

June 2, 2008

MEMORANDUM TO: Nader Mamish, Deputy Director
Division of Spent Fuel Storage and Transportation
Office of Nuclear Material Safety
and Safeguards

FROM: Chris Staab, Project Manager **/RA/**
Licensing Branch
Division of Spent Fuel Storage and Transportation
Office of Nuclear Material Safety
and Safeguards

SUBJECT: SUMMARY OF MAY 8, 2008, MEETING WITH AREVA REGARDING
THE BEA RESEARCH REACTOR SPENT FUEL CASK

Background. On May 8, 2008, a meeting was held in Rockville, Maryland, at the request of AREVA Federal Services, LLC (AREVA), to discuss a new research reactor spent fuel cask design. The meeting was held to discuss the design and the package evaluation that is being prepared. No regulatory decisions were requested nor made at the meeting. The list of meeting attendees is Enclosure 1. A detailed agenda and pictorial representations of the package were provided by AREVA at the meeting (Enclosure 2).

Discussion. The discussion addressed the items identified in the agenda.

- Cask design. The cask is being designed to transport spent fuel assemblies from research and test reactors. The maximum decay heat is approximately 1.5 kW. The cask will weigh approximately 31,000 pounds and will be transported upright by truck. The cask will consist of a body, closure lid, shield plug, impact limiters, and spent fuel baskets. The cask cavity will be approximately 16 inches in diameter and 54 inches high. The cask will be fabricated from 304 stainless steel and consist of about eight inches of lead shielding. The cask is equipped with a thermal shield that fits around the cask and a top-end and bottom-end impact limiter.
- Structural. The cask will be evaluated by half-scale physical test. Four 30-foot drop tests are planned. The tests will be bottom end, top end, side, and oblique drops. The test results will be used to model the slapdown impact, impact under normal conditions of transport, and maximum crush distances under hot conditions.
- Containment. The cask will consist of one inch thick stainless steel containment shell. The containment system includes a drain port and vent port penetration with O-rings. The containment system will be leaktight for both normal conditions of transport and hypothetical accident conditions of transport.

- Shielding and Criticality. Source terms will be generated with ORIGEN2. Dose rate limits will be based on exclusive use transport in an open vehicle. Three dimensional shielding and criticality models will be generated using MCNP5.
- Thermal. The cask will be evaluated using half-symmetry model SINDA analysis software with a heat source term of 1.5 kW. The model will include worst-case hypothetical accident conditions free drop and puncture damage to impact limiters.
- Operations. The cask is designed for both wet and dry loading and unloading operations.
- Schedule. The schedule is aggressive. The half-scale test is scheduled for June 2008. The applicant plans to submit the license application in August 2008. The cask is scheduled to be completed in March 2009. The applicant identified a need date for the NRC Certificate of Compliance (CoC) as March 30, 2009. In order to appropriately prioritize the application, the staff encouraged the applicant to identify in the application the impact of not meeting the CoC need date. The staff emphasized the receipt of a high quality application would substantially decrease review time.

Docket No. 71-9341

TAC No. L24207

Enclosures: 1. Meeting Attendees
2. Meeting Handout

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DATE	5/27/2008		5/28/2008		6/2/2008	

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

MEETING ATTENDEES
Meeting Between the Nuclear Regulatory Commission
and AREVA Federal Services, LLC
May 8, 2008

Nancy Osgood	NRC/SFST
Larry Campbell	NRC/SFST
David Tang	NRC/SFST
Gordon Bjorkman	NRC/SFST
Jeremy Smith	NRC/SFST
Michaela Eddy	NRC/SFST
David Tarantino	NRC/SFST
Chris Staab	NRC/SFST
Peter Lien	NRC/SFST
Haile Lindsay	NRC/SFST
Phil Noss	AREVA
Charles Temus	AREVA
Gary Clark	AREVA
Don Darrington	Battelle Energy Alliance
Douglas Morrell	Battelle Energy Alliance