TRANSNUCLEAR
AN AREVA COMPANY

72-1004

June 25, 2008
E-26772

U. S. Nuclear Regulatory Commission
Attn: Document Control Desk
One White Flint North
11555 Rockville Pike
Rockville, MD 20852

Subject: Replacement UFSAR page for Revision 1 to Transnuclear, Inc. (TN) Application for Amendment 10 to the Standardized NUHOMS® System (Docket No. 72-1004; TAC NO. L24052)

References: 1. Letter from Robert Grubb (TN) to Document Control Desk (NRC), "Revision 1 to Transnuclear, Inc. (TN) Application for Amendment 10 to the Standardized NUHOMS® System (Docket No. 72-1004; TAC NO. L24052)," November 7, 2007 (E-25506)

Gentlemen:

Reference 1 provided Transnuclear (TN) responses to RAI #1 for TN's application for Amendment 10 to the Standardized NUHOMS® System. This submittal provides a replacement page for UFSAR page T.4-22, Revision 1, which inadvertently had the last line of text omitted when provided in Reference 1.

Should you have any questions regarding this, please do not hesitate to contact Mr. Don Shaw at 410-910-6878 or me at 410-910-6930.

Sincerely,

Robert Grubb
Senior Vice President - Engineering

cc: B. Jennifer Davis (NRC SFST) (11 paper copies of this cover letter and Enclosure 1, provided in a separate mailing)

Enclosures:

1. Replacement Amendment 10 Revision 1 UFSAR Page T.4-22

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Enclosure 1 to TN E-26772

Replacement Amendment 10 Revision 1 UFSAR Page T.4-22

T.4.5.3 OS197FC-B TC Thermal Model Results

The maximum temperature results for the 61BTH DSC shell assemblies and TC components during transfer are presented in Table T.4-7 through Table T.4-9. These results are for 31.2 kW and 22.0 kW heat loads. The DSC shell temperatures are then used as boundary conditions in the 61BTH DSC basket analysis presented in Section T.4.6.

T.4.5.3.1 Normal and Off-Normal Conditions Results

Table T.4-7 presents the maximum steady state component temperatures for the configuration of the TC with a 61BTH Type 1 DSC with 22.0 kW and 19.4 kW of decay heat. All component temperatures are well below their associated maximum allowable limits. Figure T.4-14 illustrates the temperature distribution within the TC at steady-state conditions during vertical transfer operations with no insolation and 120°F ambient.

Transient analyses are performed to determine the time limit for DSC transfer operations for 61BTH Type 2 DSC with a decay heat load higher than 22.0 kW up to 31.2 kW. The analyses assume that the transient analysis begins with water in the TC/DSC annulus and that with the TC in a vertical orientation (i.e., no credit is taken for heat transferred through the canister rails). At time = 0, the annulus water is assumed to be drained and the bolting of the TC top cover is initiated. This causes the system to heat up. Figure T.4-17 illustrates the predicted thermal response of the DSC and TC for this transient, assuming a decay heat load of 31.2 kW in a 61BTH Type 2 DSC. Figure T.4-17 also shows the steady state results of the same case. Based on targeted DSC shell temperatures of approximately 405°F (for HLZC 7) and 445°F (for HLZCs 5, 6 and 8) to avoid excessive fuel cladding temperatures, the transient analysis indicates that approximately 15 and 28 hours, respectively, are available to transfer the DSC into the HSM-H or take some other corrective actions. The anticipated corrective actions are:

- Complete the transfer of the DSC from the TC to the HSM-H, or
- Unbolt the TC top cover plate and flood the TC/DSC annulus with water if the TC is vertical, or
- Use of an external fan to circulate the air in the TC/DSC annulus if the TC is horizontal, or
- Return the TC to the TC handling area, unbolt the TC top cover plate and reflood the TC/DSC annulus with clean water.

These DSC shell temperatures are then used in the DSC basket model described in Section T.4.6 to calculate the basket and fuel cladding temperatures. The results from Section T.4.6 documented in Table T.4-12 show that even with these shell temperatures, there is considerable margin in the calculated cladding temperatures (734°F and 728°F calculated for 22.0 kW and 31.2 kW total decay heat cases, respectively vs. a 752°F limit).

To verify that the TC in the vertical mode is the controlling configuration, the canister loading transient with 31.2 kW heat load was repeated, but with the exception that at time = 0, the annulus water is assumed to be drained, the TC top cover is bolted and TC is rotated to the horizontal