

May 13, 2013

MEMORANDUM TO: Anthony H. Hsia, 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 APRIL 30, 2013, MEETING WITH
TRANSNUCLEAR, INC.

Background

Transnuclear, Inc. (TN) requested two meetings to discuss its proposed responses to the request for additional information (RAI) letter dated February 28, 2013, pertaining to the review of the amendment request for the Model No. NUHOMS MP197/197HB package. The first meeting was held on April 23 to discuss selected thermal, materials, and structural RAI proposed responses. This meeting was devoted to selected proprietary shielding and criticality RAIs. The meeting was noticed on April 10, 2013. The meeting attendance list and the presentation slides are provided as Enclosure Nos.1 and 2, respectively.

Discussion

Staff stated that TN is at the leading edge of some of the issues raised by the RAIs, and that TN responses will receive a lot of scrutiny because of their precedent setting impact. The discussion centered on data treatment and actinide bias, sensitivity analyses, loading curves, reconfigured fuels, and neutron shielding in hypothetical accident conditions (HAC).

In order to revise the analysis associated with data patching, TN will use the surrogate data methodology presented in NUREG/CR-7108, "An Approach for Validating Actinide and Fission Products Burnup Credit Criticality Safety Analyses-Isotopic Composition Predictions." Staff explained that "outliers" were one of its concerns for the actinide isotopic depletion bias determination and that using a non-parametric method, thus giving a confidence interval, does help in bolstering TN's case.

Staff requested TN to clearly explain, at the beginning of each chapter of the application, its licensing strategy and defense-in-depth methodology for both normal conditions of transport (NCT) and HAC.

Staff explained that a draft NUREG on fuel reconfiguration is in preparation but that not all potential scenarios have been sorted out. Staff looked in particular at rod breakage/shifting, bending, expansion and contraction, and at rod shifting and sliding. Staff agreed that aging management issues, e.g., canisters susceptible to stress corrosion cracking, have not been resolved.

Staff said that TN may be making too many assumptions for fuel debris and reiterated that fact that release mechanisms are different for high burn up fuel rod breakage. Staff advised TN to

make "reasonable" assumptions for NCT, and look carefully at the assumptions made in terms of fragments at the middle zone of the fuel for both HAC and NCT.

Regarding the demonstration required for the neutron shielding under HAC, after a drop, puncture, and fire tests, staff expressed some reservations on TN's proposed response and told TN to provide both input and output files and the bias.

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 2: TN Presentation (proprietary)

Distribution: Attendees, M. Sampson, D. Pstrak, C. Araguas, M. Lombard

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**Meeting Between Transnuclear, Inc. (TN) and the
Nuclear Regulatory Commission
April 30, 2013
Meeting Attendees**

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