

WASTE MANAGEMENT AND RADIATION CONTROL BOARD

Executive Summary

REQUEST FOR A SITE-SPECIFIC TREATMENT VARIANCE

EnergySolutions LLC

June 9, 2016

<b>What is the issue before the Board?</b>	<p>This is a request from EnergySolutions for a site-specific treatment variance from the Utah Hazardous Waste Management Rules to treat by stabilization, waste containing High Subcategory Mercury.</p>
<b>What is the historical background or context for this issue?</b>	<p>EnergySolutions requests approval to receive and dispose, in the Mixed Waste Landfill Cell, waste carrying the D009 or U151 High Mercury-Organic Subcategory and High Mercury-Inorganic Subcategory hazardous waste codes that have been treated using stabilization/amalgamation technologies. Furthermore, EnergySolutions will perform the stabilization/amalgamation treatment on D009 and U151 High Mercury Subcategory waste streams that have not been treated prior to arrival at the EnergySolutions Clive facility. All actions will be performed in accordance with EnergySolutions' State-issued Part B Permit.</p> <p>The listed treatment technology in 40 CFR 268.40 for the D009 High Mercury-Organic Subcategory is either incineration (IMERC) or retorting/roasting for mercury recovery (RMERC). The listed treatment technology for the D009 High Mercury-Inorganic Subcategory and for U151 is RMERC.</p> <p>The need and justification for this action are as follows:</p> <p>The intent of the RMERC treatment process is to recover elemental mercury for recycling. However, radioactive mercury cannot be recycled and the RMERC process generates secondary waste (radioactive elemental mercury) which requires additional treatment by amalgamation (a stabilization technology) prior to disposal.</p> <p>The IMERC technology is also intended to be a mercury recovery technology where the waste is incinerated and the mercury recovered in the ash or in a specific off-gas control system.</p>

For radioactive mercury, both the ash and the control equipment/media will require further treatment. Furthermore, IMERC involves an extra handling step for the radioactive residue.

Successful chemical stabilization of High Mercury-Inorganic Subcategory wastes has been demonstrated to achieve a measure of performance equivalent to the required methods which require two treatment methods (RMERC and stabilization) with no detrimental effect to human health or the environment. The U.S. Environmental Protection Agency (US EPA) has issued a Determination of Equivalent Treatment (DET) for these High Mercury Subcategory wastes that were chemically stabilized. In the EPA's determination, they concluded that for waste streams that are radioactive and contain mercury, the recovery portion of RMERC may not be appropriate and that alternative treatment processes should be pursued.

The US EPA has reviewed the treatment of mercury-bearing waste in a Federal Register Notice (68 FR 4481). In this notice, the US EPA concluded that treatment of mercury waste is possible and it is suggested that stakeholders should use the site specific treatment variance process to obtain approval for the treatment of high subcategory mercury wastes.

The notice specifically designates an example of when this would be appropriate as the case of a high mercury subcategory waste that is also radioactive.

This variance request deals with waste that may be shipped to EnergySolutions over the next year. To date, EnergySolutions has disposed of approximately 10,560 cubic feet of treated High Mercury Subcategory waste. From knowledge of the current market of High Mercury Subcategory Waste requiring treatment or disposal, and from past experience receiving this type of waste, EnergySolutions anticipates approximately 500 cubic feet of additional High Mercury Subcategory waste for disposal in the next year under this treatment variance.

	<p>A notice for public comment was published in the <i>Salt Lake Tribune</i>, the <i>Deseret News</i> and the <i>Tooele County Transcript Bulletin</i> on May 3, 2016.</p> <p>The comment period began May 3, 2016 and will end June 3, 2016.</p>
<b>What is the governing statutory or regulatory citation?</b>	<p>Variances are provided for in 19-6-111 of the Utah Solid and Hazardous Waste Act. This is a one-time site-specific variance from an applicable treatment standard as allowed by R315-268.44 of the Utah Administrative Code.</p>
<b>Is Board action required?</b>	<p>Yes, this is an action item before the Board.</p>
<b>What is the Division/Director's recommendation?</b>	<p>The Director recommends approval of this variance based on the following findings: the proposed alternative treatment method meets the regulatory basis for a variance, will be as safe to human health and the environment as the required method, and the required method would create additional waste, and require waste handling that could possibly expose workers to unnecessary contact with the waste.</p> <p>Also, <i>EnergySolutions</i> has successfully treated similar waste streams in the past using this approach.</p>
<b>Where can more information be obtained?</b>	<p>For technical questions, please contact Otis Willoughby (801) 536-0220.</p> <p>For legal questions, please contact Raymond Wixom at (801) 536-0290.</p>