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AUTHOR: Thomas Magette (EnergySolutions)

AFFILIATION: UT

ADDRESSEE: Annette Vietti-Cook

SUBJECT: Comments Regarding Low Level Waste Policies

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ENERGYSOLUTIONS

May 12, 2009

Annette L. Vietti-Cook
Secretary
U.S. Nuclear Regulatory Commission
Mail Stop O-16G4
Washington, DC 20555-0001

Subject: Comments Regarding Low Level Radioactive Waste Policies

Dear Ms. Vietti-Cook:

Energy*Solutions*, LLC, (Energy*Solutions*) hereby provides the enclosed comments for consideration by the Commission in its ongoing development of policy related to the management and disposal of low level radioactive waste. These comments are provided in response to the invitation issued by the Commission in association with the April 17, 2009 briefing on this topic. We applaud the Commission's initiative in scheduling this briefing in order to solicit information on current issues related to LLW and we appreciate the opportunity to provide comments.

Thank you for your consideration of these comments. If you have any questions, please contact me at (301) 957-3770 or by email at temagette@energysolutions.com.

Sincerely,

Thomas E. Magette, P.E.
Senior Vice President
Nuclear Regulatory Strategy

Enclosure: Comments to the Commission Regarding Low Level Radioactive Waste Policies

cc:
D. Klein, Chairman, NRC
G. Jaczko, Commissioner
P. Lyons, Commissioner
K. Svinicki, Commissioner
R. Borchardt, Executive Director for Operations
C. Miller, Director, Office of Federal and State Materials and Environmental Management Programs, NRC

423 West 300 South, Suite 200, Salt Lake City, Utah 84101
801.649.2000 · Fax 801.321.0453 · www.energysolutions.com

COMMENTS TO THE U.S. NUCLEAR REGULATORY COMMISSION REGARDING LOW LEVEL RADIOACTIVE WASTE POLICIES

Energy*Solutions* is the nation's leading provider of low level radioactive waste (LLW) management, processing, transportation, and disposal. As the nation's only provider of the full spectrum of waste management, we are uniquely positioned to offer a fully informed industry perspective on the policies and regulations of the U.S. Nuclear Regulatory Commission in this area. We appreciate this opportunity to provide these comments.

Representatives of Energy*Solutions* attended the April 17, 2009 briefing of the Commission by various representatives of industry and government. Our comments reflect our views on the topics discussed at that briefing. In particular, we offer comments on the following topics: the blending of similar LLW media for disposal; a rulemaking to risk inform 10 CFR 61; depleted uranium; use of decommissioning trust funds for major radioactive component disposal prior to cessation of operations; and disposal of foreign-generated LLW.

Blending – Energy*Solutions* encourages the Commission to explicitly clarify that the blending of homogenous media, e.g., resins and filter media, is allowed under its regulations, particularly 10 CFR 61, Licensing Requirements for Land Disposal of Radioactive Waste, and is consistent with the *Issuance of Final Branch Technical Position on Concentration Averaging and Encapsulation* (BTP). So doing would significantly diminish the amount of waste requiring storage due to the current inadequate access to disposal for Class B and C waste, an important objective of the industry as testified to by the Nuclear Energy Institute. This position also is supported by research conducted by the Electric Power Research Institute. We believe that blending already is consistent with the NRC's regulatory requirements and guidance documents; unfortunately, as evidenced by the presentations at the Commission briefing, there is confusion on this point.

The blending of LLW is routinely practiced by licensees preparing radioactive waste for disposal at a licensed facility both to achieve ALARA performance objectives and to enhance operational efficiency. Blending at off-site locations would not only further these objectives, it would result in the generation of significantly less waste that requires storage. In accordance with 10 CFR 20 Appendix G, waste classification characterization is appropriately performed after waste has been appropriately processed and packaged for disposal, e.g., dewatering of resins. The concentration of radioisotopes within individual waste collection systems or interim containers prior to processing is irrelevant provided the final waste package following processing is prepared and evaluated following NRC guidance and meets the classification requirements of the disposal site.

Much waste destined for storage could be shipped for processing prior to classification as authorized under 10 CFR 20 Appendix G, then processed, and finally classified as Class A for disposal. Under this approach there would be no intentional mixing of waste to

change waste classification because the waste is yet to be classified. Furthermore, there would be no violation or circumvention of any NRC regulation or policy.

Protecting the environment, disposal site workers, potential future site intruders, and the public health and safety are the key performance objectives of 10 CFR 61, regardless of the waste pedigree. The concentration of the waste prior to off-site waste processing has no effect on determining whether the waste can be safely disposed. Because the Class A waste product that results from blending would be radiologically indistinguishable from similar Class A waste shipped directly from a waste generator, it will not adversely affect the ability of the site to satisfy the disposal site's designed performance objectives. Thus, there is no negative environmental or health and safety consequence.

It also is important to recognize that blending is not dilution. Dilution is the intentional addition of non-radioactive material to reduce the concentration of radioactive waste and thereby change the waste classification. Blending of multiple sources of radioactive waste does not rely on using non-radiological material to artificially dilute waste. Formal recognition of this distinction would correct the misinformation that continues to be disseminated on this point.

Risk Informing Part 61 – Energy*Solutions* is in agreement with the nuclear industry proposal testified to by NEI and we also support a rulemaking to update regulations found in 10 CFR 61. We appreciate the Commission's recent direction to staff that they identify resources for a comprehensive revision to risk-inform the 10 CFR Part 61 waste classification framework. This would be consistent with the approach already taken by NRC in evaluating certain wastes incidental to reprocessing at the Department of Energy. It would also be consistent disposal of LLW as practiced by DOE under its risk informed program (DOE Order 435.1, Radioactive Waste Management).

The NRC promulgated Part 61 regulations in 1982 based on assessments and waste management practices in the 1970's. The site performance criteria and waste classification tables were based on a hypothetical site using data blended from several of the existing disposal sites. The Part 61 disposal system was based on the best information, practices and assessment capabilities available; however there have been many advances in the applicable science since that time. As noted by Mr. Larry Camper at the Commission Briefing, "It is time to take a good look at the waste classification scheme."

Significant improvements and advancements in many aspects of radioactive waste management have been implemented since that time; therefore, it is appropriate to re-evaluate the requirements for waste disposal. Using current computer models with actual information on waste forms, current disposal practices, site-specific parameters, and realistic future scenarios will provide more accurate projections of potential radiation exposure to the public.

Risk-informing the existing regulatory requirements would provide a more accurate assessment of risk from the buried waste at existing disposal sites and projected future inventories. Existing disposal sites have years of operating history and environmental

monitoring information that can be used to make accurate site specific risk assessments for those locations and validate the approach for use in the development of future disposal sites. The following key areas merit consideration in performing these risk assessments.

- The actual quantities of radioactive materials disposed
- The potential for dispersion of the waste forms
- The full projected lifetimes of the engineered features used at the disposal site
- Calibrated site-specific hydrogeological models of the disposal site
- Updated dose conversion models for the radionuclide concentrations predicted
- Realistic intruder and exposure pathway scenarios
- The expected site maintenance activities and defined institutional control period
- Reasonable assessment timeframes and expected climatic conditions

Depleted Uranium – Energy*Solutions*' Clive facility has safely and permanently disposed of Depleted Uranium since it began operation in 1990. The facility's remote location, naturally poor groundwater quality, and arid environment make it ideal for future consideration for the disposal of large volumes of DU. We concur with the staff recommendation and Commission determination that DU will remain as a Class A LLW, and that site specific analysis be conducted to ensure protection of human health and the environment. We look forward to working with the NRC and other stakeholders during the rulemaking process. We also look forward for the opportunity for our experts in the safe disposal of DU to participate in the workshops to be held by the NRC.

Use of Decommissioning Trust Funds – In presenting the nuclear industry position regarding LLW, Mr. Mike Blevins of NEI testified that "...disposal is preferred over storage." In the Q&A portion of the afternoon session, Chairman Klein posed the following question related to storage versus disposal: "Is there anything specifically you think we can do to encourage that?" Energy*Solutions* believes that there is one simple policy change that the Commission should effect that could significantly reduce the volume of waste currently stored in lieu of disposal. That change is to permit its licensees to use decommissioning trust funds for the purpose for which they were collected prior to cessation of operations.

NRC regulations define decommissioning in 10 CFR 50.2 as not beginning until a site or facility ceases operations. As a result, NRC regulations in 10 CFR 50.82 limit withdrawals from decommissioning trust funds to planning activities prior to the submittal of the post-shutdown decommissioning activities report (PSDAR) following cessation of operations. An unfortunate consequence of this restriction is that licensees are unable to access these funds for the disposal of major radioactive components (MRCs), e.g., steam generators, until the plant has shut down. This is the case despite the fact that elsewhere in 10 CFR 50.2 the permanent removal of MRCs is defined as a "major decommissioning activity."

Rather than use limited operating funds, most licensees defer the disposal of the MRC's until the time of decommissioning, when the cost of disposal will be paid from the licensees' decommissioning trust funds. Of the approximately 200 steam generators that have been removed or scheduled for removal from service, about 150 remain stored or are planned to be stored onsite in specially constructed structures. If future steam generators need to be removed, new storage buildings will need to be built. These contaminated MRC's may remain stored on sites for decades as a result of current and future license extensions.

Energy*Solutions* believes that the NRC should clarify its regulations to permit a licensee to access decommissioning trust funds in advance of ceasing operation at a site. Use of these funds would be permitted only in cases where licensees can demonstrate that they collected funds specifically for that purpose and that the remaining funds will be sufficient to complete the balance of decommissioning in the future as demonstrated by compliance with 10 CFR 50.75. Among the clear benefits of this change are:

- Radioactive source term associated with the contaminated components at reactor sites will be reduced
- Site workers will be exposed to less radiation
- Unnecessary regulatory burdens can be eliminated as the costs associated with maintaining the components on-sites can be avoided
- Overall costs to decommission sites will be reduced
- More funds will be available for decommissioning at the time the reactors cease operation

Disposal of Foreign-Generated LLW – Energy*Solutions* currently has pending before the NRC an application to import LLW from Italy, process it at the Bear Creek facility in Tennessee, and dispose of a small amount of Class A material at the Clive facility in Utah. The permit, if granted, would permit Energy*Solutions* to conduct activities similar to others we have been authorized to perform for over 12 years. NRC has suspended activity on the application pending the outcome of an action brought by Energy*Solutions* seeking declaratory judgment that:

1. The Northwest Compact has no authority over the Clive facility
2. Any effort by the Northwest Compact to restrict the Clive facility from receiving foreign LLW would be preempted by the NRC's regulatory authority
3. Any effort by the Northwest Compact to restrict the Clive facility from receiving foreign LLW would be prohibited by the Commerce clause

The status of this action is as follows. On February 26, 2009, the judge in this case ruled, consistent with the company's legal position, that Clive is not a regional disposal facility. The remaining issue of whether the Northwest Compact can nonetheless exercise jurisdiction over a private, non-compact facility was taken under advisement.

We believe it is important to note that there have been misleading statements made regarding this action, and the potential for the outcome to affect the operation of

compacts sites. In their comments before the Commission, representatives of the Northwest Compact suggested that were Energy*Solutions* to prevail on counts II and III of the declaratory judgment action it has brought, that "all of the compacts could loose their exclusionary authority." We do not believe that to be the case.

Counts II and III address the ability of the Northwest Compact to block importation of waste from outside of the United States. Were the court to rule in favor of Energy*Solutions*, it would *not* prevent the compacts from exercising their authority under the Low-Level Radioactive Waste Policy Act, as amended, to control the import and export of domestically generated waste within their respective compacts and sites under their jurisdiction.

Energy*Solutions* recognizes that the Clive facility is a national asset and that our primary commitment is to maintain Clive's capacity principally for the domestic nuclear power industry and our other domestic customers. Our proposal regarding the import of foreign waste will in no way adversely affect our ability to fulfill that commitment. Clive has enough capacity to dispose of all of the Class A LLW from the eventual decommissioning of the 104 U.S. nuclear reactors and still have abundant capacity, over 50 million cubic feet.