

Waste Management and Radiation Control Board Meeting  
Utah Department of Environmental Quality  
195 North 1950 West (Board Conference Room #1015), SLC  
October 12, 2017  
1:30 p.m.

**Board Members Present:** Brett Mickelson (Chair), Dennis Riding (Vice-Chair), Richard Codell, Danielle Endres, Marc Franc (Telephone Participation), Steve McIff, Alan Matheson, Shawn Milne (Telephone Participation), Nathan Rich, Vern Rogers and Shane Whitney

**Board Members Absent:** Jeremy Hawk

**Staff Members Present:** Scott Anderson, Brent Everett, Craig Anderson, Thomas Ball, Eric Boone, Ed Costomiris, David Esser, Doug Hansen, Arlene Lovato, John Menatti, Deborah Ng, Rick Page, Bret Randall, Elisa Smith, Don Verbica and Otis Willoughby

**Others Present:** Tim Orton, Joe Ozimek, Dan Shrum

**I. Call to Order.**

Brett Mickelson (Chair) welcomed all in attendance and called the meeting to order at 1:30 p.m. Marc Franc and Shawn Milne participated telephonically.

**II. Approval of the Meeting Minutes for the August 10, 2017 Board Meeting.**

It was moved by Shane Whitney and seconded by Steve McIff and UNANIMOUSLY CARRIED to approve the August 10, 2017 Board Meeting minutes.

**III. Underground Storage Tanks Update.**

Brent Everett, Director of the Division of Environmental Response and Remediation (DERR), informed the Board that the cash balance of the Petroleum Storage Tank (PST) Trust Fund at the end of August 2017 was \$15,991,466.00. The preliminary estimate for the cash balance of the PST Trust Fund for the end of September 2017 is \$15,342,052.00. The PST Trust Fund is managed on a cash balance basis to ensure sufficient coverage for known claims that have been reported. The balance of the PST Trust Fund is watched closely to ensure sufficient coverage for covered releases.

Mr. Everett informed the Board that the annual PST Trust Fund Actuarial Report has been completed. Mr. Everett discussed the findings of the actuarial report including the cash balance of the PST Trust Fund, potential liabilities to the fund and a seeming increase in costs to pre-1999 release sites. The PST Trust fund is not in jeopardy of being unable to pay claims within a ten-year period. Over the long term, because of changes allowed by House Bill 138, the DERR is able to manage the fees and surcharges into the future to help maintain the stability of the PST Trust Fund. Nathan Rich asked for a copy of the actuarial report. The DERR will provide an electronic copy of the document to any board members interested. (A copy of the PST Fund Actuarial Report was provided to the Board members on October 12, 2017). (A copy is also included with the meeting minutes.)

Mr. Everett informed the Board that the Underground Storage Tank Act is due for reauthorization during the 2018 legislative session. Representative Eliason has opened a bill file for the reauthorization and the DERR will be working closely with him.

#### **IV. Administrative Rules.**

##### **Radiation Control Rules:**

- A. Final adoption of rule changes to amend the appropriate sections of R313-12, General Provisions, R313-19, Requirements of General Applicability to Licensing of Radioactive Material, R313-21, General Licenses, and R313-22, Specific Licenses, by incorporating the federal regulatory changes promulgated by the Nuclear Regulatory Commission (NRC) in the Federal Register on May 29, 2013 (78 FR 32310) and updating selected rule citations and references (Board Action Item).

Tom Ball, Planning & Technical Support Section Manager, reviewed the request for final adoption of the changes to the appropriate sections of the following radiation control rules: R313-12, General Provisions; R313-19, Requirements of General Applicability to Licensing of Radioactive Material; R313-21, General Licenses; and R313-22, Specific Licenses; by incorporating the federal regulatory changes promulgated by the Nuclear Regulatory Commission (NRC) in the Federal Register on May 29, 2013 (78 FR 32310).

On May 29, 2013, the NRC adopted changes to 10 CFR Parts 30, 40 and 70. These rule changes require that the initial distribution of source material to exempt persons or to general licensees be explicitly authorized by a specific license, including new reporting requirements. The rule changes provide timely information on the types and quantities of source material distributed for use either under exemption or by general licensees. In addition, the rule changes modify the existing possession and use requirements of the general license for small quantities of source material to better align the requirements with current health and safety standards. Also, the rule changes revise, clarify or delete certain source material exemptions from licensing to make the exemptions more risk informed. The rule changes affect manufacturers and distributors of certain products and materials containing source material and certain persons using source material under general license and under exemptions from licensing. Changes to corresponding Utah radiation control rules are required to maintain regulatory compatibility with NRC regulations, as an Agreement State with the NRC.

On July 13, 2017, the Board authorized the filing of the proposed rule changes to initiate the formal rulemaking process and receive public comment. A public comment period began on August 15, 2017 and concluded on September 15, 2017. No comments were received.

The proposed rule changes were filed with the Office of Administrative Rules and published in the August 15, 2017 issue of the Utah State Bulletin. A copy of the pertinent pages published in the Utah State Bulletin were included in the October 12, 2017 Board packet. The Board is authorized under Subsection 19-3-104(4)(a) to make rules to control the exposure to sources of radiation and Subsection 19-3-104(4)(b) to make rules to meet the requirements of federal law and maintain primacy of the radioactive materials program from the federal government. The rule changes also meet existing DEQ and state rulemaking procedures.

Board action is required for final adoption of the rule changes that incorporate the federal regulatory changes promulgated by the Nuclear Regulatory Commission (NRC) in the Federal Register on

May 29, 2013 (78 FR 32310) regarding the distribution of source material and related revisions to the associated general license and exemption requirements.

The Director recommends that the Board approve for final adoption the rule changes published in the August 15, 2017 issue of the Utah State Bulletin to incorporate the federal regulatory changes promulgated by the Nuclear Regulatory Commission (NRC) in the Federal Register on May 29, 2013 (78 FR 32310) and set an effective date of October 13, 2017. Final adoption of the rule changes will maintain regulatory compatibility with the NRC regulations, as required as an Agreement State with the NRC.

**It was moved by Nathan Rich and seconded by Danielle Endres and UNANIMOUSLY CARRIED to approve for final adoption of rule changes to amend the appropriate sections of R313-12, General Provisions, R313-19, Requirements of General Applicability to Licensing of Radioactive Material, R313-21, General Licenses, and R313-22, Specific Licenses, by incorporating the federal regulatory changes promulgated by the Nuclear Regulatory Commission (NRC) in the Federal Register on May 29, 2013 (78 FR 32310) and updating selected rule citations and references and set an effective date of October 13, 2017.**

- B. Approval to proceed with formal rulemaking and public comment by filing with the Office of Administrative Rules and publishing in the Utah State Bulletin proposed changes to R313-25 that incorporate rule changes required by §19-3-104, as amended by S.B. 173 (2015 Gen. Session) and S.B. 79 (2017 Gen. Session), regarding (i) financial assurance for the closure and post closure care of a low-level radioactive waste disposal facility; and (ii) modifications to facility definitions (Board Action Item).

Bret Randall, Attorney General's Office, and Don Verbica, Low Level Radioactive Waste Section Manager, reviewed the proposal to proceed with formal rulemaking and public comment by filing with the Office of Administrative Rules and publishing in the Utah State Bulletin proposed changes to UAC R313-25 that incorporate rule changes required by §19-3-104, as amended by S.B. 173 (2015 Gen. Session) and S.B. 79 (2017 Gen. Session), regarding (i) financial assurance for the closure and post closure care of a low-level radioactive waste disposal facilities; and (ii) modifications to facility definitions.

During the 2015 General Session, the Legislature passed S.B. 173 that affected portions of UAC R313-25. However, rulemaking was deferred because the Nuclear Regulatory Commission (NRC) determined that certain provisions of S.B. 173 were incompatible with federal law. These incompatibility issues were not finally resolved until 2017.

During the 2017 General Session, the Legislature passed and the governor signed S.B. 79 that requires the Board to promulgate rules regarding financial assurance requirements for the closure and post closure care of a low-level radioactive waste disposal facility. S.B. 79 also modified certain facility definitions, triggering the need for conforming amendments in the rules. The current changes reflect both S.B. 173 and S.B. 79. Although financial assurance requirements have existed in R313-25 for several years, the proposed changes are being made in order to meet the prescribed rulemaking direction found in S.B. 79 and to provide the tools and flexibility the Director believes are necessary to implement S.B. 79.

More specifically, S.B. 79 allows radioactive waste licensees the opportunity to rely on either (i) RS means or (ii) a "competitive site-specific estimate" as the basis for calculating financial surety. While

RS means represents a national average of heavy civil construction costs, S.B.79 did not provide a definition for “competitive site-specific estimate.”

Based on the Utah Supreme Court case, Associated General Contractors v. Board of Oil, Gas and Mining, 2001 UT 112, 38 P.3d 291, the Director in this rulemaking proposes to (i) define this term; (ii) provide the Division with access to local market expertise from heavy civil contractors or cost estimators who are familiar with local market construction costs in order to review and validate the information submitted by a licensee; and (iii) provide that the licensee fund such review costs.

The proposed changes to UAC R313-25-31 incorporate the mandatory new rule text from S.B. 79. In addition a new section, UAC R313-25-31.5, is being added to include the changes summarized above.

Mr. Randall stated that additional changes in the proposed rule includes changes made to “facility” that provided more operational flexibility, so amendments were made to the “facility” definitions. One other modification included “a licensed facility that is not a disposal facility, but could be used for storage”.

While the proposed rule changes apply to any low-level radioactive waste disposal facility, currently there is only one facility to which the rule and the proposed changes apply. The proposed changes to the rule were provided to EnergySolutions as part of the scoping process. Based on comments received, several changes were made and are reflected in this draft. Utah’s administrative rulemaking act requires the Board to initiate rulemaking by filing the proposed rule changes with the Office of Administrative Rules (OAR) within 180 days from the effective date of S.B. 79.

S.B. 79 was made effective on May 9, 2017; therefore, the proposed changes must be filed with OAR by November 5, 2017.

The proposed changes to UAC R313-25 were included in the October 12, 2017 Board packet.

The Director recommends the Board approve proceeding with formal rulemaking and public comment by publishing in the Utah State Bulletin the proposed changes to UAC R313-25 to incorporate the rule changes required by S.B. 79, 2017 General Session, regarding financial assurance for the closure and post closure care of a low-level radioactive waste disposal facility and regarding conforming amendments triggered by statutory changes to “facility” definitions.

**It was moved by Shawn Milne and seconded by Vern Rogers and UNANIMOUSLY CARRIED to approve to proceed with formal rulemaking and 30-day public comment by filing with the Office of Administrative Rules and publishing in the Utah State Bulletin proposed changes to R313-25 that incorporate rule changes required by §19-3-104, as amended by S.B. 173 (2015 Gen. Session) and S.B. 79 (2017 Gen. Session), regarding (i) financial assurance for the closure and post closure care of a low-level radioactive waste disposal facility; and (ii) modifications to facility definitions.**

## **V. Hazardous Waste Section.**

- A. Clean Harbors Grassy Mountain, LLC request for a site-specific treatment variance to stabilize a High Mercury-Inorganic Subcategory waste stream (Board Action Item).

Ed Costomiris, Environmental Scientist, Hazardous Waste Section, provided a power point presentation of Clean Harbors Grassy Mountain’s request for a site-specific treatment variance from the Utah Hazardous Waste Management Rules. (A copy of the presentation is provided with the meeting minutes.) The Grassy Mountain Facility seeks authorization to stabilize a High Mercury – Subcategory

Inorganic waste stream that has the characteristic waste code D009. The treated waste will then be disposed in a hazardous waste cell at the facility.

The Grassy Mountain Facility proposes to stabilize and dispose of a mercury waste stream that is generated at the Clean Harbors Aragonite Facility and carries the waste code for High Mercury-Inorganic Subcategory. The waste stream, profile number AGGM912669HIHGB, is generated from the baghouse in the air pollution control system at the Aragonite Facility. The technology-based treatment code for this material is RMERC (roasting/retorting followed by recovery). The RMERC process generates a secondary waste stream. Secondary waste streams, when greater than, or equal to, 260 mg/kg total mercury, are required to be further stabilized to a level of 0.20 mg/l using the toxicity characteristic leaching procedure (TCLP). Secondary waste streams, when less than 260 mg/kg total mercury, are required to be treated to 0.025 mg/l TCLP. The Grassy Mountain Facility proposes to treat all of the waste, regardless of the initial concentration of mercury, to the more restrictive standard of 0.025 mg/L, based on the TCLP.

The Grassy Mountain Facility is proposing to treat the waste directly with a stabilization method rather than going through the initial retorting or roasting of the waste. The hardship for Clean Harbors is that there currently is no alternative for the company to dispose of this waste. Facilities that can retort the waste stream are not permitted to treat waste that has waste codes not associated with mercury and this particular waste stream has numerous codes in addition to the code for mercury.

The Grassy Mountain Facility has conducted a treatability study on the waste stream. The treatment formula developed for this waste stream resulted in mercury concentrations below the requested concentration of 0.025 mg/L TCLP. In addition, LDR compliance will be met with all other waste codes associated with the waste prior to disposal. The Board has approved identical site-specific treatment variances in March 2009, November 2010, June 2013 and November 2015.

Variances are provided for in 19-6-111 of the Utah Solid and Hazardous Waste Act and R315-260-19 of the Utah Administrative Code. This is a site-specific variance from an applicable treatment standard as allowed by R315-268-44(h)(2).

A notice for a 30-day public comment was published in the July 27, 2017 issues of the Salt Lake Tribune, the Deseret News and the Tooele Transcript Bulletin. The comment period began on July 27, 2017 and concluded on August 28, 2017. No comments were received. This variance, if granted, will be valid until October 12, 2018. It is the Division Director's recommendation that the Board approve this request for the site-specific treatment variance for the high mercury waste stream.

**It was moved by Vern Rogers and seconded by Marc Franc and UNANIMOUSLY CARRIED to approve Clean Harbors Grassy Mountain, LLC request for a site-specific treatment variance to stabilize a High Mercury-Inorganic Subcategory waste stream, with an effective date of October 11, 2017. (Shane Whitney recused himself and abstained from voting on this matter.)**

## **VI. Low Level Radioactive Waste Section**

A. EnergySolutions, LLC request for a site-specific treatment variance from the Hazardous Waste Management Rules. EnergySolutions seeks authorization to treat by stabilization, waste containing High-Subcategory Mercury (Information Item Only).

Otis Willoughby, Environmental Scientist, Low Level Radioactive Waste Section, and Tim Orton, representative from EnergySolutions, reviewed the request from EnergySolutions dated

September 27, 2017, for a site-specific treatment variance from the Utah Administrative Code to treat by stabilization, waste containing High - Subcategory Mercury.

EnergySolutions requests approval to receive and dispose, in its Mixed Waste Landfill Cell, waste containing the D009 or U151 for High Mercury-Organic Subcategory and High Mercury-Inorganic Subcategory hazardous waste codes that has 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.

The listed treatment technology in the table of 40 CFR 268.40 (incorporated by reference in R315-268-40) 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.

The need and justification for this action are as follows: 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.

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. 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, the agency 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 EPA has reviewed the treatment of mercury-bearing waste in a Federal Register Notice (68 FR 4481). In this notice, the EPA concluded that treatment of mercury waste is possible and it is suggested that stakeholders should use the site-specific treatment variance process to achieve 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 consists of waste that may be shipped to EnergySolutions over the next year. To date, EnergySolutions has disposed of approximately 10,600 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 less than 500 cubic feet of additional High Mercury Subcategory waste for disposal in the next year under this treatment variance.

A notice for public comment was published in the Salt Lake Tribune, the Deseret News and the Tooele County Transcript Bulletin on October 5, 2017. The comment period began October 5, 2017, and will end November 6, 2017.

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 UAC R315-268.44.

This is an informational item before the Board. The Director will provide a recommendation at the next Board meeting.

- B. EnergySolutions, LLC request for a site-specific treatment variance from the Hazardous Waste Management Rules. EnergySolutions seeks authorization to receive Cemented Uranium Extraction Process Residues for disposal (Information Item Only).

Otis Willoughby, Environmental Scientist, Low Level Radioactive Waste Section, and Tim Orton, representative from EnergySolutions, reviewed the request from EnergySolutions dated September 27, 2017, for a one-time site-specific treatment variance from the Utah Administrative Code. EnergySolutions seeks authorization to receive Cemented Uranium Extraction Process Residues for disposal

The Mixed Waste Facility proposes to receive up to 1,000 cubic feet of cemented monoliths containing enriched uranium residuals. This material retains hazardous waste codes for barium, cadmium, chromium, lead and spent solvents. The generator has encapsulated the waste in concrete for security reasons. EnergySolutions proposes to receive this waste for macroencapsulation in the Mixed Waste Landfill Cell rather than chemical stabilization, as required. This request is based on the fact that the waste has already been encapsulated in concrete at the generator's site. Treating this waste by the required method would mean grinding the waste and potentially exposing workers to unnecessary contamination. The proposed treatment will further encapsulate the waste and protect it from contact with precipitation, thereby decreasing the potential of leaching.

A notice for public comment was published in the Salt Lake Tribune, the Deseret News and the Tooele County Transcript Bulletin on October 5, 2017. The comment period began October 5, 2017, and will end November 6, 2017.

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 UAC R315-268.44.

This is an information item before the Board. The Director will provide a recommendation at the next Board meeting.

Richard Codell asked how much special nuclear matter would be in a typical slab. Mr. Orton was not sure, but would provide additional information at the next Board meeting.

- C. EnergySolutions, LLC request for a site-specific treatment variance from the Hazardous Waste Management Rules. EnergySolutions seeks authorization to dispose of waste containing hazardous constituents and PCBs as Underlying Hazardous Constituents (Information Item Only).

Otis Willoughby, Environmental Scientist, Low Level Radioactive Waste Section, and Tim Orton, representative from EnergySolutions, reviewed the request from EnergySolutions dated September 27, 2017, for a site-specific treatment variance from the Utah Administrative Code to dispose of waste containing hazardous constituents and PCBs as Underlying Hazardous Constituents.

This variance is being requested for up to approximately 50 tons of waste generated at the Clive Mixed Waste Facility (site-generated waste) that may be circumstantially contaminated with PCBs from operations at the site. Examples of site-generated wastes include baghouse dust, sump cleanout material and decontamination sludges. Site activities involving PCBs include, but are not limited to, repackaging waste containers and shredding PCB capacitors. Analysis of site-generated waste over the last year has detected PCB concentrations up to 27 ppm (mg/kg). The UTS concentration for PCBs is 10 mg/kg. Over the past several years, approximately 13 tons of this type of waste was generated and treated at the Clive Facility. Analytical data demonstrated that all contaminants, except PCBs, met treatment standards in these treatment runs. EnergySolutions has demonstrated over the years that the treatment formulas developed for site-generated waste are effective in treating the wastes.

PCB waste generated at the site which is greater than 50 ppm is regulated by the Environmental Protection Agency (EPA) as PCB remediation waste. The EPA has clarified the disposal of PCB remediation waste with a concentration greater than 50 ppm PCBs in 40 CFR 761.61 (a)(5)(i)(B)(2)(iii) as follows: "Bulk PCB remediation wastes with a PCB concentration >50 ppm shall be disposed of in a hazardous waste landfill permitted by EPA under section 3004 of RCRA, or by a State authorized under section 3006 of RCRA."

The mixed waste landfill is a hazardous waste landfill permitted by the State of Utah. Consequently, if the PCB waste did not contain hazardous waste codes, but contained the same PCB concentrations, it could be disposed in the mixed waste landfill without additional treatment. Therefore, treatment of the PCBs within this waste stream is technically not required for final disposal of the waste form.

A notice for public comment was published in the Salt Lake Tribune, the Deseret News and the Tooele County Transcript Bulletin on October 5, 2017. The comment period began October 5, 2017, and will end November 6, 2017.

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 UAC R315-268.44.

This is an informational item before the Board. The Director will provide a recommendation at the next Board meeting.

## **VII. Other Business**

### **A. Presentation on Low Level Radioactive Waste Management Rules – EnergySolutions (Information Item Only)**

Dan Shrum, representative of EnergySolutions, provided a power point presentation regarding a proposed rule evaluation the company would like to the Division of Waste Management and Radiation Control and the Board to consider. (A copy of the power point presentation was included in the October 12, 2017 Board packet.)

Scott Anderson informed the Board that the issues raised in the presentation are not new. This matter pre-dates this Board, with the exception of Richard Codell. The presentation represents EnergySolutions' opinion and the Board needs more context before discussing the issues. Mr. Anderson proposed to provide the Board with an evaluation of and response to the presentation at a later date. At that time, further discussions can be held. Mr. Anderson stated that, based on workloads/schedules, the Division's response would not be ready until the beginning of next year (2018).

Mr. Shrum agreed with the proposal and timeframe.

Richard Codell stated that he stays in touch with NRC staff and that he was surprised there was nothing from the State to support more stringent rules, but it may be worth checking on it. Mr. Codell also asked about the rule prohibiting the state from being more stringent than the federal government and when that was put in place.

Mr. Shrum stated those rules were passed when the Code was established to develop the agency in the early 1990's. Mr. Codell further stated that if there is a reason, a state should be allowed to be more stringent, which is in conflict with Utah's regulations which states it cannot be more stringent.

Scott Anderson clarified that the State Code allows Utah to be more stringent. However, as Mr. Shrum has pointed out that, there has to be a finding that goes along with that position. In this case, the staff believes that the required findings were made in this regard.

B. Misc. Information Items. – None to Report.

C. Scheduling of next Board meeting.

The next Board meeting is scheduled for November 9, 2017 at 1:30 pm at the Utah Department of Environmental Quality. (This will be a telephonic Board meeting.)

## **VIII. Adjourn.**

The meeting adjourned at 2:23 pm.