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# The RT Review

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## STORMWATER CONCERNS - WHY NOW?

There are many complications in state and federal stormwater regulatory programs.

These include:

- EPA has a pending stormwater rule, which could extend municipal separate storm sewer system (MS4) permit requirements beyond city limits and prevent some farms and rural areas, especially in the Northeast, from securing non-point source grants because those funds cannot be spent to comply with MS4 and other point source permit requirements according to a Connecticut official. The proposed rule, which resulted from a settlement with the Chesapeake Bay Foundation is in dispute over a deadline.

- Environmentalists are saying that the latest version of California's draft industrial general stormwater permit could violate the Clean Water Act (CWA) because it has removed key "best available control technology" standards.

- There are more "sue and settle" lawsuits occurring in the Northeast states. In some instances, state environmental agency files are reviewed which show violations and/or missed deadlines. Environmental groups sue the discharger, often under the Clean Water Act, which could result in the discharger having to appear in federal court. Most parties agree to upgrade their stormwater Best Management Practices, make donations, and enhance monitoring to reach a settlement.

We at RT think that the nation's focus on water quality is "spot on", but we are concerned that state environmental regulatory resources are not enough to properly share technology and regulate stormwater.

Site specific stormwater situations tend to be different, but time and again, we see that property owners will do what they should if:

- The need is clear.
- What they need to do is reasonable.
- There are obvious environmental and/or aesthetic property benefits.
- The cost is affordable.

Waiting for a lawsuit is not the answer, though, and states have limited resources for education of property owners and "Technology Transfer". We think that now is the time to have a sound stormwater Best Management Plan for your commercial and industrial property and we are delighted that so many of our clients are calling us to do just that!

- Gary Brown, P.E.  
(Excerpts - Inside EPA.com - 8/2/13)

## FOCUS ON STORMWATER – WHY ATTENDING TO STORMWATER MANAGEMENT ON YOUR PROPERTY IS IMPORTANT

Three groups – the Conservation Law Foundation, the National Resources Defense Council, and American Rivers, filed suits in three EPA Regions, including Region 3 that covers Pennsylvania, Virginia and West Virginia to force EPA to exercise rarely used Clean Water Act authority, to designate new sources of stormwater pollution subject to Permit Requirements in impaired watersheds. Under the Clean Water Act, there is what is called "Residual Designation Authority", to designate additional sources of stormwater pollution, which could include commercial parking lots, requiring runoff from parking lots to meet National Pollution Discharge Elimination System Requirements. The groups believe that there is more than "de minimis" amounts of pollution, coming off commercial parking lots, but many other sources of stormwater could be impacted by new permit requirements as well.

The Petition to EPA, dated July 10, 2013, calls for a determination that stormwater discharges from commercial, industrial, and institutional sites, contribute to water quality standards violations, and, there are citations indicating that:

- Over 250 studies have shown that increases in impervious areas associated with urban development are "a collection site for pollutants".

- It is indicated that the U.S. Geological Survey has found that in areas of increased urban development, local rivers and streams exhibited increased concentrations of contaminants such as nitrogen, chloride, insecticides, and polycyclic aromatic hydrocarbons.

- Increased stormwater volume and pollutant loadings caused by urbanization, especially impervious cover, are closely connected with water quality impairment.

Attached to the Petition is a long list of impaired waters, with a list of water quality pollutants, which are believed to be exceeded. The Petitioners indicated that they are concerned that EPA does not appear to be heading in the direction of dealing with a massive existing problem.

We at RT, have our largest increase in the number of new projects, in the technical areas of stormwater management, and expert services related to stormwater. A key issue that has arisen, is that although in the past, when EPA delegated federal programs to the states, with funding to set up programs, now, many states would appear to lack sufficient funds, to ramp up their stormwater program. Equally problematic, is that EPA tried to regulate construction sites more closely, and set a "turbidity limit" to be used nationally, but the limit was eventually withdrawn, due to lack of technical justification for such a limit, given the diversity of construction sites, and their locations, throughout the United States. This sends a signal that more regulation may not be practical.

In any event, it is clearly time for those having stormwater discharges, even those involving parking lots, to look at what "Best Management Practices" they should be implementing, so that stormwater runoff does not impair downstream water quality. Having a Stormwater Management Plan with Best Management Practices, is recommended for most commercial and industrial sites by senior environmental officials in state agencies, as well as EPA. Many property owners do not understand or appreciate that having a Stormwater Best Management Practices Plan is the best defense to showing that runoff from their facility will not impair waterways, because attention is paid in the written Plan to avoiding stormwater runoff impact.

Should you need more information on RT's stormwater management services, contact Gary Brown, or Josh Hagadorn at 800-725-0593, or by email at [gbrown@rtenv.com](mailto:gbrown@rtenv.com) or: [jhagadorn@rtenv.com](mailto:jhagadorn@rtenv.com).

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## RT STAFF AND PROJECT NEWS

As of late summer *press time* for the RT Review, all RT staff were busy on a wide variety of projects, throughout our service area.

Key assignments include:

- Josh Hagadorn, P.E. and Gary Brown, P.E., L.S.R.P. were busy on redevelopment aspects of a landfill closure, at a North Jersey former industrial manufacturing facility. Alternative cover options were being evaluated, prior to expected final topsoiling of an area of concern adjacent to the now closed landfill, to wrap up the project before winter sets in.

- Chrisse Lee and Justin Lauterbach were busy on a number of Phase I Environmental Site Assessments, for both a national retail pharmacy organization and, for a Pittsburgh area bank institution.

- Walter Hungarter, Associate, obtained his Professional Engineering Licensing in Delaware and was busy on preparing bid plans and specifications for the next phase of large scale redevelopment at a former industrial site, in Ambler, Pennsylvania. We at RT are very proud of Walter, on becoming a Professional Engineer.



- Chris Ward and Glenn Graham were working with Gary Brown on a project involving New Jersey's largest solar farm, in Tinton Falls. Gary Brown, as LSRP, issued a Response Action Outcome Statement for the site, which was formerly a surface mine.

- Keith Walsh and Josh Hagadorn were working on a special focused stormwater assignment, in Chester County, Pennsylvania. Heavy storms which occurred in August allowed RT's Engineers to quickly mobilize during the storm event to allow direct observations and photos of certain stormwater problems which are present, which we anticipate will buttress our future conclusion on how to address flooding problems at the site.

- Craig Herr, Adam Messner, and, Jeff Humpton are working on a series of Philadelphia residential redevelopment

projects, to address historic releases of contaminants at each site.

Environmental work is being carefully coordinated with the demolition, site clearing and residential redevelopment construction, to help afford cost effective redevelopment.

- EmmaLee Vecere and Ken Eden, are providing ongoing environmental services on major roadway construction projects, taking place near Allentown, and along the Philadelphia Waterfront. The projects involve excavation and separation of impacted materials, with on-site decisions being made, not only to keep construction moving, but also to properly manage materials, under Pennsylvania Department of Environmental Protection and Pennsylvania Department of Transportation protocols. In Pennsylvania, there has been substantial advancement in recent years as to how to implement construction proactively from an environmental standpoint, which not only expedites construction, but also ensures proper environmental management of materials, and helps save real dollars, because projects proceed more efficiently, meeting schedule deadlines, and costly change orders are avoided.

- Chrisse Lee, Justin Lauterbach and Gary Brown, also completed expedited sampling at a stream adjacent to an idled steel mill in Ohio, to help assure that there were no impacts after site conditions change, as a result of mill shutdown.

- Ken Eden and Walter Hungarter, III were preparing Remedial Action Reports and Remedial Action Outcome statements for a project involving the remediation of mercury impacted soils in southern New Jersey.

- Ken Eden and Walter Hungarter, III were preparing an PADEP ACT II Cleanup Plan for a redevelopment property for soils impacted w/asbestos in southeastern PA.

*We at RT appreciate the opportunities that our clients continue to give us, and look forward to being of service through 2013 and beyond.*

- Gary Brown

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## UPDATE - EPA VAPOR GUIDANCE

In April, EPA released draft “final” guidance documents for public comment for conducting vapor intrusion evaluations. Specifically, EPA released two guidance documents; a general guidance for all hazardous substances and a guidance that focuses on petroleum hydrocarbon releases from underground storage tank site.

Vapor intrusion is a general term used to describe the movement of hazardous vapors present in the subsurface source area into indoor air. EPA views vapor intrusion as a potential human exposure pathway that requires evaluation at contaminated sites.

Key additions to the 2013 draft vapor intrusion guidance include:

- Updated toxicity values and a vapor intrusion Screening Level calculator tool reference to assist in comparing subsurface or indoor data against EPA recommended screening levels.

- To address the variation in vapor test results, the guidance stresses the need for multiple rounds of test events and from multiple locations.

- Emphasis on using multiple lines of evidence to adequately evaluate the vapor intrusion pathway and associated potential risks to human health.

- Consideration of whether preemptive mitigation measures are appropriate, such as installation of vapor mitigation systems in new buildings, instead of performing a detailed vapor intrusion assessment.

Overall, the new guidance appears to have addressed some of the technical concerns raised during previous drafts of the guidance, though the overly-conservative approach presented in the draft guidance may likely lead to a number of potential for vapor intrusion evaluations at sites, where otherwise, such studies would not be warranted.

- Craig Herr, P.G.

## TIER II REPORTING – WHEN IS IT NEEDED?

### Tier II Reporting applies to:

- Extremely hazardous substances over reporting limits;
- or
- All other hazardous chemicals for which facilities are required to have an MSDS and storage exceeds 10,000 pounds.

### From 29 CFR 1910.1200(c):

Chemical means any substance, or mixture of substances.

Hazardous Chemical means any chemical which is classified as a physical hazard or a health hazard, a simple

asphyxiant, combustible dust, pyrophoric gas, or hazard not otherwise classified.

Health hazard means a chemical which is classified as posing one of the following hazardous effects: acute toxicity (any route of exposure); skin corrosion or irritation; serious eye damage or eye irritation; respiratory or skin sensitization; or aspiration hazard.

So, if you have a product for which there is an MSDS with a health warning (e.g. eye or skin irritation) and store more than 10,000 pounds, that material should be on the Tier II report.

## NJ LAUNCHES NEW ONLINE SERVICES TO EXPEDITE PERMIT APPLICATIONS AND PUBLIC NOTIFICATIONS

The New Jersey Department of Environmental Protection (DEP) has launched a series of new online services that will allow the public to electronically apply for various permits and licenses or to electronically post certain public notices.

“The Christie Administration has prioritized the reduction of red tape and embraces easy, common-sense processes that alleviate unnecessary burdens for the public,” Commissioner Bob Martin said. “With our improved technology, our streamlined e-permitting programs have proven successful for property owners and contractors, while still requiring applicants to meet the DEP’s same high environmental standards.”

By logging onto [www.njdeponline.com](http://www.njdeponline.com) you can now access some of these services:

- **Licensed Site Remediation Professional Services:** Allowing individuals to electronically submit the annual remediation fee; the retention and release of the licensed site remediation professional (LSRP); documentation for correcting information regarding the Remedial Priority Scoring (RPS) System; and underground storage tank (UST) closure and registration.

- **Aquatic Pesticide Permit Applications:** Allowing individuals to apply for a two-year permit to use pesticides to control aquatic pests at a specific site.

- **Tidelands License Renewal Applications:** Allowing applicants with expired or expiring Tidelands Licenses to renew them online.

- **Air General Permits:** For common types of equipment that do not have significant air contaminant emissions, like gas stations and gas fired furnaces, owners can obtain on line air pollution control permits, which are lower cost than a regular permit, and which allow construction to commence the same day.

The DEP for years has utilized on-line permit application systems for its air, water, and underground storage tanks programs. Over the past two years, as part of a modernization and customer service effort, the DEP’s Division of Land Use Regulation has launched e-permitting systems to allow the public to apply for various types of waterfront development permits in coastal areas and general permits that allow for additions to existing houses and replacements of malfunctioning septic systems. Applicants still must meet tough environmental standards but can make quicker decisions on projects that can save property owners money and time.



## NJ UPDATES

### DE MINIMIS EMISSIONS SUCH AS FROM SOIL VENTING SYSTEMS DO NOT REQUIRE AN AIR PERMIT IN NEW JERSEY

Lawrence W. Bily

NJAC 7:27 Subchapter 8 of the New Jersey Administrative Code lists several specific emission sources that are exempt from preconstruction and/or operating permits. Subchapter 8.2(c)(2) states that preconstruction and/or operating permits are required if the source operation or equipment has the potential to emit greater than 0.1 pounds per hour of any Group 1 or Group 2 toxic substance (TXS). Therefore, should the emission source potential to emit be less than 0.1 pounds per hour of any TXS, it would not require a preconstruction and/or operating permit. For example, a sub-surface extraction system that vents TXS to atmosphere at levels less than 0.1 pounds per hour would, by definition, not require a permit.

Venting systems which serve a source area may not qualify for an exemption (if VOC removal rates are high). However most venting systems which provide negative air conditions beneath a slab or in a basement to prevent mitigation have low VOC concentrations at the discharge point and qualify for an exemption.

### NEWARK CELEBRATES RIVERFRONT RENEWAL

Little by little, Newark is reintroducing itself to the Passaic River. Newark's Riverfront Park, a 3-acre recreation area

along the Passaic, officially opened in August, the latest step in a decades-long crusade to reclaim a city waterfront marred by pollution.

"A healthy river means a healthy city," East Ward Councilman Augusto Amador said. "this is the beginning of a realization of a dream." The park – the first city park to offer access to the river – features a floating dock, walking and bike paths, a performance space and an unmistakable 800-foot-long bright range boardwalk made from recycled materials.

It's among the first steps in what Newark officials and activists hope will be a much larger effort to reopen access to the waterfront, and a symbolic moment for a city that for years has been trying to remake its image and revitalize its economy.

"This park is not going to stop here," said Mayor Cory Booker at a ceremony to mark the park's official opening. "It is going to roll up and down the mighty Passaic."

Even beyond the boardwalk, the park demands attention. Its rolling green hills and rich flora strike a direct contrast to a city whose nickname is derived from an abundance of brick.

Nancy Zak of the Friends of Riverfront Park is one of several Newark residents who has spent more than 20 years fighting to regain waterfront access. "It's very thrilling," Zak said as she stood on the beaming boardwalk. "Our hearts are filled with joy."

While officials said the park is an impor-

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tant moment for the city's revitalization, signs of Newark's struggle remain.

Police roused a homeless woman who slept on one of the park's benches as the opening ceremony began. Plastic bags and other litter clung to underbrush along the river's banks. A large sign warns parkgoers not to catch and eat freshwater crabs from the river, a warning undoubtedly prompted by the region's toxic history.

It's that history that makes the park so remarkable, according to Adrian Benepe, director of city park development at the Trust for Public Land.

"A former factory site, a brownfield next to a Superfund site. A lot of people would run from that," he said. "We had to remove 3,700 tons of contaminated soil and bring in new soil"

And while expanding the park will likely mean a far more extensive cleanup spanning years of work, many at today's event were happy to be impressed with the simpler things. "It couldn't be better with the light rain and the smell of grass," said Pastor Moacir Weirich of St. Stephen's Church. "It's a dream."

The scent of grass creeps, albeit slowly, back into a city of brick.

*(by Stephen Stirling, Star Ledger – 8-4-11)*

### RESPONSE ACTION OUTCOME STATEMENTS ISSUED BY RT'S LSRP . . . SITES THROUGHOUT NEW JERSEY

Since publication of the last RT Review, RT has completed work at a substantial number of remediation sites throughout New Jersey. Response Action Outcome Statements have been issued by RT's LSRP, Gary Brown. Our recently completed sites include:

- New Jersey's largest solar farm site, in Tinton Falls, Monmouth County
- A scientific products glass manufacturing facility, where mercury was used, in Vineland, Cumberland County

- A former dry cleaner site in a shopping center, in Monmouth County
- A metal products manufacturing facility, involving an underground storage tank release, in Cumberland County
- A child care facility, in Camden County.

For more information on RT's services, contact Glenn Graham at 856-467-2276 ext. 122 or by email at [ggraham@rtevn.com](mailto:ggraham@rtevn.com); or Gary Brown at 610-804-8657 or by email at [gbrown@rtenv.com](mailto:gbrown@rtenv.com).

### NJDEP HAS UPDATED ENVIRONMENTAL RULES

The New Jersey Department of Environmental Protection on July 1st, gave notice of a number of administrative rule changes, including:

- Underground Storage Tank Rules, N.J.A.C. 7:14B
- Industrial Site Recovery Act Rules, N.J.A.C. 7:26B
- Administrative Requirements for Site Remediation of

- Contaminated Sites, N.J.A.C. 7:26C
- Technical Requirements for Site Remediation, N.J. A. C. 7:26E

The Rules can be found at <http://www.nj.gov/dep/rules/njenvlaw.html>. Most of the revisions are administrative in nature, to make cross references between the rules consistent.

## FEDERAL REGULATORY UPDATES

### PENALTIES INCREASED FOR VIOLATING FEDERAL HAZMAT LAWS AND REGULATIONS

The US Department of Transportation's Pipeline and Hazardous Materials Safety Administration (PHMSA) announced that the increased maximum civil penalties for safety violations of Federal hazardous materials transportation law and the regulations issued under that law that lead to death, serious injuries or extensive property damage are now in effect. The increased penalties are being published in revisions to PHMSA's regulations and reflect statutory changes in the Moving Ahead for Progress in the 21st Century Act (MAP-21).

"These laws exist to keep people safe, and the increased penalties will help us make sure that those who knowingly violate the rules will be held accountable," said the US Transportation Secretary Ray LaHood.

Civil penalties are assessed for knowingly violating a hazardous material transportation law or a regulation, order, special permit or approval issued under that law. MAP-21 provides that the following updated civil penalties apply to violations occurring on or after October 1, 2012:

- The maximum civil penalty is increased from \$55,000 to \$75,000 for knowingly violating Federal hazardous material transportation law

- The maximum civil penalty for knowingly violating laws and regulations that result in death, serious illness, severe injury to any person or substantial destruction of property is increased from \$110,000 to \$175,000

- The \$250 minimum civil penalty has been eliminated.

- The civil penalty for violations related to training has reverted to \$450

"Hazmat safety regulations exist to keep people, property, and the environment safe, and it is our responsibility to enforce these laws," said PHMSA administrator Cynthia Quarterman. "When someone breaks the rules, it puts us all at risk. The consequences for doing so should be substantial enough to discourage misconduct."

MAP-21 builds on the Department's efforts to improve safety across all modes of transportation. Adjustments to civil penalties were authorized in the Hazardous Materials Transportation Safety Improvement Act of 2012, the section of MAP-21 that provides PHMSA with resources it needs to carry out its critical safety mission. The rule was published in the April 17, 2013, Federal Register. (*Environmental Resource Center – 4/29/13*)

### ENVIRONMENTALISTS SEEK STRICTER EPA RULES TO PREVENT MINING POLLUTION

Environmentalists are urging EPA to take a range of regulatory actions – including

finalizing financial assurance rules for mining companies under the Superfund law prohibiting mine waste disposal in waterbodies under the Clean Water Act (CWA) – to prevent new and continuing contamination of billions of gallons of water each year from hardrock mining.

In a new report issued May 1, the environmental group Earthworks also calls on Congress to reform the 1872 General Mining Law to require hardrock mines to demonstrate, up front, that the mine can meet water quality standards without perpetual treatment.

The report, "Polluting the Future," estimates that a total of 17 billion to 27 billion gallons of contaminated water is generated by 40 hard-rock mines every year, in perpetuity, and that water treatment costs for these mines are currently estimated at \$57 billion to \$67 billion per year. Earthworks says this is "a substantial long-term liability, given the uncertainties of financial assurance calculations, and the unlikelihood that the responsible party (i.e., mining corporations) will persist in perpetuity."

The study's authors define "perpetuity" as pollution that would continue for hundreds to thousands of years or cases in which government agencies cannot predict when it would end.

"There's a general policy question about whether we should be opening up sites that are going to require treatment basically forever," Glenn Miller, a University of Nevada-Reno environmental science professor, said on a conference call about the report.

But a National Mining Association source in an email said some of the underlying assumptions in the report are not accurate.

"The report is based on the assumption that acid mine drainage cannot be managed or controlled and that perpetual treatment of water at mine sites is infeasible," the source wrote. "These assumptions are incorrect and undercut the report's findings."

The source said some mines are exploring "passive treatment" systems and other established annuities to fund perpetual treatment. The source also pointed to a 1997 objective from the Department of Interior's Office of Surface Mining that says a permit should not be issued if hydrologic studies predict post-mining pollution "that would require continuing long-term treatment without a defined endpoint."

EPA announced in 2009 that it intends to develop financial assurance rules under section 108(b) of the Superfund law to require mine companies to prove they can pay to clean up waste their mines might create. The companies would have to post surety bonds or a letter of credit before a permit for the mine is approved. The effort grew out of a 2009 court ruling that said EPA must designate industrial sectors that would be subject to

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such rules.

EPA has designated the mining industry, as well as several energy-related and chemical industries, as sectors that would fall under future regulation. But the agency has twice delayed issuing the proposed rule. It currently plans to propose rules for the mining industry in May 2014, according to the latest Unified Agenda.

Industry groups have argued the proposed rules are redundant and unnecessary, with some suggesting the effort might be illegal. The mining industry source said other agencies require bonds to cover physical reclamation of the site and to provide protection for air, water and wildlife resources. The group "does not support additional financial requirements in addition to those that fund reclamation." The source said EPA's original financial assurance proposal does not take the existing requirements into account.

The report says EPA has identified 156 hardrock mining sites nationwide that have the potential to cost between \$7 billion and \$24 billion total to clean up (at a maximum total cost to EPA of approximately \$15 billion). These costs are over 19 times EPA's total Superfund budget of about \$775 million for fiscal year 2013. In addition, the EPA Inspector General has said 59 percent of mines in the Superfund program will require cleanup periods that last between 40 years to "in perpetuity," raising questions about the ability of business to sustain efforts for such lengths of time.

"The EPA is often the agency that inherits these problem sites under the Superfund program," said report co-author Bonnie Gestring, adding that it makes sense for the agency to have the ability to use Superfund to require upfront financial assurances.

Earthworks said its report is the first comprehensive look at the amount of contaminated water that must be treated at mines and the cost to do so. It lists 40 mines that produce as much as 27 billion gallons of contaminated water each year, with an annual treatment cost of up to \$67 billion. Each of those mines is "known" to generate perpetual contamination, according to government documents.

It lists another 13 mines that "likely" fall into that category. Those produce between 3.4 billion and 4 billion gallons of contaminated water each year. The annual treatment cost is between \$1.4 billion and \$2.9 billion. The report also lists four proposed mines that would generate an estimated 16.7 billion to

## FEDERAL REGULATORY UPDATES *(Continued)*

16.9 billion gallons of contaminated water per year, with a clean-up cost estimate of at least \$3.1 billion.

Gestring called the totals “staggering” and said the figures are especially significant for Western states where the clean water supply is under pressure from agriculture, energy companies and a growing population.

The report is based on federal and state government reports for each mine, as well as correspondence with regulators. The group used company information and media reports as supporting information when government documents were unavailable. For mines with continuous treatment, the group converted gallons per minute figures to annual totals. The group included little information from mines in Arizona, citing the state’s restrictive public records laws from mining data.

*(SUPERFUND REPORT – May 13, 2013)*

### EPA NEEDS \$384 BILLION FOR DRINKING WATER INFRASTRUCTURE

EPA recently released results of a survey showing that \$384 billion in improvements are needed for the nation’s drinking water infrastructure through 2030 for systems to continue providing safe drinking water to 297 million Americans.

EPA’s fifth Drinking Water Infrastructure Needs Survey and Assessment identifies investments needed over the next 20 years for thousands of miles of pipes and thousands of treatment plants, storage tanks, and water distribution systems, which are all vital to public health and the economy. The national total of \$384 billion includes the needs of 73,400 water systems across the country, as well as American Indian and Alaska native Village water systems.

“A safe and adequate supply of drinking water in our homes, schools, and businesses is essential to the health and prosperity of every American,” said EPA Acting Administrator Bob Perciasepe. “The EPA survey shows that the nation’s water systems have entered a rehabilitation and replacement era in which much of the existing infrastructure has reached or is approaching the end of its useful life. This is a major issue that must be addressed so that American families continue to have the access they need to clean and healthy water sources.”

The survey, required under the Safe Drinking Water Act to be submitted to Congress every four years by EPA, was developed in consultation with all 50 states and the Navajo Nation. The survey looked at the funding and operational needs of more than 3,000 public drinking water systems across the United States, including those in Tribal communities, through an extensive questionnaire. In many cases, drinking water infrastructure was reported to be 50-100 years old.

The assessment shows that improvements

are primarily needed in:

- Distribution and transmission: \$247.5 billion to replace or refurbish aging or deteriorating lines.

- Treatment: \$72.5 billion to construct, expand or rehabilitate infrastructure to reduce contamination

- Storage: \$39.5 billion to construct, rehabilitate or cover finished water storage reservoirs

- Source: \$20.5 billion to construct or rehabilitate intake structures, wells and spring collectors

EPA allocates Drinking Water State Revolving Fund grants to states based on the finding of the assessment. These funds help states to provide low-cost financing to public water systems for infrastructure improvements necessary to protect public health and comply with drinking water regulations.

*(Environmental Resource Center – 6/10/2013)*

### EPA TO LIST CATEGORICAL NON-WASTE FUELS

In EPA’s 2013 Non-Hazardous Secondary Materials (NHSM) final rule, the agency established a rulemaking process for categorical determinations for adding NHSMs as non-waste fuels. Combustion sources that use solid waste fuels are subject to the CAA Section 129 requirements (i.e., the Commercial and Industrial Solid Waste Incinerator or CISWI Rule) while combustion equipment utilizing non-waste fuel are subject to the CAA Section 112 requirements (i.e., Boiler NESHAP). Therefore, these secondary materials, when burned as fuels, must be properly classified as either NHSMs as solid waste or non-waste fuel in order to determine whether a combustion unit is subject to a CAA Section 112 or a CAA Section 129 regulation.

EPA identified several NHSMs that it considered to be good candidates for a categorical listing. Now, the agency is planning to propose adding NHSMs to the list of categorical non-wastes, and will demonstrate how each NHSM successfully meets the criteria listed in 40 CFR 241.4(b)(5). For additional information, contact Tab Tesnau at 703-605-0636 or [Tesnau.Tab@epa.gov](mailto:Tesnau.Tab@epa.gov).

*(Environmental Resource Center – 7/1/13)*

### EPA PROPOSES NEW STANDARDS FOR COMPOSITE WOOD PRODUCTS

The U.S. Environmental Protection Agency proposed two new regulations in June that would help further protect Americans from formaldehyde emissions in composite wood products.

The legislation would apply to all composite wood products that are sold, manufactured, supplied, offered for sale or imported into the United States.

The first rule would place a limit on formaldehyde emissions for hardwood plywood, medium-density fiberboard, particleboard and finished goods. The second rule would call for a third-party certification system that would verify manufacturers’ compliance with the Toxic Substances Control Act formaldehyde emission standards.

According to the EPA, health effects resulting from formaldehyde exposure include irritation of the nose, throat and eyes, respiratory complications, worsening of asthma symptoms, fatigue, headache, nausea and possibly cancer.

*(Home Channel News – 7-22-13)*

### EPA REVISES HAZARDOUS WASTE RULES FOR SHOP TOWELS

EPA is revising the hazardous waste management regulations under the Resource Conservation and Recovery Act (RCRA) to conditionally exclude solvent-contaminated wipes from hazardous waste regulations provided that businesses clean or dispose of them properly. The rule is based on EPA’s final risk analysis, which was peer reviewed in 2008 and published for public comment in 2009, that concluded wipes contaminated with certain hazardous solvents do not pose significant risk to human health and the environment when managed properly. EPA estimates that the final rule will result in a net savings of between \$21.7 million and \$27.8 million per year.

Wipes are used in conjunction with solvent for cleaning and other purposes by tens of thousands of facilities in numerous industrial sectors, such as printers, automobile repair shops, and manufacturers of automobiles, electronics, furniture, and chemicals.

“Today’s rule uses the latest science to provide a regulatory framework for managing solvent-contaminated wipes that is appropriate to the level of risk posed by these materials,” said Mathy Stanislaus, assistant administrator for EPA’s Office of Solid Waste and Emergency Response. “I’ve heard directly from stakeholders about the benefits of this rule and the need to finalize it. The rule reduces costs for thousands of businesses, many of which are small businesses, while maintaining protection of human health and the environment.”

The new final rule excludes wipes that are contaminated with solvents listed as hazardous wastes under RCRA that are cleaned or disposed of properly. To be excluded, solvent-contaminated wipes must be managed in closed, labeled containers and cannot contain free liquids when sent for cleaning or disposal. Additionally, facilities that generate solvent-contaminated wipes must comply with certain recordkeeping requirements and may not accumulate wipes for longer than 180 days.



## FEDERAL REGULATORY UPDATES (Continued)

EPA estimates that the final rule will result in a net savings of \$18 million per year in avoided regulatory costs and between \$3.7 million and 9.9 million per year in other expected benefits, including pollution prevention, waste minimization and fire prevention benefits.

The rule is consistent with President Obama's Executive Order 13563, Improving Regulation and Regulatory Review, which charges federal agencies to monitor regulatory effectiveness and to help make agency regulatory programs more effective or less burdensome in achieving the regulatory objectives.

EPA first proposed modified regulations for solvent-contaminated wipes on November 20, 2003, and published a risk assessment for public comment on October 27, 2009. The docket for this rulemaking is EPA-HQ-RCRA-2003-0004 and can be accessed at <http://www.regulations.gov> once the final rule is published. Learn more about the shop towel rule and how to comply with the latest hazardous waste regulations by attending Environmental Resource Center's hazardous waste training.

*(Environmental Resource Center – 7-29-13)*

### EPA TO REGULATE FORMALDEHYDE IN WOOD AND OTHER PRODUCTS

EPA recently proposed two rules to help protect Americans from exposure to the harmful chemical formaldehyde, consistent with a Federal law unanimously passed by Congress in 2010. These rules ensure that composite wood products produced domestically or imported into the United States meet the formaldehyde emission standards established by Congress.

Formaldehyde is used in adhesives to make a wide range of building materials and products. Exposure to formaldehyde can cause adverse public health effects including eye, nose, and throat irritation, other respiratory symptoms and, in certain cases, cancer.

"The proposed regulations announced today reflect EPA's continued efforts to protect the public from exposure to harmful chemicals in their daily lives," said James J. Jones, EPA's acting assistant administrator for the Office of Chemical Safety and Pollution Prevention. "Once final, the rules will reduce the public's exposure to this harmful chemical found in many products in our homes and workplaces."

In 2010, Congress passed the Formaldehyde Standards for Composite Wood Products Act, or Title VI of the Toxic Substances Control Act (TSCA), which establishes emission standards for formaldehyde from composite wood products and directs EPA to propose rules to enforce the act's provisions. EPA's proposed rules align, where practical, with the requirements for composite wood products set by the California Air Resources Board, putting in place national standards for companies that manufacture or import these products. EPA's

national rules will also encourage an ongoing industry trend towards switching to no-added formaldehyde resins in composite wood products.

EPA's first proposal limits how much formaldehyde may be emitted from hardwood plywood, medium-density fiberboard, particleboard, and finished goods, that are sold, supplied, offered for sale, manufactured, or imported in the United States. The emitted formaldehyde may be left over from the resin or composite wood making process or be released when the resin degrades in the presence of heat and humidity. This proposal also includes testing requirements, laminated product provisions, product labeling requirements, chain of custody documentation, recordkeeping, a stockpiling prohibition, and enforcement provisions. It also includes an exemption from some testing and record-keeping requirements for products made with no-added formaldehyde resins.

The second proposal establishes a third-party certification framework designed to ensure that manufacturers of composite wood products meet the TSCA formaldehyde emission standards by having their composite wood products certified through an accredited third-party certifier. It would also establish eligibility requirements and responsibilities for third-party certifier's and the EPA-recognized accreditation bodies who would accredit them. This robust proposed third-party certification program will level the playing field by ensuring composite wood products sold in this country meet the emission standards in the rule regardless of whether they were made in the United States or not.

*(Environmental Resource Center – 6/3/13)*

### EFFECTIVE DECEMBER 1, 2013: NEW TRAINING REQUIREMENTS FOR THE REVISED HAZARD COMMUNICATIONS STANDARD

There are new changes coming for the OSHA Hazard Communication Standard that apply to all employers at facilities where hazardous chemicals or materials are handled. If your employees handle hazardous chemicals, these changes will impact you.

OSHA has revised its Hazard Communication Standard to align with the United Nations' Globally Harmonized System of Classification and Labeling of Chemicals and published it in the Federal Register in March 2012. To help companies comply with the revised standard, OSHA is phasing in the specific requirements over several years, and the first compliance deadline, December 1, 2013, is approaching.

As of December 1, 2013, all employers must have trained their workers on new label elements and the Safety Data Sheet (SDS) format, formerly known as MSDS. Training is recommended early in the transition process

since workers and employers are already beginning to see the new labels and SDSs on the chemicals in their workplace.

*(Gaiatech – 7-10-13)*

### EPA REVISES TANK VOC EMISSION STANDARDS

EPA recently issued updates to its April 2012 oil and natural gas standards for storage tanks, which allow responsible oil and natural gas production while ensuring air emissions are reduced as quickly as possible. The updates will phase in emission control deadlines, starting with higher-emitting tanks first, and will provide the time needed to ramp up the production and installation of controls. EPA is making the changes based on information received after the 2012 standards were issued that shows more storage tanks will come online than the agency originally estimated.

Storage tanks that emit 6 or more tons of volatile organic compounds (VOCs) a year must reduce emissions by 95%. The recent rule establishes two emission control deadlines:

- Tanks that come online after April 12, 2013, are likely to have higher emissions and must control VOC emissions within 60 days or by April 15, 2014, whichever is later
- Tanks that came online before April 12, 2013, are likely to have lower emissions and must control VOC emissions by April 15, 2015

The updated standards also establish an alternative emissions limit that would allow owners/operators to remove controls from tanks if they can demonstrate that the tanks emit less than 4 tons per year of VOC emissions without controls. In addition, the rule streamlines compliance and monitoring requirements for tanks that have already installed controls.

The oil and natural gas industry uses tanks for temporary storage of crude oil, condensate, and other liquids, before those liquids are moved to a pipeline, sold, or moved for disposal. These storage tanks can be sources of emissions of ozone-forming VOCs, along with several toxic air pollutants, including benzene. The final action does not affect the April 2012 standards for capturing natural gas from hydraulically fractured wells.

The recent updates respond to petitions for reconsideration of the 2012 New Source Performance Standards for Oil and Natural Gas Production. Those cost-effective standards rely on proven technologies and best practices to reduce emissions of ozone-forming VOCs and air toxics, including benzene and hexane. Exposure to ozone is linked a variety of health effects, including aggravated asthma, reduced lung function, and increased susceptibility to respiratory infections, in addition to increased risk of premature death from heart or lung disease. Benzene and hexane are air toxics, which can cause cancer and other serious health effects.

*(Environmental Resource Center – 8/12/13)*

## FEDERAL REGULATORY UPDATES *(Continued)*

### COURT KEEPS YUCCA MOUNTAIN IN PLAY

A federal court directed the Obama administration to revive consideration of the Yucca Mountain nuclear-waste project in Nevada, breathing new life into a long-running controversy of a final resting place for the country's roughly 70,000 metric tons of spent commercial nuclear fuel.

The ruling by the U.S. Court of Appeals for the District of Columbia Circuit said the Nuclear Regulatory Commission was "simply flouting the law" by refusing to take up a Yucca Mountain license application roughly five years after it was submitted by the Bush administration.

The Obama administration has attempted to abandon the project, in part because it wants local support for any waste repository and Yucca Mountain faces opposition in Nevada.

The appeals court, citing a 1982 law directing the NRC to complete reviews within three years of an application, said "the president and federal agencies may not ignore statutory mandates of prohibitions merely because of policy disagreements."

The ruling doesn't guarantee that Yucca Mountain, about 100 miles northwest of Las Vegas, will move forward. Rather, it applies pressure on Congress to finally decide the project's fate since it controls its funding.

Waste generated by nuclear power plants and construction of nuclear weapons sits at more than 70 sites around the country. A panel convened by the Obama administration said in 2012 the government had an "ethical obligation" to deal with the waste, suggesting the

U.S. build temporary storage facilities until a permanent solution is found.

The NRC, which could appeal the ruling, said it was reviewing the decision and declined to comment on it. All five NRC commissioners in February told a House panel they would honor whatever the court decided.

The ruling doesn't force the NRC to immediately finish its review. Instead, it directs the commission to continue the review as long as there is funding to do so.

*(By Tennille Tracy and Keith Johnson, Wall Street Journal – 8/14/13)*

### EPA PROPOSES EFFLUENT GUIDELINES FOR POWER PLANTS

In accordance with a consent decree and in line with requirements under the Clean Water Act, the EPA will propose a range of options to help reduce dangerous pollutants, including mercury, arsenic, lead, and selenium that are released into America's waterway by coal ash, air pollution, control waste, and other waste from steam electric power plants. The proposed rule includes a variety of options for whether and how these different waste streams should be treated. EPA will take comment on all of these options, which it will use to help inform the most appropriate final standard.

Steam electric power plants currently account for more than half of all toxic pollutants discharged into streams, rivers, and lakes from permitted industrial facilities in the United States. High exposure to these types of pollutants has been linked to neurological damage and cancer as well as damage to the circulatory system, kidneys and liver. Toxic

heavy metals do not break down in the environment and can also contaminate sediment in waterways and impact aquatic life and wildlife, including large-scale die offs of fish.

The proposal updates standards that have been in place since 1982, incorporating technology improvements in the steam electric power industry over the last three decades as required by the Clean Water Act. The proposed national standards are based on data collected from industry and provide flexibility in implementation through a phased-in approach and use of technologies already installed at a number of plants. Under the posed approach, new requirements for existing power plants would be phased in between 2017 and 2022, and would leverage flexibilities as necessary.

Fewer than half of coal-fired power plants are estimated to incur costs under any of the proposed preferred option because many power plant already have the technology and procedures in place to meet the proposed pollution control standards.

EPA also announced its intention to align this Clean Water Act rule with a related rule for coal combustion residuals (CCRs, also known as coal ash) proposed in 2010 under the Resource Conservation and Recovery act. The two rules would apply to many of the same facilities and would work together to reduce pollution associated with coal ash and related wastes. EPA is seeking comment from industry and other stakeholders to ensure that both final rules are aligned to reduce pollution efficiently and minimize regulatory burdens.

*(Environmental Resource Center - 4/23/13)*

## LOWER NATURAL GAS PRICES MAY REDUCE FUTURE COST OF ELECTRICITY AT PEAK TIMES

The growth of natural gas-fueled power plants across the country is helping drive down electricity prices at their most expensive times – when the grid is most stressed on hot summer days. PJM Interconnection, a wholesale power market administrator and East Coast grid operator whose region includes South Jersey, recently reported results of its annual capacity auction, which sets contracts with power plants for the times when electricity is most in demand.

New natural gas power plants coming on line and an increase of imported electricity from the Midwest are reducing capacity prices, Andrew Ott, senior vice president of markets at PJM, said in a statement. The auction set contracts for three years from now – for the period between June 1, 2016, and May 31, 2017, PJM spokesman Ray Dotter said.

Energy purchased for peak times helps ensure the lights stay on and the air conditioner running at times when everyone is using them. Atlantic City Electric and other New Jersey electric utilities buy much of their regular wholesale energy from suppliers at auctions every February.

"One of the biggest impacts on electric generation is the low price of natural gas as a fuel. It makes gas-fired generation more attractive to build because of the cost," Dotter said. "And we've seen in this auction natural gas push out some coal-fired (fuel), because it can be a lower cost ... typically coal and nuclear have been the cheapest to produce electricity, because natural gas cost so much."

One need not look past South Jersey to see these trends away from coal toward natural gas, a fossil fuel whose increased U.S. production has made it cheaper – and more controversial – the past few years.

The B.L. England power plant in Upper Township is planning to convert from coal to natural gas by 2016. The plant is owned by RC Cape May Holdings, Cape May County, New Jersey whose parent is Rockland Capital of Houston.

In most of New Jersey, including Atlantic City Electric's territory, PJM's recent action reduced peak prices. Valley Forge, Pa.-based PJM is responsible for a missive power grid in 13 states and the District of Columbia.

*(By Brian Ianieri, The Press of Atlantic City, 6/2/13)*



## **MASSACHUSETTS CONTINGENCY PLAN BEING UPDATED; LSP ASSOCIATION COMMENTS; NJ PARALLELS**

Massachusetts' Licensed Site Professional Association commented on a number of important items related to the proposed update of the Massachusetts Contingency Plan. These are as follows:

### Permit/Tier Classification and Numerical Ranking System

The LSPA strongly supports the elimination of the Numerical ranking System in its entirety and the corresponding elimination of the Tier 1 permit and layers of Tier 1 classifications. Clarification is needed, however, regarding the transition of current Tier classifications for the existing sites into the new classification system. We also support the changes in the deadline for submittal of the Phase II Report from two years to three years. This is a more realistic duration given the amount of assessment work and multiple or seasonal rounds of sampling that may be required, as well as the often time-consuming task of obtaining off-site access. This work is key to an accurate conceptual model.

### Activity and Use Limitations

The single largest concern from the LSPA in this section is the language present in multiple locations which states that MassDEP shall invalidate permanent and temporary solutions. The elimination of Mass DEP's discretion (shall vs. may), the criteria by which such actions will be taken, and the message this sends to the regulated community relative to the permanence and reliability of past outcomes are unacceptable to us. We urge MassDEP to revise this language.

Clarification is needed regarding the mechanism by which future landowners will transmit acknowledgment of the existence of AULs on future deeds. The LSPA supports the elimination of the separate LSP opinion document, but has some recommendations to clarify the substitute language that will now appear in Form 1075. Finally, the LSPA does not feel there is a benefit, and may in fact be a disadvantage, to eliminating the metes and bounds requirement.

### Vapor Intrusion and Closure

In this section, perhaps more than in any other section, the LSPA feels that the proposed amendment language is too prescriptive regarding the installation and operation of active, and to some extent passive, vapor mitigation systems. The revisions to Substantial Release Migration (SRM) language will cast too large a net, which will require additional resources to address without a commensurate benefit in protection of public health and safety.

In addition, the LSPA strongly disagrees with the elimination of modeling as a technically justified approach to assessment. Current guidance documents acknowledge that modeling can be used as part of a "lines of evidence" approach, as long as it is not used as the sole line of evidence. In prior workgroups and discussions with MassDEP, the LSPA has supported the concept of incorporating operating permits for long-term active systems installed at sites not as an

addition to but rather as an alternative to an AUL. We feel the revised regulations should allow a permit without an AUL where appropriate.

With regard to closure provisions, we commend MassDEP for development of concepts of Anthropologic Background and Historic Fill, but believe the definitions of these terms and the criteria for their applicability need additional clarification.

Overall, within the topic of Vapor Intrusion and Closure, we see many opportunities for language which provides for a more universally applicable approach in the regulations themselves. And then, we recommend moving the prescriptive detail on implementation to corresponding guidance documents. This is grounded in the fundamental tenet of the MCP program that LSPs will make appropriate risk-based, site-specific decisions as part of the MCP site investigation and closure process.

### Risk Assessment and MCP Standards

The LSPA strongly urges MassDEP to remove the toxicity value hierarchy from the updated regulations. The recommended references will become dated with time and newer references may be applicable, which would then not be included in the regulations. A guidance document, which can be updated periodically, should be generated.

The LSPA supports the revision of the Method 1, S-1 standard for lead to 200 mg.KG, but we do not support the application of a dual standard as we feel this would lead to confusion rather than clarity. As has been noted in two prior letters from the LSPA, we support the adoption of the EPA IRIS value for PCE and strongly encourage MassDEP to update the PCE standard accordingly with this revision. Changes to the vanadium and 1,4 dioxane standards as well as the hardness-based criteria for GW-3 standards should also be reconsidered, and need to be supported before they are adopted as regulation. Moreover, the LSPA recommends that MassDEP re-visit TCE with the focus of developing more flexibility in chemical-specific and toxicity-specific evaluations.

### Non-Aqueous Phase Liquid and Source Control

The LSPA fully supports the elimination of the 1/2 inch NAPL in a well measurement as a UCL condition, since there is no current defensible science behind this value. However, many of the remaining revisions regarding NAPL are problematic. MassDEP should consider separate NAPL approaches for oil vs. hazardous material, recognizing that NAPL conditions at a typical fuel oil or gasoline site are likely to be much different from, for example, a chlorinated solvent or mixture NAPL condition. The requirement for an AUL at all NAPL sites is overly conservative and should be included in the regulations. The LSPA feels strongly that an AUL should only be required where the risk characterization demonstrates that one is necessary. The inclusion of removal of NAPL to the

extent feasible as a condition of source control and a requirement for closure implies that active remediation of NAPL is required in all cases, which is not necessarily appropriate.

We strongly disagree with the language that makes it impossible to obtain any type of outcome, permanent or temporary solution, for site with any DNAPL constituent concentration above 1% of its corresponding solubility limit. We understand the 1% solubility limit (assuming corresponding guidance that defines those solubility assumptions) as a criterion, but it should not be part of criteria for closure. The definitions of non-stable NAPL, transmissivity and source control should be either revised, or removed and included in guidance.

### Miscellaneous and Cross Referencing

The LSPA does not support the inclusion of sustainability criteria in the definition of RAPs. These goals, while commendable, are not tied to achieving a condition of No Significant Risk in response to a release. Responsible parties and LSPs should not need to demonstrate the extent to which such measures are practicable in the context of protecting health, safety, welfare and the environment. The language regarding remedial additives needs explanation, as do the edits which insert the requirement for predicting timeframes into the Remedial Action Plan.

### Conclusions

MassDEP's 2013 Proposed Amendments to the MCP provide numerous revisions that will undoubtedly help streamline the MCP program and the cleanup of sites. However, the prescriptive guidelines and procedures presented in many of the proposed amendments may ultimately expand the reach of the program and render the path to a permanent solution more cumbersome.

You can read MassDEP's "redline" version of the proposed changes at: [www.mass.gov/eea/docs/dep/cleanup/laws/mcp/dtrtl.pdf](http://www.mass.gov/eea/docs/dep/cleanup/laws/mcp/dtrtl.pdf).

*In part, some of the LSPA's issues of concern have also arisen in New Jersey, as the NJ LSRP program is, in part, modeled after the Massachusetts LSP program. RT, with its partners, practices in both states, and has for many years. We find that New Jersey's program is better and more effective in working with LSRPs so far, and is more flexible, particularly when it comes to consultation with senior DEP officials when it comes to complicated legacy sites. NJ, which started its program later, avoided some of the MA pitfalls and had a far greater education and New Guidance effort, which helped tremendously. RT's President, Gary Brown, provided input to NJDEP during the transition, but we think that both states programs, as well as Ohio's voluntary action programs are national models.*

*Mr. Brown is both an LSRP in New Jersey and a Certified Professional in Ohio.*

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## TECHNOLOGY UPDATES

### NEW REGULATIONS FOR RECYCLING OLD MERCURY THERMOSTATS

The California Department of Toxic Substances Control (DTSC) recently released final regulations for the collection and recycling of used thermostats containing toxic mercury.

“This is the first example of a take-back program with measureable performance goals that will increase the number of mercury thermostats that are collected,” said DTSC Director Deborah Raphael. “I’m very proud of the fact that California is again leading the way, and will be a model for other take-back programs.”

A 2006 state law banned the sale of new mercury-added thermostats. Mercury is a potent neurotoxin that, when released into the environment, can significantly harm human health and the environment. Though no longer sold in California, up to 10 million mercury-added thermostats are still in California homes and businesses.

State law also bans their disposal in solid-waste landfills, and a 2008 law, the Mercury Thermostat Collection Act, requires former producers of such thermostats to operate a collection and recycling program for those that become waste.

Under the new regulations, manufacturers are required to collect and recycle more than 32,500 mercury-containing thermostats in the second half of 2013, or 30% of the estimated total number of mercury thermostats that become waste. Recycling goals will increase annually for the next five years until 2017, when the goal is a 75% collection and recycling rate, or more than 147,000 mercury thermostats.

These goals reflect the legislative mandate for DTSC to establish goals resulting in the collection and recycling of the maximum feasible number of out-of-service mercury-added thermostats. These “extended producer responsibility” regulations focus on setting performance goals that the thermostat industry, rather than state and local government, is responsible for meeting.

The thermostat manufacturing industry currently operates a non-profit corporation, the Thermostat Recycling Corporation (TRC), for the purpose of collecting and properly disposing mercury-containing thermostats. TRC represents 30 manufacturers that historically distributed mercury-containing thermostats in the US.

This national program provides heating, ventilation and air conditioning (HVAC) distributors, retailers who sell thermostats, or household hazardous waste programs with mercury thermostat collection and recycling services. The new regulations require manufacturers who formerly sold mercury thermostats to meet these recycling goals either

through participation in the TRC or an independently sponsored program.

(*Environmental Resource Center – 5/27/13*)

### STUDY: FRACKING CHEMICALS DIDN'T SPREAD

A landmark federal study on hydraulic fracturing, or fracking, shows no evidence that chemicals from the natural gas drilling process moved up to contaminate drinking water aquifers at a western Pennsylvania drilling site, the Department of Energy told the Associated Press.

After a year of monitoring, the researchers found that the chemical-laced fluids used to free gas trapped deep below the surface stayed thousands of feet below the shallower areas that supply drinking water, geologist Richard Hammack said.

Although the results are preliminary – the study is still ongoing – they are a boost to a natural gas industry that has fought complaints from environmental groups and property owners who call fracking dangerous.

Drilling fluids tagged with unique markers were injected more than 8,000 feet below the surface, but were not detected in a monitoring zone 3,000 feet higher. That means the potentially dangerous substances stayed about a mile away from drinking water supplies.

The boom in gas drilling has led to tens of thousands of new wells being drilled in recent years, many in the Marcellus Shale formation that lies under parts of Pennsylvania, New York, Ohio and West Virginia. That’s led to major economic benefits but also fears that the chemicals used in the drilling process could spread to water supplies.

The mix of chemicals varies by company and region, and while some are openly listed the industry has complained that disclosing special formulas could violate trade secrets. Some of the chemicals are toxic and could cause health problems in significant doses, so the lack of full transparency has worried landowners and public health experts.

The study done by the National Energy Technology Laboratory in Pittsburgh marked the first time that a drilling company let government scientists inject special tracers into the fracking fluid and then continue regular monitoring to see whether it spread toward drinking water sources. The research is being done at a drilling site in Greene County, which is southwest of Pittsburgh and adjacent to West Virginia.

Eight new Marcellus Shale horizontal wells were monitored seismically and one was injected with four different man-made tracers at different stages of the fracking process, which involves setting off small explosions to break the rock apart. The

### TECHNOLOGY UPDATES

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scientists also monitored a separate series of older gas wells that are about 3,000 feet above the Marcellus to see if the fracking fluid reached up to them.

The industry and many state and federal regulators have long contended that fracking itself won’t contaminate surface drinking water because of the extreme depth of the gas wells. Most are more than a mile underground, while drinking water aquifers are usually within 500 to 1000 feet of the surface.

One finding surprised the researchers: Seismic monitoring determined one hydraulic fracture traveled 1,800 feet out from the well bore; most traveled just a few hundred feet. That’s significant because some environmental groups have questioned whether fractures could go all the way to the surface.

The researchers believe that fracture may have hit naturally occurring faults, and that’s something both industry and regulators don’t want.

“We would like to be able to predict those areas” with natural faults and avoid them, Hammack said.

The DOE team will start to publish full results of the tests over the next few months, said Hammack, who called the large amount of field data from the study “the real deal.”

“People probably will be looking at the data for years to come,” he said.

(*Kevin Begos, Associated Press, Burlington Free Press – 7/19/13*)

### THIRD LEVEL OF SHALE COMING INTO PLAY

A third layer of shale is drawing more and more attention from Western Pennsylvania gas drillers.

Consol Energy, Inc. on Monday became at least the third company to tout test success in the Upper Devonian, an mix of sandstone and shale layers just a few hundred feet from the famous Marcellus. The Cecil-based company joins Rex Energy Corp. and Range Resources Corp., which for two years has claimed it has a triple stack of gas-rich shale, including in the Utica, even farther below.

Consol’s announcement “certainly adds credibility,” to the Upper Devonian, said Pete Stark, vice president for the industry relations at IHS Inc., an energy research and consulting firm in suburban Denver. “But I wouldn’t look for it to turn around and be an immediate bonanza. It’s a leading indicator of what the future potential has in store.”

Consol’s first exploration hit the Upper

## TECHNOLOGY UPDATES *(Continued)*

Devonian at 12,490 feet deep in Greene County, the company said in its quarterly operation update. It drew about 3 million cubic feet per day, a third of what two nearby Marcellus wells drew, Consol said.

That's in line with what other companies are finding, Stark said. Rex, a State College-based company, got about the same production from an Upper Devonian well it drilled last year in Butler County, the company has said. Range has drilled four wells in Washington County, getting about 4 million cubic feet per day, plus another 1,000 barrels of liquid gases common in that part of the region, according to the company's investor presentation.

"It's still very early, but we're very excited about the potential, especially in Southwestern Pennsylvania," said Matt Pitzarella, Range's Cecil-based spokesman. "The Upper Devonian mimics the Marcellus," bringing up a collection of liquid gases including ethane and propane along with methane.

*(By Timothy Puko – Pittsburgh Tribune – Review – 7-16-13)*

### CA COURT REQUIRES DRINKING WATER STANDARD FOR HEXAVALENT CHROMIUM

The California Superior Court of Alameda recently required the state's Department of Public Health to proceed with setting a standard to protect millions of Californians from unsafe levels of hexavalent chromium in drinking water. The court's decision comes nearly one year after the Natural Resources Defense Council and the Environmental Working Group sued the agency for failing to protect millions of Californians from hexavalent chromium, the cancer-causing chemical made infamous in the movie "Erin Brockovich" for contaminating drinking water and sickening residents in the town of Hinkley, California.

Ruling from the bench, Judge Evelio Grillo directed the agency to propose a drinking water standard for hexavalent chromium by the end of August 2013. Following the public comment period on the rule, the court will consider any further deadlines in light of the volume and nature of public comments.

An EWG analysis of official records from the California Department of Public Health's water quality testing conducted between 2000 and 2011 revealed that about one-third of the more than 7,000 drinking water sources sampled were contaminated with hexavalent chromium at levels that exceed safe limits. These water sources are spread throughout 52 of 58 counties, impacting an estimated 31 million Californians.

NRDC and EWG's suit contended that the department's delay was unlawful and it must rapidly proceed to set a "Maximum Contaminant Level"—the maximum concentration of a chemical that is allowed in public drinking water systems—for hexavalent chromium in drinking water. The California EPA's Office of Environmental Health Hazard Assessment announced a final "Public Health Goal" for hexavalent chromium in drinking water in July 2011, a preliminary step for the agency to adopt a drinking water standard. The goal was set at 0.02 parts per billion, a level that does not pose a significant health risk to people. The agency now must move quickly to set the maximum limit for hexavalent chromium as close to that safe level as feasible.

In 2001, the California State Legislature mandated the agency adopt a standard for hexavalent chromium in drinking water by January 1, 2004, giving it two years to do so. More than nine years past its legal deadline, the agency still has not even proposed a standard. Prior to the recent ruling, the agency had said it could take several more years before a final standard is completed.

Hexavalent chromium enters the drinking water supply by running off from industrial operations into surface waters or leaching from soil into groundwater.

Communities adjacent to industrial facilities using hexavalent chromium or Superfund sites, such as low-income communities like Hinkley and communities of color are among those most highly exposed to hexavalent chromium pollution. People can be exposed to hexavalent chromium by drinking contaminated water, eating contaminated food, by inhaling it, or by exposure to contaminated soils.

*(Environmental Resource Center – 7-22-13)*

### MASSACHUSETTS ANNOUNCES PLAN TO BAN DISPOSAL OF COMMERCIAL FOOD WASTE

Energy and Environmental Affairs (EEA) officials recently announced a proposed commercial food waste ban and funding to support anaerobic digestion (AD), a process that converts food waste into renewable energy.

"Banning commercial food waste and supporting the development of AD facilities across the Commonwealth is critical to achieving our aggressive waste disposal reduction goals," said Energy and Environmental Affairs Secretary Rick Sullivan. "These policies and programs will continue the Patrick Administration's commitment to growing the clean energy sector in Massachusetts, creating jobs and reducing emissions."

The Massachusetts Department of Environmental Protection (MassDEP) has proposed a commercial food waste ban, to take effect by July 1, 2014, that would require any entity that disposes of at least one ton of organic waste per week to donate or re-purpose the useable food. Any remaining food waste would be required to be shipped to an AD facility, a composting operation or an animal-feed operation. Residential food waste is not included in the ban.

To harness the energy in organic waste, the Patrick Administration has made \$3 million in low-interest loans available to private companies building AD facilities. The low-interest loans will be administered by BCD Capital through MassDEP's Recycling Loan Fund, with monies provided by the Department of Energy Resources (DOER).

### ASTHMA LINKED TO COMMON AIR POLLUTION

By Tony Alessandrini  
RT Environmental Services

Over 20 million Americans is familiar with the symptoms of an asthma attack. When asthma strikes, you're airways become constricted, and swollen, your chest feels tight, you may cough or wheeze, you're lungs fill with mucus and you just can't seem to catch your breath. In severe cases, asthma attacks can be deadly; they kill 5,000 people every year in the United States.

Asthma is a chronic, sometimes unbearable condition that has no cure. It keeps kids out of school (for a total of 14 million lost school days each year, according to the Centers for Disease Control) and sidelines them from physical activity. Employers lose 12 million work days every year when asthma keeps adults out of the workplace. The disease is also responsible for nearly 2 million emergency-room visits per year.

Understanding what might trigger an asthma attack helps asthma sufferers keep their disease in check. Sometimes it's as simple as avoiding dust, mold, tobacco smoke or cockroach droppings. But what if the air outside your home is filled with asthma triggers?

In recent years, scientists have shown that air pollution from cars, factories and power plants is a major cause of asthma attacks. More than 159 million Americans, over half the nation's population live in areas with bad air. A research study published in 2002 estimated that 30 percent of childhood asthma is due to environmental exposures, costing the nation \$2 billion per year. Studies also suggest that air pollution may contribute to the development of asthma in previously healthy people.



**TECHNOLOGY UPDATES (Continued)****Air Pollutants that Trigger Asthma**

• **Ground Level Ozone:** A toxic component of smog and ozone triggers asthma attacks and makes existing asthma worse. It may also lead to the development of asthma in children. Ozone is produced at ground level when tailpipe pollution from cars and trucks reacts with oxygen and sunlight. Ground level ozone is a big problem in cities with lots of traffic, such as Los Angeles, Houston and New York City. In 2004, according to the American Lung Association, 136 million people lived in areas that violated ozone air quality standards.

• **Sulfur Dioxide (SO<sub>2</sub>):** A respiratory irritant associated with the onset of asthma attacks, sulfur dioxide is produced when coal and crude oil are burned. Coal-fired power plants, particularly older plants that burn coal without SO<sub>2</sub> pollution controls, are the worst SO<sub>2</sub> polluters. One in five Americans lives within 10 miles of a coal-fired power plant. Oil refineries and diesel engines that burn high-sulfur fuel also release large amounts of SO<sub>2</sub> into the air.

• **Particulate Matter:** This term refers to a wide range of pollutants; dust, soot, fly ash, diesel exhaust particles, wood smoke and sulfate aerosols, which are suspended as tiny particles in the air. Some of these fine particles can become lodged in the lungs and could trigger asthma attacks. Studies have shown that the number of hospitalizations for asthma increases when levels of particulate matter in the air rise. Coal-fired power plants, factories and diesel vehicles are major sources of particulate pollution. Around 81 million people live in areas that fail to meet national air quality standards for particulate matter.

• **Nitrogen oxide (NO<sub>x</sub>):** A gas emitted from tailpipes and power plants, nitrogen oxide contributes to the formation of ground-level ozone and smog. It also reacts with other air pollutants to form small particles that can cause breathing difficulties, especially in people with asthma.

**Watching Out for Bad Air Days**

If you have asthma, ask your doctor to help you design a plan to control and prevent asthma attacks. Limiting your exposure to air pollution can be an important part of that plan. The EPA keeps tabs on local air quality across the country through its daily Air Quality Index, which measures levels of five major air pollutants.

Check the EPA website or your local television, newspaper or radio weather reports for daily updates on air quality. On bad quality air days, signified by orange and red colors on the index, children and people with respiratory diseases should limit their time

outdoors. Purple and maroon indicate extreme levels of pollution, even healthy adults should try to stay indoors.

EPA's Air Quality Index		
Air Quality Index (AQI) Values	Levels of Health Concern	Colors
When the AQI is in this range:	Air quality conditions are:	Symbolized by this color:
0 to 50	Good	Green
51 to 100	Moderate	Yellow
151 to 200	Unhealthy for Sensitive Groups	Orange
151 to 200	Unhealthy	Red
201 to 300	Very Unhealthy	Purple
301 to 500	Hazardous	Maroon

**Time to Clear the Air**

Although air quality has improved in many areas of the country over the past 15 years, air pollution still poses a health risk for millions of Americans. Adopting stricter national air quality standards for particulate matter and ozone would help clear the air by giving states a stronger tool to force polluters to clean up; it would also encourage industry to switch to cleaner fuels as an alternative to diesel exhaust has been linked to asthma as well as cancer. Requiring coal-fired power plants that operate without SO<sub>2</sub> controls to install scrubbers to curb their emissions would also help reduce health risks for asthma sufferers and people who live near these polluting facilities. By putting more clean-running, fuel-efficient cars and trucks on the road can cut down on emissions of NO<sub>x</sub> and other chemicals that contribute to ozone formation.

*(Source – Excerpts from Early-Life Air Pollution Linked with Asthma in Minorities, In Study by Elizabeth Fernandez – 6-19-13)*

**NEW DOCUMENT – VAPOR INTRUSION**

**Technology News and Trends (EPA 542-N-13-002).** This issue highlights vapor intrusion (VI), which generally refers to migration of hazardous vapors from any subsurface contaminant source such as contaminated soil or groundwater through the vadose zone and into indoor air. Vapor intrusion can occur in a broad range of land use settings, including residential, commercial, and industrial properties, and can affect buildings with virtually any type of foundation such as basement, crawl space, or slab on grade. The VI pathway has become a standard consideration during investigations at hazardous waste sites, especially those subject to the Superfund, underground storage tank (UST), and Resource Conservation and Recovery Act programs operated by federal or state agencies. The U.S. EPA currently is finalizing its guidance on subsurface VI. In addition, 24 states issued draft or final VI guid-

ance as of April 2013, and other state guidance continues to evolve (May 2013). View at <http://clu-in.org/tmandt/0513>.

*(Tech Direct – 6-1-13)*

**NEW DOCUMENT – SOIL SAMPLING**

**The Roles of Project Managers and Laboratories in Maintaining the Representativeness of Incremental and Composite Soil Samples (OSWER 9200.1-117FS).** This fact sheet explains how improved processing of soil samples to control the effects of soil heterogeneity will improve data quality and decision-making. It recommends application of incremental-composite sampling procedures in the laboratory to improve soil processing and subsampling precision (June 2013, 6 pages). View or download at <http://clu-in.org/techpubs.htm>.

*(Tech Direct – 8-1-13)*

**OHIO COMMUNITY GARDENING ON BROWNFIELDS TOOLBOX**

In late 2012, the Brownfields Focus Group of ASTSWMO (which is a member organization of waste management officials from all 50 States and several U.S. Territories) produced a document titled "Community Gardening on Brownfields Toolbox". The purpose of the document is to give guidance to local governments, private and non-governmental organizations who have concerns about the potential for contamination at properties used or proposed for gardens. The document provides helpful information on what works for some states and local communities in areas such as helpful ordinances, good sampling practices and risk management techniques that are relatively easy and economical to implement and links to other useful resources.

The document is called a Toolbox because it was set up so state/territory-specific could add information pertaining to rules, guidance, contact agencies and other resources that could help with assessment, risk management, exposure management, protective ordinances and similar issues.

Recently OEPA prepared an OhioEPA/DERR Community Gardening Toolbox. This is timely as some OEPA staff have received questions from Certified Professionals concerning advice on ways to help ensure that gardening on potential brownfields sites is performed in a safe manner.

To access this document on the OEPA web page go to : [http://epa.ohio.gov/portals/30/SABR/docs/Toolbox\\_ASTSWMO%20-%20Ohio%20version%20--%20finalApr2013.pdf](http://epa.ohio.gov/portals/30/SABR/docs/Toolbox_ASTSWMO%20-%20Ohio%20version%20--%20finalApr2013.pdf)

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## PA UPDATES

### DEP UNVEILS ENERGY EFFICIENCY AND POLLUTION PREVENTION GRANTS

Governor Tom Corbett encouraged Pennsylvania small-business owners to apply for DEP’s Small Business Advantage Grant to finance pollution prevention and energy efficiency projects. Businesses can apply for 50-percent matching funds of up to \$9,500 to adopt or acquire energy-efficient or pollution-prevention equipment or procedures. Applicants must be a for-profit corporation, limited liability corporation, partnership, sole proprietorship or other legal entity with 100 or fewer full-time employees. The grant-supported project must be located in Pennsylvania, be owned by the applicant and save the business at least 25 percent plus \$500 in annual energy

consumption or in pollution handling or prevention related expenses.

Applicants may be manufacturers, retailers, service providers, mining operators or agricultural businesses. Eligible projects include HVAC and boiler upgrades, high-efficiency lighting, solvent recovery systems, waste recycling systems and auxiliary power units deployed as anti-idling technology for trucks.

The application deadline is September 6. Eligible applications will be approved on a first-come, first-served basis from July 8 through September 6 or until funds are exhausted, whichever comes first. Funding is eligible for those costs incurred between July 8, 2013 and June 30, 2014.

Applications must be mailed to the Department of Environmental Protection’s

### PA UPDATES

- Energy & Pollution Prevention Grants, pg. 13

Grant Center, P.O. Box 8776, Harrisburg, PA 17105-8776 or hand delivered to DEP’s Grant Center, 15th Floor, Rachel Carson State Office Building, 400 Market St., Harrisburg, PA 17101-2301. Faxes or electronic submissions will not be accepted.

For more information and to view the application package, instructions and application form, visit [www.dep.state.pa.us](http://www.dep.state.pa.us) and click on the “Small Business Advantage Grant” button. To contact the Small Business Ombudsman’s Office, call 717-772-8909 or email:

[epaadvantagegrant@pa.gov](mailto:epaadvantagegrant@pa.gov).

(Source: DEP Press Release, July 8, 2013)

### ASDR ENVIRONMENT HAS TREATMENT SYSTEMS THAT CAN HANDLE ARSENIC IN MINE WATER AND STORMWATER

ASDR Environment of Quebec, Canada has substantial experience in providing treatment systems which can effectively treat even arsenic. Arsenic is a hard to treat soft metal, the presence of which in water media can frequently drive the cost of treating stormwater and mine water at coal mines, power plants and similar facilities.

An example treatment approach is:

- Physical-Chemical treatment of Total Suspended Solids (TSS) and Arsenic with a coagulation-flocculation in the ASDR treatment unit and additional process to remove NH<sub>4</sub><sup>+</sup>/NH<sub>3</sub><sup>-</sup>, both combined with Geotube® filtration.
- Results are impressive:

Parameters	Raw Water	Treated Water
TSS	70 mg/L	4 mg/L
Ammonia nitrogen (NH <sub>4</sub> -NH <sub>3</sub> )	50 mg/L	22 mg/L
Arsenic (As)	1 mg/L	0,2 mg/L

ASDR has an innovative treatment approach using GEOTUBES; and with a batch process, it is possible to adequately control water quality and to maximize Geotube® use, both in summer and in winter conditions.

For more information, you can contact Justin Lauterbach, RT’s Pittsburgh Regional Manager at [jlauterbach@rtenv.com](mailto:jlauterbach@rtenv.com) or call him at 724-288-4895.



**PENNSYLVANIA BULLETIN NOTICES**

Environmental Quality Board - Proposed Rulemaking: Regulated medical and Chemotherapeutic Waste	April 16, 2013
The Environmental Quality Board approved updated water quality standards, but without standards for molybdenum chlorides, sulfates and 1-4 dioxane which have been controversial.	April 22, 2013
The Environmental Quality Board published notice of a correction of air quality regulations covering Southeast Pennsylvania	April 22, 2013
Proposed: DEP ID: 385-2208-001. Title: Sewage Facilities Planning Module Review for Onlot Sewage Systems Proposed in High Quality and Exceptional Value Watersheds	April 29, 2013
Proposed Rulemaking: Board of Coal Mine Safety – Maintenance of Incombustible Content of Rock Dust	May 11, 2013
The Department of Environmental Protection published notice of the final Policy for Pennsylvania Natural Diversity Inventory Coordination During Permit Review (021-0200-001). The Department is revising its existing policy to clarify PNDI coordination within the permit review process. PNDI coordination will be conducted in a manner consistent with the requirements of the rules and regulation implemented by the Department. The Department and County Conservation District staff will follow this policy during the permit application review process. The final policy will be published in DEP's eLibrary.	May 27, 2013
Draft: DEP ID: 391-2300-002. Title: Operator Certification Program State Board for Certification of Water and Wastewater Systems Operators.	June 15, 2013
Final: DEP ID: 262-5800-001. Title: Guidance for Commonwealth-Funded Water Supply Response Actions.	June 15, 2013
Final: DEP ID: 563-2112-115. Title: Developing National Pollutant Discharge Elimination System (NPDES) Permits for Mining Activities.	June 22, 2013
Draft: DEP ID: 012-0900-003. Title: Policy on Public Participation in the Permit Review Process.	June 22, 2013
The Department of Environmental Protection published notice inviting comments on Act 537 Program Guidance on Training Provider Manual for Onlot Sewage System Training.	July 6, 2013
DEP also published notice modifying Chapter 105 Water and Obstruction and Encroachment General Permits GP 1 through GP-11 and GP-15 to be consistent with revised regulations and fees recently adopted by the Environmental Quality Board.	July 6, 2013
Draft: DEP ID: 385-2314-001. Title: Act 537 Program Guidance; Training Provider Manual for the Pennsylvania Onlot Sewage System Training Program	July 6, 2013
Environmental Quality Board – Proposed Rulemaking: Oil and Gas Well Fee Amendments (25 Pa Code Chapter 78).	July 16, 2013
Final Statement of Policy: Water Quality Toxics Management Strategy – Statement of Policy.	July 20, 2013
DEP published a notice extending the NPDES General Permit for Wet Weather Overflow Discharges from Combined Sewer Systems (PAG-6) and a notice proposing revisions to the General Permit for Bluestone Mining (BMR-GP-105) for comment.	August 5, 2013
The Department of Environmental Protection published of final technical guidance on Category 33 and 38 exemptions from air quality permitting for drilling operations.	August 12, 2013
The Fish and Boat Commission published notice of additions to the list of Class A Wild Trout Waters and additions and removals from the list of Wild Trout Streams.	August 12, 2013
Final: DEP ID: 275-2101-003. Title: Air Quality Permit Exemptions – Categories No. 33 and N. 38. Description: Consistent with the provision of 25 Pa. Code § 127.14 (relating to exemptions), the Department may determine sources or classes of sources which may be exempt from the plan approval and permitting requirements of Pa. 25 Code Chapter 127 (relating to construction, modification, reactivation and operation of sources). In accordance with 25 Pa. Code § 127.14(d), the Department is finalizing an amendment to the Air Quality Permit Exemption List for Category No. 33, pertaining to compressed natural gas fueling and Category No. 38, pertaining to oil and gas exploration, development, production facilities and associated equipment and operation.	August 12, 2013
Environmental Quality Board – Proposed Rulemaking: Environmental Protection Performance Standards at Oil and Gas Well Sites (Pa Code Chapter 78, Subchapter C).	August 27, 2013



**FEDERAL REGISTER NOTICES**<http://www.epagov/homepage/fedrgstr>

<b>Environmental Protection Agency;</b> Final Rule – Greenhouse Gas Reporting Rule: Revision to Best Available Monitoring Method Request Submission Deadline for Petroleum and Natural Gas Systems Source Category	<i>(Federal Register – 5/1/2013)</i>
<b>Environmental Protection Agency;</b> Final Rule - Data Requirements for Antimicrobial Pesticides	<i>(Federal Register – 5/8/2013)</i>
<b>Environmental Protection Agency;</b> Proposed Rule – Control of Air Pollution from Motor Vehicles: Tier 3 Motor Vehicle Emission and Fuel Standards	<i>(Federal Register – 5/21/2013)</i>
<b>Environmental Protection Agency;</b> Proposed Rule – Formaldehyde Emissions Standards for Composite Wood Products	<i>(Federal Register – 6/10/2013)</i>
<b>Environmental Protection Agency;</b> Notice of Proposed Rulemaking – Heavy-Duty Engine and Vehicle, and Nonroad Technical Amendments	<i>(Federal Register – 6/17/2013)</i>
<b>Environmental Protection Agency;</b> Proposed Rule – Revisions to the Air Emissions Reporting Requirements: Revisions to Lead (Pb) Reporting Threshold and Clarifications to Technical Reporting Details	<i>(Federal Register – 6/20/13)</i>
<b>Environmental Protection Agency;</b> Final Rule – National Emission Standards for Hazardous Air Pollutants from Petroleum Refineries	<i>(Federal Register – 6/20/2013)</i>
<b>Environmental Protection Agency;</b> Final Rule – National Pollutant Discharge Elimination System Regulation Revision: Removal of Pesticide Discharge Permitting Exemption in Response to Sixth Circuit Court of Appeals Decision	<i>(Federal Register – 6/27/2013)</i>
<b>Environmental Protection Agency;</b> Final Rule – Method for the Determination of Lead in Total Suspended Particulate Matter	<i>(Federal Register – 7/3/2013)</i>
<b>Environmental Protection Agency;</b> Proposed Rule – Community Right-to-Know; Adoption of 2012 North American Industry Classification System (NAICS) Codes for Toxics Release Inventory (TRI) Reporting	<i>(Federal Register – 7/18/2013)</i>
<b>Environmental Protection Agency;</b> Proposed Rule – NPDES Electronic Reporting Rule	<i>(Federal Register – 7/30/2013)</i>
<b>Environmental Protection Agency;</b> Final Rule – Regulation of Fuels and Fuel Additives: 2013 Renewable Fuel Standards	<i>(Federal Register – (8/15/2013)</i>

### **NEW WEB REMEDIATION TOOL PHYTOREMEDIATION FOR BIOENERGY**

Phytoremediation has been increasingly used as a more sustainable approach for the remediation of contaminated sites. The costs associated with this remediation method are usually lower than other well-known remediation technologies and some environmental impacts, like atmospheric emissions and waste generation, are in-existent. The biomass produced in phytoremediation could be economically valorized in the form of bioenergy (biogas, biofuels and combustion for energy production and heating), representing an important environmental co-benefit, added to others such as erosion control, improving soil quality and functionality, and providing wildlife habitat. Several case studies are reviewed and some challenges and opportunities identified. View or download at: [www.tandfonline.com/doi/pdf/10.1080/09593330.2012.696715](http://www.tandfonline.com/doi/pdf/10.1080/09593330.2012.696715).

### **NATIONAL ASSESSMENT OF GEOLOGIC CARBON DIOXIDE STORAGE RESOURCES – SUMMARY**

The U.S. Geological Survey (USGS) recently completed an evaluation of the technically accessible storage resource (TASR) for carbon dioxide (CO<sub>2</sub>) for 36 sedimentary basins in the onshore areas and State waters of the United States (fig. 1). The TASR is an estimate of the geologic storage resource that may be available for CO<sub>2</sub> injection and storage and is based on current geologic and hydro-logic knowledge of the subsurface and current engineering practices. By using a geology-based probabilistic assessment methodology, the USGS assessment team members obtained a mean estimate of approximately 3,000 metric gigatons (Gt) of subsurface CO<sub>2</sub> storage capacity that is technically accessible below onshore areas and State waters; this amount is more than 500 times the 2011 annual U.S. energy-related CO<sub>2</sub> emissions of 5.5 Gt (U.S. Energy Information Administration, 2012).

RT'S 24-HOUR URGENT HOTLINE  
(800) 725-0593



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