October 8, 2008

MEMORANDUM TO: Nader L. Mamish, Deputy Director
Licensing and Inspection Directorate
Division of Spent Fuel Storage and Transportation, NMSS

FROM: James R. Hall, Senior Project Manager **/RA/**
Licensing Branch
Licensing and Inspection Directorate
Division of Spent Fuel Storage and Transportation, NMSS

SUBJECT: SUMMARY OF SEPTEMBER 29, 2008, MEETING WITH NAC INTERNATIONAL REGARDING THE U.S. DOE TRANSPORTATION, AGING AND DISPOSAL (TAD) CANISTER DESIGN (TAC NO. L24250)

On September 29, 2008, U.S. Nuclear Regulatory Commission (NRC) staff from the Division of Spent Fuel Storage and Transportation (SFST) met with representatives of NAC International (NAC) at NRC Headquarters in Rockville, Maryland. The meeting was held to discuss NAC's planned applications for amendments to the Certificates of Compliance (CoCs) for the NAC-UMS spent fuel dry cask storage and transportation systems. The amendments would add the U.S. Department of Energy's (DOE) Transportation, Aging and Disposal (TAD) canister design as an approved design for the storage and transport of spent fuel in the NAC-UMS system, in accordance with 10 CFR Part 72 and 10 CFR Part 71, respectively.

The purpose of the meeting was for NAC to discuss its licensing approach, design overview and preliminary schedule for its planned applications in support of changes to the existing NAC-UMS CoCs for storage and transport. The meeting was noticed on September 17, 2008. Enclosure 1 is a list of attendees and Enclosure 2 contains the NAC presentation slides.

NAC initially described its licensing approach for the UNITAD System; which is the NAC-UMS system, as amended to incorporate the TAD canister design. NAC's contract with DOE calls for them to submit applications for the storage and transportation of 21 pressurized water reactor (PWR) spent fuel assemblies in the TAD canister design in accordance with the performance specifications issued by DOE. For interim storage in accordance with 10 CFR Part 72, NAC will submit proposed Amendment 6 to CoC No. 72-1015 for the NAC-UMS system. NAC intends to submit its storage application with an updated Safety Analysis Report (SAR) that will reflect the approval of Amendment 5 to CoC No. 72-1015, which is currently in rulemaking. There will be a separate appendix to each SAR chapter addressing the specific UNITAD design and analyses, with reference to the main SAR, as appropriate. Similarly, unique sections will be added to the CoC and Technical Specifications that will address only UNITAD requirements. NAC will use a similar approach for licensing the UNITAD for transport. NAC will incorporate changes to the existing transportation package (CoC No. 9270), and will provide a specific appendix to each chapter in the NAC-UMS SAR to reflect those changes as part of its proposed amendment to the 10 CFR Part 71 CoC.

NAC's design approach for the UNITAD canister is to maintain the existing features of the NAC-UMS design to the extent possible, for ease of fabrication, operation and licensing. The initial applications will limit the approved contents to undamaged PWR fuel, with burnup less than 45,000 MWd/MTU. The canister will be available in two lengths, to accommodate the dimensions of nearly all PWR fuel previously or currently used. NAC will employ a single welded closure design to minimize personnel exposures. The canister basket design will use flux traps and a "tube and disk" configuration, similar to the current NAC-UMS and NAC-MPC systems. Borated stainless steel fuel tubes will be used as a neutron absorber. The vertical concrete casks to be used for storage will be similar to those used for the UMS and MPC systems, with the addition of standoffs inside the casks to limit lateral movement of the UNITAD canister. The compatible transport cask, modeled after the approved NAC-STC spent fuel transportation cask, will consist of stainless steel inner and outer shells separated by a lead gamma shield and surrounded by a solid neutron shield, with impact limiters. The decay heat load capability of the system will be up to 25 kW for storage, and up to 18 kW for transportation. The heat rejection capability of the UNITAD canister will be enhanced by increasing the thickness of the aluminum support disks from ½ to 1 inch.

NAC stated that the amendment requests will be submitted for NRC review in September 2009. NAC requested NRC approval of the transportation amendment by October 2010, and the approval of the storage amendment by December 2010, with a CoC effective date of May 2011. NAC also stated its desire to meet with the NRC staff again to discuss the amendment requests in greater detail approximately 2 months prior to submitting the applications.

No regulatory decisions were made by the NRC during the meeting.

Docket Nos. 71-9270, 72-1015
TAC No. L24250

Enclosures:
1. Attendance List
2. NAC Presentation Slides

NAC's design approach for the UNITAD canister is to maintain the existing features of the NAC-UMS design to the extent possible, for ease of fabrication, operation and licensing. The initial applications will limit the approved contents to undamaged PWR fuel, with burnup less than 45,000 MWd/MTU. The canister will be available in two lengths, to accommodate the dimensions of nearly all PWR fuel previously or currently used. NAC will employ a single welded closure design to minimize personnel exposures. The canister basket design will use flux traps and a "tube and disk" configuration, similar to the current NAC-UMS and NAC-MPC systems. Borated stainless steel fuel tubes will be used as a neutron absorber. The vertical concrete casks to be used for storage will be similar to those used for the UMS and MPC systems, with the addition of standoffs inside the casks to limit lateral movement of the UNITAD canister. The compatible transport cask, modeled after the approved NAC-STC spent fuel transportation cask, will consist of stainless steel inner and outer shells separated by a lead gamma shield and surrounded by a solid neutron shield, with impact limiters. The decay heat load capability of the system will be up to 25 kW for storage, and up to 18 kW for transportation. The heat rejection capability of the UNITAD canister will be enhanced by increasing the thickness of the aluminum support disks from ½ to 1 inch.

NAC stated that the amendment requests will be submitted for NRC review in September 2009. NAC requested NRC approval of the transportation amendment by October 2010, and the approval of the storage amendment by December 2010, with a CoC effective date of May 2011. NAC also stated its desire to meet with the NRC staff again to discuss the amendment requests in greater detail approximately 2 months prior to submitting the applications.

No regulatory decisions were made by the NRC during the meeting.

Docket Nos. 71-9270, 72-1015
TAC No. L24250

Enclosures: 1. Attendance List
2. NAC Presentation Slides

DISTRIBUTION:
NMSS r/f SFST r/f DMcIntyre, OPA SFST staff (Email)
APessin, OGC NRC attendees/without attachments
Package Accession No. ML082810654
Document Accession No. ML082810672

OFC	SFST	E	SFST		SFST					
NAME	JRHall		WWheatley		EBenner					
DATE	10/08/2008		10/08/2008		10/08/2008					

OFFICIAL RECORD COPY

Enclosure 1

NRC Meeting with NAC
On the TAD Canister Design
September 29, 2008

ATTENDANCE LIST

Name	Affiliation
Bill Brach	NRC/NMSS/SFST
Nader Mamish	NRC/NMSS/SFST
Kimberly Gruss	NRC/NMSS/SFST
Eric Benner	NRC/NMSS/SFST
James R. Hall	NRC/NMSS/SFST
Matthew Gordon	NRC/NMSS/SFST
David Tang	NRC/NMSS/SFST
Neil Day	NRC/NMSS/SFST
Bob Tripathi	NRC/NMSS/SFST
Mike Call	NRC/NMSS/SFST
Kim Hardin	NRC/NMSS/SFST
Geoff Hornseth	NRC/NMSS/SFST
Ata Istar	NRC/NMSS/SFST
John Vera	NRC/NMSS/SFST
Chris Staab	NRC/NMSS/SFST
John Goshen	NRC/NMSS/SFST
Matthew Panicker	NRC/NMSS/SFST
Jimmy Chang	NRC/NMSS/SFST
Craig Seaman	NAC
James Ballowe	NAC
Gary Tjersland	NAC
Tony Patko	NAC
Maureen Conley	Platts/McGraw Hill
Mahendra Shah	NRC/NMSS/HLWRS
Jonathan Marcano	NRC/NMSS/HLWRS
Oleg Povetko	SWRI/CNWRA
Don Shaw	Transnuclear
Thomas Pollog	USDOE
Kurt Espiritu	USDOE
Dave Zabransky	USDOE
Jeff Williams	USDOE
Kristopher Cummings	Holtec
Robert Burgoyne	BAH/DOE
Everett Redmond	NEI
Rod McCullum	NEI
Scott G. Gillespie	Bechtel SAIC
Jim Saldarini	Bechtel SAIC
Kathy Ashley	Beckman & associates/Bechtel SAIC

Enclosure 2

NAC Presentation Slides

(See ADAMS Accession No. ML082810633)