

establish a new national treatment standard allowing for disposal of high mercury and elemental mercury wastes. We continue to believe that the current recovery standard is the most appropriate standard for most high mercury waste. No technology demonstrated adequate stability across the plausible range of pH conditions found in landfills. We recognize that other factors, including leachate salinity, can have a significant effect on the solubility of treated mercury wastes. These other factors may be the reason that we have not been able to find a single technology that is effective in all or many situations.

K. Why Are Treatability Variances an Option for High Mercury Wastes?

While these circumstances do not allow us to modify or provide an alternative national treatment standard for high-mercury hazardous wastes to allow for disposal, we are deferring to our variance process for stakeholders who believe it would be appropriate to use an alternative treatment technology for their wastes and expected disposal conditions. Under 40 CFR 268.44(h), we allow facilities to apply for a site-specific variance for wastes generated under conditions specific to only one site. In such cases, the generator or treatment facility may apply to the Administrator, or EPA's delegated representative, for a site-specific variance from a treatment standard.

In cases where roasting and retorting for a certain waste is inappropriate, a generator can consider petitioning for a site-specific variance from that treatment standard. At a minimum, the generator would want to look for the treatment technology that would be most effective in the expected pH range for the chosen disposal site. In general, for a site-specific petition to be granted, it should demonstrate that treatment has occurred and that the treatment residues are stable in the intended disposal environment.

For example, a variance may be appropriate for a high mercury subcategory waste that also is radioactive (*i.e.*, a mixed waste). The current regulations require high mercury-organic subcategory mixed wastes be treated by retorting (RMERC) or incineration (IMERC) and high mercury-inorganic subcategory mixed wastes be treated by RMERC. At the time of promulgation, the assumed approach for compliance with these regulations was separation of the mercury from the wastes and recycling of the pure elemental mercury back into commerce. However, this assumed compliance scenario is invalid for

mixed wastes containing mercury because there is no use for recovered mercury that is radioactively contaminated.

To manage this type of waste, it would appear reasonable to use, on a site-specific basis, the "inappropriate" variance approach (§ 268.44(h)(2)(i)). A petitioner using this approach would necessarily have to describe the specifics and likely effectiveness of the stabilization treatment that will be used. As demonstrated by the studies described in today's notice, the stability of treated waste forms can be highly dependent on pH conditions. In determining whether the proposed technology is protective, EPA would expect the petitioner to demonstrate the technology's effectiveness under the planned disposal conditions.

LDR variance petitions should be submitted in accordance with the procedures in 40 CFR 260.20. Petitions should include, among other things, a description of the process that generates the waste, the rationale for the variance request, and data on the proposed waste treatment process.²¹ Site-specific circumstances often dictate the types and amount of information that we will need to evaluate a petition, so stakeholders who are considering petitioning for a treatment variance should engage EPA early in the process to ensure all of the necessary information is, or will be, available.

L. What Other Implications Arise From the Treatability Studies?

Because these treated waste forms may be chemically altered by environmental conditions, macroencapsulation prior to land disposal could be used to provide a barrier against leachate intrusion and attack on the treated mercury waste. Macroencapsulation would also provide a barrier to reduce emissions of elemental mercury vapors. In order to meet the performance requirements of 40 CFR 268.45, Table 1, the macroencapsulation treatment must completely encapsulate the waste and be resistant to degradation by the waste, its contaminants, and materials into which it may come into contact after placement. We promulgated such a requirement for wastewater treatment sludge from the production of vinyl chloride monomer using mercuric

²¹ Note that when submitting data, petitioners should also include evidence that appropriate quality assurance/quality control procedures were followed in generating the data. For guidance, see Final Best Demonstrated Available Technology (BDAT) Background Document for Quality Assurance/Quality Control Procedures and Methodology; USEPA, October 23, 1991.

chloride catalyst in an acetylene-based process; hazardous waste K175 (65 FR 67068, November 8, 2000). For K175 wastes, we estimated that macroencapsulation and placement in a hazardous waste landfill utilizing high density polypropylene vaults adds an additional \$150 to \$200 per ton of waste disposed to the treatment costs.²² For a review of the current state of encapsulation technologies and materials being used to immobilize elemental mercury, mercury-contaminated wastes, soils, or sludges, see the technical report "Advances in Encapsulation Technologies for the Management of Mercury-Contaminated Hazardous Wastes," Battelle, August 30, 2002, available in the docket for this notice.

Having concluded that treatment residues of elemental mercury are potentially subject to attack by leachates and that the technologies may not have fully reacted with the mercury, we are evaluating whether to propose modifying the treatment standards for the radioactive elemental mercury waste subcategories of U151 and D009. The current treatment standard for these wastes is amalgamation (AMLGM). We could propose, for example, to replace this standard with the more restrictive requirement of amalgamation followed by macroencapsulation. We could also require post-treatment testing to ensure effective treatment. If we decide to amend the treatment standards, we would publish a proposed rule for public comment.

Dated: January 22, 2003.

Robert Springer,

Director, Office of Solid Waste.

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ENVIRONMENTAL PROTECTION AGENCY

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Connecticut Marine Sanitation Device Standard; Receipt of Petition

Notice is hereby given that a petition has been received from the State of Connecticut requesting a determination of the Regional Administrator, U.S. Environmental Protection Agency, pursuant to section 312(f)(3) of Pub. L. 92-500 as amended by Pub. L. 95-217

²² Economics Background Document—USEPA Final Rule Listing Wastewater Sludges Generated By Chlorinated Aliphatic Chemical Manufacturing Facilities, as RCRA Hazardous Waste Codes K174 and K175: Industry Profile and Estimation of Regulator Costs; page 74. http://www.epa.gov/epaoswer/hazwaste/id/chlorali/ca_ebd.pdf