

August 4, 2011

Dr. James M. Shuler, Manager
Packaging Certification Program
U.S. Department of Energy
Office of Packaging and Transportation
1000 Independence Ave., SW
Washington, DC 20585

SUBJECT: APPLICATION FOR THE MODEL NO. ATR FFSC TRANSPORT CASK –
SUPPLEMENTAL INFORMATION NEEDED

Dear Dr. Shuler:

By letter dated June 23, 2011, the Department of Energy (DOE) submitted an amendment request to the Model No. ATR FFSC transport cask. The application proposes the addition of a small quantity payload, which is defined as fuel with a U-235 loading ≤ 400 grams, and U-235 enrichment $\leq 94\%$. Staff performed an acceptance review of your application to determine if the application contains sufficient technical information in scope and depth to allow the staff to complete the detailed technical review.

This letter is to advise you that based on our acceptance review, the application does not contain sufficient technical information. The information needed to continue our review is described in the enclosure to this letter as Request for Supplemental Information (RSI) and Observations. Staff included observations to allow you to start earlier on items containing the potential to be asked at a later date. Responses to observations are not required for staff to begin a detailed technical review. In order to schedule our technical review, this information should be provided by August 19, 2011. If the information described is not received by this date, the application may not be accepted for review. This letter confirms our telephone conversation on July 27, 2011, with respect to the supplemental information needed and the date for your submittal.

If you have any questions regarding this matter, please contact me at (301) 492-3268.

Sincerely,

/RA/

Jennie Rankin, Project Manager
Licensing Branch
Division of Spent Fuel Storage and Transportation
Office of Nuclear Material Safety
and Safeguards

Docket No. 71-9330

TAC No. L24545

Enclosure: Request for Supplemental Information and Observations

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DATE:	7/28/11		7/28/11		7/28/11		8/1/11		8/1/11		8/2/11
OFC:	SFST		SFST		SFST		SFST		SFST		SFST
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Request for Supplemental Information and Observations
U.S. Department of Energy
Docket No. 71-9330
Model No. ATR FFSC

REQUEST FOR SUPPLEMENTAL INFORMATION

1.0 General Information

Provide a detailed definition for the contents of the small quantity payload.

Page 1-9 of the Safety Analysis Report (SAR) states, "Example fuel types that fall into the small quantity payload category include, but are not limited to, RINSC fuel elements, AFIP elements, etc." This description does not provide detailed information regarding the compositions of fuels that qualifies as small quantity payloads. The definition for the small quantity payloads should include the chemical and physical forms, the geometric dimensions, the thermal characteristics, and the nuclear criticality characteristics of the contents. The SAR should also provide the safety analysis for all the intended content that qualifies as a small quantity payload.

This information is needed to determine compliance with 10 CFR 71.33(b).

7.0 Operating Procedures

Provide operating procedures for limiting the total weight of the polyethylene used in wrapping the small quantity contents.

The as-analyzed upper bound limit for the amount of polyethylene used in the package is 100 grams. Controls to ensure the total weight of the polyethylene does not exceed 100 grams are not provided in the operating procedures for the small quantity payload.

This information is needed to determine compliance with 10 CFR 71.87.

OBSERVATIONS

3.0 Thermal Evaluation

Further clarification of the effect of burning polyethylene on the packaging and contents should be considered. Depending on the amount of available oxygen and polyethylene composition, polyethylene can have an auto-ignition temperature of approximately 320°C, which indicates it would sustain a flame and burn rather than decompose by pyrolysis. Considering polyethylene's high heat of combustion, the effect of the high, local temperatures on the package/contents should be analyzed/discussed further.