January 21, 2010

MEMORANDUM TO: Doug Weaver, 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 JANUARY 14, 2010, MEETING WITH TRANSNUCLEAR, INC., REGARDING REVISION TO CERTIFICATE OF COMPLIANCE NO. 9302 FOR MODEL NO. NUHOMS-MP 197 TRANSPORTATION PACKAGE

Background. On January 14, 2010, a meeting was held in Rockville, Maryland, at the request of Transnuclear, Inc. (TN) to discuss a proposed revision to the Certificate of Compliance (CoC) for the NUHOMS-MP 197 transportation package and Requests for Additional Information (RAIs) issued to TN on December 2, 2009. No regulatory decisions were made at the meeting. The list of meeting attendees is Enclosure 1. An agenda provided by TN is Enclosure 2. Non-Proprietary presentation slides are Enclosure 3. Proprietary presentation slides are Enclosure 4.

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

- Background. The proposed changes in the application to amend the CoC are complex and include: 1) authorizing eleven dry shielded storage canisters (DSCs) as payloads, including failed fuel; 2) the proposed use of burnup credit, including limited use of the proprietary French fission product data to develop code-to-code correction factors based on benchmarking TN codes with other French codes; and 3) incorporating high burnup fuel into a new inner canister.

- Summary of Meeting and Key Issue. Key RAIs pertain to high burnup fuel not remaining intact under hypothetical accident conditions (HAC) for transportation. To address this issue, the applicant must use ISG-19 for moderator exclusion, use ISG-19 for reconfiguration, provide adequate materials data to address the presence of radial hydrides, use adequate comparison analysis to that performed in TN-40 Amendment 10 regarding radial hydrides, or use an adequate combination of the above to demonstrate compliance with regulations. The applicant has requested a meeting in the second or third week of February to discuss their approach, in an effort to meet the March 2 date for responding to RAIs.

- Staff Comments.
    - Staff encouraged the applicant to avoid attempting to demonstrate compliance to regulations by only comparing to TN-40 Amendment 10, since TN-40 is a storage case and the key issue regarding this amendment concerns HAC for a transportation package.
    - Staff encouraged the applicant to view the draft Standard Review Plan regarding aging analysis for transportation and to provide an aging analysis for responding to materials RAIs.
    - Staff encouraged the applicant to provide a sensitivity analysis regarding whether wood thermal diffusivities adequately satisfy the regulations.
    - Regarding burnup reduction from 70 GWD/MTU to 62.5 GWD/MTU, staff encouraged the applicant to view precedent cases to determine what was approved and provided references.
    - Regarding calculating the shrinkage gap during lead pour, staff encouraged the applicant to provide an analysis which adequately modeled the gap and to provide tests such as gamma scans used to independently test hypotheses.
    - Staff encouraged the applicant to provide a computational fluid dynamics model to adequately demonstrate compliance that the personnel barrier is not exposed to a hot stream of air from the cask shield shell. Staff and the applicant agreed to discuss this further at the upcoming meeting.
    - Staff encouraged the applicant to provide an adequate thermal evaluation of the DSCs under normal conditions of transport. Staff and the applicant agreed to discuss this further at the upcoming meeting.
    - Regarding the thermal analysis and gaps, staff encouraged the applicant to not always rely on a 1:1 ratio between what staff accepted in Part 72 space to what staff may accept in Part 71 space, since regulations and accident conditions between storage and transportation packages are not the same.
    - Staff encouraged the applicant to provide a list of the limiting fuel parameters or a safety envelope as the limits apply to criticality for inclusion in the CoC.

Docket No. 71-9302
TAC No. L24336

Enclosures:
1. Attendees
2. Agenda
3. Presentation Slides (Non-Proprietary)
4. Presentation Slides (Proprietary)

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

MEETING ATTENDEES

Meeting Between the Nuclear Regulatory Commission
and Transnuclear, Inc.
January 14, 2010

Chris Staab	NRC/SFST
Eric Benner (part time)	NRC/SFST
Meraj Rahimi (part time)	NRC/SFST
Larry Campbell (part time)	NRC/SFST
Daniel Forsyth (part time)	NRC/SFST
Raymond Lorson (part time)	NRC/SFST
Bob Einziger (part time)	NRC/SFST
John Vera (part time)	NRC/SFST
Mike Waters (part time)	NRC/SFST
Zhian Li (part time)	NRC/SFST
Chris Cook (part time)	NRC/SFST
Bob Tripathi (part time)	NRC/SFST
Christian Fisher (part time)	NRC/SFST
Jorge Solis (part time)	NRC/SFST
Don Shaw	TN
Jayant Bondre	TN
Peter Shih	TN
Steve Streutker	TN
Raheel Haroon	TN
Prakash Narayanan	TN
Kamran Tavassoli	TN

AGENDA
Meeting Between the Nuclear Regulatory Commission
and Transnuclear, Inc.
January 14, 2010

1. Clarification of Structural and Materials Requests of Additional Information (RAIs)

2. Clarification of Thermal and Containment RAIs

3. Clarification of Shielding and Criticality RAIs

4. Clarification of General Information, Operating Procedures, Acceptance Criteria, and Maintenance Tests RAIs

5. Clarification of Criticality RAIs (Proprietary session)

Enclosure 2