

January 8, 2014

MEMORANDUM TO: Stephanie Coffin, Acting Deputy Director  
Division of Spent Fuel Storage and Transportation, NMSS

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

SUBJECT: SUMMARY OF DECEMBER 17, 2013, MEETING WITH  
TRANSNUCLEAR, INC.

### Background

Transnuclear, Inc. (TN) requested the meeting to discuss its proposed proprietary responses to the request for additional information (RAI) letter dated November 27, 2013, pertaining to the review of the amendment request for the Model No. NUHOMS MP197/197HB package. The meeting attendance list and the presentation slides are provided as Enclosure Nos.1 and 2, respectively.

### Discussion

Staff said that, because this application is the first one in a queue of high burn up fuel packages, TN is at the leading edge of some of the issues raised by the RAIs and RAI responses will receive a lot of scrutiny due to their precedent setting impact.

Regarding the materials RAIs, staff said that the issues raised by the RAIs are in a “state of flux,” e.g., it is not yet known if stress corrosion happens for chloride values below 100 mg, and staff is rethinking a lower cut-off bound to “eliminate” stress corrosion cracking. Thus, at this time, it is best for TN to delete that step, modify the flowchart, and put more emphasis on an examination approach unless there is no reason to do the examination. The approach chosen by TN did not require looking at the behavior of the fuel from its mechanical properties.

Regarding the criticality RAIs, staff generally agreed with the proposed responses and clarified the rationale for the RAIs: RAI 6.1 was a clarification from a previous RAI, staff needed the capacity of the basket in RAI 6.2 while it was looking for the overall tolerance of the thickness change in RAI 6.6. Staff also agreed with the new approach taken by TN (modeling a closed full reflection) in response to RAI 6.7.

Regarding the shielding RAI 5.1, TN said that it modeled fresh fuel in MCNP while taking credit for depletion. However, staff disagreed with this approach because (i) the actual fuel composition was not modeled, and (ii) TN did not account for the top and bottom sections of the fuel which have low burnup. Staff and TN then discussed three potential options to respond to RAI 5.1, in particular a fully integrated model of the system.

Staff said that the proposed response to RAI 5.2 looked good, and explained that RAI 7.1 was triggered by a lack of clear sequences in the operating steps. Staff believed that adding general dose locations as in the TN-RAM dose map will be helpful. Staff also said that the shipper cannot be held responsible to provide the radioactivity concentration thresholds used for the determination of a fuel rod breach and that the CoC holder needs to calculate it based on enrichment, burnup and cooling time.

Staff made no regulatory commitments during the meeting.

Docket No. 71-9302

TAC No. L24627

Enclosure 1: Meeting Attendees

Enclosure 2: TN Presentation (proprietary)

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Enclosure 1: Meeting Attendees

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Distribution: Attendees, M. Sampson, M. Lombard

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**Meeting Between Transnuclear, Inc. (TN) and the  
Nuclear Regulatory Commission  
December 17, 2013  
Meeting Attendees**

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