

Atlanta Environmental Management, Inc.

Newsletter



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EPCRA Rule Effective December 3, 2008

The United States Environmental Protection Agency (EPA) has finalized several changes to the Emergency Planning (Section 302), Emergency Release Notification (Section 304), and Hazardous Chemical Reporting (Sections 311 and 312) regulations that were proposed on June 8, 1998 (63 FR 31268). These changes become effective on December 3, 2008, and include clarification on how to report hazardous chemicals in mixtures and effect changes to Tier I and Tier II forms. Facilities subject to Emergency Planning and Community Right to Know Act (EPCRA) reporting should become familiar with the new regulation.

There are only minor changes to the emergency planning and emergency release notification sections. For hazardous chemical reporting regulations, there are changes regarding the Tier I and Tier II forms, as well as changes in how to report hazardous chemicals in a mixture.

Tier I and Tier II Forms

- The Tier I and Tier II forms and their instructions have been removed from the code of federal regulations (CFR). They may now be found on EPA's web site: www.epa.gov/emergencies.

- The revised regulation includes a description of the requirements for Tier I and Tier II. Facilities are now required to report their North American Industry Classification System (NAICS) code on the Tier I or Tier II form.

- Also, the chemical name or common name of the chemical as provided on the Material Safety Data Sheet must be provided on the Tier II form.

EPA encourages facilities to contact their State to determine whether any additional requirements or formats are required by the State.

Hazardous Chemical Inventory Reporting for Chemicals in Mixtures

- When determining whether the threshold quantity of an extremely hazardous substance (EHS) has

been met, facilities must include the total quantity of that EHS present in the pure form as well as in any mixture, even if any mixture including the EHS is also being reported as a hazardous chemical.

- For hazardous chemicals that are mixtures and do not contain any extremely hazardous substance, facilities have an option when determining whether the threshold quantity is present: (1) to add together the quantity present in its pure form and as a component in all mixtures (even if the mixture is also being reported as a hazardous chemical) or (2) to consider the total quantity of each mixture separately.

More information can be found at the U.S. EPA website, www.epa.gov/emergencies, or you may call the RMP and Oil Information Center at tel. 800-424-9346.

AEM will be glad to assist with any questions that you may have regarding the final rule.

Definition of Solid Waste Revised to Encourage Recycling

(Washington, D.C.—Oct. 7, 2008) A final rule under the Resource Conservation and Recovery Act streamlines regulation of hazardous secondary materials when they are recycled by reclamation. EPA's regulation maintains strong protection of human health and the environment by limiting the streamlined requirements to specific, legitimate recycling activities.

"Removing barriers to legitimate recycling is good for business and the environment," said Susan Parker Bodine, assistant administrator for the Office of Solid Waste and Emergency Response. "This rule will help conserve natural resources, save energy, and, reduce costs."

The rule excludes materials from the federal hazardous waste system that are:

- generated and legitimately reclaimed under the control of the generator;
- generated and transferred to another company for legitimate reclamation under specific conditions; or
- determined by EPA or an authorized state to be non-wastes on a case-by-case basis via a petition process.

The rule also contains a provision to determine which recycling activities are legitimate under the new exclusions and non-waste determinations. These exclusions are not available for materials that are considered inherently waste-like, are used in a manner constituting disposal, or are burned for energy recovery.

EPA estimates that about 5,600 facilities handling approximately 1.5 million tons of hazardous secondary materials annually may be impacted by this rule. The activities most affected are metals and solvent recycling. EPA estimates that the regulation will save approximately \$95 million per year for the affected industries.

More information about the Definition of Solid Waste Rule can be found at epa.gov/epawaste/hazard/dsw/index.htm

AEM will be glad to assist with any questions that you may have regarding the final rule.

Technology Section: Bioreactor Landfills

Until the late 1990s, the United States Environmental Protection Agency (EPA) and other regulatory agency policies regarding the long-term operation and care of landfills were based on the “dry tomb” approach with an impermeable liner and cap. Leachate and gas generated within the landfill were extracted and treated above ground. However, based on research by industry, EPA has accepted the concept of treating landfills as bioreactors, which rapidly transform and degrade organic waste. The increase in waste degradation and stabilization is accomplished through the addition of liquid and air to enhance microbial processes. This bioreactor concept differs from the traditional “dry tomb” municipal landfill approach. The overall result of this approach is to degrade the waste in a matter of years vs. hundreds of years. The reduction in waste volume also creates additional space for waste disposal.

A bioreactor landfill is not just a single design and will correspond to the operational process invoked. There are three different general types of bioreactor landfill configurations:

Aerobic—In an aerobic bioreactor landfill, leachate is removed from the bottom layer, piped to liquids storage tanks, and re-circulated into the landfill in a controlled manner. Air is injected into the waste mass, using vertical or horizontal wells, to promote aerobic activity and accelerate waste stabilization.

Anaerobic—In an anaerobic bioreactor landfill, moisture is added to the waste mass in the form of re-circulated leachate and other sources to obtain optimal moisture levels. Biodegradation occurs in the absence of oxygen (anaerobically) and produces landfill gas. Landfill gas, primarily methane, can be captured in order to minimize greenhouse gas emissions and for energy projects.

Hybrid (Aerobic–Anaerobic)—The hybrid bioreactor landfill accelerates waste degradation by employing a sequential aerobic–anaerobic treatment to rapidly degrade organics in the upper sections of the landfill and collect gas from lower sections. Operation as a hybrid results in the earlier onset of methanogenesis compared to aerobic landfills.

The Solid Waste Association of North America (SWANA) has defined a bioreactor landfill as “any permitted Subtitle D landfill or landfill cell where liquid or air is injected in a controlled fashion into the waste mass in order to accelerate or enhance biostabilization of the waste.” EPA is currently collecting information on the advantages and disadvantages of bioreactor landfills through case studies of existing landfills and additional data so that EPA can identify specific bioreactor standards or recommend operating parameters.

Current EPA Bioreactor Research

The bioreactor accelerates the decomposition and stabilization of waste. At a minimum, leachate is injected into the bioreactor to stimulate the natural biodegradation process. Bioreactors often need other liquids such as storm water, wastewater, and wastewater treatment plant sludges to supplement leachate, to enhance the microbiological process by purposeful control of the moisture content. These differ from landfills that simply recirculate leachate for liquids management. Landfills that simply recirculate leachate may not necessarily operate as optimized bioreactors.

Moisture content is the single most important factor that promotes the accelerated decomposition. The bioreactor technology relies on maintaining optimal moisture content near field capacity (approximately 35% to 65%) and liquids are added when neces-

sary to maintain that percentage. The moisture content, combined with the biological action of naturally occurring microbes, decomposes the waste. The microbes can be either aerobic or anaerobic. A side effect of the bioreactor is that it produces landfill gas (LFG), such as methane, in an anaerobic unit at an earlier stage in the landfill’s life and at an overall much higher rate of generation than traditional landfills.

Decomposition and biological stabilization of the waste in a bioreactor landfill can occur in a much shorter time frame than in a traditional “dry tomb” landfill, providing a potential decrease in long-term environmental risks and in landfill operating and post-closure costs. Potential advantages of bioreactors include:

- Decomposition and biological stabilization in years vs. decades in “dry tombs”
- Lower waste toxicity and mobility due to both aerobic and anaerobic conditions
- Reduced leachate disposal costs
- A 15 to 30 percent gain in landfill space due to an increase in density of waste mass
- Significantly increased generation of LFG that, when captured, can be used for energy generation on site or sold
- Reduced post-closure care

Research has shown that municipal solid waste can be rapidly degraded and made less hazardous by enhancing and controlling the moisture within the landfill under aerobic and/or anaerobic conditions. Leachate quality in a bioreactor rapidly improves, leading to reduced leachate disposal costs. Landfill volume may also decrease with the recovered airspace, offering landfill operators the opportunity to extend the operating life of the landfill.

LFG emitted by a bioreactor landfill consists primarily of methane and carbon dioxide plus lesser amounts of volatile organic chemicals and/or hazardous air pollutants. Research indicates that the operation of a bioreactor may generate LFG earlier in the process and at a higher rate than in the traditional landfill. The bioreactor LFG is also generated over a shorter period of time because the LFG emissions decline as the accelerated decomposition process depletes the source waste faster than in a traditional landfill. The net result appears to be that the bioreactor produces more LFG overall than the traditional landfill produces.

Some studies indicate that the bioreactor increases the feasibility for cost-effective LFG recovery, which in turn would reduce fugitive emissions. This presents an opportunity for beneficial reuse of bioreactor LFG in energy recovery projects. Currently, the use of LFG (in traditional and bioreactor landfills) for energy applications is only about 10 percent of its potential use. It is estimated that, if the controlled bioreactor technology were applied to 50 percent of the waste currently being landfilled, it could provide more than 270 billion cubic feet of methane a year, which is equivalent to one percent of U.S. electrical needs.

EPA and its state and industry partners are studying and conducting research and demonstrations on bioreactor landfills and other landfills, such as those that recirculate leachate. Pilot demonstrations are expected to be completed, according to the agreed-upon duration for each individual project, between 2006 and 2026. The evaluations will be ongoing and will be completed shortly after each pilot is completed.

Rule Strengthens Lead Air Quality Standard

U.S. EPA News Release

EPA significantly reduced the National Ambient Air Quality Standard (NAAQS) for lead with the signing of the final rule on October 15. The Agency reduced the standard from 1.5 micrograms of lead per cubic meter of air, which was set in 1978, to 0.15 microgram per cubic meter.

EPA revised the standard to provide increased protection against an array of adverse health effects, particularly effects on children's developing nervous systems.

In September 2005, the U.S. District Court in St. Louis or-

dered the lead NAAQS review and set the schedule for the review in response to a lawsuit by the Missouri Coalition for the Environment. Consistent with the terms of the court's order, the EPA Administrator signed the notice of final rulemaking on October 15, 2008, for publication in the Federal Register.

The ruling is of particular significance to Region 7 because one of only two non-attainment areas in the U.S. for the lead air standard is in Herculaneum, Missouri, which is also the home of the only operating primary lead smelter in the country. It is also a designated Superfund site.

The new rule will modify the existing design requirements for ambient air lead monitoring networks. The new requirement mandates states to establish ambient air monitors near sources releasing more than one ton of lead per year, such as smelters, iron and steel foundries, and battery manufacturers.

Missouri, which is the only state in Region 7 presently with an existing monitoring network, will likely be required to expand its monitoring network. The new monitoring standards also establish monitoring requirements for Kansas, Iowa, and Nebraska, which do not cur-

rently operate lead monitoring networks.

These monitoring requirements are designed to achieve better understanding of lead in air concentrations near emission sources and to provide better information on population exposure to lead in large urban areas.

Areas will be designated as attainment, non-attainment, or unclassifiable within two to three years of this final rulemaking. Any areas designated non-attainment must then attain the standard within five years of the designation.

Oil Spill Prevention, Control, and Countermeasure Rule Gains New Amendments

U.S. EPA News Release— November 20, 2008

New amendments to the SPCC rule will clarify regulatory requirements, tailor requirements to particular industry sectors, and streamline certain requirements for facility owners or operators subject to the rule. With these changes, EPA expects to encourage greater compliance with the SPCC regulations, resulting in increased protection of human health and the environment.

The amendments do not remove any regulatory requirement for owners or operators of

facilities that were in operation before August 16, 2002. Such facilities continue to be required to maintain their plans during the interim until the applicable date for revising and implementing their plans under the new amendments.

EPA also is announcing a proposed rule to extend the compliance dates for all facilities to November 2009 and to establish new compliance dates for farms (November 2009), certain qualified farms (November 2010), and marginal oil production facilities (November 2013) subject to

SPCC. These revised compliance dates will provide owners or operators of the various kinds of facilities the opportunity to fully understand the regulatory amendments offered by revisions to the SPCC rule from 2006 and 2008.

Finally, EPA is announcing a final rule that vacates the July 17, 2002, definition of "navigable waters" and restores the definition of "navigable waters" that EPA promulgated in 1973. This is in accordance with an order issued by the United States District Court for the District of Columbia (D.D.C.)

in *American Petroleum Institute v. Johnson*, 571 F. Supp.2d 165 (D.D.C. 2008). This final rule does not amend the definition of "navigable waters" in any other regulation that EPA has promulgated.

Additional Information about the SPCC Rule can be found at <http://www.epa.gov/oilspill>.

AEM will be glad to assist with any questions that you may have regarding the final rule.

Progress Continues in Cleaning Up Hazardous Waste Sites

U.S. EPA: November 17, 2008

EPA continues to make significant progress in cleaning up America's most contaminated hazardous waste sites and making them ready for productive use. EPA's annual summary of the Superfund program's accomplishments shows that construction was completed at 30 sites in 2008, for a cumulative total of 1,060 sites or approximately 67 percent of the sites on the National Priorities List.

"The Superfund program met or exceeded every one of its goals for 2008, making significant progress in all aspects of site cleanup," said Susan Bodine, assistant administrator for EPA's Office of Solid Waste and Emergency Response. "We are not only completing construction projects, but we are also returning sites to communities for productive uses."

In 2008, 85 sites were designated as ready for anticipated

reuse, meaning that all measures are in place to ensure that the sites are protective over the long term for current and planned future uses. There is a cumulative total of 343 sites returned to productive use in communities across the country.

EPA conducted or oversaw 681 construction projects at 423 sites, including projects led by EPA, projects led by potentially responsible parties, and federal facility sites. The agency

also conducted or oversaw 372 emergency response and removal actions.

EPA secured private party commitments of \$1.9 billion in 2008 to fund cleanup work. Potentially responsible parties agreed to conduct \$1.6 billion in future response work and to reimburse EPA for \$232 million in past costs. During 2008, EPA billed private parties \$75.5 million for past oversight costs.

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

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ABOUT US ...

AEM is a small, woman-owned business founded in 1988. Janet Hart, who has been President since 1988, continues to manage day-to-day operations that have led to our significant growth since inception and our continued success in the environmental market. 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 our future success.

AEM is committed to providing high-quality, cost-effective environmental services with a primary goal of client satisfaction. One quality that sets AEM apart from the competition is the personalized service 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., the Antares Orphan Foundation, the Humane Society of the United States, and the Society for the Prevention of Cruelty to Animals.

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