

September 1, 2006

MEMORANDUM TO: William H. Ruland, Deputy Director  
Licensing and Inspection Directorate  
Spent Fuel Project Office, NMSS

FROM: Nancy L. Osgood, Senior Project Manager */RA/*  
Licensing Section  
Spent Fuel Project Office, NMSS

SUBJECT: SUMMARY OF AUGUST 30, 2006, MEETING WITH PACTEC AND DOE  
REGARDING SHIPMENT OF IRRADIATED FUEL RODS IN THE  
MODEL NO. TN-FSV PACKAGE

#### Background

A meeting was held on August 30, 2006, in Rockville, Maryland, at the request of the Packaging Technology (PacTec) on behalf of the Department of Energy (DOE) to discuss the amendment of Certificate of Compliance No. 9253 for the Model No. TN-FSV package. Enclosure 1 is the list of meeting attendees, and Enclosure 2 is the meeting handout. No regulatory decisions were made nor requested at the meeting.

#### Discussion

The discussion followed the enclosed meeting handout. The following points were discussed:

- DOE's Idaho National Laboratory has the need to ship irradiated fuel rods. DOE believes the TN-FSV cask can be modified to accommodate an inner shielded canister to contain the fuel rods.
- PacTec presented the conceptual plan for the canister, which is designed to accommodate two BWR or four PWR irradiated fuel rods. The rods may have a burnup of up to 75 GWD/MTU and a total decay heat of 350 watts. The following issues were discussed:
  - Structural. The weight of the canister and contents will be below the maximum allowable content weight for the TN-FSV cask.
  - Thermal. A thermal analysis will be provided. It is anticipated that the previous analyses will bound the lower decay heat from the irradiated fuel rods.
  - Containment. The TN-FSV cask containment system is leak tight. No containment credit will be taken for the canister.
  - Shielding. The canister will include lead shielding, and a shielding analysis will be provided for the new contents. A minimum cool time of 180 days is being considered.

- Criticality. The canister will not provide a safety function with respect to criticality, i.e., no confinement credit will be taken for the canister in the criticality analysis. Since the fuel rods have high burnups, structural integrity of the cladding will not be assumed.
  - Package Operations. The application will include underwater operations for loading the canister and cask.
  - Acceptance Tests and Maintenance Program. The application will address the draining and drying of the cask and canister. Proof-of-principal testing of the canister will be provided to ensure that the canister and cask are dry when presented for transport.
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- DOE plans to submit the amendment under the provisions of 10 CFR 71.19(d). There was a discussion regarding the applicability of 10 CFR 71.19(c)(1) with respect to fabrication of the inner, shielded canister. DOE will consider submitting an application for a "-96" designation under the provisions of 71.19(e).
  - DOE plans to submit an amendment request by early 2007.

Docket No. 71-9253

TAC No. L24003

Enclosures: 1. Meeting Attendees  
2. Meeting Handout

cc w/encls: J. Shuler, Department of Energy

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  - Package Operations. The application will include underwater operations for loading the canister and cask.
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- DOE plans to submit the amendment under the provisions of 10 CFR 71.19(d). There was a discussion regarding the applicability of 10 CFR 71.19(c)(1) with respect to fabrication of the inner, shielded canister. DOE will consider submitting an application for a "-96" designation under the provisions of 71.19(e).
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<b>OFC</b>	SFPO	E	SFPO		SPFO	
<b>NAME</b>	NLOsgood		MRDeBose		CRegan for NLO	
<b>DATE</b>	8/31/06		8/31/06		9/1/06	

C=Without attachment/enclosure E=With attachment/enclosure N=No copy **OFFICIAL RECORD COPY**

August 30, 2006, Meeting  
between Department of Energy and Packaging Technology and  
the Nuclear Regulatory Commission

**MEETING ATTENDEES**

Michel Call	NRC/SFPO
Larry Campbell (part time)	NRC/SFPO
Robert Einziger	NRC/SFPO
Nancy Osgood	NRC/SFPO
Christopher Regan (part time)	NRC/SFPO
Bill Ruland (part time)	NRC/SFPO
Robert Shewmaker	NRC/SFPO
David Tang	NRC/SFPO
Jeff Hansen	Idaho National Lab
Doug Toomer	Idaho National Lab
Craig Tyler	Idaho National Lab
W. Scott Edwards	PacTec
J. Greg Field	PacTec
Andrew Kee	PacTec
Phil Noss	PacTec
Richard Smith	PacTec