March 23, 2011

MEMORANDUM TO: Doug Weaver, Deputy Director
Licensing and Inspection Directorate
Division of Spent Fuel Storage and Transportation, NMSS

FROM: Jennie Rankin, Project Manager **/RA/**
Licensing Branch
Division of Spent Fuel Storage and Transportation, NMSS

SUBJECT: SUMMARY OF MARCH 16, 2011, POST-SUBMITTAL MEETING WITH NAC INTERNATIONAL, TO DISCUSS NEW APPLICATION SUBMITTED FOR THE MODEL NO. MAGNATRAN TRANSPORATION CASK AND ASSOCIATED REQUEST FOR SUPPLEMENTAL INFORMATION (RSI)

Background

A post-submittal public meeting was held on March 16, 2011, in Rockville, Maryland, at the request of NAC International (NAC) to discuss the design of the new transportation cask Model No. MAGNATRAN. The drafted RSIs were incorporated into the discussion as many of the RSIs relate to the design of the transportation cask.

The meeting was noticed on February 24, 2011 (ML110480495). The first half of the meeting was open to the public while the second half of the meeting was closed to the public. NAC provided proprietary information to request the closed portion of the meeting on February 16, 2011 (ML110480495) and staff made proprietary determinations for the information by letter dated February 28, 2011 (ML110600716). The meeting attendance list is provided as Enclosure 1. The meeting agenda is provided as Enclosure 2. The handout from the public portion of the meeting is provided as Enclosure 3. The proprietary handout from the closed portion of the meeting is provided as Enclosure 4.

Discussion

The discussion generally followed the agenda (Enclosure 2). The primary reason for the meeting was to discuss the structural, thermal, shielding, and criticality analysis/methodology of the application and to discuss issues concerning staff's acceptance review of the application.

NAC submitted an application for the MAGNATRAN package to the NRC on January 19, 2011, as supplemented February 9, 2011. MAGNATRAN is the transportation cask system designed for the Model No. MAGNASTOR spent fuel storage cask, Docket No. 72-1031, Transportable Storage Canisters (TSC). NAC discussed the shielding scope and how the analysis approach and tools are identical to the MAGNASTOR licensing up to 60 GWd/MTU maximum average burnup. There was some discussion between the NRC and NAC concerning the analysis of maximum average burnup between 60 GWd/MTU and the requested 70 GWd/MTU. In addition, NAC clarified that fuel with maximum average burnup greater than 45 GWd/MTU were to be placed in Damaged Fuel Cans.

NAC discussed the impact limiter evaluation and the similarities to the evaluation conducted for other NAC transportation casks (e.g., NAC STC). Staff noted some major differences in geometry configuration and load path between MAGNATRAN and other transportation casks which warrant some additional evaluation in benchmarking the model for evaluating cask drop orientations for which maximum damage is expected. A conference call was planned to discuss this issue, and further considerations by NAC.

It was noted by both the NRC and NAC that although MAGNATRAN was designed to transport MAGNASTOR TSCs, the contents and configuration of the fuel are not identical between the current transportation package application and the storage system. Only those TSCs that comply with the conditions of the MAGNATRAN Certificate of Compliance, if issued, will be transportable. As a result, loaded MAGNASTOR TSCs that do not comply with the requested contents in the MAGNATRAN application may not be transportable. NAC acknowledged this as a potential regulatory risk.

The safety of the package relies, in part, on the pattern in which spent fuel assemblies are loaded into the TSC. Failure to load the correct assembly or to load into the correct location is considered a misload. NAC considers the probability of a misloaded assembly being transported and the probability of the cask being immersed during transport low. Staff expressed concern of misload due to the complicated loading patterns. NAC commented that guidance is lacking for misload anaylsis without performing burnup measurements. Currently, staff is revising ISG-8 to provide misload guidance in lieu of performing burnup measurements.

NAC discussed the project schedule and requested approval by December 31, 2011. NAC indicated that the need for the MAGNATRAN Certificate of Compliance is based on loading the canisters at the Zion Nuclear Power Station.

Docket No. 71-9356
TAC No. L24511

Enclosures:
1. Meeting Attendees
2. Agenda
3. Presentation Slides (Public Meeting)
4. Presentation Slides (Closed Meeting)

NAC discussed the impact limiter evaluation and the similarities to the evaluation conducted for other NAC transportation casks (e.g., NAC STC). Staff noted some major differences in geometry configuration and load path between MAGNATRAN and other transportation casks which warrant some additional evaluation in benchmarking the model for evaluating cask drop orientations for which maximum damage is expected. Due to time constraints, a conference call is scheduled for March 23, 2011, to further discuss this issue.

It was noted by both the NRC and NAC that although MAGNATRAN was designed to transport MAGNASTOR TSCs, the contents and configuration of the fuel are not identical between the current transportation package application and the storage system. Only those TSCs that comply with the conditions of the MAGNATRAN Certificate of Compliance, when issued, will be transportable. As a result, loaded MAGNASTOR TSCs that do not comply with the conditions of the MAGNATRAN Certificate of Compliance will not be transportable.

The safety of the package relies, in part, on the pattern in which spent fuel assemblies are loaded into the TSC. Failure to load the correct assembly or to load into the correct location is considered a misload. NAC considers the probability of a misloaded assembly being transported and the probability of the cask being immersed during transport low. Staff expressed concern of misload due to the complicated loading patterns. NAC commented that guidance is lacking for misload anaylsis without performing burnup measurements. Currently, staff is revising ISG-8 to provide misload guidance in lieu of performing burnup measurements.

NAC discussed the project schedule and requested approval by December 31, 2011. NAC indicated that the need for the MAGNATRAN Certificate of Compliance is based on loading the canisters at the Zion Nuclear Power Station.

Docket No. 71-9356
TAC No. L24511

Enclosures:
1. Meeting Attendees
2. Agenda
3. Presentation Slides (Public Meeting)
4. Presentation Slides (Closed Meeting)

Distribution:
NRC Attendees
G:\SFST\Rankin\MAGNATRAN\MEETING SUMMARY 3-16-11.doc
ADAMS Package No.: ML110830597

OFC	SFST		SFST		SFST	
NAME	JRankin		MDeBose		MWaters	
DATE	3-22-2011		3-22-2011		3/23/2011	

"C" = Copy without attachment/enclosure "E" = Copy with attachment/enclosure "N" = No copy
OFFICIAL RECORD COPY

March 16, 2011, Public Meeting
Between NAC International and
the Nuclear Regulatory Commission

MEETING ATTENDANCE LIST

Jennie Rankin	NRC/SFST	301-492-3268
Meraj Rahimi	NRC/SFST	301-492-3338
Eli Goldfeiz	NRC/SFST	301-492-3277
Zhian Li	NRC/SFST	301-492-3235
David Tang	NRC/SFST	301-492-3328
Joe Borowsky	NRC/SFST	301-492-3563
Jeremy Smith	NRC/SFST	301-492-3340
Pamela Longmire	NRC/SFST	301-492-3562
Daniel Forsyth	NRC/SFST	301-492-3412
Michele Sampson	NRC/SFST	301-492-3292
Sara DePaula	NRC/SFST	301-492-3225
Jon Woodfield	NRC/SFST	301-492-3314
Robert Einziger	NRC/SFST	301-492-3283
Hipolito Gonzalez	NRC/SFST	301-492-3141
Haile Lindsay	NRC/SFST	301-492-3280
Craig Hrabal	NRC/SFST	301-492-3257
Veronica Wilson	NRC/SFST	301-492-3278
Michael Waters	NRC/SFST	301-492-3297
Holger Pfeifer	NAC	678-492-3292
Anthony Patko	NAC	678-328-1274
Craig Seaman	NAC	678-328-1221
Thomas Danner	NAC	678-328-1271
Mike Yaksh	NAC	678-328-1327
Kamran Tavassoli	Transnuclear	410-910-6944
Bruce Holmgren	Zion Solutions	224-280-3891
Donald Beckman	Zion Solutions	702-278-7312
Carlyn Greene	Ux Consulting Company	770-642-7745

Enclosure 1

Agenda for the
MAGNATRAN Post-Application
Public Meeting (Part I)
March 16, 2011, 1:00 – 2:30 p.m.

1:00 p.m.	Introduction/Opening Remarks	NRC/NAC
1:10 p.m.	General Overview of the MAGNATRAN Application	NAC
1:20 p.m.	Presentation of MAGNATRAN SAR Document Structure	NAC
1:30 p.m.	Design, Structural, and Thermal Considerations	NAC
1:50 p.m.	Shielding and Criticality Considerations	NAC
2:10 p.m.	Discussion of Request for Supplemental Information	NRC/NAC
2:15 p.m.	Schedule Requirements	NAC
2:20 p.m.	Public Questions/Comments	Public/NRC
2:25 p.m.	Closing Remarks	NRC/NAC
2:30 p.m.	Adjourn	

Enclosure 2

Agenda for the
MAGNATRAN Post-Application
Closed Meeting (Part II)
March 16, 2011, 2:30 – 4:00 p.m.

2:30 p.m.	Introduction/Opening Remarks	NRC/NAC
2:35 p.m.	MAGNATRAN SAR Proprietary Supplement	NAC
2:40 p.m.	Proprietary Design, Structural, and Thermal Considerations	NAC
3:10 p.m.	Proprietary Criticality Considerations	NAC
3:35 p.m.	Proprietary Responses to Request for Supplemental Information	NAC
3:50 p.m.	Questions/Comments	NRC/NAC
3:55 p.m.	Closing Remarks	NRC/NAC
4:00 p.m.	Adjourn	