the statement considered as a whole not materially misleading."[14] Relatedly, the Model Rules prohibit attorneys from stating or implying an ability to influence improperly a government agency or official.[15]

The issues regarding online advertising and solicitation are complex and the relevant ethical rules vary drastically among states.[16] For instance, the Texas rules relating to advertising are unique and quite voluminous. The Texas bar requires lawyers to submit certain advertising material to the Advertising Review Department prior to or at the time of publication.[17] However, the Advertising Review Department has stated that LinkedIn and Facebook profiles do not need to be filed with the Advertising Review Department when access is limited to existing clients and personal friends.[18] Nevertheless, landing pages generally available to the public do constitute advertisements and must be submitted for review.[19] Texas also does not require review of communications that were not prepared to secure paid professional employment, as well as blogs and status updates considered to be educational or informational in nature.[20] Thus, it is important to understand the nuances of each jurisdiction's ethical rules and how they are interpreted and applied.

Model Rule 7.2 allows lawyers to advertise their services through written, recorded or electronic communication, including social media.[21] The comments to this rule were amended in 2012 to clarify that while "the Internet, and other forms of electronic communication are now among the most powerful media for getting information to the public," the lawyers may not use these electronic sources to solicit clients "through a real-time electronic exchange *initiated by the lawyer*."[22] Thus, attorneys cannot use social media sites, blogs or other real-time electronic

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[13] *Id.* cmts. 2–3.

[14] TEX. R. 7.02(a).

[15] MODEL R. OF PROF'L CONDUCT R. 8.4(e); *id.* R. 8.04(a)(5).

[16] *See* Ill. Rule 7.4(c) (prohibiting the use of the terms "certified, specialist, expert, or any other similar terms" to describe a lawyer's qualifications).

[17] TEX. R. 7.07.

[18] TEX. DISCIPLINARY R. OF PROF'L CONDUCT Part VII, Interpretive cmt. 17, C. Social Media Sites.

[19] *Id.*

[20] TEX. R. 7.07 cmt. 8; *see also id.* Interpretive cmt. 17, D, Blogs.

[21] MODEL R. OF PROF'L CONDUCT R. 7.2(a).

[22] *Id.* cmt. 3.

contact with prospective clients if there is any chance for coercion, duress or harassment. In addition, all electronic communications that solicit clients must be labeled as "Advertising Material" and include the name and office address of at least one lawyer responsible for its content.[23]

Many ethical rules also address real-time solicitation.[24] Texas Rule 7.03(a) provides that "[a] lawyer shall not by in-person contact, or by regulated telephone or other electronic contact as defined in paragraph (f), seek professional employment concerning a matter arising out of a particular occurrence or event, or series of occurrences or events, from a prospective client or nonclient who has not sought the lawyer's advice regarding employment or with whom the lawyer has no family or past or present attorney-client relationship when a significant motive for the lawyer's doing so is the lawyer's pecuniary gain.[25] Texas clarified that a "website for a lawyer or law firm is not considered a communication initiated by or on behalf of that lawyer or firm."[26] Instant communication, including that available on certain social media websites, however, has been treated as a form of in-person solicitation, so attorneys should be extremely cautious in this area.[27]

Additionally, many ethical rules, including the Texas and Model Rules, prohibit lawyers from stating or implying that they specialize in a particular field of law unless they are certified as a specialist by an approved organization and that organization is clearly identified in the communication.[28] Under the Model Rules, an attorney may, however, specify fields of law in which they do and do not practice, and they may further state if they are a patent attorney or practice admiralty law.[29] In Texas, Rule 7.02(a)(6) prohibits the designation of a field of practice unless the communicating lawyer is in fact competent in the area.[30] Profile settings that allow one to specify occupation-related information on social media sites, such as LinkedIn, muddle the issue. In many jurisdictions, attorneys are allowed to state the areas of law in which they practice. However, they must be careful to avoid making any misrepresentations about their practice areas or identifying themselves as a specialist when they in fact are not.[31]

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[23] *Id.* R. 7.3(b)(2), (c).

[24] *Id.* R. 7.3(a); TEX. R. 7.03.

[25] TEX. R. 7.03(a).

[26] *Id.* R. 7.03(f).

[27] Cydney Tune & Marley Degner, *Blogging and Social Networking: Current Legal Issues*, 962 PLI/PAT 113, 133 (2009).

[28] MODEL R. OF PROF'L CONDUCT R. 7.4(d); TEX. R. 7.04(b).

[29] MODEL R. OF PROF'L CONDUCT R. 3.5(a)–(b).

[30] TEX. R. 7.02(a)(6).

[31] SALKIN & TAPPENDORF, *supra* note 5, at 124–25.

Information posted by others is likewise limited by ethical rules. For instance, in some jurisdictions, recommendations on sites such as LinkedIn must not create an unjustified expectation.[32] In Texas, the rules prohibit comparisons to other lawyer's services unless it is substantiated by verifiable objective data.[33] Thus, a lawyer is responsible for each piece of content of any testimonial or recommendation that contains a false or misleading statement. Also, reciprocal recommendations could be problematic. Model Rule 7.2(b) prohibits giving anything of value in exchange for a recommendation, and Texas Rule 7.03(b) prohibits giving anything of value to a non-lawyer for soliciting prospective clients.[34]

B. Attorney-Client Relationship

Lawyers who engage in social networking must be careful to avoid creating inadvertent attorney-client relationships. Most social media websites allow users to post and respond to questions, and lawyers may be asked to respond to a question on a specific legal issue. Such a response may be characterized as legal advice.[35] Thus, a casual response to a post on a legal issue could easily blur the lines between providing legal information and legal advice. While providing legal information has inherent risks, providing legal advice proves more problematic as it may create an inadvertent attorney-client relationship with the social networking member who posed the question. Attorneys must avoid unintentional attorney-client relationships because once an attorney-client relationship forms, a number of professional conduct rules apply.

Model Rule 1.18 addresses the duties that a lawyer owes to a prospective client. According to the Rule, "a person who discusses with a lawyer the possibility of forming a client-attorney relationship with respect to a matter is a prospective client."[36] Moreover, "a lawyer who has had discussions with a prospective client shall not use or reveal information learned," with certain exceptions.[37] Attorneys using social media, especially those platforms that facilitate live conversations, direct messaging, or interactive posting, must be aware that these actions may create an unintentional attorney-client relationship; and if a social media member

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[32] *See, e.g.*, S.C. Ethics Advisory Comm., Op. 09-10 (2009), http://www.scbar.org/MemberResources/EthicsAdvisoryOpinions/OpinionView/ArticleId/107/Ethics-Advisory-Opinion-09-10.aspx (last visited July 9, 2013); Ohio Bd. of Comm'rs on Grievances & Discipline, Op. 2000-6 (Dec. 1, 2000), https://www.google.com/url?sa=t&rct=j&q=&esrc=s&source=web&cd=1&ved=0CC8QFjAA&url=http%3A%2F%2Fwww.sconet.state.oh.us%2FBoards%2FBOC%2FAdvisory_Opinions%2F2000%2FOp%252000-006.doc&ei=BpTcUa2tCMWqqgHgm4GQCw&usg=AFQjCNH0pDtWhRhnN_gCWV2lzrrl2wzc5w&sig2=n7qNl4QyluCxWhzFWuzxwQ&bvm=bv.48705608,d.aWM (last visited July 9, 2013).

[33] TEX. R. 7.2(a).

[34] MODEL R. OF PROF'L CONDUCT R. 7.2(b); *id.* R. 7.03(b).

[35] ABA Formal Op. 10-457 (Aug. 5, 2010).

[36] MODEL R. OF PROF'L CONDUCT R. 1.18(a).

[37] *Id.* R. 1.18(b).

"reasonably relies" on what could be construed as legal advice through social media communications, an attorney-client relationship could result.[38]

To avoid creating an inadvertent relationship while using social media and weaken any reasonable expectation that an attorney-client relationship exists, lawyers should post disclaimers on their profiles before rendering what could be construed as legal advice. Such a disclaimer can be as simple as this: "Disclaimer: This response does not constitute legal advice or create an attorney – client relationship. You should consult a lawyer in your state regarding the individual facts and circumstances of your case. This response is only a summary of the law in [attorney's jurisdiction] and may no longer be effective at the time you read this." In addition, attorneys should strive to keep their online discussions informal to avoid any claims that the attorneys' advice gave rise to an attorney-client relationship.

C. Confidentiality

Confidentiality issues arise in the social networking context because lawyers may forget their ongoing duty to maintain client confidences while using social media. By authoring an apparently harmless Facebook post or uploading personal contact information, a lawyer may unwittingly reveal confidential information to an extremely broad audience. Confidentiality is a general requirement in ethical rules.[39] The amendments to the Model Rules address these resultant new risks to confidentiality from increased use of the Internet and social media in lawyer-client communications. The first amendment includes electronically stored information in Model Rule 4.4, which requires prompt notification of inadvertently received confidential information. Also, a new paragraph to Model Rule 1.6 imposes an ethical duty to take reasonable efforts to prevent the unauthorized disclosure of or access to confidential information. These considerations also prompted the Commission to amend the comments to Model Rule 1.1 to include knowledge of technology's benefits and risks as components of a lawyer's duty to maintain competence. These amendments have not yet been adopted in Texas, but the duties of confidentiality apply under Rule 1.05.

D. Unauthorized Practice of Law

Attorneys also should be aware of the possibility of exposure of practicing law outside their jurisdictions. Texas and the Model Rules provide that lawyers are only authorized to practice in jurisdictions in which they are licensed, with certain limited exceptions.[40] The comments to the Model Rule caution lawyers offering opinions on electronic forums or social media websites because the definition of what constitutes practicing law varies among jurisdictions.[41] An informal opinion issued by the Arizona State Bar in 1997 discusses several ethical issues regarding attorneys using the Internet to communicate with the public, including

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[38] SALKIN & TAPPENDORF, *supra* note 5, at 120.

[39] *See, e.g.*, MODEL R. OF PROF'L CONDUCT R. 1.6; TEX. R. 1.05.

[40] MODEL R. OF PROF'L CONDUCT R. 5.5; TEX. R. 5.05..

[41] MODEL R. OF PROF'L CONDUCT R. 5.5 cmt. 2.

the issue of giving legal advice through electronic means.[42] For instance, the state bar cautions attorneys not to answer specific legal questions unless the question presented and answer given are general in nature and not fact-specific.[43] Therefore, lawyers must be careful when advising people on social media because the material they post could be considered legal advice.[44]

In addition, an attorney who is not authorized to practice in a jurisdiction yet who "established an office *or other systematic and continuous presence in this jurisdiction*" is generally considered to have committed an ethical violation.[45] A lawyers' ability to practice virtually in any jurisdiction and communicate with people without regard to physical boundaries creates problems under this rule. Thus, a lawyer who provides specific legal advice to a social networking member residing in another state where the lawyer is not licensed to practice may be engaging in the unauthorized practice of law.

However, the amended Model Rule on practice pending admission now allows a licensed lawyer to establish a continuous presence in a new jurisdiction as long as he or she is in active pursuit of admission to the new jurisdiction. Texas has not yet adopted this rule. Lawyers risking this behavior ought to include disclaimers in online communications as to his or her licensure and geographic limitations on practicing.

E. Ex Parte Communications and Pretexting

A lawyer's activities on social media and similar websites may inadvertently violate the rules against ex parte communications. The Model Rules counsel lawyers against influencing or communicating ex parte with a judge, juror, prospective juror, or other official during proceedings unless authorized by law or a court order.[46] Similarly, Texas Rules prohibit lawyers from communicating or causing another to communicate ex parte with a tribunal for the purpose of influencing that entity or person on a pending matter unless authorized by law.[47] Attorneys practicing repeatedly before the same judges and court officers may be tempted to initiate online relationships with them on social media platforms. Attorneys and judges must be aware of the potential ethical complications that this relationship can create.

The burden of avoiding the appearance of impropriety appears to be mainly on judges in this area. Canon 1 of the ABA's *Model Code of Judicial Conduct* (the "Code") requires that judges uphold and promote the independence, integrity, and impartiality of the judiciary and

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[42] *See* Ariz. Comm. on Ethics & Prof'l Responsibility, Informal Op. 97-04 (1997).

[43] *See id.*

[44] Joe Dysart, *Watch Your Social Media Posts Because Lawyer Regulators, FTC May Be*, A.B.A. J. (Feb. 1, 2011), http://www.abajournal.com/news/article/watch_your_social_media_posts_because_lawyer_regulators_ftc_may_be.

[45] MODEL R. OF PROF'L CONDUCT R. 5.5 cmt. 4 (emphasis added).

[46] *Id.* R. 3.5(a)–(b).

[47] TEX. R. 3.05(b).

avoid any appearance of impropriety.[48] The Code further explains that these expectations apply to a judges' professional as well as personal conduct.[49] The Code also expressly forbids judges from permitting, initiating, or considering ex parte communications.[50] Although the burden may seem one-sided, attorneys are also subject to discipline for facilitating a judge's violation of the Code. As a result, attorneys and judges must be aware of these ethical concerns and the relevant state rules regulating such behavior, if any, in their jurisdiction.

A popular question relating to ex parte communications is whether "friending" judges on Facebook or similar social media websites is ethical. State ethics commissions have reached different conclusions on whether judges and lawyers may be "friends" on social media platforms. For instance, the Florida Judicial Ethics Advisory Committee expressly forbids judges from "friending" attorneys who may appear before the judge, nor can the attorneys add the judge as their "friend."[51] In addition, the Florida committee noted that a disclaimer on the social media page stating that being a "friend" with a judge on the website was not indicative of any relationship and would not confer special treatment on the attorney does not vitiate the presumption of bias.

The Kentucky and New York ethics commissions take different approaches. In Kentucky, the ethics committee found that a judge could "friend" attorneys appearing in his or her court, but only to a limited extent.[52] The Kentucky committee found that the "friend" designation on Facebook, for example, does not, by itself, "reasonably convey to others an impression that such persons are in a special position to influence the judge." If the judge's neutrality is questioned, however, the judge may be required to recuse him or herself from that case.[53] The ethics committee identified the critical consideration to be whether the judge's online friendship, alone or in combination with other facts, resembles a "close social relationship" requiring disclosure or recusal.[54] Similarly, the New York Bar found that judges may participate in social media so long as they obey the rules governing judicial conduct, including "friending" attorneys appearing in their court.[55] The opinion cautions judges to exercise discretion in their online activity and how it may impact their duties under the Code of

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[48] MODEL R. OF JUD. CONDUCT Canon 1 (2010); *see also* TEX. R. OF JUD. CONDUCT Canon 3.

[49] MODEL R. OF JUD. CONDUCT R. 1.2 cmt. 1.

[50] *Id.* R. 2.9.

[51] Fla. Judicial Ethics Advisory Comm., Op. 2009-20 (Nov. 17, 2009), http://www.jud6.org/LegalCommunity/LegalPractice/opinions/jeacopinions/2009/2009-20.html (last visited July 8, 2013).

[52] Ethics Comm. of the Ky. Judiciary, Formal Op. JE-119 (2010), courts.ky.gov/commissionscommittees/JEC/JEC_Opinions/JE_119.pdf (last visited July 8, 2013).

[53] *Id.*

[54] *Id.*

[55] N.Y. State Bar Ass'n, Op. 08-176 (Jan. 29, 2009), http://www.courts.state.ny.us/ip/judicialethics/opinions/08-176.htm (last visited July 8, 2013).

Judicial Conduct, including whether the judges' conduct rises to the level of a "close social relationship" that would require the judge's disclosure.[56]

In a North Carolina case, a judge was reprimanded for "friending" a defendant's lawyer on Facebook during a pending custody case over which he was presiding.[57] Moreover, both the attorney and the judge engaged in a conversation on the website in which they posted comments about the case and responded to each other's comments. The judge in this case also searched for the plaintiff on Google and visited her website. Although the ABA has said that judges can use electronic social networking, the same guidance also instructs that judges must at all times act in a manner that "promotes public confidence in the independence, integrity and impartiality of the judiciary" and also must "avoid impropriety and the appearance of impropriety."[58] This was a clear ethical violation of the rules against ex parte communications on the part of both the judge and lawyer.[59]

An appellate court in Texas may have decided differently on the same facts, however. In a recent case, *Youkers v. Texas*, the Dallas Court of Appeals held that being "friends" with a judge on social media websites is insufficient to show bias.[60] On appeal in this case, the defendant alleged that the trial judge's friendship with the victim's father throughout trial was grounds for his recusal based on bias.[61] In addition, the father had sent the trial judge a private Facebook message intended to sway the judge's decision in the case, albeit in the defendant's favor.[62] Once the trial judge realized the message was improper, he responded back to the father, advising him that the communication was in violation of the rules against ex parte communications and cautioned against any similar messages in the future.[63] The judge also placed a copy of the communications in the court's file, disclosed the incident to the lawyers, and contacted the judicial conduct commission regarding the communications.[64] The appellate court held:

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[56] *Id.*

[57] Ken Strutin, *Pitfalls of Social Networking for Judges, Attorneys*, N.Y. L.J., Mar. 17, 2010, http://www.law.com/jsp/lawtechnologynews/PubArticleLTN.jsp?id=1202446299127 (last visited July 8, 2013).

[58] ABA Standing Comm. on Ethics & Prof'l Responsibility, Formal Op. 462 (Feb. 21, 2013), http://www.americanbar.org/content/dam/aba/administrative/professional_responsibility/formal_opinion_462.authcheckdam.pdf (last visited July 8, 2013).

[59] *Id.*

[60] No. 05-11-01407-CR, 2013 WL 2077196, at *4 (Tex. App.—Dallas May 15, 2013, no pet. h).

[61] *Id.* at *1.

[62] *Id.* at *2.

[63] *Id.*

[64] *Id.*

> Merely designating someone as a "friend" on Facebook "does not show the degree or intensity of a judge's relationship with a person." One cannot say based on this designation alone, whether the judge and the 'friend' have met; are acquaintances that have met only once; are former business acquaintances; or have some deeper, more meaningful relationship. Thus, the designation, standing alone, provides no insight into the nature of the relationship.[65]

The question then turned to whether the improper Facebook message influenced the trial judge's decision. The court held that it did not.[66] The court found that the trial judge responded in the way judges are supposed to respond to ex parte communications, whether approached online, at a party, or in their chambers.[67]

Similarly, the personal information available on social media profiles also tempts lawyers to "Facebook stalk" opposing lawyers, witnesses or experts to gain valuable insight, also known as "pretexting." This kind of behavior, too, leads to many ethical complications that attorneys should anticipate and avoid. Both the Model Rules and Texas rules prohibit attorneys from engaging in dishonest, fraudulent, deceitful, or misleading conduct.[68] Texas Rule 4.01 also specifically forbids attorneys from knowingly making a false statement of material fact to a third person in the course of representing a client.[69] Although "Facebook stalking" may not violate a specific rule or law, it involves a lack of those characteristics relevant to the practice of law such as dishonesty and breach of trust.[70]

Along these lines, the Philadelphia and New York City bars issued opinions restricting lawyers from seeking to "friend" potential witnesses on social media sites. In March 2009, the Philadelphia bar held that it was an ethical violation for lawyers to "friend" a party or witness when not disclosing their identity, regardless if the party usually accepted "friend" requests.[71] The city bar held that such pretexting would involve dishonesty, fraud, deceit or misrepresentation on behalf of the lawyer. Likewise, the New York City bar found that lawyers may not "friend" an individual under false pretenses to obtain information from a social

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[65] *Id.* at *4.

[66] *Id.*

[67] *Id.*

[68] MODEL R. OF PROF'L CONDUCT R. 8.4; TEX. R. 8.04(a)(3).

[69] TEX. R. 4.01.

[70] *See* MODEL R. OF PROF'L CONDUCT R. 8.4 cmt. 2.

[71] Phila. Bar Ass'n Comm. on Legal Ethics & Prof'l Responsibility, Op. 2009-02 (Mar. 2009), http://www.philadelphiabar.org/WebObjects/PBAReadOnly.woa/Contents/WebServerResources/CMSResources/Opinion_2009-2.pdf (last visited July 8, 2013).

networking site because it is easier to deceive someone online as opposed to in person.[72] Consequently, when using social media to investigate another individual, lawyers must not engage in deceitful behavior, such as asking coworkers to use their account to gain access to information about that person.[73]

Ethical concerns can arise even when an attorney uses his or her true identity to "friend" or "follow" another person through social media. The Model Rules restrict attorneys from communicating with third persons who are represented by counsel. More specifically, a lawyer cannot communicate about a proceeding with a represented party without the consent of the other party's lawyer or a court order.[74] Even if the represented party consents, either by accepting, responding to, or engaging with any "friend" requests or messages sent on social media sites, it does not waive the violation.[75] In addition, if a third party is not represented by counsel, a lawyer cannot state or imply that he or she is disinterested in a proceeding in which his or her client's interests conflict with those of the third party. In these cases, the attorney must make a reasonable effort to ensure that the third party understands the potential conflict of interest.[76] The Texas rules impose the same restriction.[77]

Similar issues arise when a lawyer directs another to "friend" a juror. In Texas, a lawyer may not seek to influence a tribunal concerning a pending matter, or communicate or cause another to communicate ex parte with a tribunal for the purpose of doing so, by means prohibited by law or applicable rules of practice or procedure.[78] Another advisory opinion from the New York City bar states that it is unethical for attorneys or those working on their behalf to make "friend" requests to jurors. According to the opinion, the ban on communication is also violated when the lawyer is aware that his or her review of the juror's comments, pages or posts will be disclosed to the juror.[79] The same opinion concludes that attorneys or their agents may "friend" jurors without disclosing the reasons for making the request so long as they use their real name.[80] On the other hand, the Philadelphia bar held that an attorney or agent must make full disclosure

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[72] N.Y. City Bar Ass'n Comm. on Prof'l & Judicial Ethics. Op. 2010-02 (Sept. 2010), http://www.nycbar.org/pdf/report/uploads/20071997-FormalOpinion2010-2.pdf (last visited July 8, 2013).

[73] SALKIN & TAPPENDORF, *supra* note 5, at 128.

[74] MODEL R. OF PROF'L CONDUCT R. 4.2.

[75] *Id.* cmt. 3.

[76] *Id.* R. 4.3.

[77] TEX. R. 4.02(a).

[78] *Id.* R. 3.05(a)(3).

[79] N.Y. City Bar Ass'n Comm. on Prof'l & Judicial Ethics. Op. 2010-02.

[80] *Id.*

of the motive in making a "friend" request and withholding that information constitutes deceit.[81] These distinctions represent how ethical rules vary by jurisdiction.

IV. Conclusion

The widespread use of social media among lawyers, in both the public and private sectors, combined with the legal and ethical considerations inherent in such use makes it imperative for attorneys to proactively identify and understand the rules applicable to their online conduct. It is also important for attorneys and their employers to know the rules that apply to conduct in their jurisdiction that may further restrict their online activity. Although the new amendments to the Model Rules provide guidance to lawyers participating in social networking, many states such as Texas have yet to adopt them and continue to implement their own rules governing lawyers' in this area. In many of these areas, the rules may result in the same conclusion, although there are variations among the states. Due to the increasing prevalence of social media among attorneys, and because the ethical issues created by it are so complex and not specifically addressed by many of the current ethical rules, it would also be prudent for employers to craft social media policies to provide further guidance for attorneys participating in social networking.

[81] Phila. Bar Ass'n Comm. on Legal Ethics & Prof'l Responsibility, Op. 2009-02.

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