72-1029

TRANSNUCLEAR
AN AREVA COMPANY

September 14, 2004
ANUH-01-04-06

Ms. Mary Jane Ross-Lee
Spent Fuel Project Office, NMSS
U. S. Nuclear Regulatory Commission
11555 Rockville Pike M/S 0-6-F-18
Rockville, MD 20852

Subject: Supplement to the Response to the Request for Additional Information (RAI) for Chapter A.4 and Submittal of Revision 3 of Application for Amendment No.1 of Advanced NUHOMS® Certificate of Compliance (CoC) No. 1029 for Dry Spent Fuel Storage Casks (TAC No. L23606)

References: 1. TN response to the Thermal RAIs and Submittal of Revision 2 of Application for Amendment No. 1 of the Advanced NUHOMS® Certificate of Compliance (CoC) No. 1029, Submitted July 2, 2004.

Dear Ms. Ross-Lee:

Transnuclear Inc. (TN) herewith submits a supplement to the thermal RAI response submitted previously (Reference 1).

As noted in Reference 1, the use of CFD based thermal analysis resulted in higher temperatures for the DSC support rods and guide sleeves. TN has resolved this issue by replacing SA564 Type 630 steel with SA-479 Type XM-19 steel for the support rods and spacer sleeves. The revised material is qualified for all anticipated operating conditions and is not subject to the fracture related issues applicable to SA564 Type 630 steel noted in RAI 3-3. In addition, the proposed Alternatives to the ASME Code for the 24PT4 DSC Basket have been revised to address the elevated temperatures of the guide sleeve and oversleeves for the blocked vent accident case.

Revision 3 of this application updates the affected sections of the SAR and Technical Specification 4.3.4 accordingly. A comprehensive listing of the changes implemented with a brief justification for each change is provided in Enclosure 2.

This submittal is organized in the following format to facilitate your staff's review:

- Affidavit for withholding proprietary information (Enclosure 1),
- A listing of the changes implemented in Revision 3 (Enclosure 2),
- Ten (10) copies of Application for Amendment No. 1 to Advanced NUHOMS® COC 1029, Proprietary Version (Replacement Pages Only, Enclosure 3), and
- Three (3) copies of Application for Amendment No. 1 to Advanced NUHOMS® COC 1029, Non-Proprietary Version (Replacement Pages Only, Enclosure 4).

NMSSD

This submittal includes proprietary information which may not be used for any purpose other than to support your staff's review of the application. In accordance with 10 CFR 2.390, I am providing an affidavit (Enclosure 1) specifically requesting that you withhold this proprietary information from public disclosure.

Should you or your staff require additional information to support review of this application, please do not hesitate to contact me at 510-744-6053 or Mr. Jayant Bondre at 510-744-6043.

Sincerely,

UBChopra

U. B. Chopra
Licensing Manager

Docket 72-1029

Enclosures:
1. Affidavit for withholding proprietary information.
2. A listing of the changes implemented in Revision 3
3. Ten (10) copies of Application for Amendment No. 1 to Advanced NUHOMS® COC 1029 (Replacement Pages Only, Proprietary Version,).
4. Three (3) copies of Application for Amendment No. 1 to Advanced NUHOMS® COC 1029 (Replacement Pages Only, Non-Proprietary Version).

CC: Mr. Ray Wharton
Spent Fuel Project Office, NMSS
U. S. Nuclear Regulatory Commission
11555 Rockville Pike M/S O13-D-13
Rockville, MD 20852

TRANSNUCLEAR
AN AREVA COMPANY

ENCLOSURE 1

AFFIDAVIT

AFFIDAVIT PURSUANT TO 10 CFR 2.390

Transnuclear, Inc.)
State of California) SS.
County of Alameda)

I, Jayant Bondre, depose and say that I am the Manager of Engineering and Licensing of Transnuclear, Inc., duly authorized to make this affidavit, and have reviewed or caused to have reviewed the information which is identified as proprietary and referenced in the paragraph immediately below. I am submitting this affidavit in conformance with the provisions of 10 CFR 2.390 of the Commission's regulations for withholding this information.

The information for which proprietary treatment is sought is contained in Enclosure 3 of this submittal and as listed below:

1. Drawing ANUH-01-4001, Revision 2 (Proprietary)

This document has been appropriately designated as proprietary.

I have personal knowledge of the criteria and procedures utilized by Transnuclear, Inc. in designating information as a trade secret, privileged or as confidential commercial or financial information.

Pursuant to the provisions of paragraph (b) (4) of Section 2.390 of the Commission's regulations, the following is furnished for consideration by the Commission in determining whether the information sought to be withheld from public disclosure, included in the above referenced document, should be withheld.

1) The information sought to be withheld from public disclosure are drawings relating to the design of the Advanced NUHOMS® Cask, which is owned and has been held in confidence by Transnuclear, Inc.

2) The information is of a type customarily held in confidence by Transnuclear, Inc. and not customarily disclosed to the public. Transnuclear, Inc. has a rational basis for determining the types of information customarily held in confidence by it.

3) The information is being transmitted to the Commission in confidence under the provisions of 10 CFR 2.390 with the understanding that it is to be received in confidence by the Commission.

4) The information, to the best of my knowledge and belief, is not available in public sources, and any disclosure to third parties has been made pursuant to regulatory provisions or proprietary agreements which provide for maintenance of the information in confidence.

5) Public disclosure of the information is likely to cause substantial harm to the competitive position of Transnuclear, Inc. because:

   a) A similar product is manufactured and sold by competitors of Transnuclear, Inc.

b) Development of this information by Transnuclear, Inc. required expenditure of considerable resources. To the best of my knowledge and belief, a competitor would have to undergo similar expense in generating equivalent information.

c) In order to acquire such information, a competitor would also require considerable time and inconvenience related to the development of a design and analysis of a dry spent fuel storage system.

d) The information required significant effort and expense to obtain the licensing approvals necessary for application of the information. Avoidance of this expense would decrease a competitor's cost in applying the information and marketing the product to which the information is applicable.

e) The information consists of description of the design and analysis of a dry spent fuel storage and transportation system, the application of which provides a competitive economic advantage. The availability of such information to competitors would enable them to modify their product to better compete with Transnuclear, Inc., take marketing or other actions to improve their product's position or impair the position of Transnuclear, Inc.'s product, and avoid developing similar data and analyses in support of their processes, methods or apparatus.

f) In pricing Transnuclear, Inc.'s products and services, significant research, development, engineering, analytical, licensing, quality assurance and other costs and expenses must be included. The ability of Transnuclear, Inc.'s competitors to utilize such information without similar expenditure of resources may enable them to sell at prices reflecting significantly lower costs.

Further the deponent sayeth not.

Jayant Bondre
Manager of Engineering and Licensing, Transnuclear, Inc.

Subscribed and sworn to me before this 14th day of September, 2004, by Jayant R. Bondre.

Notary Public

ESI1 SHANNON L. CHRISTENSEN COMM. #1485004 Notary Public-California ALAMEDA COUNTY My Comm. Exp. May 18, 2008 ESI1

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ENCLOSURE 2

LIST of CHANGES

List of Changes for Revis. 3 of COC 1029 Amendment 1

SAR/TS Page No or Drawing No	Description of Change	Reason for Change
TS Section 4.3.4, Page 4-6	Add 2 new alternatives to the "Basket Alternatives to the ASME Code, Subsection NG/NF" to address the non compliance of (a) the DSC oversleeve to guidesleeve welds and (b) the maximum temperature limit of 800°F for Type 304 plate (Applicable to 24PT4 DSC guidesleevs, oversleeves and failed fuel cans only for the blocked vent tranient of approximately 25 hours).	Item (a) was specified in Table A.3.1-6 but was inadvertently omitted from the Tech Specs. Item (b) reflects the revised CFD based thermal analysis of the 24PT4 DSC basket.
Page A.1.1-1	List the revised 24PT4 DSC support rod and spacer sleeve size and material as a change relative to 24PT1 DSC.	Revised thermal analysis for 24PT4 DSC basket.
Page A.1.5-1	List the current revision of the 24PT4 DSC drawings which reflects the revised support rod assembly changes.	Editorial.
Page A.2.2-2	Add the words "...as described in Tables A.3.1-5 and A.3.1-6" to provide a cross-reference to ASME Code compliance tables.	Clarification.
Page A.3.1-12	Update Table A.3.1-6 with a new alternative and appropriate justification for the elevated temperatures of the Type 304 material used for the guide sleeve, over sleeves, and failed fuel cans (24PT4 DSC only).	Revised thermal analysis for 24PT4 DSC basket.
Page A.3.3-1	Revise first and third bullets to reflect the use of revised material.	Revised thermal analysis for 24PT4 DSC basket.
Page A.3.3-4	Revise Table A.3.3-2 to correct the referenced Code Case to N-499-1.	Minor correction.
Page A.3.3-5	Update Table A.3.3-3 to reflect the use of SA-479 Type XM-19.	Revised thermal analysis for 24PT4 DSC basket.
Page A.3.4-4	Revise Section A.3.4.4.3.2 to reflect the revised support rod preload values and the revised basket structural analysis results.	Revised thermal analysis for 24PT4 DSC basket.

SAR/TS Page No or Drawing No	Description of Change	Reason for Change
Page A.3.6-7	Add a footnote to the allowable stress for the cover plate welds.	Clarification to address NRC comment.
Page A.3.6-8	Add a discussion related to the acceptability of the elevated DSC guide sleeve temperatures.	Revised thermal analysis for 24PT4 DSC basket.
Page A.3.6-16 and A.3.6-27	Reflect reduced support rod preload values and correct the blocked vent acceptance temperature limit. Revise Table A.3.6-9 to reflect the updated structural analysis due to the use of the revised support rod assembly configuration.	Revised thermal analysis for 24PT4 DSC basket.
Page A.3.6-17, A3.6-17a, A.3.6-27a thru A.3.6-27e	Reconcile the AHSM structural analysis results with the updated AHSM temperature profile due to the storage of 24PT4 DSC. Added new Tables A.3.6-10 thru A.3.6-14 to reflect the revised AHSM support steel structural analysis.	Reflect the updated AHSM thermal analysis results.
Page A.3.6-20	Update Table A.3.6-2 as marked.	Revised 24PT4 DSC Shell assembly structural analysis in response to staff's question.
Page A.3.6-21	Update Table A.3.6-3 as marked. Delete footnotes 2 and 3.	Revised 24PT4 DSC Shell assembly structural analysis in response to staff's question.
Page A.3.6-24	Update Table A.3.6-6 as marked. Delete footnote 1.	Revised 24PT4 DSC Shell assembly structural analysis in response to staff's question.
Page A.3.6-26	Update Table A.3.6-8 as marked.	Address blocked vent case acceptability.
Page A.3.7-1	Update References.	Editorial

SAR/TS Page No or Drawing No	Description of Change	Reason for Change
Page A.4.1-3	Update Table A.4.1-1 as marked.	Correction of the allowable temperature range for the spacer disc. Also, update the range for the revised material of the support rod/spacer sleeve.
Page A.4.1-4	Update Table A.4.1-2 as marked.	Correction of the allowable temperature range for the spacer disc. Also, update the range for the revised material of the support rod/spacer sleeve.
Page A.4.2-2	Update material property data for the support rod/spacer sleeves to reflect the use of SA-479 Type XM-19.	Revised thermal analysis for 24PT4 DSC basket.
Page A.4.4-8	Add a brief discussion related to the non-symmetrical solution of the 24PT4 DSC basket thermal analysis inside AHSM along with a justification of its acceptability.	Response to NRC comment.
Page A.4.4-9	Add a brief discussion related to the non-symmetrical solution of the 24PT4 DSC basket thermal analysis inside TC along with a justification of its acceptability.	Response to NRC comment.
Page A.4.4-thru A.4.4-43	Replace incorrect version of Figures A.4.4-20 thru A.4.4-23 with corrected version	Correct an inadvetent error.
Page A.4.7-2 and A.4.7-3	Add a discussion of the sensitivity analysis performed for vacuum drying to address the change in the size and material of the 24PT4 support rod material.	Reflect the revised size and material of the support rod/spacer sleeve.
Page A.6.1-1	Revise the last sentence of the second paragraph as marked.	Editorial correction.

SAR/TS Page No or Drawing No	Description of Change	Reason for Change
Page A.6.3-8	Update Table A.6.3-1 to add a footnote which clarifies the support rod parameters for which the criticality analysis was performed. The previous analysis remains bounding.	Address the impact of the revised support assembly configuration.
Description of Changes to SAR Drawings included in Section A.1.5.2		
Dwg ANUH-01-4001, Sheet 1	Revise Note 1 to specify support rod pretension of up to 10.0 kips.	Revised thermal analysis for 24PT4 DSC basket.
Dwg ANUH-01-4001, Sheet 1	Revise Note 8 as shown	Revise to perform DSC outer top cover weld PT at root, final, and every 1/4" in accordance with NB-5245 in response to staff's comments.
Dwg ANUH-01-4001, Sheet 1	Delete Note 23 and associated cross references on the Parts List to reflect the replacement of SA-564 Type 630 steel with SA-479 Type XM-19 steel for 24PT4 basket support rods and spacer sleeves	Revised thermal analysis for 24PT4 DSC basket.
Dwg ANUH-01-4001, Sheet 1	Delete Item 42 (Center Post for the Top and Bottom Shield Plug) from the Parts List and a cross-reference to Note 44.	Response to NRC comment.
Dwg ANUH-01-4001, Sheet 2	Revise Section E-E to delete an incorrect cross-reference to Note 8	Correction.

SAR/TS Page No or Drawing No	Description of Change	Reason for Change
Dwg ANUH-01-4001, Sheet 2	Revise Detail 7 to clarify the marking requirements on the siphon and vent block (to be consistent with the revised contents of Note 49)	Response to NRC comment.
Dwg ANUH-01-4001, Sheet 3	Revise Detail 2 to clarify the marking requirements on the DSC guidesleeve (to be consistent with the revised contents of Note 49)	Response to NRC comment.
Dwg ANUH-01-4001, Sheet 4	Revise Section D-D to add a cross-reference to Note 8 for the DSC Outer Top Cover Plate PT requirements	Correction
Dwg ANUH-01-4001, Sheet 5	Delete Section U-U and V-V to reflect the deletion of top center post (Item 42 on the Parts List) from the top and bottom shield plug. Also, revise Detail 1 accordingly.	Response to NRC comment.
Dwg ANUH-01-4001, Sheet 6	Delete Note 44 to reflect the deletion of the center post (Item 42) for the top and bottom shield plug.	Response to NRC comment.
Dwg ANUH-01-4001, Sheet 6	Revise the marking on the Failed Fuel Can to be consistent with the revised contents of Note 49.	Response to NRC comment.
Dwg ANUH-01-4001, Sheet 6	Revise contents of Note 49 as marked to remove ambiguity regarding marking requirements for the DSC components	Response to NRC comment.