ENERGYSOLUTIONS

June 10, 2010 CD10-0176

Annette Vietti-Cook
Secretary of the Commission
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555-0001

Subject: Presentation for Commission Briefing on Blending of Low-Level Radioactive Waste

Dear Ms. Vietti-Cook:

Energy*Solutions* appreciates the opportunity to participate in the Commission briefing on the blending of low-level radioactive waste. The slides that I will use are attached hereunto.

On January 29, 2010, Energy*Solutions* provided comments to the Commission in response to the *Notice of Public Meeting and Request for Comment on Blending of Low-Level Radioactive Waste*, 74 FR 62606. That letter, our December 2009 presentation to staff, and my comments in the January 2010 public workshop comprise Energy*Solutions'* views on a broad range of topics related to the issue of blending. In addition to addressing the thirteen questions posed in the *Federal Register* notice, we also have addressed several more peripheral issues, e.g., the availability of disposal capacity.

My comments to the Commission during the briefing, outlined in the attached slides, will focus on the key issue, which we consider to be health and safety implications of blending and the disposal of blended waste. I also will address the recommendations in the staff paper, *Blending of Low-Level Radioactive Waste*, SECY-10-0043. Our views, including our response to the staff recommendation can be summarized as follows:

The blending of low-level radioactive waste (LLW) is one component of a comprehensive LLW management strategy. Blending is one of several processing alternatives that are available to manage LLW. It is widely practiced by waste generators and independent waste processors not only in the nuclear power industry but other industries that generate LLW. NRC has acknowledged as much for many years in its promulgation of guidance. We do not believe that there is anything about blending or the disposal of blended wasted that creates a unique, inherent threat to health and safety.

We are in general agreement with the assessment contained in SECY-10-0043. We find it to be a thorough and thoughtful analysis of the issues. We concur with the staff's recommendation and fully agree that the Commission should adopt a position that is risk-informed and performance-based. We do not agree, however, that blending leads to the generation of a "unique" waste stream. Staff acknowledges this point in SECY-10-0043:

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> Blended wastes are not unique in their potential to have radionuclide concentrations at or just below the Class A disposal limits. For example, it is possible that resins in an operating nuclear power plant could be removed when they get close to the Class A limits for waste disposal rather than remaining in service longer and reaching Class B or C concentrations.

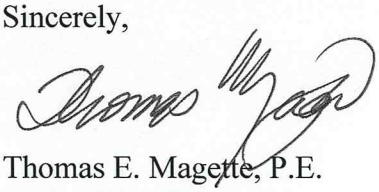
The conclusions of staff regarding the potential safety issues with disposal of waste at the Class A limits would be equally true of any waste at those limits. The health and safety issue identified in SECY-10-0043 is that blending may result in the disposal of significant quantities of (blended) waste at or near the Class A limits in close proximity such that they would exceed the waste analyzed in order to generate the limits in 10 CFR 61.55. This could potentially pose a future hazard to an inadvertent intruder. However, there is nothing today that prohibits the disposal of large quantities of waste at or near the Class A limits in close proximity. This does not undermine the credibility or protectiveness of the regulations; however, because they are very conservative. The limits in 10 CFR 61.55 are based on deterministic analyses of non-representative disposal techniques at a generic, humid, non-representative site, using outdated methodology for calculating potential radiation exposure.

Energy*Solutions* proposes an approach that we believe would accomplish the objective sought by staff, but which would be more streamlined and defensible. We propose that the Commission not define blended waste as unique. In fact, we propose that the Commission abandon completely the label of unique waste. In the workshops held in support of the unique waste stream rulemaking, it was broadly agreed that there was no clear definition of a unique waste. Creating and defining this category of waste is not necessary to accomplish the desired objective of making the regulations in Part 61 more risk-informed.

A more straight-forward approach would be to specify in Part 61 that a site-specific analysis is required to demonstrate conformance with the performance objectives in Subpart C. This would require an analysis that demonstrates protection of the public, workers, and the inadvertent intruder for all waste disposed. This requirement would not hinge on the uniqueness of any given waste, and also would address future, unknown waste streams. This could be done via the ongoing rulemaking as proposed by staff. It also should be accompanied by updates to relevant guidance as described in SECY-10-0043.

Thank you again for the opportunity to participate in the briefing. I look forward to discussing our comments with the Commissioners. Questions regarding these comments may be directed to me at (240) 565-6148 or temagette@energysolutions.com.

Sincerely,



Thomas E. Magette, P.E.
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Blending of Low-Level Radioactive Waste

June 17, 2010

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Energy*Solutions*

Key Issues

- Protecting
  - Public Health & Safety
  - Worker Health & Safety
  - Environment
- Satisfy Performance Objectives of 10 CFR 61, Subpart C
- Optimizing management of LLW

Why blend?

- Element of waste management strategy
- Dose reduction (ALARA)
- Improve operational efficiency
- Provide disposal pathway options
- Optimize life cycle cost
- Address lack of disposal for B/C waste
- Reduce interim storage of LLW

Waste Classification

- What's important is not what the waste *was*, but what the waste *is*
- Waste is classified for the purposes of ensuring its safe disposal
- Waste cannot be classified until the waste is in final form and in the final burial container
- Processing, including blending, changes isotopic concentration
- Treatment and preparation for disposal may modify original concentrations
  - Dewatering, compaction, thermal processing
  - Remove mass and volume which can change waste class

Post-Processing Waste

Energy*Solutions*' Initial Comments

- Existing guidance is adequate
  - Permits blending
  - Protects human health and safety
- Clarified by NRC letters in 2009
- Summarize, formalize, and extend guidance from 2009 letters
  - Consolidate position in RIS
  - Focus on homogeneous media
  - Blending for any purpose is allowed
  - Revise Branch Technical Position

Energy*Solutions*' Position

- Generally agree with SECY-10-0043
- Support risk-informed assessment of blending
- Inclusion in ongoing rulemaking reasonable
- Don't agree that blended waste is "unique"
- Existing regulations protect health and safety
- 10 CFR 61.55 is conservative
  - Deterministic analysis
  - Use of outdated dose methodology
  - Analysis of non-representative disposal techniques
  - Assumption of generic non-representative site

Proposed Approach

- Eliminate label of "unique"
  - Difficult to define
  - Ever changing
- Revise Part 61 to require site-specific analysis
  - Demonstrate compliance with performance objectives in 10 CFR Subpart C
  - Applies to all waste disposed
  - Addresses blended waste, depleted uranium, tomorrow's "unique" waste stream
  - Focuses on ensuring safe disposal
- Revise Branch Technical Position and Volume Reduction Policy Statement