February 10, 2011

Mr. Donis Shaw
Licensing Manager
Transnuclear, Inc.
7135 Minstrel Way, Suite 300
Columbia, MD 21045

SUBJECT: SECOND (RESTART) REQUEST FOR ADDITIONAL INFORMATION FOR REVIEW OF AMENDMENT 11 TO THE STANDARDIZED NUHOMS® SYSTEM (TAC NO. L24380)

Dear Mr. Shaw:

By letter dated April 10, 2007, Transnuclear Inc. (TN) submitted an amendment request to the Nuclear Regulatory Commission (NRC) for Certificate of Compliance (CoC) No. 1004. This amendment proposes to include the following changes to the Standardized NUHOMS® storage system:

- Convert the Technical Specifications (TS) to the format contained in NUREG-1745, "Standard Format and Content for Technical Specifications for 10 CFR Part 72 Cask Certificates of Compliance."

- Adds the reduced-weight transfer cask designated as the OS197L.

On October 22, 2007, NRC staff provided a Request for Additional Information (RAI) based on their technical review of your application. You submitted your responses to that RAI on December 21, 2007. On March 27, 2009, NRC staff provided a second RAI based on their technical review of your application. You submitted your responses to that RAI on August 14, 2009, and supplemented the responses on November 20, 2009. As we noted in our letter to you of February 16, 2010, we restarted the Amendment 11 review with your responses to the second RAI, due to the significant change in direction for the amendment, detailed in your response. We sent one RAI following the restart (February 19, 2010), to which you responded on August 5, 2010, and supplemented the response on August 15, 2010.

The staff has determined that further information is needed to complete its technical review. The information requested is listed in the enclosure. Your response should be provided by February 24, 2011. If you are unable to meet this deadline, please notify us in writing, at least one week in advance, of your new submittal date and the reasons for the delay. The staff will then assess the impact of the new submittal date and notify you of a revised schedule. We have developed a updated schedule, as follows:

ACTION	SCHEDULED DATE
Request for Additional Information, Restart Round #2	2/10/11
Response to Restart RAI #2	2/24/11
Complete Safety Evaluation Report, Draft CoC, and Draft TS	4/29/11

Please reference Docket No. 72-1004 and TAC No. L24380 in future correspondence related to this licensing action. If you have any questions, please contact me at (301) 492-3371.

Sincerely,

/RA/

B. Jennifer Davis, Senior Project Manager
Licensing Branch
Division of Spent Fuel Storage and Transportation
Office of Nuclear Material Safety
and Safeguards

Docket No. 72-1004
TAC No. L24380

Enclosure:
Request for Additional Information

Please reference Docket No. 72-1004 and TAC No. L24380 in future correspondence related to this licensing action. If you have any questions, please contact me at (301) 492-3371.

Sincerely,

/RA/

B. Jennifer Davis, Senior Project Manager
Licensing Branch
Division of Spent Fuel Storage and Transportation
Office of Nuclear Material Safety
and Safeguards

Docket No. 72-1004
TAC No. L24080

Enclosure:
Request for Additional Information

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NAME:	JDavis*		WWheatley*		NJordan*		MRahimi*		RKJohnson*					
DATE:	1/6 /11 and 2/10/2011		1 / 6 / 11		1 / 7 / 11		1 /13/11		1/14 /11					

*See previous concurrence

TRANSNUCLEAR INC.

DOCKET NO. 72-1004

REQUEST FOR ADDITIONAL INFORMATION

RELATED TO AMENDMENT 11 TO THE

STANDARDIZED NUHOMS® SYSTEM

By application dated April 10, 2007, Transnuclear Inc. (TN) requested approval of an amendment to Certificate of Compliance (CoC) No. 1004. This amendment proposes to add several items to the CoC including:

- Convert the Technical Specifications (TS) to the format contained in NUREG-1745, "Standard Format and Content for Technical Specifications for 10 CFR Part 72 Cask Certificates of Compliance."

- Aspects associated with the reduced-weight transfer cask designated as the OS197L.

This request for additional information (RAI) identifies additional information needed by the Nuclear Regulatory Commission (NRC) staff in connection with its review of the amendment. The requested information is listed by section number and/or page number in TN's Safety Analysis Report (SAR) and associated documentation. NUREG-1536, "Standard Review Plan for Dry Cask Storage Systems," was used by the staff in its review of the amendment application.

Each individual RAI section describes information needed by the staff to complete its review of the application and the SAR and to determine whether the applicant has demonstrated compliance with the regulatory requirements.

CHAPTER 5 Shielding Evaluation, and
CHAPTER 8 Radiation Protection Evaluation

5-1 Make explicit reference to the Transfer Trailer shielding in the description of the OS197L TC located in Insert A of the CoC. Also include the cask weight limit for the OS197L cask (85 tons).

Insert A of the CoC defines the OS197L TC system, but makes no reference to the Transfer Trailer shielding as mentioned in 3d of the draft CoC.

This is requested to satisfy the requirements of 10 CFR 72.236.

5-2 Revise Table W.3-1 to add the word "Nominal" to the description in the last row of the table.

In response to RAI 5-14 (Restart RAI Round #1), clarification was provided which stated, in part, that the nominal loaded weight of the OS197L cask was approximately 85 tons. Table W.3-1 should be revised to specify that the weight listed is for the "Nominal" Loaded OS197L TC.

This is requested to satisfy the requirements of 10 CFR 72.236.

5-3 Provide clarification regarding the impact of the neutron shield on dose rates at the top of the cask.

In response to RAI 5-16 (Restart RAI Round #1), clarification was added to Section W.5.1.3 of the SAR to justify using the axial dose rate results from UFSAR Chapter K.5 and Chapter M.5. Part of this discussion involved the justification for those dose rate values for areas above the cask but within the overall radius of the cask. Section W.5.1.3 states, in part, that… "[i]t is assumed that the water neutron shielding on the side of the cask is lost during the accident. Therefore, accident and normal condition dose rates on top of the cask are not different when radial distances less than the radius of the cask are under consideration." What impact does the neutron shield have on dose rates at the top of the cask?

This is requested to satisfy the requirements of 10 CFR 72.236.

5-4 Confirm the maximum dose rate values discussed in Section W.5.4.8.3 of the SAR.

In response to RAI 5-25 (Restart RAI Round #2), the discussion in Section W.5.4.8.3 was revised to provide the comparison from the results shown in Table W.5-4. However, staff identified values in Section W.5.4.8.3 that were slightly different from those listed in Tables W.5-3 and W.5-12.

This is requested to satisfy the requirements of 10 CFR 72.236.

5-5 Confirm the bounding total dose rates for the OS197L TC with 32PT DSC and 61BT DSC under normal and accident conditions as specified in Tables W.5-6, W.5-7, W.5-9, and W.5-10 of the SAR.

Tables W.5-6, W.5-7, W.5-9, and W.5-10 list the expected bounding dose rates for a bare OS197L TC under normal and accident conditions. However, each table contains a footnote which states "Note: Gamma and neutron dose rate peaks do not always occur at the same location; therefore, the total dose rate is not always the sum of the gamma plus neutron dose rate." Guidance found in the shielding section of NUREG-1536 suggest that the SAR should indicate the dose rate at all locations accessible to occupational personnel during cask loading, transport, and maintenance and surveillance operations. It goes on to say that generally these locations include points at or near various cask components and in the immediate vicinity of the cask. This implies that in order to accurately access personnel exposure in such cases the total bounding dose rate should be indicative of the total dose rate to an individual at or near the distances specified in those tables.

This is requested to satisfy the requirements of 10 CFR 72.126.

5-6 Provide more detail concerning the amount of water that is in the DSC/TC annulus in Section 5.2.4 of the TS.

Section 5.2.4(e) of the TS states that the DSC/TC annulus is filled with water as part of the configuration used for all TC axial dose rate measurements. The staff concern is that the amount of water present could have a noticeable effect on the measurements. Please provide more detail as to the amount of water that is present in the DSC/TC annulus during the measurements.

This is requested to satisfy the requirements of 10 CFR 72.236.

5-7 In Section 5.2.4(e) of the TS, change the word “approximately,” in the sentence, “[i]n addition to the configuration above, decontamination area shielding *approximately* equal to 6 inches of steel is installed in the radial direction only for the OS197L,” to either “nominal” or “minimal”.

The TS as written lacks precision. Use of wording such as “approximately” does not provide an adequate definition of the tolerances associated with the shielding material mentioned in Section 5.2.4(e).

This is requested to satisfy the requirements of 10 CFR 72.236.