

February 5, 2009

Mr. Thomas E. Magette, PE
Senior Vice President, Nuclear Regulatory Strategy
423 West 300 South, Suite 200
Salt Lake City, Utah 84101

SUBJECT: JUNE 26, 2008 LETTER RE: ENERGYSOLUTIONS EXEMPTION FROM
LICENSING REQUIREMENTS OF 10 CFR 70 (TAC J00827)

Dear Mr. Magette:

This letter is in response to *EnergySolutions*' June 26, 2008 letter, which requested NRC authorization to "use the Special Nuclear Material (SNM) Order in the Utah radioactive waste disposal license UT2300249 at the Clive Processing Facility (CPF)." On June 7, 2007, *EnergySolutions* submitted a radioactive material license application with the State of Utah to process radioactive material at the proposed CPF, a new facility at the Clive Disposal Facility. The June 26, 2008 letter indicated that processing operations at the proposed CPF will include: (1) radioactive liquids solidification using Utah-approved solidification media; (2) sorting and segregation processes; (3) radioactive material size reduction activities; and (4) overfilling, in which flowable waste is used to fill voids in packages destined for disposal. *EnergySolutions* asked NRC to extend the SNM Order to include these activities on the basis that, "[t]hese processes are very similar to those that are currently allowed under the existing SNM Order, they will just be performed under a separate radioactive materials license." Since this request applies to a different radioactive materials license, the SNM Order exemption cannot be applied, and *EnergySolutions* will need to obtain a separate exemption — the NRC is treating the June 26 letter as a request for a 10 CFR § 70.17 exemption. This request has been assigned Technical Assignment Control (TAC) No. J00827. Please reference this number in any future correspondence associated with this request.

The NRC staff has reviewed the request and determined that there is insufficient information in the June 26, 2008 letter for NRC to conclude that the proposed CPF waste processing activities should be exempt from the NRC's regulations, even if information and analyses used as the basis for the May 30, 2006 SNM Order were used to support the request. Waste processing activities authorized by the May 30, 2006 Order are liquid waste stabilization, other stabilization (i.e., mixing wastes with reagents), micro-encapsulation, and macro-encapsulation using low-density and high-density polyethylene, macro-encapsulation with cement grout, spray washing, organic destruction (CerOx process and Solvent Extraction Technology process), and thermal desorption. Exemptions granted under 10 CFR §70.17 must be found to be authorized by law, to not endanger life or property or the common defense and security, and otherwise in the public interest. The June 26, 2008 letter provides inadequate basis for the NRC staff to conclude that the processing operations at the proposed CPF meet these requirements. Further, the description of the processes to be used at the CPF are not sufficient for staff to determine whether it may rely upon the technical basis for the existing exemption to conclude that extending the existing exemption to the CPF would not endanger life or property or the common

defense and security. In addition, EnergySolutions must show that an exemption for the CPF is in the public interest.

To continue its evaluation of EnergySolutions' exemption request, the NRC staff requests the following additional information:

1. A site, facility, and process description for the Clive Disposal Facility (CDF) that includes the proposed Clive Processing Facility (CPF). This description should include scaled drawings showing the locations of the CDF and proposed CPF buildings and major structures, processing equipment, and a narrative description of the flow of waste through these facilities. The CPF process description should be particularly focused on any processes that could increase the concentration of SNM in treated waste following receipt of waste at the CDF.* Staff also requests a copy of the EnergySolutions' June 7, 2007 radioactive material license application to the State of Utah, including all application page changes, revisions and supplemental information provided during the State of Utah's review of this application;
2. A description of the nuclear criticality safety (NCS) technical practices that will be relied upon at the CPF, including operational sampling procedures (i.e., mass and concentration controls) or other NCS safety parameters and procedures that will be used to ensure criticality safety, or a description of why no additional NCS safety parameters and procedures are necessary;
3. An evaluation of NCS at the CPF that demonstrates that under normal and credible abnormal conditions, all nuclear processes will remain subcritical, and maintain an acceptable margin of subcriticality;
4. A description of how the design and operation of the CPF ensures that no single credible event or failure can result in a criticality accident (i.e., double contingency protection). This description should include an analysis of whether double-batching of SNM is possible during treatment;
5. For both the CDF and CPF, a description of the physical and chemical characteristics of the radionuclides in environmental discharges; known or expected radionuclide concentrations in effluents; discharge locations; environmental monitoring plans; and a description of local, State, and Federal permits; and
6. The physical security plan for the CPF, including a description of the physical security organization for the CPF, access controls, means of detecting unauthorized intrusion, provisions for monitoring access to controlled areas, communication systems related to security, intrusion alarm systems, arrangements with law enforcement authorities to provide assistance, and implementation schedule of the security plan.*

* As described in Attachment 2 of Appendix 2 to NRC Regulatory Issue Summary 2005-31, security program information that could reasonably be expected to be useful to potential adversaries should be controlled as security-related sensitive unclassified non-safeguards information.

Mr. Magette

-3-

The NRC staff requests that Energy*Solutions* respond in writing to this request for additional information within 60 days of its receipt of this letter. If you have any questions, please contact me at (301) 415-6116.

Sincerely,

/RA/

David D. Brown, Sr. Project Manager
Environmental Protection and
Performance Assessment Directorate
Division of Waste Management
and Environmental Protection
Office of Federal and State Materials
and Environmental Management Programs

Docket No.: 40-8989

cc: Mr. Dane L. Finerfrock,
Director, Utah Division of Radiation Control

Mr. Magette

-3-

The NRC staff requests that EnergySolutions respond in writing to this request for additional information within 60 days of its receipt of this letter. If you have any questions, please contact me at (301) 415-6116.

Sincerely,

David D. Brown, Sr. Project Manager
Environmental Protection and
Performance Assessment Directorate
Division of Waste Management
and Environmental Protection
Office of Federal and State Materials
and Environmental Management Programs

Docket No.: 40-8989

cc: Mr. Dane L. Finerfrock,
Director, Utah Division of Radiation Control

DISTRIBUTION:

EPAD r/f

DSollenberger, DMSSA

RidsOgcMailCenter

ML090080672

OFC	DWMEP:PM		DWMEP:BC		OGC		DWMEP:DD		DWMEP:PM	
NAME	DBrown:dm		CMcKenney		BJones NLO		PBubar		DBrown	
DATE	01/08/09		01/12/09		02/02/09		02/04/09		02/05/09	

C = COVER

**E = COVER & ENCLOSURE
OFFICIAL RECORD COPY**

N = NO COPY