

zephyr®

Currents

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Remember EH&S in Planning for Nature's Threats

So far this summer, the U.S. tropical weather scene has been uneventful – the only Atlantic “disturbance”, which formed off the coast of the Carolinas in May, maxed out with 35 mile-per-hour winds before it fizzled a day later. But, industries along the coastlines of the United States know better than to relax, because trouble can be just around the corner. In fact, last September, Hurricane Ike roared inland over the largest concentration of petrochemical facilities in the United States, inflicting millions of dollars of damage to industries along the Texas Gulf Coast. Although the costs of Ike were high, most of the petrochemical facilities quickly returned to business as usual, due, in large part, to the effectiveness of their business continuity plans.

According to *Wikipedia*, a business continuity plan (or BCP) is defined, in plain language, as the way a company works out how to stay in business in the event of disaster. Of course, hurricanes aren't the only natural disasters that must be addressed in a BCP – the effective plan should also address floods, fires, earthquakes, and even pandemic illnesses.

Knowing what to do when a hurricane watch has been issued is tricky – you must balance the unpredictability of the hurricane track with the disruption of a facility shutdown. In reality, it is anything but easy to shut down many industrial facilities – some processes literally need days to be safely shut down, and most shutdowns are planned well in advance. When an entire plant, or even an individual process, must be shut down quickly – like within hours of the arrival of a hurricane that has just changed course – you are faced with a much larger set of challenges.

What if the emergency you face is more of a direct threat to your employees than to your



infrastructure? In response to recent concerns over swine flu, the World Health Organization declared a Phase 6 pandemic alert on June 11th – the WHO's highest alert level. Does your BCP anticipate how to keep your facility safely functioning or enable you to safely shut down processes before a hurricane if personnel are suddenly disabled or quarantined by a pandemic disease?

All too frequently, even well-written BCPs do not fully address the multiple environmental, health and safety (EH&S) implications of responding to hurricanes, pandemics and other threats of nature. But, this is where plans you have developed as part of your facility's risk management and safety management programs can fill the void. In its risk management planning (RMP) rule, EPA established that owners and operators of a facility have a general duty to protect the public by taking the appropriate steps to prevent accidental releases of certain substances and by minimizing the consequences of those releases that do occur. In its focus on employee safety, OSHA's process safety management (PSM) rule mirrors EPA's RMP rule, requiring that facilities take steps to prevent and minimize the consequences of the accidental releases of highly hazardous chemicals. Folding appropriate elements of your RMP and PSM plans into your BCP will help

nature's threats >>> continued on page 8

FROM THE TRENCHES

ZSI Arabia: Forensic Emissions Inventories

Legend has it that in the third century, B.C., Archimedes was assigned a task by King Hiero II. Hiero had been given a golden crown but suspected the goldsmith of having cheated him by using silver in its construction. Archimedes' job was to determine the validity of this accusation without damaging the crown.

One day, while taking a bath, Archimedes observed that the lower he sunk in the tub the higher the water rose. The revelation that he could calculate the density of the crown by dividing its weight by the volume of water it displaced prompted him to leap from the bath and run naked through the streets of Syracuse exclaiming "Eureka!", meaning "I have found it!"

Eventually Archimedes tested the crown and determined that, indeed, the crown did not contain all the gold it was supposed to. Thus, he is attributed with the first use of forensic science to solve a crime.

The science of forensics, or using the evidence to lead to the truth, has developed substantially over the last two millennia, and today there are many branches of forensic science, from anthropology to meteorology to toxicology. Over the past year Zephyr applied the principles of forensics to an air quality analysis for the King Abdullah Economic City (KAEC) in Saudi Arabia. Located on the coast of the Red Sea, KAEC will be a city of more than a million people with a university, a financial district, resort areas, light industry, and a world-class port. The analysis we've been working on considers not only air pollution emission sources proposed for KAEC but also nearby existing sources.

In the United States it would be relatively easy to compile the emissions inventory to conduct this analysis. Emissions data from permits and inventories may be available online, or in the worst case situation, a search of agency files may provide what's needed. However, in the Middle East, this process is far from straightforward. No permits are available online, and regulatory agencies usually do not have the information. Simply walking up to an industrial plant and knocking on the door to ask for the data is a good way to land in trouble, possibly even jail.

Yet, despite these hurdles, we were expected to reasonably represent emission sources in our air quality modeling analysis. So, we set off to conduct a forensic emissions inventory—to let the evidence reveal the truth.

Starting with knowledge of how various industrial plants are designed, we were able to use Google Earth[®] imagery to find and



follow the conveyor belts at a cement plant to identify crushing operations, the raw mill, and the finish mill. Also, Google Earth[®] provided good clues about the kinds of emissions we should be expecting. Plumes were visible for each of the facilities we investigated, such as the power plant plumes shown in the photograph above.

Web searches provided other pieces of the puzzle as well. We learned that industrial facilities on the west side of Saudi Arabia do not have access to natural gas, and burn high sulfur fuels such as residual oil and Arabian light crude. Fuel firing rates and resultant emissions were estimated from information published on the web. Basic facility design information, rated capacities, production data, energy consumption factors, and material composition data were found in bits and pieces. From this information, material, energy, and fuel balances for the facilities were synthesized and emissions were estimated.

Finally, a tour of the KAEC site itself, coupled with a drive past the other facilities, was extremely useful. We were able to confirm stack locations and heights, while keeping our distance. And in the case of one facility, we even identified an entirely new process area that had been built since the Google Earth[®] imagery was taken.

All things considered it has been an interesting challenge to combine our knowledge of industrial processes and emissions with some "outside the box" techniques for gathering information — a true Zephyr Scene Investigation (ZSI) Arabia, if you will. And while we've had several "Eureka!" moments during our efforts, I want to assure everyone that neither me nor any of my colleagues has been seen running naked through the halls of Zephyr. 🌟

Bill Jones
Senior Project Manager

It's About Time OSHA Dusts Off Its Regulation of Combustible Dust

The creation, handling and accumulation of combustible industrial dust is a major concern for workplace safety. Accumulated combustible dust is defined by the National Fire Protection Association (NFPA) Standard 654 as “any finely divided solid material that is 420 microns or smaller in diameter and presents a fire or explosion hazard when dispersed and ignited in air.” Basically, combustible dusts are particles from any of more than 130 combustible materials (such as wood, textiles or metals) identified by the Occupational Health and Safety Administration (OSHA).

In 2006, the Chemical Safety and Hazard Investigation Board (CSB) identified 281 industrial dust fires and explosions between 1980 and 2005 that killed 119 workers and injured 718 others. Over the last three years, the manufacturing industry has witnessed more than 70 additional incidents, including the highly publicized February 7, 2008 explosion at an Imperial Sugar plant in Georgia that tragically claimed the lives of 13 employees.

Today, there is no central regulatory scheme to control the accumulation of combustible dust. In response to the Imperial Sugar plant incident, OSHA quickly reissued the Combustible Dust National Emphasis Program (NEP), which provides guidance for inspecting workplaces. However, no enforceable standard was created. Instead, to control dust accumulation, OSHA relies on its existing regulations, predominantly a general housekeeping provision (29 C.F.R. § 1910.22), which provides that “all places of employment, passageways, storerooms, and service rooms shall be kept clean and orderly and in a sanitary condition.” Courts and the Occupational Safety and Health Review Commission have concluded that this provision applies to the hazards of combustible dust; however, the CSB found that OSHA’s standards were not comprehensive enough to control effectively the risk of dust explosions.

On April 29, 2009, OSHA announced that it will issue an Advanced Notice of Proposed Rulemaking for the regulation of combustible dust. The agency’s action is in response not only to the growing threat of combustible dust related incidents, but also to a bill before the United States House of Representatives, The Worker Protection Against Combustible Dust Explosions and Fires Act of 2009 (H.R. 849), which was reintroduced on February 4, 2009. As proposed, the bill would require OSHA to create an interim comprehensive dust standard within 90 days of the bill’s enactment and a final standard within 18 months. Similar legislation was passed by the House in April of 2008 by a bipartisan vote of 247 to 165, but did not make it out of the Senate Committee on Health, Education, Labor and Pensions.

H.R. 849 was immediately referred to the House Committee on Education and Labor and then to the House Subcommittee on Worker Protection on March 23, 2009. In light of the recent OSHA announcement, the bill may no longer be necessary, provided that OSHA moves forward in a satisfactory manner. Until the rule-making process unfolds though, the bill will likely remain active in committee.

The OSHA announcement provided few details regarding the rule-making timeline. Typically, rulemaking takes many months and even years, potentially much longer than the 90-day deadline set by H.R. 849. The move by OSHA, however, does cure concerns of many critics of the bill, namely the haste required to establish the interim and final rules and the elimination of the typical public comment period.

The announcement stated that the new regulation will address hazard recognition, assessment, communication, and a combustible dust definition, but provides very little in the way of specifics. Likely, the ultimate regulation will follow the requirements in H.R. 849. For example, it will likely apply to a wide range of manufacturing and processing industries, including plastics, wood, textiles, metals, fossil fuels, and many others. It likely will also require the adoption of standards to include: facility assessment to identify hazards; dust inspection, testing, housekeeping, and control to prevent accumulation; engineering, administrative, and operating procedures for control of fugitive dust emissions and ignition sources; building design such as sprinklers and explosion venting; preventative maintenance; written safety and health information; and compliance training. Finally, the regulation likely will incorporate the provisions from the NFPA’s voluntary consensus standards covering combustible dust, namely NFPA Standard 654.

With the alarming headlines across the country and a new administration focused on worker safety, the reintroduction of the combustible dust bill has effectively persuaded OSHA to issue a standard without Congressional intervention. In response, manufacturers should now begin preparing themselves for a comprehensive standard to control the creation, handling, and accumulation of combustible dust in the workplace.

This article is a general overview of the status of combustible dust regulation and should not be viewed as legal advice. ✨

Van P. Hilderbrand
Parker Poe Adams & Bernstein LLP

News Briefs

national news

EPA Proposes Greenhouse Gas Endangerment Finding; OMB Rebutts

After a scientific review ordered by the Supreme Court, EPA issued a proposed finding on April 24 that greenhouse gases (GHGs) contribute to air pollution that may endanger public health or welfare. Specifically, EPA concluded that GHGs may lead to climate change resulting in higher concentrations of ground-level ozone, increased drought, more heavy downpours and flooding, more frequent and intense heat waves, greater sea level rise, more intense storms and harm to water resources, agriculture, wildlife and ecosystems. In rebuttal, the Federal Office of Management and Budget issued its own report in May, questioning the science behind EPA's proposed finding. The EPA proposal entered a public comment period, which is the next step in the deliberative process EPA must undertake before issuing final findings. For more information, contact Brett Davis at 512.879.6628 or bdavis@zephyrenv.com.

Climate Change and Energy Bill Passed by the House

The American Clean Energy and Security Act (also known as the Waxman-Markey bill) cleared the House of Representatives by a narrow vote of 219–212 on June 26. The bill would cap national carbon emissions at 17 percent below 2005 levels by 2020 and gradually lower the cap to 83 percent below 2005 levels by 2050. While there is still Senate opposition to the bill, there is considerable pressure to move it forward because EPA could independently, or due to judicial order, establish regulatory emissions controls through the Clean Air Act, based upon its May finding that greenhouse gases endanger public health and welfare. The U.S. Senate has pledged action before the end of 2009. For more information, contact Brett Davis at 512.879.6628 or bdavis@zephyrenv.com.

Nuclear Power is Centerpiece of Republican Energy Proposal

On June 10, House Republicans unveiled the "American Energy Act", which focuses on promoting domestic energy, clean and renewable energy, efficiency and conservation, and regulatory and legal reform, as an alternative to the Democrat's proposed CO₂ cap and trade program. A cornerstone of the proposal is a national policy goal of licensing

100 new nuclear reactors over the next twenty years. In addition, the proposal would provide for efficient permitting of new reactors, suspend tariffs on imported components, respond to Yucca Mountain repository issues, and provide for spent nuclear fuel recycling. Also, in June, Babcock & Wilcox announced plans to develop a small, 125-megawatt modular nuclear reactor that could be cheaper and more flexible than larger reactors and could be constructed in multiples over time to meet electricity demand. For more information, contact Roger Brower at 410.312.7907 or rbrower@zephyrenv.com.

FutureGen May be Back, But Without All Its Backers

On June 12, the Department of Energy announced its intention to resurrect and move forward with FutureGen – a roughly \$1.5 billion, mostly government funded, coal-fired power plant demonstration project. The purpose of FutureGen is to study the hurdles to commercialization of more greenhouse gas-friendly and otherwise lower pollutant emitting coal-to-electric energy technologies, including approaches to capturing and storing carbon dioxide emissions. Plans are to build this project, originally approved and later withdrawn under the Bush Administration, in Illinois. Only two weeks after the announcement, however, two major private funding partners, American Electric Power and Southern Company, withdrew their commitment to almost \$0.5 billion of support for the project, citing their plans to develop their own separate clean coal projects in light of the delays in the federal roll-out of FutureGen. For more information, contact David Cabe at 512.879.6644 or dcabe@zephyrenv.com.

U.S. and Canada Propose to Protect Coastal Air Quality from Ship Emissions

In March, the United States and Canada proposed to the International Maritime Organization (IMO) to require stringent international emission controls for ocean-going ships operating in the U.S. and Canadian coastal waters. The proposal calls for a 200-mile buffer zone within which shippers would be required to make large reductions in emissions of sulfur oxides, nitrogen oxides, and particulate matter. Specifically, sulfur emissions would have to be cut by 98 percent by 2015, and nitrogen oxide emissions from new ship engines would have to be reduced by 80 percent by 2016. As a follow-up to this proposal, in July, EPA proposed changes to its emissions standards for marine engines by adding two new tiers of NO_x emissions standards and by strengthening its existing diesel fuel program for U.S.-flagged ships. The U.S. envisions that the projected emission restrictions will help states with their plans to attain federal air

quality standards, especially for those nonattainment areas located in coastal regions (e.g., Houston and Baltimore). The proposed U.S.-Canada control requirements could be adopted by the IMO as early as March 2010 and become enforceable in the 2012 to 2015 time-frame. For more information, contact Lou Corio at 410.312.7912 or lcorio@zephyrenv.com.

EPA Extends SPCC Amendment Effective Date and Plan Compliance Dates

As previously reported in *Currents*, the compliance dates and the effective date of the December 5, 2008 amendments to the Spill Prevention Control and Countermeasure (SPCC) rules continue to change. On April 1, EPA extended the effective date of the December 5, 2008 amendments to January 14, 2010, and further expects to promulgate final revisions to these amendments prior to that date. In addition, on June 19, EPA further extended the SPCC compliance date for all facilities until November 10, 2010. All facilities in operation prior to August 16, 2002 must maintain and implement their SPCC Plans. Facilities in operation prior to August 16, 2002 must amend their plans according to the SPCC rule including all effective amendments by November 10, 2010. All facilities in operation after August 16, 2002 must prepare and implement their facility SPCC Plans according to the SPCC rule and all effective amendments by November 10, 2010. For more information, contact Rebecca Luman at 281.668.7343 or rluman@zephyrenv.com.

EPA Releases School Air Monitoring Data

EPA has recently released the first preliminary results of monitoring the outdoor air around schools in the U.S. In March, EPA began monitoring at 62 schools in 22 states for carbonyls, diisocyanates, metals, polycyclic aromatic hydrocarbons, and volatile organic compounds. Schools were selected based on EPA modeling analyses, evaluations of pollution sources near the schools, and results from an analysis conducted by *USA TODAY*. EPA is asking state and local agencies to install and operate the monitors and has diverted \$2.5 million from other funds to support this effort. For schools found with high potential health concerns, steps will be taken to mitigate the pollution causing the problem. For more information, contact Ed Fiesinger at 281.668.7353 or efiesinger@zephyrenv.com.

EPA Proposes Tougher Standard for Nitrogen Dioxide

On June 29, EPA proposed to tighten its air quality standard for nitrogen dioxide (NO₂) by adding a one-hour limit that will fall in the range of 80 to 100 parts per billion (ppb). The current annual standard of 53 parts per billion will be retained. EPA cites that the standard is being updated to reflect the latest scientific data and to meet changing needs, including the need to address short term exposures to NO₂ that can lead to respiratory distress, especially in people with asthma. The air quality standard for NO₂ was first set in 1971, and, since that time, levels in the air have decreased by more than 40 percent. For more information, contact David Cabe at 512.879.6644 or dcabe@zephyrenv.com.

EPA Revises Emissions Standards for Non-metallic Mineral Processing Plants

On April 16, EPA revised its new source performance standards for non-metallic mineral processing plants. The revised rule tightens the standards for particulate matter emitted from both point and fugitive sources, but simplifies the initial testing requirements for opacity readings. Some wet sources are now excluded from the rule as well. Under the changes, periodic monitoring is now required for most facilities and repeat performance tests are now required on a five-year cycle in some instances. For more information, contact Kevin Ellis at 512.879.6647 or kellis@zephyrenv.com.

EPA to Reconsider Program for Implementing NSR for Fine Particles

On April 24, EPA granted a petition from environmental organizations to reconsider the Agency's May 16, 2008 rule for implementing the federal air permitting program for fine particles (PM_{2.5}). The petitioners specifically took issue with 1) the rule implementation schedule, 2) "grandfathering" of permit applications for new major PM_{2.5} emission sources or major modifications that were complete prior to July 15, 2008 from Prevention of Significant Deterioration applicability, 3) allowing States to exclude condensable PM_{2.5} emissions from rule applicability until January 1, 2011, and 4) allowing States to use EPA-recommended PM_{2.5} precursor trading ratios to offset PM_{2.5} emission increases in nonattainment areas. Additionally, the petition requested that the EPA administratively stay the grandfathering provision of the rule. For more information, contact Curtis Harder at 512.879.6643 or charder@zephyrenv.com.

EPA Proposes to Reduce Cement Kiln Mercury Emissions

On May 6, EPA proposed amendments to the hazardous air pollutant emissions standards for the Portland cement industry. The proposal would impose strict limits on emissions of total hydrocarbons, hydrochloric acid, and particulate matter, and would tighten mercury emissions from new kilns to 14 pounds per million tons of clinker. In addition the proposal would impose a mercury limit of 43 pounds per million tons of clinker on existing kilns – a source group for which there is currently no numerical mercury standard. EPA expects this proposal to significantly reduce annual emissions of mercury, total hydrocarbons, hydrochloric acid and particulate matter from the cement industry. The industry has expressed deep concern over the proposed rule changes and will be given an opportunity, along with all other interested parties, to provide comments on the proposal until September 4, 2009. For more information, contact Roger Brower at 410.312.7907 or rbrower@zephyrenv.com.

EPA Rules Early Action Compacts Unlawful

In a June decision, EPA ruled that early action compacts (EACs) - voluntary efforts taken by communities across the United States to avoid or delay designation as nonattainment with the ozone air qual-

ity standard – are illegal under the Clean Air Act. Losing their luster with the change in administrations, these collaborative efforts between local communities, states, and the federal government for proactively dealing with potential ozone problems are now seen by EPA as ineffective, with the Agency claiming that real progress toward meeting the ozone air quality standards was achieved by mandatory federal programs and not through the EACs. With the tightening of the federal ozone standard since the dates that the EACs were approved, the legality of these compacts may be a moot point – SIP revisions are all but inevitable for those areas now exceeding or likely to exceed the standard by the end of the 2009 ozone season. For more information, contact David Cabe at 512.879.6644 or dcabe@zephyrenv.com.

state news

Texas to Collect Clean Air Act Penalty Fees

Section 185 of the Federal Clean Air Act mandates the collection of fees from major stationary sources of volatile organic compounds (VOCs) and nitrogen oxides (NO_x) in extreme and severe ozone nonattainment areas that do not reach attainment by the required date. Recognizing that attainment deadlines have passed, the TCEQ has initiated rulemaking to provide for the collection of the fees, now valued at over \$8,000 per ton of emissions in excess of 80 percent of baseline VOC and NO_x emissions. The rule is expected to be formally proposed in late 2009 with adoption by mid-2010 and will first apply to emissions reported for calendar year 2008. In a related matter, Texas Governor Rick Perry signed into law, in June, legislation that will allow such fees to be placed in a special clean air fund dedicated to support activities addressing air pollution issues in nonattainment areas. For more information, contact Ed Fiesinger at 281.668.7353 or efiesinger@zephyrenv.com.

Texas Provides Tax Incentives for Carbon Capture and Sequestration

On June 19, Texas Governor Rick Perry signed into law House Bill 469, providing a franchise tax credit for the construction of new, advanced, “clean energy” electric generating projects. To be eligible for the tax credit, which would be the lesser of 10 percent of the capital cost of the project or \$100 million, the project developer would be required to 1) capture and sequester at least half of the carbon dioxide in the emissions stream associated with the project, 2) reduce uncontrolled sulfur dioxide emissions by at least 99 percent or achieve an emissions limit of 0.04 pounds per million Btu heat input when burning subbituminous coal, 3) reduce mercury emissions by at least 95 percent, 4) achieve a nitrogen dioxide emission limit of 0.05 pounds per million Btu heat input, and 5) achieve a filterable particulate matter emissions limit of 0.015 pounds per million Btu heat input. Projects that involve the use of coal, biomass, petroleum coke, solid waste, or fuel cells using hydrogen derived from such

fuels are potentially eligible for the tax credit. For more information, contact David Cabe at 512.879.6644 or dcabe@zephyrenv.com.

TCEQ Convenes Flare Taskforce

Out of concerns about whether flares achieve the anticipated destruction efficiencies over the entire range of operating conditions, the TCEQ has convened an internal task force to comprehensively evaluate flares, focusing on how they are used, how effectively they operate, how they affect state air quality, and the adequacy of the State’s regulation of flares. At meetings of the taskforce, attended by TCEQ staff and public stakeholders in March and April, the TCEQ presented its proposed approach to evaluating flares and requested information and comments from interested parties. Additional stakeholder meetings are expected to occur this summer, and a report of the group’s findings to the Executive Director is planned for Fall 2009. For more information, contact Karen Olson at 512.879.6618 or kolson@zephyrenv.com.

EPA Criticizes TCEQ Air Permitting; TCEQ Responds

At a May 26 meeting with TCEQ staff, EPA critiqued the State’s air permitting program, charging that TCEQ limits the public’s right to permit information, allows facilities to make modifications without formal review or public notice, and provides permitting flexibility that exceeds federal rules. In a June 5 letter of response to EPA Region 6 Administrator Lawrence Starfield, TCEQ Executive Director Mark Vickery laid out the Agency’s comprehensive plan to address each of EPA’s issues. Also, Vickery addressed EPA’s criticisms of how the TCEQ has handled the permitting of three Texas industrial plants, pointing to errors in EPA’s analysis. Finally, Vickery responded that EPA needs to lay out its issues in a formal *Federal Register* notice so that the TCEQ can fully understand the deficiencies EPA has cited as well as their legal bases. For more information, contact Ed Fiesinger at 281.668.7353 or efiesinger@zephyrenv.com.

TCEQ to Add Lead and Ozone Monitors

In response to changes in the national ambient air quality standard for lead, as well as changes in EPA’s air quality monitoring requirements, the TCEQ plans to add sites for monitoring the air near facilities that emit at least one ton per year of lead and also plans to deploy additional population-based lead monitoring in the Austin, San Antonio, McAllen-Edinburg-Mission, and Dallas-Fort Worth areas. The Agency is currently examining emissions and toxic release inventories to identify sites emitting at least one ton per year, but may exclude sites from monitoring if maximum modeled three-month average lead concentrations do not exceed one-half of the standard. The new lead monitoring sites must be in operation by January 1, 2011. In addition, due to population increases, TCEQ is proposing to place an ozone monitor in the Killeen-Temple-Fort Hood area and to add an additional monitor in the Brownsville-Harlingen-San Benito area. For more information, contact Sid Bhardwaj at 512.879.6648 or kbhardwaj@zephyrenv.com. ☀

FROM THE PRESIDENT

Using Energy in “The New Economy”

After many months in a global economic recession, consumers and businesses alike are very focused on controlling expenses. Even routine, recurring expenses such as power bills are getting more attention than they might when the economy is in better shape. And the latest news is that, although the economy is still in a very uncertain position and the unemployment rate continues to rise, energy is suddenly getting much more expensive again – from a low oil price-per-barrel in the \$30 to \$40 range earlier this year, the cost of oil has nearly doubled.

Pending regulatory reform in the United States that is designed to reduce greenhouse gas emissions and reliance on foreign oil is also likely to add to the cost of energy. “If people don’t change how they use energy, then they will face higher costs for energy,” Treasury Secretary Timothy Geithner said March 3 in answering criticisms of the Obama administration’s cap-and-trade proposal for addressing climate change. “The administration’s overwhelming priority is to get people back to work and stimulate investment, but reducing our dependence on foreign oil also is important,” he told the House Ways and Means Committee. To do that and address climate change requires changing the incentives for how people use energy, Geithner said.

So how should beleaguered consumers and businesses take better control of their energy usage and costs? Google is working on a software tool that will help consumers reduce their power consumption by tracking their electricity usage. This initiative was announced on Google’s blog on February 10, and is part of the company’s plan to invest hundreds of millions of dollars in renewable energy, power grid upgrades and other measures to reduce greenhouse gas emissions.

The new software Google is developing, called Google PowerMeter, “will show home energy consumption almost in real time on a user’s computer,” Reuters reported. Google cited studies showing that consumers who have access to detailed information about their energy consumption generally save between 5 – 15 percent on their monthly electricity bills.

“It may not sound like much, but if half of America’s households cut their energy demand by 10 percent, it would be the equivalent of taking eight million cars off the road,” Google said. “How much does it cost to leave your TV on all day?” Google asks on its Web page. “What about turning your air conditioning 1 degree cooler? Which uses more power every month – your fridge or your dishwasher? Is your household more or less energy efficient than similar homes



in your neighborhood?” These are the questions consumers will be able to answer using the new tracking tool, the company said. “Our lack of knowledge about our own energy usage is a huge problem, but also a huge opportunity for us all to save money and fight global warming by reducing our power usage.”

JEA in Jacksonville, Fla., is among the first smart-metered utilities tapped by Google for its PowerMeter project. The utility chose a couple dozen customers to take part in the PowerMeter pilot program. These customers are given daily and hourly graphs of their usage, with comparisons to like-sized homes in the program.

“We really feel that people who know more about their use will use it more wisely, just like people who track what they eat,” said Gerri Boyce, media coordinator at JEA. “You can see where you are using the most electricity in a given day and figure out what you are doing and how you can reduce that usage.”

“Studies have shown that the more individuals understand about how their behavior affects their energy and water consumption, the more empowered they are to make changes that will not only benefit their pocketbook, but that will benefit the community and the environment as well,” said Jim Dickenson, CEO and managing director of JEA.

More awareness about patterns of energy usage may very well be instrumental in helping businesses and consumers control costs in “the new economy.” ✨

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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nature's threats >>> continued from page 1

you to minimize the effects that destructive acts of nature can have on the continuity of your business.


One of the first steps in preparing RMP and PSM plans is to assess hazards related to processes regulated under the rules. Both rules require owners and operators to identify, ahead of time, potential release scenarios and determine their potential impacts so that safeguards may be put in place. With both rules, the hazards assessments for potential releases that could occur during the startup and shutdown of processes should consider external threats like hurricanes and other acts of nature. In particular, what hazards could arise when the very acts of nature that have placed your plant at risk prevents key plant staff from getting to work and responding to the event?

Air quality permits for your facility probably don't cover unanticipated releases during accidents, upsets, and malfunctions, but many states, including Texas, provide a mechanism for authorizing emissions during maintenance, startup and shutdown activities. Planning ahead to ensure that your permit covers such events could save you compliance headaches in the wake of a destructive act of nature. And understanding, in advance, the potential causes and mechanisms for emissions and releases that could occur during upsets and malfunctions that such events can trigger will help you in meeting regulatory-driven response and reporting requirements.

An act of nature may well require you to implement your facility's emergency response plan. This plan, a requirement of both the EPA and the OSHA rules, will spell out in detail how plant staff and offsite emergency responders will conduct response

activities and work with local agencies in the aftermath of the event. In particular, it will line out procedures for training employees in response procedures, for making sure that your emergency response equipment is in tip-top shape, for dealing with the release itself, for communicating with the public and with emergency responders, and for ensuring that those exposed to the release or who are injured in the emergency response effort receive proper first aid and medical treatment.

After a severe weather event or other natural disaster, the recovery process begins. Just as important as assessing damages and returning your plant to full production is identifying if any hazardous or dangerous releases to the environment are occurring and promptly mitigating and reporting these releases. Plant processes should only be restarted or returned to full capacity when protection of the environment and the safety of employees can be assured. To complete the cycle, you will want to review how well prepared you were for the event and how well your emergency response plan worked so that your business will be even better protected in the future for the next capricious act of nature.

For more information about business continuity planning, process safety management, and risk management planning, please contact Bonnie Blam, David Mahler, or Joe Zupan at 512.329.5544. 

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