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# Currents

a quarterly publication of zephyr environmental corporation

## The Rising Tide of Global Warming Regulations

It's certainly no secret that greenhouse gases (GHGs) and global warming are hot topics in the news these days. On March 14th, the World Meteorological Organization announced that atmospheric concentrations of the most influential GHGs are at record high levels. One hundred sixty-two nations have ratified the Kyoto Protocol and are committed to reducing their GHG emissions. Even though the United States is one of the few nations that did not ratify the Kyoto Protocol, a growing number of GHG-reduction initiatives are being launched here. Regardless of whether or not you believe global warming is a scientific reality, there is no denying the political reality that regulation of GHG emissions is gaining momentum in the United States.

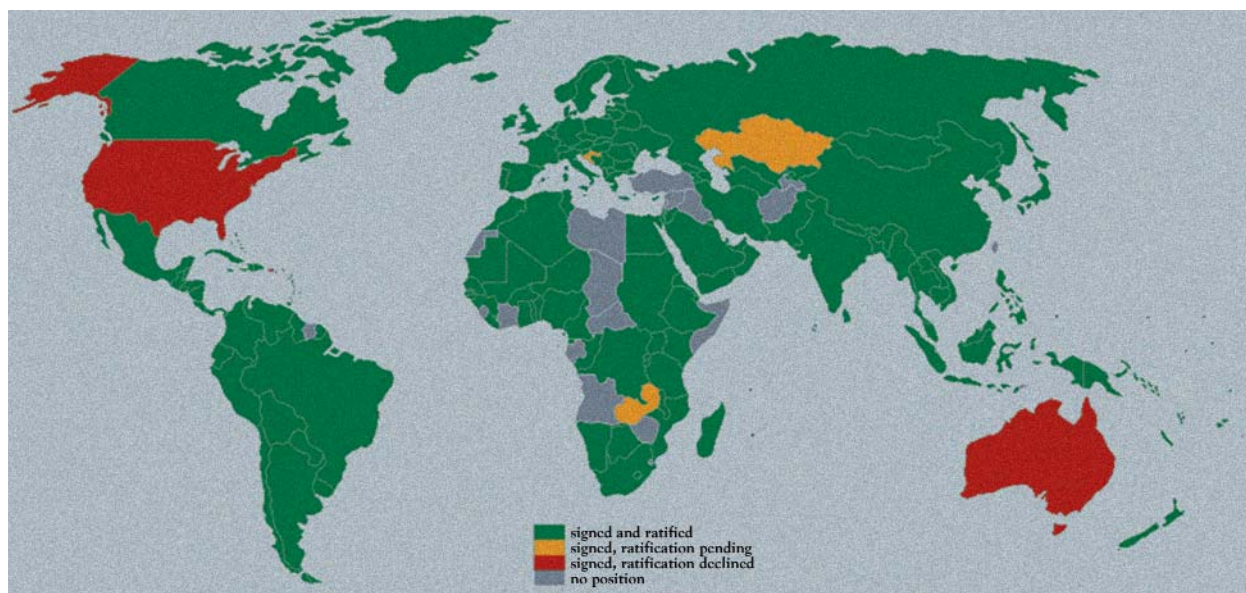
GHGs, including methane, nitrous oxide, carbon dioxide (CO<sub>2</sub>), and even water vapor, contribute to the greenhouse effect, which is a process in which gases in the atmosphere absorb heat and prevent its release to space, causing average temperatures to increase. In addition to our own planet, several worlds in our solar system

experience the greenhouse effect including Venus, Mars, and Saturn's moon Titan. GHGs themselves are not particularly harmful, but the rapid rise in emissions of GHGs since the beginning of the Industrial Revolution is a concern for the many who believe it is causing global warming.

Addressing this concern, nations met in Rio de Janeiro in 1992 for the Earth Summit to discuss strategies for mitigating global warming. Those discussions ultimately led to the Kyoto Protocol in 1997, which established specific GHG reduction levels for various members of the international community. By February of this year it had been ratified by 162 countries. The United States did sign the Kyoto Protocol, but neither the Clinton nor the Bush Administrations ratified it, and in 2001 the United States officially rejected it (see map).

In the European Union (EU), the effort to reduce GHG emissions is well underway. The European Climate Change

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# FROM THE TRENCHES

## En-Trenched in Permeable Reactive Barriers

**T**his may be the first time our “From the Trenches” feature has *literally* been . . . from some trenches! Working for the City of San Antonio, Zephyr has been providing remediation oversight of Air Force contractors at Kelly Air Force Base (AFB) since 2001. Historic spills at the base have resulted in a plume of contaminated groundwater extending off-site over hundreds of acres.

The Air Force and its contractors have been busy trying to identify the nature and extent of the contaminant plume and have implemented a variety of remediation systems to control and mitigate its effects. Measures that the Air Force has applied in this effort include permeable reactive barriers and source control, including slurry wall barriers to contain high concentrations of the contaminants near their source.

Permeable reactive barriers, or PRBs, are a relatively new and innovative way of treating contaminated groundwater. The basic concept is to install a subterranean “wall” perpendicular to the natural direction of the groundwater flow. The wall consists of a permeable matrix of sand and a catalyst that reacts with the contaminants, transforming them into harmless constituents. Iron and manganese react with chlorinated solvents to produce stable, non-hazardous compounds. Since the contaminants from Kelly AFB’s spills are primarily chlorinated solvents, iron filings were chosen as the catalyst in the PRBs installed there.

If the PRB is properly designed and installed, the resulting passive treatment operation is fairly “low maintenance” since the groundwater naturally flows through the PRB and is treated. However, many variables must be managed in the effective application of PRBs, and not every site is a good candidate for this technology. Particular care must be taken to ensure that:

- ◆ The PRB is sufficiently permeable so that the contaminated groundwater will actually flow *through* it and not channel above, below, or around it
- ◆ The PRB is sufficiently thick to provide an appropriate residence time for the groundwater to completely react with the catalyst as it passes through the PRB
- ◆ The catalyst is appropriately selected to treat the contaminants in the groundwater
- ◆ Workers installing the wall and/or people in the surrounding area aren’t exposed to contaminants that may be released during installation of the PRB

During Zephyr’s oversight of PRB installations, the Air Force selected two contractors to install PRBs using two different



techniques at two different locations — 34th Street and Malone Avenue.

For the 34th Street PRB, the first Air Force contractor excavated a trench approximately 32 feet deep and 400 feet long along a city street to receive the sand and catalyst matrix. The trench was also filled with a guar mixture to help eliminate cave-ins. Installation of the PRB using this method took about six weeks.

The installation was complicated by the fact that several residences are located along the street, so both occupational exposures and exposures to the public were a concern. To satisfy concerns by San Antonio’s Metropolitan Health District, Zephyr’s oversight included monitoring for particulate matter and volatile organic compounds that might have been released during the construction itself.

For the Malone Avenue PRB, the second contractor used a very different technique, in which a line of oriented hydraulic fracturing wells were installed along the line the PRB would ultimately follow. Using proprietary technology, the contractor then injected the PRB matrix (including catalyst and gel solution) such that it created a fracture, spreading between the injection wells and forming a continuous barrier of the appropriate thickness and composition to serve as a PRB. The contractor was able to demonstrate that the PRB had appropriately formed by energizing the gel iron mixture and monitoring down-hole resistivity receivers to detect changes in induced voltages caused by propagation of the fracturing fluid. Installation of this PRB, which was about 40 feet deep and 1500 feet long, took about six months

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## TCEQ: Consideration of Alternative Generation Technologies Not Required in BACT Analyses

For years, environmental groups have argued in various contexts that the Clean Air Act's requirement to apply Best Available Control Technology, or BACT, compels an air permit applicant to evaluate not only emission control technology compatible with the type of facility proposed, but also the wholesale replacement of the proposed facility with another, potentially lower-emitting one. This argument, commonly referred to as "redefining the source," has been the centerpiece of environmental groups' recent opposition to the wave of new coal-fired power plant projects across the country. As part of a national initiative to promote integrated gasification/combined cycle, or IGCC technology (in which syngas is manufactured on-site from coal and then used to fuel a gas-fired combined cycle plant to generate electricity), environmental groups have argued before various permitting authorities that an air permit applicant proposing to construct a pulverized coal-fired power plant must include in its BACT analysis consideration of alternative generation technologies, such as IGCC. While the groups have had some success in convincing a limited number of jurisdictions of this position, Texas, a key battleground state on this issue with a number of coal-fired power plant projects in the works, recently rejected their argument, confirming EPA's interpretation that such source-redefinition is not required in a BACT analysis in Texas.

On December 14, 2005, the Texas Commission on Environmental Quality (TCEQ) took up a certified question on this issue, which had arisen in the context of a contested case hearing on Sandy Creek Energy Associates, L.P.'s application for an air permit to authorize construction of an 800-MW coal-fired power plant in Riesel, Texas. The Protestants in the case argued to the Commission that evaluation of IGCC was required because the federal definition of BACT contemplates evaluation of emissions reductions achievable through the application of "production processes" and "innovative fuel combustion techniques." The Protestants also cited references in TCEQ's written BACT guidance to the level of performance accepted as BACT within "the same industry," and an excerpt from EPA's October 1990 "Draft New Source Review Workshop Manual" acknowledging a permit authority's discretion to consider alternative production processes in BACT analyses. The Protestants also argued that permitting authorities in New Mexico, Illinois, Montana and Kentucky had indicated that consideration of IGCC should be included in BACT analyses, and that public policy considerations favored requiring it in the Sandy Creek case.

Sandy Creek, who was joined by several amicus curiae including other power producers and industry groups, argued that IGCC is not a "control technology" applicable to a PC boiler, but in fact is

an entirely different kind of plant. Under the Texas Clean Air Act and TCEQ's rules, the requirement to apply BACT is stated in terms of an obligation on "the proposed facility," with "facility" being defined as a discrete or identifiable structure or device. Clearly, Sandy Creek argued, this contemplates that the applicant must first define the "facilities" for which it is seeking a permit, and then demonstrate that BACT will be applied to each of them. This interpretation is supported by Environmental Appeals Board decisions, and was recently reaffirmed by EPA in a December 13, 2005 letter from Stephen Page, Director of EPA's Office of Air Quality Planning and Standards, to Colorado-based E3 Consulting. As for the references to alternative "production processes" and "innovative fuel combustion techniques" in the federal definition of BACT cited by the Protestants (which arguably does not even apply in Texas, whose own EPA-approved definition of BACT is worded differently), Sandy Creek argued that they mean only that, as TCEQ has always indicated, an applicant cannot limit its BACT analysis to add-on controls like baghouses and scrubbers, but must also consider alternative "processes" (such as a different technique for unloading coal) and "innovative fuel combustion techniques" (such as low-NO<sub>x</sub> burners) that are amenable to controlling emissions from the type of "stationary source" the applicant has proposed.

Additionally, it is necessary as a practical matter to take only the pieces of equipment as proposed by the applicant in performing a BACT analysis. Any other interpretation would be practically unworkable for both the applicant and the agency, as there would be no end to the different technological scenarios that would have to be included in the BACT analysis for a single project.

On December 14, 2005, the Commission, by a 3-0 vote, agreed with Sandy Creek. This ruling represents one of the few formal Commission-level decisions in the nation and firmly establishes Texas' position on this important issue. Environmental groups, however, have not given up the fight. In February, several environmental groups brought suit against EPA in the D.C. Circuit Court of Appeals, challenging the letter to another power producer issued by EPA on December 13, 2005. ☀

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NOTE: A longer version of this article originally appeared in *Vinson & Elkins' February 2006 issue of "TCEQ Regulatory Watch."*

# News Briefs

## national news

### **Court Throws Out NSR Equipment Replacement Provision**

On March 17, the U.S. DC Circuit Court of Appeals ruled that the Equipment Replacement Provision (ERP) included in EPA's New Source Review (NSR) program Routine Maintenance and Replacement Exclusion (issued October 27, 2003) is illegal. If it had been allowed to stand, the rule would have automatically excluded equipment replacements where the cost of the replaced component did not exceed 20 percent of the replacement value of the entire unit. For more information, contact Roger Brower at 410.312.7907 or [rbrower@zephyrenv.com](mailto:rbrower@zephyrenv.com).

### **EPA's Multi-Sector General Storm Water Permit Expires**

The EPA's general storm water permit (MSGP-2000) for industrial facilities expired at midnight on October 30, 2005, but a new permit has yet to be issued. Facilities previously covered under the expired permit must continue to implement their storm water pollution prevention plans and comply with all permit requirements. Until the general permit is renewed, industrial facilities with storm water runoff, but without coverage prior to October 31, 2005, are potentially in violation of the storm water rules. For more information, contact Brad Watson at 512.879.6624 or [bwatson@zephyrenv.com](mailto:bwatson@zephyrenv.com).

### **DOT Increases Penalties on Security Plan and Training Violations**

Effective February 17, the DOT Pipeline and Hazardous Materials Safety Administration (PHMSA) revised its penalty assessment guidance, including guidance for offerors of hazardous materials failing to develop or adhere to security plans or provide plan training. In particular, DOT increased the maximum civil penalty to \$50,000 for a knowing violation and to \$100,000 if the violation results in a person's death, serious illness or severe injury, or substantial property destruction. In addition, criminal penalties now include both reckless and willful violations, with a maximum imprisonment of ten years when a violation results in death or bodily injury. For more information, contact Betty Moore at 512.879.6622 or [bmoore@zephyrenv.com](mailto:bmoore@zephyrenv.com).

### **EPA Delays SPCC Compliance Deadline Again**

On February 17, EPA extended the date by which facilities must prepare or amend and implement Spill Pollution, Control, and Countermeasures (SPCC) Plans. Previously, facilities that began operation between August 16, 2002 and August 18, 2006 were required to prepare and fully implement their SPCC Plans by August 18, 2006. Now, however, these facilities have until October 31, 2007 to prepare and implement their Plans. This action provides EPA additional time to implement other proposed revisions to SPCC requirements before the affected facilities are required to meet the current requirements. For further information, contact Michele Foss at 281.668.7342 or [mfoss@zephyrenv.com](mailto:mfoss@zephyrenv.com).

### **EPA Amends Steam Generating Unit Performance Standards**

Effective February 27, EPA amended its New Source Performance Standards for electric utility (EU) and industrial-commercial-institutional (ICI) steam generating units (SGUs) built or modified after February 28, 2005. These amendments, which affect Subparts Da, Db, and Dc of the Standards reduce particulate matter emission limits for both EU and ICI SGUs, reduce NO<sub>x</sub> and SO<sub>2</sub> mass emission limits for EU SGUs, increase the percent SO<sub>2</sub> reduction requirements for both EU and ICI SGUs, and add an alternative SO<sub>2</sub> mass emission limit for new, existing, and modified ICI SGUs. For more information, contact Curtis Harder at 512.879.6643 or [charder@zephyrenv.com](mailto:charder@zephyrenv.com).

### **EPA Revises Monitoring Method Requirements for Gas Turbines**

Recent amendments to EPA's Subpart GG Standards of Performance for Stationary Gas Turbines are scheduled to go into effect on April 25, 2006. These amendments primarily concern changes to monitoring requirements and methods, some of which are optional for certain types of turbines. For more information, please contact Pete Stevenson at 512.879.6619 or [pstevenson@zephyrenv.com](mailto:pstevenson@zephyrenv.com).

### **EPA Revises Startup, Shutdown, and Malfunction Provisions of MACT Standards**

On March 31, in response to a petition for reconsideration from the Natural Resources Defense Council, EPA amended sections of its National Emissions Standards for Hazardous Air Pollutants for source categories (or the MACT standards) related to start-up, shutdown, and malfunction (SSM) events. The rule changes clarify the obligation of a source to minimize emissions during an SSM event, develop and maintain an SSM plan, and record and report SSM events. The

amendments also specify that SSM plans and event reports filed with EPA will be available to the public. For more information, contact Karen Olson at 512.879.6618 or [kolson@zephyrenv.com](mailto:kolson@zephyrenv.com).

### **EPA Proposes Revisions to Portland Cement MACT Standards**

In response to a December 15, 2000 ruling by the DC Circuit Court, EPA proposed revisions on December 2, 2005 to the Portland cement manufacturing industry's Maximum Achievable Control Technology standards. Included are changes to the "floor standards" for hydrogen chloride, mercury, and total hydrocarbons, and "beyond-the-floor" standards for metallic hazardous air pollutants. "Floor standards" are emission control standards based on the average emissions limitation achieved in practice by the best performing sources in the industry. "Beyond-the-floor standards" are those that are more stringent. For more information, contact Lynne Spector at 410.312.7906 or [lspector@zephyrenv.com](mailto:lspector@zephyrenv.com).

### **EPA Proposes Revisions to Ambient Air Monitoring Requirements**

On December 20, 2005, EPA proposed to extend its network of multi-pollutant and inhalable coarse particulate (PM<sub>10-2.5</sub>) monitoring sites. The EPA also proposed to shut down existing monitors for CO, lead, SO<sub>2</sub> and NO<sub>2</sub> except in areas where pollution problems remain. In addition, for situations where monitoring data are influenced by exceptional events, such as fires and storms, EPA proposed specific criteria for identifying, evaluating, interpreting and using such data in determining compliance with the National Ambient Air Quality Standards. For more information, contact Roger Brower at 410.312.7907 or [rbrower@zephyrenv.com](mailto:rbrower@zephyrenv.com).

### **EPA Extends Compliance Date for Miscellaneous Organic NESHAP**

EPA is extending the compliance date by 18 months for existing sources falling under the National Emissions Standards for Hazardous Air Pollutants from Miscellaneous Organic Chemical Manufacturing (MON). The new compliance date for existing sources is now May 10, 2008. For more information, contact Ellen Ward at 512.879.6634 or [eward@zephyrenv.com](mailto:eward@zephyrenv.com).

## **state news**

### **States Announce Plans for Stricter Mercury Rules**

On March 15, 2005, EPA issued the Clean Air Mercury Rule that mandates mercury emissions reductions from current levels of approximately 20 percent by 2010 and 70 percent by 2018. However, in solidarity with other states (including Connecticut, New Jersey, Massachusetts, Minnesota, North Carolina and Wisconsin), Maryland, Pennsylvania, Illinois and Virginia all recently announced proposed rules for strict mercury emissions controls on coal-fired power plants that go beyond these Federal requirements. For more information, contact Roger Brower at 410.312.7907 or [rbrower@zephyrenv.com](mailto:rbrower@zephyrenv.com).

### **Maryland Governor Signs Landmark Healthy Air Act**

On April 6, 2006, Maryland Governor Robert Erlich signed into law the strongest power plant air pollutant reduction bill ever passed by a legislative body in the U.S. In addition to requiring even more aggressive reductions in NO<sub>x</sub>, SO<sub>2</sub>, and mercury emissions than mandated by current federal initiatives (including CAMR and CAIR), the Maryland Healthy Air Act also requires reductions in CO<sub>2</sub> emissions at the seven coal-fired power plants in the State. The Act also requires Maryland to join the Regional Greenhouse Gas Initiative, a consortium of eastern states committed to mandatory CO<sub>2</sub> reductions from power plants. Under the Healthy Air Act, utilities would not be allowed to comply with annual emission caps through the purchase of pollution credits. For more information, contact Lou Corio at 410.312.7912 or [lcorio@zephyrenv.com](mailto:lcorio@zephyrenv.com).

### **TCEQ Prepares to Implement New Federal Clean Air Rules**

On March 1, the TCEQ proposed changes to its Chapter 101 and 122 rules to create a framework for implementing the federal Clean Air Interstate Rule (CAIR) and Clean Air Mercury Rule (CAMR) at the state level (see January 2006 and April 2005 *Currents*). Applicable to certain large fossil fuel-fired boilers and combustion turbines, CAIR and CAMR together are aimed at reducing emissions of mercury, particulate matter, sulfur dioxide, and nitrogen oxides in an attempt to reduce mercury in the environment and to help eastern U.S. states meet the air quality standards for ozone and fine particles. Both CAIR and CAMR feature the use of emissions budgets and cap and trade programs to achieve the required reductions and states such as Texas are required to develop programs for allocating emissions budgets among affected sources. For more information, contact David Cabe at 512.879.6644 or [dcabe@zephyrenv.com](mailto:dcabe@zephyrenv.com).

### **TCEQ Starts Issuing "On the Spot" Field Citations**

On March 13, TCEQ field inspectors began implementing a statewide pilot program of issuing field citations for certain violations. The intent of this initiative is faster resolution of violations found during field investigations with resultant reduction in penalties for violators. The program is limited to violations of petroleum storage tank, Stage I and II vapor recovery, industrial storm water, and occupational certification rules. For more information, contact Ed Fiesinger at 281.668.7353 or [efiesinger@zephyrenv.com](mailto:efiesinger@zephyrenv.com).

### **TCEQ Issues Guidance on Constructing Storage Tanks Under a PBR**

On February 13, the TCEQ released a draft memo clarifying how the construction of storage tanks may be authorized under permit by rule (PBR). Effective with this memo, PBRs 261 and 262 can no longer be used to circumvent the control, distance, or registration requirements of PBRs 472 through 478. The Agency has set a schedule to revise the affected PBRs to incorporate the concepts described in the February 13 memo. However, until such action is

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Program was launched in 2001 to establish the EU's strategy for meeting its Kyoto Protocol commitments. In 2005, sources in the EU began tracking GHG emissions as part of the EU's resulting Emissions Trading Scheme. This market-based trading program, initially proposed by the United States, is similar to the emissions trading program for electric utilities sources under Title IV of the Clean Air Act and is designed to encourage the least costly GHG reductions first.

In response to the federal government's decision not to adhere to the Kyoto Protocol, more and more states have taken the initiative to develop their own GHG regulations. Early state legislative efforts focused primarily on mobile sources of GHGs, including the California Air Resources Board's Climate Change Emission Control Regulations, which were approved in September 2004 and subsequently adopted in other states. However, states are now beginning to target the smokestack industry for GHG reductions as well.

An example of a large and well-coordinated initiative at the multi-state level is the Regional Greenhouse Gas Initiative (RGGI) — a coalition of nine Northeastern and Mid-Atlantic states established to develop a CO<sub>2</sub> emissions trading program. In December 2005, seven of these states (Connecticut, Delaware, Maine, New Hampshire, New Jersey, New York, and Vermont) committed to implementing a regional power plant CO<sub>2</sub> emissions trading system to be in place by 2009.

Other states are considering similar initiatives. For example, this spring the Maryland legislature debated the "Healthy Air Act," which at one point would have required a 10-percent reduction in CO<sub>2</sub> emissions from power plants by 2018. However, when the Governor of Maryland signed it into law on April 6, that stipulation was removed and replaced with a mandate that Maryland join the RGGI by June of 2007.

The main focus of GHG legislation, particularly in the United States, is on CO<sub>2</sub> because it is the man-made GHG which contributes most to global warming. Controlling emissions of CO<sub>2</sub> is

challenging, because unlike pollutants such as sulfur dioxide that can be reduced by burning cleaner fuels, CO<sub>2</sub> is a natural by-product of all fossil fuel combustion. In other words, whenever fossil fuels are burned, CO<sub>2</sub> is created.

The technologies and strategies to reduce CO<sub>2</sub> emissions are primarily focused on energy efficiency. By creating energy with less fuel, CO<sub>2</sub> emissions are, ultimately, reduced. In the iron and steel industry, projects to increase energy efficiency could include the recovery of process gas from coke ovens, while an energy efficiency strategy for cement plants could be the replacement of wet process kilns with dry kilns.

Other strategies that could greatly reduce or even eliminate CO<sub>2</sub> emissions include increased use of alternative fuels. For instance, CO<sub>2</sub> is not produced when hydrogen is burned, so fueling cars with hydrogen is one alternative. One caveat to this method, however, is that most of the current technologies for producing hydrogen fuel result in emissions of CO<sub>2</sub>. Therefore, alternate techniques for producing alternative fuels are needed as well. Another intriguing possibility for GHG reduction is geosequestration, the process of capturing CO<sub>2</sub> emissions before they enter the atmosphere and injecting them thousands of feet underground. While this concept may sound far-fetched, oil producers have actually practiced it for several decades injecting CO<sub>2</sub> into declining oil fields to enhance productivity. Moreover, construction is slated to begin this year on a 30-MW coal/lignite-fired power plant in Germany that will capture its CO<sub>2</sub> and inject it into the ground for permanent storage, thus making the plant CO<sub>2</sub>-free.

While efforts to reduce GHG emissions are not entirely absent in the United States, the international community as a whole is further down the path than we are. Mainly through the efforts of various states, however, the regulation of GHGs in America is on the rise, not only for motor vehicles but also for the smokestack industry. As the rest of the world continues to lead the way in GHG controls, it is likely that pressure will continue to mount here to follow suit. ✨

**Bill Jones**  
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taken, the February 13 memo will serve to bridge the gap. For more information, contact Ed Fiesinger at 281.668.7353 or [efiesinger@zephyrenv.com](mailto:efiesinger@zephyrenv.com).

**TCEQ Scales Back Clean Texas/EMS Program**

On March 6, the TCEQ announced major changes to its Environmental Management System (EMS) program, significantly scaling back current program activities, including TCEQ EMS audits and "TCEQ EMS Standard" certifications, to free-up agency technical resources for other priorities. The Clean Texas program (formerly named Clean Texas, Cleaner World), however,

will still enable the agency to encourage organizations to implement "performance-based" EMS programs. For example, TCEQ will continue to offer incentives to organizations with EMS programs that are consistent with recognized environmental management frameworks, such as ISO 14001 and Responsible Care. For more information, contact Jeanne Yturri at 512.879.6633 or [jyturri@zephyrenv.com](mailto:jyturri@zephyrenv.com).

**TCEQ Provides Guidance on Voiding Permit Applications**

On January 6, 2006, the TCEQ issued a memo formalizing the process for voiding applications that are not progressing quickly

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## America's Oil Addiction

**A**lthough I've previously discussed the urgency of the consensus to wean American consumers from foreign oil (see *Currents*, July 2005), the drumbeat to achieve domestic energy independence continues unabated. In his 2006 "State of the Union" message, President Bush put a very sharp point on the debate when he stated, "We have a serious problem. America is addicted to oil."

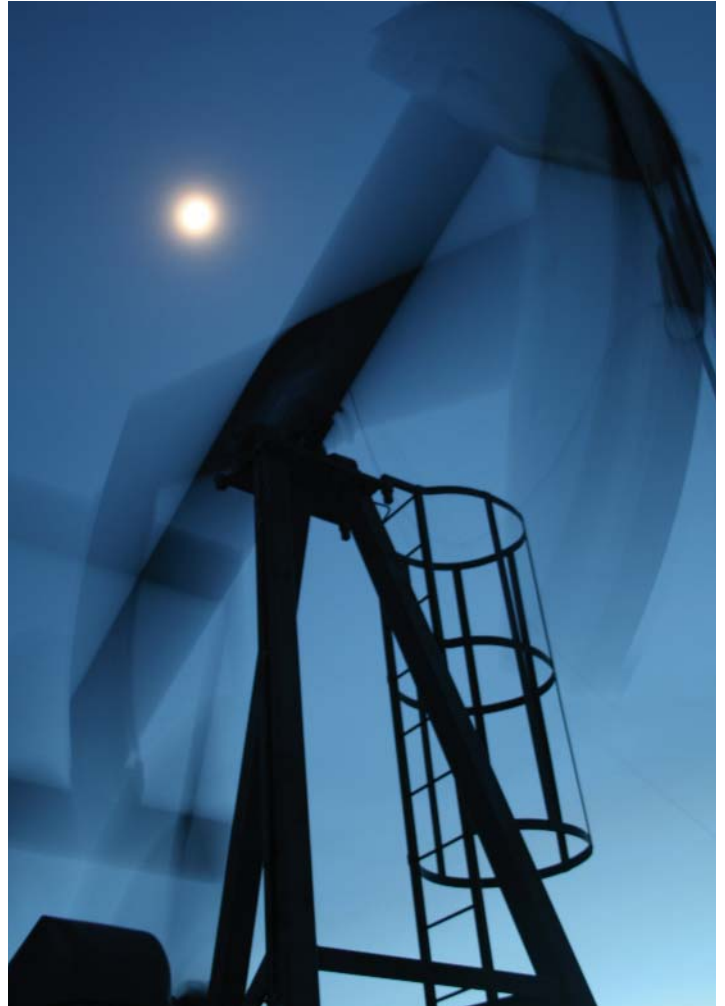
Late last year a coalition of environmental and industry groups were promoting legislation to do exactly that. This initiative, called the "Set America Free" project, resulted in proposed legislation entitled "The Fuel Choices for American Security Act" (Senate Bill S. 2025 and House Bill H.R. 4409). You know there is a broad coalition shaping up anytime you have a bill that includes Sen. Brownback (R, KS) and Sen. Obama (D, IL) as two of its twelve Senate sponsors (47 sponsors in the House) and is supported by such strange bedfellows as the electric utility industry, the Natural Resources Defense Council, and Ford Motor Company!

The legislation would direct the federal government to reduce U.S. demand for oil by 2.5 million barrels (bbl) per day within 10 years, and by 10 million bbl per day by 2031. America currently consumes about 20 million bbl per day, of which about 2.5 million is imported from the Persian Gulf region.

Congress has previously rejected proposals to curtail oil use in crafting the National Energy Policy last year (see *Currents*, July 2005, "A New National Energy Policy — Progress or Politics?") In commenting on the developments leading to the new legislation, Senator Brownback observed that, "There was a mental sea change in America when gasoline hit \$3.00 a gallon."

The oil industry, which opposed the inclusion of a renewable fuels standard in the National Energy Policy Act signed by President Bush in August, has made it clear that it will oppose any additional federal commitment to alternative fuels. However, other sectors of the energy industry see opportunities in the initiative. The electric utility industry has long promoted the idea of increasing the national fleet of "plug-in" hybrid vehicles that could reduce oil dependence by shifting to other fuels, such as electricity from "clean coal" power plants.

Zephyr's hometown of Austin, Texas is sponsoring an initiative to create awareness of and demand for plug-in hybrids. The city's



electric utility, Austin Energy, points out that since 50 percent of cars on the road in the United States are driven 20 miles a day or less, a plug-in with a 20-mile battery range would reduce fuel consumption by 85 percent on average, and that if all cars on the road by 2025 are hybrids and half of those are plug-ins, U.S. oil imports would drop by 8 million bbl per day.

It's clear that either by choice or necessity, Americans will reduce their dependence on oil in the coming years. Those of us working in the environmental and energy sectors of our economy will be key players to shape that transition! ✨

**Joe Zupan**  
President

Zephyr is a professional services firm providing worldwide consulting, training and data systems to the industrial, commercial and public sectors. The firm's major areas of practice are air and water quality, waste issues, worker and community safety, and incident management.

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due to right-of-way issues between the city and the railroad and other circumstances unrelated to the PRB construction.

Based on our observations, use of PRBs is a potentially effective approach that environmental managers should consider in remediating contaminated groundwater. Adequate pilot studies and proper characterization of local conditions (e.g., depth and thickness of the plume, rate of movement, permeability of surrounding formations, characteristics of local groundwater, etc.) is essential to project success. The second technique — oriented hydraulic fracturing — is also a potentially effective remediation alternative when contaminated groundwater is so deep that trenching is impractical or impossible. \*

**Brad Watson**  
Project Manager



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enough through the review process. The memo applies to all types of permitting actions including those associated with enforcement actions or that may result in enforcement actions (such as Title V applications). Under the guidance, most permit applicants will be allowed 30 days to respond completely to deficiency notices, followed by a second notice granting an additional 15 days if the TCEQ does not receive an acceptable response. Applicants for standard permits and permits by rule will be given a five-day period to respond, with no second notice. For more information, contact Kevin Ellis at 512.879.6647 or [kellis@zephyrenv.com](mailto:kellis@zephyrenv.com).

### Ralph Marquez Resigns as TCEQ Commissioner

After serving Texas for eleven years as a TCEQ Commissioner, Ralph Marquez left the agency on March 31. His knowledge, leadership and commitment to the mission of the TCEQ and the state of Texas will be greatly missed, but the cause of environmental protection will continue to benefit from his many contributions to state and federal environmental policy. We extend our best wishes to him on his next adventures, which are yet to be disclosed. For more information, contact Karen Olson at 512.879.6618 or [kolson@zephyrenv.com](mailto:kolson@zephyrenv.com). \*

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