



WEST MICHIGAN ENVIRONET

A Newsletter of the West Michigan Chapter of the Air and Waste Management Association

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BENEFICIAL REUSE OF FOUNDRY SAND: WHERE DO WE GO FROM HERE?*

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and
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Despite a decade of progress, most of the sand and dust (spent foundry sand) generated by U.S. foundries is still heading to the landfill. Although the metalcasting industry has made significant strides in the beneficial reuse of spent foundry sands, challenges still plague the industry. Until recently, spent foundry sand was viewed not only as a messy waste to handle, but also as a liability. Today, however, this material is being viewed as a hidden asset within the foundry industry. The U.S. EPA has estimated that 6 to 10 million tons of non-hazardous spent foundry sand could be reused or recycled each year.

** This is the first in a series of articles concerning the beneficial reuse of spent materials produced by West Michigan industries.*

Knowledgeable contractors are starting to look at spent foundry sand as a viable construction material in an increasing number of areas.

As with all industrial waste products, uninformed skeptics doubted the non-hazardous nature initially because of the common misconception that foundry sands are full of heavy metals. As a matter of fact, nothing could be further from the truth. Testing has shown that 98% of iron, steel, and aluminum foundry sands meet federal drinking water standards. In contrast, the concentrations of heavy metals in natural soils and store-bought potting soils are higher for many of these same heavy metals.

Individual state regulations vary with regard to the management and use of spent foundry sand and the testing protocol that is required prior to beneficial reuse. It is critical that foundries assume the responsibility of ensuring that the handling and treatment of spent foundry sand meets all state and federal regulations. As many have heard, some brokers and end users will state erroneously that the foundry's liability ends once the sand is transported outside their gates. However, in reality, liability most often follows the material from cradle to grave. Foundries should be on the lookout for misguided claims of this nature.

One company in West Michigan that has been both successful and environmentally responsible is Resource Recovery Corporation (RRC). RRC has operated under the guidance of David Walborn for the last decade. David has been an active member in the American Foundry Society, Foundry Association of Michigan, and the FIRST (Foundry Industry Recycling Starts Today) Project.

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Dave's commitment to the industry has been paramount to his success. Companies similar to RRC, which operate with great concern for the regulations and the environment, exist in Ohio (Kurtz Bros., Inc.) and Pennsylvania (Process Recovery Corporation). All three of these companies have demonstrated that they "play by the rules" despite occasionally getting undercut on pricing from less reputable companies. This generalization does not mean that all recyclers are cutting corners. More importantly, what it shows is that these three companies have shown an elevated awareness and commitment to protecting the long-term, best interest of the foundry industry.

In this type of recycling business, it clearly pays to abide by the rules. It is unfortunate that discussions of this nature are even required, but foundries need to take a hard look at who is handling their spent sand and other wastes. A good rule of thumb is, "if it sounds too good and too cheap to be true, it probably is." Short-term cost savings are not always the best option. Like all sound business decisions, it is important to do your homework and ask plenty of questions. Determine how long the company has been in business and what they do to generate income. Most successful recyclers of spent foundry sand provide multiple services or have cross utilization of equipment to generate additional revenue. Accordingly, another important factor to consider is the company's synergy. There also is value in auditing your contractor to make sure they are performing in accordance with all regulations. In summary, a little investment ahead of time can pay back tenfold eventually.

In addition to the sometimes "messy" nature and broad regulatory challenges related to spent foundry sand, the marketing of this material provides a whole new set of hurdles to overcome. With regard to construction applications, many engineers are skeptical and have questioned the structural suitability of foundry sand. The truth of the matter is that most foundry sands are well suited for geotechnical applications such as road sub-base

material because the sand is uniform in size, not susceptible to freeze and thaw, not moisture sensitive, and achieves excellent compaction with minimal effort. Some engineers are not accustomed to looking at recycled materials and many will not budge when it comes to using them. The best advice here is to obtain the information on the specifications before you get deep into the project. Make sure your material is being tested using the methods that the engineers are used to. It is also critical that testing be done at a laboratory that the engineering firms respect.

As an industry, foundries are seeing the majority of reuse success coming from the reputable processor/broker. Many foundries and contractors alike prefer working with a broker/processor primarily because of flexibility on storage and volume considerations. As a rule of thumb, contractors want large volumes of material immediately, whereas individual foundries oftentimes process and generate at a slower rate than the contractor may expect. Consequently, contractors quickly lose interest and respect for the legitimacy of the smaller, individual operations. Accordingly, processors with adequate stockpiles of processed material tend to do a much better job in servicing customers than individual foundries. This is not to say that a foundry could not undertake this effort on its own, however, it is more difficult from a logistics standpoint.

Most experts feel that the next several years will be critical in the developments for the reuse of foundry by-products. In this era of increasing scrutiny of the mining of Michigan dune sands, it is imperative that the foundry industry continue to make an effort to make the most of the sands which it uses, reuses, and finally discards, by expanding to provide for additional usage in a secondary application. By doing this, the industry will gain the double benefit of saving the quarrying of a comparable amount of virgin material. The protection of western Michigan sand dunes, defined as unique and irreplaceable, is an ever-increasing environmental concern.

At every opportunity we need to remind environmentalists and the general public that the foundry industry is concerned with increasing recycling and supports increasing efficient uses of our natural resources.

As we move into the next millennium, it has become clear that the development of national standards and specifications for beneficial re-use of foundry residuals should be a catalyst for the expansion of reuse opportunities. It goes without saying that some guidance for foundries on technical and performance standards is needed. To put this bluntly, the industry needs to continue to look at spent foundry sand as a product. This, perhaps more than anything, will contribute to the broad-scale acceptance of this material. In the meantime, it is important for foundries to realize that they are at a crossroads with beneficial reuse. One lapse in judgment or cutting one corner could set the industry back and destroy a lot of hard work by dedicated individuals. Now more than ever it is imperative that foundries do their homework in selecting environmentally responsible outlets for their spent sand.

RMT is a full service environmental engineering, consulting and construction management company with 20 offices located throughout the United States. RMT is considered among the leaders in beneficial reuse, solid waste, air, water, remediation and environmental technologies. For additional questions regarding this article please contact Mike Lenahan at (317) 705-5949 or Celeste Tolbert at (616) 975-5415.

Visit the West Michigan Chapter's website at:
<http://www.wmawma.org>

OZONE MONITORING AND EDUCATION

*By Janet Vail
Grand Valley State University – Water Resources Institute*

Through a grant from the Michigan Space Grant Consortium and the Chapter, the GVSU Annis Water Resources Institute is pilot-testing a student ozone monitoring protocol for NASA. The protocol is part of a world-wide student environmental monitoring program called GLOBE.

Dr. Irene Ladd of NASA traveled to west Michigan in April to instruct teachers in the use of the hand-held ozone monitoring device. Five teachers from Spring Lake, Whitehall, Lowell, and Rockford were trained and a mother-daughter team will be added in Muskegon this summer. Data from the monitoring will be posted on the NASA website and will be used in a verification project.

The Chapter is providing partial support for Brett Shelagowski, a GVSU student intern, to assist with this project. Teachers in the ozone monitoring project as well as in GLOBE summer workshops will be receiving A&WMA Air Quality Environmental Resource Guides from the Chapter. More teachers will be reached at the Science & Math Update Conference to be held at GVSU in November.

PART 201 RULES AVAILABLE FOR PUBLIC COMMENT

*By John Byl
Warner, Norcross & Judd LLP*

The long-awaited Part 201 rules were made available for public comment on June 18, 2001. A public hearing will be held on the rules on August 28. The public comment period is scheduled to close on September 11. There are a number of controversial provisions in the rules, including self-implementation, application and interpretation of GSI (groundwater/surface water interface) criteria and other issues. A more detailed article regarding the rules will be provided in the next A&WMA newsletter.

RECENT ACTIVITY REGARDING CONTINUOUS RELEASE REPORTING REQUIREMENTS

*By Tim Lundgren and Charles Denton**

In December 1999, U.S. EPA released a guidance document entitled Interim Guidance on the CERCLA Section 101(10)(H) Federally Permitted Release Definition for Certain Air Emissions (64 FR 71614). This guidance was successfully challenged in National Association of Manufacturer's v EPA, No. 00-1111 (DC Cir, May 17, 2000), and, on May 19, 2000, U.S. EPA suspended this interim guidance document. A final version of the guidance, approved in the final days of the Clinton administration, was withdrawn at the direction of the Bush transition team following a January 20, 2001 Memorandum to agency heads directing them not to send any proposed or final regulations to the Federal Register until they could be reviewed by officials of the new administration. The status of the guidance document remains in doubt, and U.S. EPA's attention seems to have turned from issuing guidance to collecting further information and soliciting public comments.

The most recent activity with regard to continuous release reporting (CRR) was in 66 FR 16910 (March 28, 2001), where the U.S. EPA sought a three-year renewal of a request to collect information from facilities about continuous hazardous substances releases. U.S. EPA said it plans to submit an Information Collection Request (ICR) to the Office of Management and Budget, and was seeking comments on the renewal ICR. The ICR allows U.S. EPA to collect data from facilities under the CRR regulations of CERCLA.

Aside from the ICR activity, U.S. EPA does not currently appear to be very interested in pursuing either further clarification or increased enforcement of CRR requirements. While the status of the guidance document remains uncertain, reporting procedures would be governed by the CRR final rule found at 55 FR 30166 (July 24, 1990), and codified at 40 CFR section 302.8 and 40 CFR section 355.40(a)(2)(iii). An earlier guidance document, Reporting Requirements for Continuous Releases of Hazardous Substances, A Guide for

Facilities on Compliance, EPA 540-R-97-047, also appears to remain unchallenged.

Timing of Releases

The U.S. EPA has stated that the time period during which the operator must measure whether a reportable quantity (RQ) or more has been released is 24 hours. 50 FR 13463, April 4, 1985; see also "Reportable Quantities," <http://www.epa.gov/oerrpage/superfund/resources/rq/index.htm>.

Whether a release qualifies as "continuous" was clarified in the preamble to the final rule on Reporting Continuous Releases of Hazardous Substances, 55 FR 30166. There, U.S. EPA agreed with comments objecting to the 24-hour approach taken in the proposed rule and found that processes that operate on, for example, a 32-hour schedule could still fall under the definition of continuous. Therefore, "continuous" includes a release that is predictable with respect to timing. Such a release "recurs either at a specified time, or at a specific interval, or in association with an anticipated event." *id.*

In order for a release to qualify as continuous under the current rule (from 1990), the person in charge must describe in the initial written report and one-time follow-up report the pattern of continuity, including a description of the timing of the release in terms of its frequency and the fraction of the release from each release source and the period during which it occurs. *id.* Thus, a release may be continuous "if it occurs during a process that is run infrequently but at anticipated intervals that depend on the market demand for such a product." *id.*

Procedures for Reporting

In a nutshell, under the present CRR regulations, continuous releases of hazardous substances in excess of the reportable quantity (RQ) are to be reported initially by means of a telephone call to the National Response Center (NRC), the state emergency response commission (SERC), and the local emergency planning committee (LEPC). A

case number, called the Continuous Release-Emergency Response Notification System (CR-ERNS) number, will be assigned and identifies the facility or vessel for the purposes of any further reporting of continuous releases.

Within 30 days of the telephone notification, the person in charge must submit an initial written report to the U.S. EPA Regional Office and to the appropriate SERC and LEPC. Then, within 30 days of the first year anniversary date of the initial written notification, the person in charge is required to reassess all reported continuous releases from that facility and submit a written follow-up report annually to the U.S. EPA Region. If there is a change in the source or composition of the release, it is considered a new release and the reporting process must begin anew. Furthermore, any increase in the level of the continuous release may require notification of the change to the NRC and the U.S. EPA Regional Office. Finally, any change in information submitted in support of a continuous release notification must be reported to the U.S. EPA Region.

Permitted Releases

Releases that are federally permitted under CERCLA § 101(10) are exempt from notification and liability provisions of CERCLA, including continuous release reporting:

[C]ertain releases are considered federally permitted releases under CERCLA section 101(10) and are exempt from CERCLA and SARA Title III notification and liability provisions. Congress was explicit in listing

the types of releases that are exempt from notification and liability provisions. Releases that do not come within the provisions of section 101(10), however, are subject to CERCLA notification and liability provisions, regardless of any permits or licenses that may control these releases.

55 FR 30166.

Whether the release emissions or discharge is within the scope of this permit exemption must be assessed on a case by case basis.

Release Reporting Use and Availability

Reports of hazardous substance releases equal to or above the reportable quantity (RQ) allow the federal government to determine whether a response action is required to control or mitigate potential adverse effects to public health or welfare or the environment. Collected CRR information is also available to U.S. EPA program offices and other agencies who use it to evaluate the potential need for additional regulations, new permitting requirements for specific substances or sources, or improved emergency response planning. Members of the public may request CRR through the Freedom of Information Act, thus maintaining public awareness of the types of releases occurring in different localities, and the response actions, if any, taken to protect public health and the environment.

With this database available for agency and citizens to use in enforcement, release reporting must be carefully assessed at the outset before assuming a reporting obligation

Further Information

More detailed information is available in the CFR and FR documents referenced above, and from the U.S. EPA website. The following are links to more extensive U.S. EPA information:

www.epa.gov/superfund/programs/er/triggers/haztrigs/hstfaq6.htm
www.epa.gov/superfund/programs/er/triggers/haztrigs/hazregs.htm
www.epa.gov/superfund/resources/rq/index.htm

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***U.S. ENVIRONMENTAL PROTECTION AGENCY
PROCEEDS WITH RULE LOWERING TOXIC
RELEASE INVENTORY REPORTING THRESHOLDS
FOR LEAD AND LEAD COMPOUNDS***

*By Krista Hoekstra and Mark M. Davis**

On April 17, 2001, the U.S. Environmental Protection Agency's ("U.S. EPA") new rule, expanding the information available to the public about lead emissions, became effective. This rule requires more facilities to be responsible for reporting the amount of lead or lead compounds they use. **Under Section 313 of the Emergency Planning and Community Right-To-Know Act of 1986 ("EPCRA"), any regulated facility is now required by the U.S. EPA to file a Form R Report if it manufactures, processes, or otherwise uses more than 100 pounds of lead or lead compounds annually under the Toxics Report Inventory ("TRI") Program.** This is significantly below the existing reporting thresholds of lead and lead compound emissions to air, water, and land, which are 25,000 pounds annually for facilities that "manufacture" or "process" the metal, and 10,000 pounds annually for facilities that "otherwise use" the metal. **Note the new reporting threshold does not apply to lead contained in stainless steel, brass, or bronze alloys.**

The Lead Rule is part of the U.S. EPA's efforts to better inform the public about toxic chemicals, particularly persistent bioaccumulative toxic chemicals. These are chemicals which can persist in the environment for long periods of time and accumulate in body tissue.

The TRI Program requires certain facilities to report their releases of certain toxic chemicals in order to inform the public of possible dangers in their area. The U.S. EPA then issues an annual report of the collected

data. The U.S. EPA also hopes that by requiring reports that cost time and money, facilities will lower their toxic releases in order to fall below the threshold. Release of toxins has decreased since the TRI program took effect.

The rule was originally published on January 8, 2001 (66 Fed. Reg. 10,585 (February 16, 2001)). In February, the effective date of the rule was delayed for sixty (60) days as part of President Bush's plan to review all pending rulemakings. Following a review of the Lead Rule, the U.S. EPA announced on April 17, 2001, that it would not change the rule despite heavy criticism from industry groups, the House Science Committee, and others. **The new Lead Rule will apply to reporting year 2001 Form R Reports that are due July 1, 2002.** Therefore, efforts must be made immediately to track lead use during this current year, and to avoid the threshold if possible.

On April 10, 2001, a coalition of metal industry groups filed a suit against the U.S. EPA seeking withdrawal of the rule. *Ad Hoc Metals' Coalition v. U.S. EPA*, No. 01-CV-00766 (D.D.C. filed April 10, 2001). The coalition claims that the U.S. EPA unlawfully lowered the threshold based on scientifically invalid classification of the metal as a persistent bioaccumulative toxic chemical. It also claims that the U.S. EPA has violated the Small Business Regulatory Enforcement Fairness Act by not accurately estimating the effect that the final rule would have on small businesses. The coalition seeks to have the rule set aside or, if this relief is not granted, to have the Court declare the new reporting threshold inapplicable until calendar year 2002. On April 26, 2001, the National Federation of Independent Business filed its own lawsuit against the U.S. EPA on this issue. *National Federation of Independent Business v. U.S. EPA*, No. 01-CV-900 (D.D.C. filed April 26, 2001).

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Barb Spitzley from MDEQ has invited the chapter to co-sponsor a series of Environmental Management System workshops. (10/2 Marquette, 10/4 Traverse City, 10/9 Saginaw, 10/11 Novi, 10/16 Kalamazoo).

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