ENERGY*SOLUTIONS*

CD10-0213

July 27, 2010

Mr. Nishka Devaser, Project Manager
Environmental and Performance Assessment Directorate
Division of Waste Management and Environmental Protection
Office of Federal and States Materials and Environmental Management Programs
Mail Stop TWFN 8F5
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555-0001

Re: U.S. Nuclear Regulatory Commission Draft Amended Order Modifying Exemption from 10 CFR 70, Docket No. 40-8989

Dear Mr. Devaser:

As provided in your email to Mr. Mark Ledoux on July 19, 2010, Energy*Solutions*, Inc. (Energy*Solutions*) provides the following comments on the above referenced draft Order.

1. Draft Order Language, middle of page 1, Section I.

"This Order reflects a modification of Condition 4 pertaining to soluble forms of SNM, and the addition of reporting requirements that pertain to K-25 wastes prior to disposal."

Energy*Solutions* Comment

Energy*Solutions* agrees that there are "additional requirements" (revisions) in the revised draft Order but could not find any "reporting requirements" as so stated. Energy*Solutions* recommends removing the word "reporting" from the draft Order. If there are "reporting requirements" within the draft Order, Energy*Solutions* will need further clarification and explanation of these reporting requirements.

2. Draft Order Language, bottom of page 1, Section II.

"EnergySolutions is also licensed by Utah to dispose of mixed waste, hazardous waste, and 11e.(2) byproduct material (as defined under Section 11e.(2) of the Atomic Energy Act of 1954, as amended)."

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EnergySolutions Comment

Just a point of clarification, the Clive Disposal facility can not receive "hazardous waste." The Clive Disposal facility may only receive "mixed waste," which is both hazardous and radioactive. EnergySolutions recommends that the U.S. Nuclear Regulatory Commission (NRC) remove the words "hazardous waste" from the draft Order.

3. Draft Order Language, top of page 3, Section II.

"..., and the addition of two reporting requirements that pertain to K-25 piping waste that is off-loaded and stored above ground prior to disposal."

EnergySolutions Comment

As described in Comment #1,, it is unclear what "two reporting requirements" are required by the draft Order. EnergySolutions recommends removing the word "reporting" from the draft Order. If there are "reporting requirements" within the draft Order, EnergySolutions will need further clarification and explanation of these reporting requirements.

4. Draft Order Language, top of page 5, Section III.1.

In the pdf version of the draft Order, as provided via email, the illustrated sum-of-the-fractions rule at the top of page 5 is not readable. The symbol "≤ 1" is not distinguishable on the pdf version.

EnergySolutions Comment

EnergySolutions assumes that this section of the Order was not revised and the sum-of-the-fraction rule equation is equal to or less than unity (i.e., ≤ 1).

5. Draft Order Language, top of page 7, Section III.4.

"Waste containing highly water soluble forms of uranium shall be emplaced such that an areal density of emplaced waste, including waste previously placed in a disposal embankment, does not exceed 1 kilogram uranium-235 per square meter. Measures shall be taken to minimize water intrusion into the waste containing highly water soluble forms of uranium during receipt, unloading, onsite storage and waste emplacement operations."

EnergySolutions Comment

This section of the Order entails the main change and reason for this revision to the SNM Order. EnergySolutions has several comments.

a. In the June 13, 2006 revision of this Order, Condition III.4. listed examples of highly soluble forms of uranium, as follows.

"Highly soluble forms of uranium include, but are not limited to: uranium sulfate, uranyl acetate, uranyl chloride, uranyl formate, uranyl fluoride, uranyl nitrate, uranyl potassium carbonate, and uranyl sulfate."

EnergySolutions requests that the June 13, 2006 referenced language, as stated above, are placed back into Condition III.4. of the draft Order. It is EnergySolutions' experience that these forms of highly soluble uranium are not common knowledge and these references of soluble forms of uranium provide our customers with valuable information.

b. The draft Order language introduces a new term, "areal density." The unit for areal density is kilogram per square meter (kg/m^2). Since the Clive Disposal facility disposes of large volumes of bulk radioactive waste, it is imperative that EnergySolutions and the Utah Division of Radiation Control (DRC) have a clear and consistent understanding of this important compliance point. Specifically, when Clive is inspected by the DRC, what is acceptable to show compliance with the "≤ 1 kg/m^2 of highly water soluble uranium."

EnergySolutions proposes to use the following formula for calculating the areal density of a column of emplaced waste. It is assumed that the highly soluble uranium is homogenous and its' concentration is the same throughout the waste lift. Each lift of highly soluble uranium may have a different concentration but would be added together within a single column. Each m^2 column of emplaced waste shall be ≤ 1 kg/m^2 of highly water soluble uranium.

Areal density = average density x average thickness of object

Where,

Areal density (kg/m^2) = kg of highly soluble uranium/m^2
Average density (kg/m^3) = kg of highly soluble uranium/m^3 of waste
Average thickness of object (m) = thickness of waste lift or m^2 column of waste

6. Draft Order Language, middle of page 11, Section III.10.

"EnergySolutions shall telephonically notify the NRC Headquarters Operations Center within 1 hour of safeguards events involving diversion, or threat of diversion, of SNM-bearing wastes from the Clive site."

EnergySolutions Comment

Condition 10 is a new requirement to the SNM Order. EnergySolutions requests clarification to understand its' purpose. Was this condition added to incorporate the Commission's continual efforts to upgrade security related to radioactive material (i.e., Increased Controls regulations) or does this condition only apply to highly soluble uranium; in which case, it needs revision to insert "highly soluble uranium" before "SNM-bearing waste…?"

Please call me at 240-565-6148 (email temagette@energysolutions.com) or Mark Ledoux at 801-649-2152 (email mledoux@energysolutions.com) with any questions.

Sincerely,

for

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

Cc: Mr. Rusty Lundberg, Director, Utah Division of Radiation Control