

September 14, 2011

MEMORANDUM TO: Doug Weaver, Deputy Director  
Licensing and Inspection Directorate  
Division of Spent Fuel Storage and Transportation, NMSS

FROM: Pierre Saverot, Project Manager */RA/*  
Licensing Branch  
Division of Spent Fuel Storage and Transportation, NMSS

SUBJECT: SUMMARY OF AUGUST 24, 2011, MEETING WITH  
ENERGYSOLUTIONS REGARDING THE 10-160B PACKAGE

#### Background

EnergySolutions (ES) will submit, in the second week of September 2011, an amendment request for the use of a source insert in the Model No. 10-160B package to transport radioactive sources from Sandia National Laboratory (SNL) to the Nevada National Security Site (NNSS). ES requested this second pre-application meeting to present its technical approach and proposed schedule.

#### Discussion

Sandia National Laboratories (SNL) Gamma Irradiation Facility (GIF) desires to remove 48 Co-60 sources (manufactured by Neutron Products, Inc.) with a total activity of 10,000 Ci from the site, and dispose of them at the Radioactive Waste Management Facility at the Nevada National Security Site (NNSS). ES is designing a cask insert that will (i) accept a pre-loaded basket (with the 48 sources), (ii) allow remote handling activities supporting package loading and unloading, (iii) allow remote underwater loading and unloading activities, and (iv) include integrated attachment points and integrated draining/venting mechanisms.

ES intends to submit a stand-alone addendum to the current Safety Analysis Report (SAR) to show that regulatory structural, thermal, and shielding requirements are satisfied with the design of the insert and the new contents. The addendum will refer to the SAR for other sections of the application such as containment, package maintenance requirements, etc. ES is requesting an expedited review and issuance of a revised Certificate of Compliance (CoC) in December 2011 to allow for shipment of the sources in March 2012.

Regarding the structural analysis, ES said it will assume that the source insert is uniformly supported by the cribbing in both the axial and circumferential directions and that the insert will be subjected to the inertia loading corresponding to the maximum decelerations previously reported in the SAR. ES said that the cribbing is there only for supporting purposes, not part of the licensing process. Staff reminded the applicant to use minimum properties for wood (used for shoring), and that the wood's acceptance tests shall also have minimum requirements.

ES will ignore the shoring material inside the package for the thermal analyses and consider that radiation, and conduction through the interstitial air, are the only means of heat transfer between the insert and the package. ES said that a low value of emissivity (0.2) will be used for the radiation heat transfer and that such assumption yielded conservative results. Staff requested that each assumption be properly documented and validated in the application.

Regarding the shielding evaluation, ES will assume that the material is distributed in the cavity for normal conditions of transport while it will be considered as a point source for HAC. Likewise, the source insert will be allowed to move and the impact limiters will be ignored for HAC. ES said that the analysis will show that the insert does not deform or break even if its position changes, since shoring fails during HAC.

The staff generally agreed with the specific technical points that will be used by the applicant to meet the requirements of 10 CFR Part 71. Staff did note that the requested schedule is aggressive but did not make any regulatory commitments at the meeting.

Docket No. 71-9204  
TAC No. LA0129

Enclosure 1: Meeting Attendees  
Enclosure 2: Presentation

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**Meeting Between EnergySolutions and the  
Nuclear Regulatory Commission  
August 24, 2011  
Meeting Attendees**

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