

Atlanta Environmental Management, Inc.

Newsletter



Inside this issue:

Cleanup of Abandoned Mines Using New Technology	2
EPA Launches NetDMR	2
Assessing Vapor Intrusion	3
Risk Management Plans	3
The Hazardous Waste "Derived From" Rule	3
About Us ...	4

EPA to Reconsider Monitoring Requirements for Airborne Lead

U.S. EPA Headquarters, Washington D.C.
July 22, 2009

To ensure that the most vulnerable Americans are adequately protected from exposure to lead from the air, EPA will reconsider some of its lead air pollution monitoring requirements, Administrator Lisa P. Jackson announced today. Even at low levels, lead exposures can damage a child's IQ, learning, and memory.

"We have a fundamental responsibility to protect every child from environmental threats, especially contaminants like lead that can cause behavioral and learning disabilities and create a lifetime of challenges," said EPA Administrator Lisa P. Jackson. "We're putting in place rigorous standards to prevent contamination. To make them fully effective, we need close interaction and monitoring in the communities where harmful levels of airborne lead are most likely to be found."

Air quality monitoring measures concentrations of a pollutant in the outdoor air. EPA revised its air quality monitoring requirements for lead in 2008, at the same time that the agency tightened the national air quality standards for lead for the first time in 30 years. The current rule requires air quality monitoring in areas where any industry emits at least one ton of lead to the air each year, as well as

in the 101 urban areas with populations of 500,000 or more.

As part of today's action, EPA will consider whether additional monitoring near industrial sources of lead is warranted. The agency also will reconsider the monitoring requirements for urban areas as part of its review. EPA is not reconsidering the lead standards.

Lead that is emitted into the air can be inhaled or it can be ingested after it settles out of the air. Ingestion is the main route of human exposure. Children are more susceptible because they are more likely to ingest lead and their bodies are developing rapidly. Exposures to low levels of lead early in life have been linked to damage to IQ, learning, memory, and behavior. There is no known safe level of lead in the body.

The reconsideration will not delay implementation of the 2008 lead standards. EPA will issue a proposal and will take public comment before deciding whether to revise the lead monitoring requirements. The agency anticipates issuing a proposal for public review and comment later this summer, and a final rule is expected in early spring 2010.

For more information, please visit EPA's website: <http://www.epa.gov/air/lead/>

Elemental Mercury Is Not a Scrap Metal

When recycled, scrap metal is excluded from the definition of hazardous waste. According to 40 CFR 261.1(c), scrap metal consists of fragments of metal parts (e.g., bars, turnings, rods, sheets, wire, etc.) or metal pieces that may be combined with bolts or soldering (e.g., radiators, scrap automobiles, railroad box cars), which when worn or superfluous can be recycled.

Elemental mercury does not meet this definition and would therefore not be excluded from hazardous waste regulation as a scrap metal. However, under some circumstances, EPA has interpreted high-purity mercury as "unused commercial chemical product," and, based on the solid waste definition of 40 CFR 261.2, unused products being reclaimed are not considered to be solid waste.

The National Pollutant Discharge Elimination System (NPDES) storm water permitting program is designed to prevent the discharge of storm water that has been contaminated by industrial pollutants into waters of the United States. A facility must have a permit if it is included in any of the eleven categories of facilities listed at 40 CFR 122.26(b)(14)(i)-(xi).

The regulations cover discharges from any storm water conveyance associated with manufacturing, processing, or raw materials storage conducted at any of the following types of facilities:

- Industrial plant yards
- Immediate access roads (and rail lines) used by carriers of raw materials, manufactured products, waste material, or by-products that are used or created by the facility
- Material handling sites and activities (e.g., storage, loading and unloading, transportation, or conveyance of any raw material, intermediate product, final product, by-product, or waste product)

NPDES Storm Water Permitting

- Refuse sites
- Sites used for the application or disposal of process waste waters
- Sites used for the storage and maintenance of material handling equipment
- Sites used for residual treatment, storage, or disposal
- Shipping and receiving areas
- Manufacturing buildings
- Storage areas (including tank farms) for raw materials and for intermediate and final products
- Areas where industrial activity has taken place in the past and where significant materials remain and are exposed to storm water

Office buildings and parking lots are not included in regulated areas, so long as they are located on facility lands that are separated from the relevant industrial activities and the storm water drainage from the excluded areas is not mixed with discharge associated with the industrial activity from any of the areas described above.

Cleanup of Abandoned Mines Using New Technology

US EPA Office of Research & Development

New technology using tiny microbial organisms may be one part of the solution to treating water from old abandoned mines in the Western states. These mines, many located in isolated areas and abandoned nearly a century ago, once provided the copper, zinc, lead, gold, and other metals used to fuel the nation's economy. Now the metal-laden water draining from the mines may be hazardous to humans when it flows into streams and rivers that supply municipal water systems. The high acidity and metals in the water can disrupt the delicate ecosystem, causing a detrimental impact on fish and other aquatic life and their habitat. Many of these mines have been designated as Superfund sites targeted for cleanup by the federal government.

"Because of the treatment costs, and the large number of abandoned mines and excessive amounts of waste materials, the only way these disturbed areas are going to be remediated is for all of us, including the academic world, industry and government, to work together," said David Reisman, director of the Engineering Technical Support Center (ETSC) in EPA's Office of Research and Development. "We must be innovative and creative in our approach, both scientifically and organizationally."

EPA scientists are participating in several demonstration projects of biochemical reactors that offer many advantages over standard water treatment plants at these remote mines at high elevations. The reactors do not require electricity because they operate based on gravitational forces; consequently, they are less costly to construct, operate, and maintain. A biochemical reactor, an ETSC emerging technology, relies on the constant interchange between chemical and biological processes. Sulfate-reducing bacteria create basic sulfide species, which mix with free metals to precipitate metal

sulfides. The gas from this process may be captured, while the precipitates settle into a less mobile sludge. Advances in this technology show hope for the recovery of metals, like iron, from the sludge. Conceptually, this system discharges clean water, turns a liability into an asset, and is self-sustaining (passive).

Two of these reactors are located at a Superfund site in Helena, Montana. A demonstration project on another type of reactor using bacteria is being conducted near Markleeville, California, with BP Atlantic Richfield and the University of Nevada in Reno. The low-cost, low-maintenance systems use these tiny organisms to catalyze a biochemical process that has been shown to effectively remove metal contaminants from water drainage.

Earlier biochemical reactors had mechanical and operational challenges and often failed after three or four years. Researchers are working to develop a more efficient sustainable system. "I think we are moving into the second and third generation of biochemical reactors to treat mine drainage and in the future, we will find this is a viable technology for the remote areas," Reisman said.

At the Basin Creek Mine site near Helena, a biochemical reactor using manure as the source of the bacteria has been used effectively to treat almost one half of the contaminated water collected from an on-site repository or pool. The reactor removed more than 99 percent of the metals in the water during the 2005 and 2006 treatment seasons, effectively meeting EPA's and the State of Montana's water quality standards for metals.

For more information regarding biochemical reactor technology, please visit the U.S. EPA Office of Research & Development at www.epa.gov/nrmrl/lrpcd/rr/etsc/index.html

EPA Launches NetDMR

US EPA Headquarters June 24, 2009

Clean Water Act Discharge Monitoring Reports (DMRs) represent the highest volume of information collection undertaken by the Environmental Protection Agency (EPA). EPA regions and select states, tribes, and territories will have a new tool available to assist their regulated National Pollutant Discharge Elimination System (NPDES) facilities in reporting DMRs. Additional states, tribes, and territories may adopt Network Discharge Monitoring Report (NetDMR) and enable their regulated NPDES facilities to begin utilizing the electronic reporting tool. NetDMR provides an Internet-based reporting tool for NPDES facilities to electronically sign and submit DMRs. NetDMR allows participants to discontinue mailing hard copy forms under 40 CFR 122.41 and 403.12.

NetDMR has, for the first time, provided a national tool for regulated Clean Water Act permittees to sign DMRs electroni-

cally and submit them via a secure Internet application to the U.S. EPA through the Environmental Information Exchange Network. The transition from paper to electronic reporting significantly reduces the burden on states, tribes, territories, and the regulated community. NetDMR is consistent with the standards in the Cross-Media Electronic Reporting Regulation (CROMERR) Sec. 3.2000, including the Sec. 3.2000(b)(5) standards for electronic signatures and identity-proofing for "priority reports." An essential component of NetDMR is the exchange of data with EPA's Integrated Compliance Information System, which allows permittees to complete a DMR that is specific to their permit limits and outfalls.

On June 22, 2009, EPA Region 1 (New Hampshire and Massachusetts), EPA Region 3 (District of Columbia), EPA Region 6 (Gulf of Mexico), Utah, and Louisiana began utilizing NetDMR.

Additional information on NetDMR can also be found at <http://www.epa.gov/netdmr>

Assessing Vapor Intrusion

Vapor intrusion is the migration of volatile chemicals from below the surface of the ground into the interior air space of overlying buildings. Volatile chemicals in buried wastes or contaminated groundwater can emit vapors that may migrate upward through subsurface soil. In most cases, the chemical concentrations are low, and, depending on site-specific conditions, vapors may not even be present in detectable concentrations. In extreme cases, however, the vapors may accumulate in dwellings or other overlying structures to levels that may pose a safety hazard.

The U.S. EPA Office of Solid Waste and Emergency Response (OSWER) has developed a draft guidance document for determining whether an existing or planned structure has been or might be infiltrated by hazardous vapors and whether the vapors are pre-

sent at levels that may constitute an unacceptable exposure. The guidance describes a three-tier assessment methodology that begins with a simple and general screening and progresses toward a more complex assessment involving increasingly greater use of site-specific data:

Tier 1—The initial screening is designed to be used in conjunction with general knowledge of the site and of the chemicals that are known or reasonably suspected to be present in the subsurface. (Are chemicals of sufficient volatility present? Are inhabited or planned buildings in close proximity to the contamination? Do current conditions warrant immediate action?) The Tier 1 screening does not call for measurements of specific media concentrations for each constituent of concern.

Tier 2—The secondary screening is designed to be used in conjunc-

tion with some limited site-specific information about the contamination source and subsurface conditions (e.g., measured or reasonably estimated concentrations of target chemicals in groundwater or soil gas, along with depth of contamination and soil type). Compare measured or reasonably estimated concentrations of target chemicals in various media (groundwater, soil gas, and/or indoor air) to recommended numerical criteria. If the results do not provide sufficient information to conclude that a pathway is incomplete, proceed to Tier 3.

Tier 3—The final pathway assessment involves collecting more detailed site-specific information and conducting confirmatory sub-foundation and/or indoor air sampling.

For sites that are determined to have a “complete” exposure

pathway—meaning that humans are exposed to vapors originating from site contamination—recommendations are provided for evaluating whether the pathway does or does not pose a significant risk to human health. For sites that are determined to have an incomplete vapor intrusion pathway, EPA generally recommends that further consideration is not needed for the site.

The OSWER *Draft Guidance for Evaluating the Vapor Intrusion to Indoor Air Pathway from Groundwater and Soils* is available on line at <http://www.epa.gov/osw/hazard/correctiveaction/eis/vapor/complete.pdf>

For questions or help with assessing indoor air quality or vapor intrusion, please contact Dr. Loring Pitts at AEM at (404) 329-9006.

Risk Management Plans

Under the Chemical Accident Prevention Provisions of Section 112(r) of the Clean Air Act, facilities that produce, handle, process, distribute, or store certain hazardous substances and inflammable chemicals are required to develop a Risk Management Program and to prepare a Risk Management Plan (RMP) and submit it to the U.S. EPA. An RMP must include an assessment of chemical risks to surrounding communities, establish operational procedures to minimize the risk of chemical releases, and provide emergency response procedures to minimize potential impacts in the event of a release. The RMP must be updated and resubmitted to EPA at least every five years.

EPA has also developed electronic tools for the preparation and submission

of RMPs on line. These tools include RMP*eSubmit and RMP Comp—the latter for performing off-site consequence analysis required under the Risk Management Program. EPA asks that all facilities use the new RMP*eSubmit program because it is easy to use, will improve data quality, and will enable you to access your RMP 24 hours a day, 7 days a week.

More information about the Clean Air Act/Risk Management Plan requirements is available at EPA’s Chemical Emergency Prevention and Preparedness website, including a list of chemicals regulated under the RMP rules as well as guidance documents to help facilities understand and comply with the RMP rule. See <http://www.epa.gov/emergencies/content/rmp/index.htm>

The Hazardous Waste “Derived From” Rule

Residues from the treatment, storage, or disposal of hazardous wastes may themselves be hazardous. The conditions under which a waste residue will or will not be considered hazardous are provided in 40 CFR 261.3(d), also known as the “derived from” rule. A hazardous waste will remain hazardous until it meets the following criteria.

First, the waste must no longer exhibit a *characteristic* of hazardous waste, meaning that it can no longer meet the ignitability, corrosivity, reactivity, or toxicity characteristics. Second, if the waste was a *listed* waste, contained a listed waste, or was derived from a listed waste, it must be de-listed by the U.S. EPA (or an authorized

state) in order to be considered non-hazardous.

One exception to the “derived from” rule is found at 40 CFR 261.3(g), which states that if a waste was listed because of ignitability, corrosivity, or reactivity, and the waste residue no longer exhibits that characteristic, the residue is not to be considered a hazardous waste.

If a residue is no longer a hazardous waste, but the waste material met the definition of a hazardous waste at the point of generation, it remains subject to the Land Disposal Restrictions of 40 CFR 268 for every waste code that described it, even though it is no longer a “hazardous waste.”

**WE HELP SOLVE ENVIRONMENTAL
AND ENGINEERING PROBLEMS!
PLEASE GIVE US THE
OPPORTUNITY TO WORK WITH YOU.**

Contact Us:



**2580 Northeast Expressway
Atlanta, Georgia 30345
Phone: (404) 329-9006
Fax: (404) 329-2057**

E-mail: janet-hart@aem-net.com

Please visit us on the web:

www.aem-net.com

ABOUT US ...

AEM is a full-service environmental firm based in the southeastern United States, 21 years in business, with project locations nationwide. AEM's mission remains providing individualized, technically competent, responsive, yet highly cost-effective environmental consulting and engineering services to our clients. AEM has many long-term clients, including industrial, governmental, and commercial, who have been clients for decades. Although company growth is an objective, it is our philosophy that growth is secondary to client service and quality. Put simply, the company's primary loyalty is to its clients, not to the growth of the company, unless growth provides for better client service. Building strong and lasting relationships with our clients is the most important thing that we can do to achieve our goals and ensure long-term stability and future success.

One quality that sets AEM apart from the competition is the personalized service, quick response, and attention given to clients—the direct response to our clients' needs in a timely manner. We continuously work to improve the quality of our services to our clients.

AEM actively supports a number of charities including Doctors Without Borders, the U.S.O., Antares Orphan Foundation, the Humane Society of the United States, and the Society for the Prevention of Cruelty to Animals.

Atlanta Environmental Management, Inc.

2580 Northeast Expressway

Atlanta, Georgia 30345