April 26, 2007

MEMORANDUM TO: William H. Ruland, Deputy Director
Division of Spent Fuel Storage and Transportation
Office of Nuclear Material Safety
and Safeguards

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

SUBJECT: SUMMARY OF APRIL 17, 2007, MEETING WITH DEPARTMENT OF ENERGY, DIVISION OF NAVAL REACTORS, REGARDING TRANSPORT OF NAVAL SPENT FUEL

Background

On April 17, 2007, a meeting was held in Rockville, Maryland, at the request of the Division of Naval Reactors of the Department of Energy. The purpose of the meeting was to discuss the transport of spent fuel from the Naval Nuclear Propulsion Program. The meeting was closed to the public due to the discussion of security-related and predecisional SUNSI material. No regulatory decisions were requested nor made at the meeting. The list of meeting attendees is enclosed.

Discussion

Naval Reactors presented the conceptual designs for a package being developed for the possible shipment of naval spent fuel. The following points were discussed:

- The M-290 package is being developed for possible shipment of (1) spent fuel from aircraft carrier defuelings to Idaho, and (2) canisterized spent fuel in storage at their Idaho facility to a geologic repository.

- The conceptual design of the package was discussed. The overall length of the package is approximately 30 feet, and the loaded weight is approximately 250 tons. The package is designed for rail transport in the horizontal orientation. The cask body is stainless steel, and the cask is equipped with top and bottom domes for impact protection. The outer cask body includes heat-rejection fins.

- Naval Reactors described the approach to be used to show that the design meets the performance requirements of Part 71, including:

  - Structural performance will be evaluated by a combination of analyses and 1/4 scale physical tests.
  - The containment system consists of the solid steel cask body and a containment closure lid. Restraint plates are included in the top end of the cask to limit movement of the cask contents. The cask containment boundary will be leak testable.
  - The fissile contents will be shown to be critically safe with water within the containment system and internal canisters to the most reactive extent as specified in 10 CFR 71.55(b). Additional technical discussions will be held addressing criticality safety under 10 CFR 71.55(e).
  - External radiation dose rates will be shown to be well below regulatory limits.

Naval Reactors plans to continue technical discussions with NRC staff as the design development progresses. An application for package approval may be submitted in the 2011 time-frame.

Docket No. 71-9335
TAC No. L 24071

Enclosure: Meeting Attendees

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Meeting Attendees
Nuclear Regulatory Commission and
Department of Energy, Division of Naval Reactors
Navy Nuclear Propulsion Program (NNPP)
April 17, 2007

Andrew Barto	NRC/NMSS/SFST
Stu Brown	NRC/NMSS/SFST
Mike Call	NRC/NMSS/SFST
Larry Campbell	NRC/NMSS/SFST
Jill Caverly	NRC/NMSS/SFST
Bob Einziger	NRC/NMSS/SFST
Kim Hardin	NRC/NMSS/SFST
Bob Nelson	NRC/NMSS/SFST
Nancy Osgood	NRC/NMSS/SFST
Ron Parkhill	NRC/NMSS/SFST
Bill Ruland	NRC/NMSS/SFST
Mahendra Shah (part time)	NRC/NMSS/HLWRS
Jeremy Smith	NRC/NMSS/SFST
David Tang	NRC/NMSS/SFST
Bob Tripathi	NRC/NMSS/SFST
Michael Waters	NRC/NMSS/SFST
John Wray	NRC/NMSS/SFST
Brian W. Callender	NNPP
Jim Collopy	NNPP
Gerald Lubinsky	NNPP
Barry Miels	NNPP
Sean J. Montgomery	NNPP/NR
Ed Pleins	NNPP/Bettis
Roy Pratt	NNPP/NR
Al Primas	NNPP/Bettis
David Wade	NNPP/Bettis

Enclosure