

March 10, 2015

CD15-0045

Mr. Helge Gabert
Project Manager, DU Contract
Utah Division of Solid and Hazardous Waste
P.O. Box 144880
Salt Lake City, UT, 84114-4880

Subject: License No: UT2300249; RML #UT 2300249 –Condition 35 Compliance Report, **Revised Deep Time Supplemental Analysis Responding to Supplemental Interrogatories and Morton Memorandum**

Dear Mr. Gabert:

On June 1, 2011, (in compliance with Condition 35.B of its Radioactive Material License UT2300249), EnergySolutions submitted the Report, “*Utah Low-Level Radioactive Waste Disposal License (RML UT2300249) – Condition 35 Compliance Report*” to the Utah Division of Radiation Control. Since then, EnergySolutions provided responses to three Rounds of Interrogatories. Following satisfaction of the formal Rounds of Interrogatories, EnergySolutions received additional Supplemental Interrogatories and an unexpected Memorandum from Loren Morton (dated August 13 and 19, 2014, respectively). Since Mr. Morton was not identified as part of the Division’s Review Team, EnergySolutions had assumed his concerns were being resolved during the satisfaction of the various Rounds of Interrogatories.

In order to prepare thorough responses to the Supplemental Interrogatories and Morton Memorandum, EnergySolutions commissioned an additional Dunes Study of the Eolian Depositional History of the Clive Area. Field activities supporting this Dunes Study were conducted in December 2014. The attached revisions to the Deep Time Supplemental Analysis responds to the Supplemental Interrogatories and Morton Memorandum, reflecting the observations and conclusions drawn from the additional December 2014 Study. The Study Report, “*Neptune Field Studies, December 2014 – Eolian Depositional History*” is attached hereto under separate cover.

In addition to concern regarding the impact of eolian deposition during deep geologic times (well beyond 10,000 years), a major portion of the Division’s interrogatories have been based on a Benson, et al. study conducted in 2010 for the U.S. Nuclear Regulatory Commission (NRC) of the post-construction hydrogeologic properties of in-service final covers at various U.S. test and operating waste containment facilities (Benson 2010).¹ The Benson 2010 Study includes field tests, sample collection, laboratory tests, and data analyses from sites operating in a wide range of meteorological and hydrogeologic

¹ Benson, C.H., Albright, W.H., Fratta, D.O., Tinjum, J.M., Kucukkirca, E., Lee, S.H., Scalia, J., Schlicht, P.D., and Wang, X. 2011, NUREG/CR-7028, “Engineered Covers for Waste Containment: Changes in Engineering Properties and Implications for Long-Term Performance Assessment, Volume 1”, Office of Nuclear Regulatory Research, NRC, December 2011.

conditions, only a few of which with arid-permeable geohydraulic / meteorologic-modeled sites similar to Clive.

In addition to a few sites of similar environmental characteristics to Clive, Benson (2010) also examined humid-permeable and humid-impermeable sites (dramatically dissimilar to Clive). Even though the resulting statistical distribution of site geological and meteorological parameters is not representative of the site-specific data collected from Clive, Division has sought application of Benson's broad distribution of generic national observations to EnergySolutions' proposed Federal Cell.

EnergySolutions' Report, "*Utah Radioactive Material License (RML UT2300249) Updated Site-Specific Performance Assessment Supplemental Response to Round 1 Interrogatories*" documents significant differences between Benson (2010) national generic values and the site-specific in-service clay barrier layers at Clive (attached hereto under separate cover). While this Report's comparison was compiled in support of EnergySolutions' Class A West Embankment and renewal application for Radioactive Material License (UT2300249), the differences documented therein are of substantive importance to Benson (2010).

With detailed responses provided to the Department's "*Preliminary Completeness Review*" (dated October 25, 2013), "*Round 1 Interrogatories*" (dated February 28, 2014), "*Round 2 Interrogatories*" (dated March 27, 2014), "*Round 3 Interrogatories*" (dated July 1, 2014), and "*Supplemental Interrogatories*" and Morton Memorandum (dated August 13 and 19, 2014, respectively), EnergySolutions understands that the public will be given an opportunity on April 6, 2015 to review and provide comment on EnergySolutions' Depleted Uranium Performance Assessment and the Division's Safety Evaluation Report. As part of the expected Public Comment Period, EnergySolutions' looks forward to joining the division at public meetings to be scheduled the week of May 4, 2015. Please contact me at 801-649-2000 if there are any comments or questions regarding this submittal.

Sincerely,



Vern C. Rogers
Manager, Compliance and Permitting

cc Rusty Lundberg, DRC
Don Verbica, DSHW

Enclosures