

## EXECUTIVE SUMMARY

In early 2009, the U.S. Nuclear Regulatory Commission voted to initiate rulemaking to require a site-specific analysis for disposal of large quantities of depleted uranium. Since that time, EnergySolutions has received (and intends to dispose) 3,577 metric tons of depleted uranium waste that has been declared surplus from the Savannah River Site. However, Utah Radiation Control Rule (URCR) Section R313-25-8(5) prohibits disposal of significant quantities of concentrated depleted uranium (more than one metric ton in total accumulation) after June 1, 2010, until the Utah Division of Radiation Control Executive Secretary's approves a performance assessment that demonstrates that EnergySolutions will meet the performance standards specified in 10 CFR Part 61 and corresponding provisions of Utah rules.

As required by URCR313-25-8(5) and in accordance with URCR313-25-8(2), EnergySolutions has competed and hereby submits to the Division's Executive Secretary for approval an in-depth site-specific performance assessment before disposal of depleted uranium. Once approved, it is EnergySolutions' objective to file documentation requesting its Radioactive Material License be amended to include disposal of depleted uranium.

Because of the processes, depleted uranium from the Savannah River Site also contains small quantities of waste fission products and transuranic elements. The estimated mass of depleted uranium from the Savannah River Site proposed for disposal at EnergySolutions' Clive Facility is 3,577 metric tons, (5,408 drums). Furthermore, this report also evaluates acceptance and disposal of up to 700,000 metric tons of similar depleted uranium waste from the gaseous diffusion plants at Portsmouth, Ohio and Paducah, Kentucky.

License Condition 35.B of EnergySolutions' Radioactive Material License (UT 2300249) states, *"Performance assessment: A performance assessment, in general conformance with the approach used by the Nuclear Regulatory Commission (NRC) in SECY-08-0147, shall be submitted for Executive Secretary review and approval no later than June 1, 2011. The performance assessment shall be revised as needed to reflect ongoing guidance and rulemaking from NRC. For purposes of this performance assessment, the compliance period will be a minimum of 10,000 years. Additional simulations will be performed for a minimum 1,000,000-year time frame for qualitative analysis."*

EnergySolutions supports their claims of compliance with the license condition through the development and execution of a detailed, site-specific, probabilistic performance assessment using the GoldSim model. This model and the resulting findings demonstrate to the Division that EnergySolutions' proposed methods for disposal of depleted uranium will ensure that future operations, institutional control, and site closure can be conducted safely, and that the site will comply with the Division's radiological criteria contained in the Radioactive Material License.



While also included in this Compliance Report as part of improving qualitative understanding of facility performance, EnergySolutions recognizes that events that are projected to broadly disrupt the disposal site region should generally be expected to drive human populations away from the affected areas. Accordingly, “an appropriate assumption under these conditions would be that no individual is living close enough to the facility to receive a meaningful dose” (NRC, 2000).