

March 5, 2012

MEMORANDUM TO: Michael D. Waters, Acting Deputy Director
Division of Spent Fuel Storage and Transportation, NMSS

FROM: Kimberly J. Hardin, Senior Project Manager */RA/*
Licensing Branch
Division of Spent Fuel Storage and Transportation, NMSS

SUBJECT: SUMMARY OF FEBRUARY 23, 2012, MEETING WITH NAC
INTERNATIONAL TO DISCUSS A REVISION REQUEST TO ADD
SLOWPOKE FUEL AS AUTHORIZED CONTENTS IN THE MODEL NO.
NAC-LWT TRANSPORTATION PACKAGE (TAC NO. L24620)

Background

A meeting was held on February 23, 2012, in Rockville, Maryland, to discuss a revision request for the Model No. NAC-LWT transportation package. NAC International (NAC or the applicant) asked for the meeting to discuss a revision request to add SLOWPOKE fuel as an authorized content in the NAC-LWT Certificate of Compliance (CoC) No. 9225. This request is a high priority for review to support the Department of Energy's Global Threat Reduction Program. Additionally, NAC discussed the need for an expedited review.

The meeting was noticed on February 9, 2012 (ML120400681). The meeting attendance list is provided as Enclosure No. 1.

Discussion

The discussion generally followed the agenda (Enclosure No. 2). The primary reason for the meeting was to discuss a request for a revision request to CoC No. 9225 to authorize specific content addition of SLOWPOKE fuel.

The request is to ship SLOWPOKE reactor fuel from Canada to the U.S. The payload is uranium/aluminum fuel rods with aluminum cladding (also same matrix as MTR fuel in currently approved MTR baskets). Some rods are damaged and will be placed in screened Al canisters as currently authorized for MTR fuel.

NAC first provided a general overview of the revision request, followed by technical presentations, and a discussion of the schedule. The transmittal letter and its attachments, the safety analysis report (SAR) effective pages, the new drawings and drawing changes, and the new contents were generally described.

In the structural evaluation discussion, the design configuration was described. Additionally, the evaluation of the lid loading using a finite element analysis (FEA) model and the factor of safety was explained. Staff asked for and received a clarification of the drawings that show the DFCs and the inserts for the DFCs. Staff pointed out that the term "pellets" was used in the content description; however, there are no "pellets" in the SLOWPOKE fuel. Additionally, staff stated

that a definition of damaged fuel as it applies for this new content needs to be provided. NAC considered these comments in a supplement.

For the thermal evaluation discussion, NAC stated that the total heat load in the package is 5W compared to the currently approved heat load for MTR fuel of 1260 W.

In the shielding evaluation discussion, NAC described the use of SCALE/TRITON computer code in the depletion model to calculate the source terms. Additionally, a 3-D MCNP model was used to calculate the dose rates. Staff requested that NAC provide a more extensive description of the assumptions used, including why they are considered conservative, in the supplement.

In the criticality evaluation discussion, NAC described and showed graphically (in the slides) the MCNP5 v1.30 computer code analysis for the SLOWPOKE fuel. The criticality safety index requested is zero. The maximum reactivity calculated is $(k_{\text{eff}} + 2\sigma) < 0.6$. Staff requested that more detail be provided in Figure 6.7.2-1 of the SAR in the supplement.

NAC explained that other changes were made to the SAR for the procedures for the SLOWPOKE fuel loading and unloading, editorial changes, and minor drawing corrections. Staff stated that there is a procedure for loading the rods into the inserts and the canister into the package, but not for loading the insert into the DFC. NAC will consider this comment in the supplement.

The supplement was received by letter dated March 2, 2012, and is currently under staff review to support a CoC revision date by June 1, 2012.

A copy of the presentation slides is provided as Enclosure No. 3.

Docket No. 71-9225

TAC No. L24620

Enclosures:

1. Meeting Attendees
2. Agenda
3. Presentation Slides

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Distribution: (closes TAC No. L24620)

NRC Attendees BBenney MRahimi DPstrak MSampson
G:\SFST\Hardin\NAC-LWT\MEETING SUMMARY 02-23-12.docx; G:\SFST\Hardin\NAC-LWT\NAC-LWT-February 23 2012-Public Meeting (SLOWPOKE) Slides.pptx

ADAMS P8 Package No.: ML12066A150 ADAMD P8 Memo No.: ML12066A184

OFC	SFST	SFST	SFST
NAME	KHardin	MDeBose	CLipa
DATE	3/1/12	3/1/12	3/5/12

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

**February 23, 2012, Public Meeting
Between NAC International and
the Nuclear Regulatory Commission**

MEETING ATTENDANCE LIST

Kim Hardin	NRC/SFST
Christine Lipa	NRC/SFST
Michele Sampson	NRC/SFST
Jeremy Smith	NRC/SFST
Robert Einziger	NRC/SFST
Veronica Wilson	NRC/SFST
John Vera	NRC/SFST
Chris Bajwa	NRC/SFST
Anthony Patko	NAC International
Holger Pfeifer	NAC International
Jamie Adam	NAC International
Mike Yaksh	NAC International
Olivier Gandou	Transnuclear

Agenda for the
NRC/NAC NAC-LWT SLOWPOKE Amendment
Post Submission Public Meeting
February 23, 2012, 1:00 – 3:00 p.m.

Purpose: Post submission presentation of the NAC-LWT Transport CoC Amendment Request to include SLOWPOKE Fuel Elements as authorized content (Docket No. 71-9225)

1:00 p.m.	Introduction/Opening Remarks	NRC/NAC
1:10 p.m.	Presentation of NAC's Submittal NAC-LWT SAR Rev. LWT-12A Changes	NAC
2:00 p.m.	Technical Discussions	NAC/NRC
2:30 p.m.	Licensing Considerations/Schedule	NAC
2:40 p.m.	Questions and Answers	NRC/ NAC
2:50 p.m.	Public Questions/Comments	Public/NRC
2:55 p.m.	Closing Remarks	NRC/NAC