TRANSNUCLEAR
AN AREVA COMPANY

January 12, 2007
E-24378

72-1004

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

Subject: Application for Amendment 10 of the NUHOMS® Certificate of Compliance No. 1004 for Spent Fuel Storage Casks, Revision 0

Gentlemen:

In accordance with 10 CFR 72.244, Transnuclear, Inc. (TN) herewith submits its application to amend Certificate of Compliance (CoC) 1004 for the Standardized NUHOMS® System. This application proposes to add two new dry shielded canisters (DSCs), designated the NUHOMS®-61BTH DSC and the NUHOMS®-32PTH1 DSC, to the authorized contents of the standardized NUHOMS® system. Also included are minor changes to allow storage of Westinghouse 15x15 Partial Length Shield Assemblies (PLSAs) in NUHOMS®-24PTH DSC and Control Components in NUHOMS®-32PT DSC, plus a change that withdraws the analysis that determines the maximum allowable assembly average initial enrichment as a function of soluble boron concentration and Poison Rod Assembly (PRA) loading for certain fuel assemblies associated with the NUHOMS® -32PT DSC.

The NUHOMS®-61BTH system is designed to store up to 61 intact (or up to 16 damaged and the balance intact) BWR fuel assemblies with a maximum assembly average initial enrichment of 5.0 wt. %, a maximum assembly average burn up of 62 GWd/MTU, and a minimum cooling time of 3.0 years. The NUHOMS®-61BTH system is designed to accommodate a maximum heat load of up to 31.2 kW per canister.

The NUHOMS®-32PTH1 system is designed to store up to 32 intact (or up to 16 damaged and the balance intact) PWR fuel assemblies with a maximum assembly average initial enrichment of 5.0 wt. %, a maximum assembly average burn up of 62 GWd/MTU, and a minimum cooling time of 3.0 years. The NUHOMS®-32PTH1 system is designed to accommodate a maximum heat load of up to 40.8 kW per canister.

Transnuclear, Inc. is in discussions with certain utilities who would need to use the provisions of this amendment in early February 2008. Accordingly, TN requests that the staff assign appropriate priority for review of this application consistent with that timing.

Enclosure 2 of this application provides a description, justification, and evaluation of the amendment changes, including details regarding the justification for this amendment. Enclosures 3 and 4 provide the proprietary and non-proprietary versions, respectively, of the proposed changes to the NUHOMS® CoC 1004 Technical Specifications and the proposed changes to the Standardized NUHOMS® System UFSAR, Revision 9.

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Please note: The Technical Specifications reflect incorporation of CoC 1004 Amendment 9 changes, although Amendment 9 is still in the Rulemaking process at this time. Those Amendment 9 changes are not shown with italicized text and revision bars, as are the proposed Amendment 10 changes.

72-1004

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. This submittal also contains appropriately labeled security-related sensitive information which should be withheld under 10 CFR 2.390. Based on this, two different versions of this application are enclosed, a "Proprietary, Non-pubic" version, and a "Non-proprietary, Public" version.

Transnuclear looks forward to working with the NRC staff on this amendment application. TN is prepared to meet with the staff shortly after the staff has received this application to discuss the contents of the submittal and resolve any questions you might have. Should the NRC staff require additional information to support review of this application, 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: Mr. Joseph Sebrosky (NRC SFST) (one paper copy of this cover letter and Enclosures 1 and 2, plus 11 paper copies of Enclosure 3, provided in a separate mailing)

Enclosures:

1. Affidavit
2. Description, Justification, and Evaluation of the Amendment 10 Changes
3. Proposed changes to the NUHOMS® CoC 1004 Technical Specifications and the Standardized NUHOMS® System UFSAR, Revision 9 (Proprietary, Non-public version)
4. Proposed changes to the NUHOMS® CoC 1004 Technical Specifications and the Standardized NUHOMS® System UFSAR, Revision 9 (Non-proprietary, Public version)

AFFIDAVIT PURSUANT
TO 10 CFR 2.390

Transnuclear, Inc.)
State of Maryland) SS.
County of Howard)

I, Robert Grubb, depose and say that I am Senior Vice President 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 2 and as listed below:

1. UFSAR Drawings Listed in Sections T.1.5 and U.1.5
2. UFSAR Sections T.3.5 and T.3.6.3, plus Tables T.3.5-1 through T.3.5-4 and T.3.5-6 through T.3.5-12, plus Figures T.3.5-1 and T.3.5-5 through T.3.5-12 and T.3.6-36 through T.3.6-45
3. UFSAR Sections U.3.5.3, U.3.5.4, and U.3.6.3, plus Tables U.3.5-5, U.3.5-6, and U.3.5-7, plus Figures U.3.5-5 through U.3.5-16 and U.3.6-47 through U.3.6-55
4. UFSAR Sections T.5.5, T.6.6.4 and T.6.6.5, U.5.5, and U.6.6.2 through U.6.6.7

These documents have 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 the design drawings and input files related to the analysis of NUHOMS® casks which are owned and have 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 descriptions of the design and analysis of dry spent fuel storage and transportation systems, the application of which provide 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.

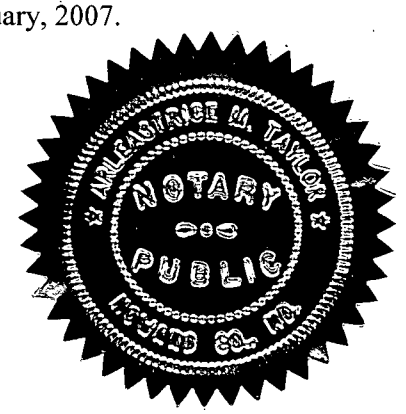
Further the deponent sayeth not.

Robert Grubb
Senior Vice President, Transnuclear, Inc.

Subscribed and sworn to me before this 12th day of January, 2007.

Notary Public

My Commission Expires 10 / 14 / 2008



Enclosure 2 to TN E-24378

Description, Justification, and Evaluation of the Amendment 10 Changes

1.0 INTRODUCTION

The scope of Amendment 10 to CoC 1004 application includes four separate changes as described in the following paragraphs:

Change No. 1:

Add a new NUHOMS®-61BTH system to the Standardized NUHOMS® system described in the UFSAR. The NUHOMS®-61BTH system is a modular canister based spent fuel storage and transfer system, similar to the Standardized NUHOMS®-61BT system described in Appendix K of the UFSAR.

The NUHOMS®-61BTH system consists of the following new or modified components:

- A new dual purpose (Storage/Transportation) Dry Shielded Canister (DSC), with two alternate configurations, designated as NUHOMS®-61BTH Type 1 or Type 2 DSC. The 61BTH Type 1 DSC is very similar to the previously approved 61BT DSC described in Appendix K of the UFSAR but is designed to accommodate a maximum heat load of 22.0 kW. The 61BTH Type 2 DSC is designed with thicker cover plates and aluminum basket rails to accommodate a maximum heat load of 31.2 kW.

- The 61BTH DSC basket is designed with three alternate neutron absorber materials with each material analyzed for six different B10 loadings to accommodate the various fuel enrichment levels. The six alternate 61BTH basket configurations are designated as Type "A" for the lowest B10 loading to Type "F" for the basket with the highest B10 loading.

- The 61BTH DSC Type 1 is stored in either the previously approved Standardized Horizontal Storage Module (HSM) described in the UFSAR or in a slightly modified version of the previously approved HSM-H module described in Appendix P of the UFSAR. The 61BTH DSC Type 2 must be stored in the HSM-H module only.

- The 61BTH DSC Type 1 is transferred to the ISFSI in either the previously approved OS197/OS197H Transfer Cask (TC) described in the UFSAR or in a slightly modified version of the previously approved OS197FC TC described in Appendix P of the UFSAR. This modified version of the TC is designated as OS197FC-B TC. The 61BTH Type 2 is transferred to the ISFSI in OS197FC-B only.

The NUHOMS®-61BTH system is designed to store up to 61 intact (or up to 16 damaged and balance intact) BWR fuel assemblies as described in his submittal. The fuel to be stored is limited to a maximum lattice average initial enrichment of 5.0 wt. %, a maximum assembly average burn up of 62 GWd/MTU and a minimum cooling time of 3.0 years.

Change No. 2:

Add a new NUHOMS®-32PTH1 system to the Standardized NUHOMS® system described in the UFSAR. The NUHOMS®-32PTH1 system is a modular canister based spent fuel storage and transfer system, similar to the Standardized NUHOMS®-24PTH system described in Appendix P of the UFSAR.

The NUHOMS®-32PTH1 system consists of the following new or modified components:

- A new dual purpose (Storage/Transportation) DSC, with three alternate length configurations, designated as Type 32PTH1-S DSC for short length, Type32PTH1-M DSC for medium length and Type 32PTH1-L DSC for a long DSC. The 32PTH1 DSC is designed with a slightly larger diameter than the previously licensed NUHOMS DSCs to increase the system capacity. In addition, it accommodates a maximum heat load of 40.8 kW/DSC.

- The 32PTH1 DSC basket is designed with two alternate basket types: aluminum rails, designated as Type 1 basket or with steel rails, designated as Type 2 basket. In addition, each basket type is provided with three alternate neutron absorber materials, with each material analyzed for five different B10 loadings to accommodate the various fuel enrichment levels. The five alternate 32PTH1 basket configurations are designated as Type "A" for the lowest B10 loading to Type "E" for the basket with the highest B10 loading.

- The 32PTH1 DSC is stored in a modified version of the previously approved HSM-H module described in Appendix P of the UFSAR. The diameter of the HSM-H access door is increased to accommodate the larger diameter of the 32PTH1 DSC, with spacers provided to accommodate the various DSC lengths of the 32PTH1 DSC. In addition, an alternate "high-seismic" option of the HSM-H, designated as HSM-HS, is added to the UFSAR for storing 32PTH1 DSC. The HSM-HS module is qualified for 1.0g horizontal and 1.0g vertical acceleration levels.

- The 32PTH1 DSC is transferred to the ISFSI in OS200 TC which is a modified version of the previously approved OS197 TC described in the UFSAR. The OS200 TC has a slightly larger TC cavity diameter and length relative to OS197 TC to accommodate the larger dimensions of the 32PTH1 DSC. An alternate TC design, with an optional modified top to allow air circulation through the TC/DSC annulus at certain heat loads, designated as OS200 FC TC, is also provided.

The NUHOMS®-32PTH1 system is designed to store up to 32 intact (or up to 16 damaged and balance intact) PWR fuel assemblies with or without Control Components as described in this submittal. The fuel to be stored is limited to a maximum assembly average initial enrichment of 5.0 wt. %, a maximum assembly average burn up of 62 GWd/MTU and a minimum cooling time of 3.0 years.

Change No. 3:

This change seeks to expand the authorized content of the NUHOMS®-32PT DSC to include PWR fuel assemblies with Control Components such as Burnable Poison Rod Assemblies (BPRAs), Thimble Rod Assemblies (TPAs), Control Rod Assemblies (CRAs), Rod Cluster Control Assemblies (RCCA), Vibration Suppressor Inserts (VSI)s, Axial Power Shaping Rod Assemblies (APSRAs), Orifice Rod Assemblies (ORAs), Neutron Source Assemblies (NSAs) and Neutron Sources. All PWR fuel assemblies currently authorized for storage in 32PT DSC may store Control Components except CE 15x15.

An additional change is included that seeks to withdraw the analysis that determines the maximum allowable assembly average initial enrichment as a function of soluble boron concentration and Poison Rod Assembly (PRA) loading for the WE14, CE14 and CE15 assembly classes with the 20-poison plate basket in the NUHOMS® -32PT DSC. This basket design has been determined to be uneconomical and therefore this detailed evaluation is removed for simplicity.

Change No. 4:

This change seeks to add WE 15x15 Partial Length Shield Assemblies (PLSAs) to the authorized content of the NUHOMS®-24PTH DSC described in Appendix P of the UFSAR. It also includes additional low enrichment burnups and cooling time option in the fuel qualification table for the 24PTH DSC.

2.0 BRIEF DESCRIPTION OF THE CHANGE

2.1 Changes to the NUHOMS® CoC 1004 Technical Specifications

Enclosures 3 and 4 of this submittal contain a proposed revision of the NUHOMS® CoC 1004 Technical Specifications. The proposed changes are indicated by italic text and revision bars.

The Technical Specifications reflect incorporated CoC 1004 Amendment 9 changes, although Amendment 9 is still in the Rulemaking process at this time; those Amendment 9 changes are not shown with italicized text and revision bars.

A brief description for each of the suggested changes to the Technical Specifications is provided in the following paragraphs.

- Add a clarification to paragraph 1.0, "Introduction", to clarify that the generic term "HSM" as used in the document includes both the Standardized HSM and HSM-H, unless specifically called out otherwise. Add a similar clarification to clarify that the generic term "TC" as used in the document includes both the Standardized transfer cask and the OS197 type transfer cask, unless specifically called out otherwise. This is a clarification of the terminology used in the Technical Specifications.

- Revise paragraph 1.1.1, item 1, to clarify that the 100°F maximum daily average temperature is applicable to all DSCs except the 32PTH1 DSC. The 32PTH1 DSC is designed for a 106°F maximum daily average temperature. In addition, clarify that the maximum yearly average temperature of 70°F is applicable to the 24P, 52B and 61BT DSCs as documented in the FSAR.

- Revise paragraph 1.1.1, item 2, to include the applicability of the specified off-normal ambient temperature limits to the NUHOMS®-61BTH and NUHOMS®-32PTH1 DSCs being added. .

- Revise paragraph 1.1.1, item 3, to specify the different seismic levels applicable to the systems using the Standardized HSM and HSM-H. The increased seismic levels for systems using the HSM-H and HSM-HS modules are consistent with the structural analysis provided in this submittal.

- Add a new condition which specifies a minimum copper content requirement for any load-bearing carbon steel component of the DSC support structure of a HSM-H. This restriction applies if the ISFSI is located in a coastal salt water marine atmosphere.

- Revise paragraph 1.1.2 and 1.1.7 to reflect the addition of 61BTH and 32PTH1 systems.

- Revise paragraph 1.1.10 to be consistent with the structural analysis presented in Appendix U of the FSAR that at least three HSM-HS modules must be connected with each other.

- Revise "Limit/Specification" "Action," and "Bases" sections of Specification 1.2.1, "Fuel Specification", to add reference to Tables 1-1t, 1-1u, 1-1aa, and 1-1bb. Table 1-1t and Table 1-1u specify the applicable parameters for each type of BWR fuel allowed to be stored in the NUHOMS®-61BTH system. Table 1-1-1aa and Table 1-1bb specify the applicable parameters for each type of PWR fuel allowed to be stored in the NUHOMS®-32PTH1 system.

- Revise the "Bases" section of Specification 1.2.1, "Fuel Specification", to provide the supporting bases for the storage of authorized BWR and PWR fuel in the NUHOMS®-61BTH and 32PTH1 DSCs respectively. Add a cross reference to FSAR Appendices T and U which provide the safety analyses for the 61BTH and the 32PTH1 systems. In addition, add the supporting bases for the addition of Control Components to the content of the NUHOMS®-32PT DSC.

- Revise the "Bases" section of Specification 1.2.1 "Fuel Specification", to include specific subsections of FSAR Chapters T.9 and U.9 related to the qualification and testing requirements of the neutron absorber materials used in 61BTH and 32PTH1 DSCs respectively. This cross-reference makes the listed FSAR sections an integral part of the Technical Specifications.

- Revise Table 1-1e and Table 1-1f to reflect the various parameters applicable to Control Components allowed for storage in the NUHOMS®-32PT DSC.

- Revise Table 1-1g to reflect the modifications to the soluble boron loading specification for storage of Control Components with the various fuel assemblies authorized for storage in the NUHOMS®-32PT DSC. In addition, revise Table 1-1g to explicitly show the applicable criticality requirements for fuel assemblies with or without Control Components

- Revise Table 1-1l and Table 1-1m to specify the parameters related to the addition of WE 15x15 PLSAs for storage in the NUHOMS®-24PTH DSC. Revise the description of Reconstituted Assemblies to be consistent with the shielding analysis provided in UFSAR Chapter P.5.

- Revise Table 1-1n to reflect the generic definition of Control Components.

- Revise Table 1-1r to correct a spelling error for the term "areal density".

- Add Table 1-1t to specify the acceptable parameters for each type of intact or damaged BWR fuel assembly class allowed to be stored in the NUHOMS®-61BTH DSC.

- Add Table 1-1u to specify the acceptable BWR fuel assembly design characteristics of fuel authorized for storage into the NUHOMS®-61BTH DSC.

- Add Table 1-1v to specify the maximum lattice average enrichment of intact fuel allowed for storage in the NUHOMS®-61BTH DSC as a function of the DSC/basket type and minimum B10 loading in the poison plates.

- Add Table 1-1w to specify the maximum lattice average enrichment of damaged fuel allowed for storage in the NUHOMS®-61BTH DSC as a function of the DSC/basket type and minimum B10 loading in the poison plates.

- Add Table 1-1aa to specify the acceptable parameters for each type of intact PWR fuel assembly class allowed to be stored in the NUHOMS®-32PTH1 DSC.

- Add Table 1-1bb to specify the acceptable PWR fuel assembly design characteristics of fuel authorized for storage into the NUHOMS®-32PTH1 DSC.

- Add Table 1-1cc to specify the maximum assembly average initial enrichment for which each intact fuel assembly class (with or without CCs) is qualified as a function of soluble boron concentration and basket type (fixed boron) for storage in the NUHOMS®-32PTH1 DSC.

- Add Table 1-1dd to specify the maximum assembly average initial enrichment for which each damaged fuel assembly class (with or without CCs) is qualified as a function of soluble boron concentration and basket type (fixed boron) in the NUHOMS®-32PTH1 DSC.

- Add Table 1-1ee to specify the thermal and radiological characteristics for Control Components authorized for storage in the NUHOMS®-32PT and NUHOMS®-32PTH1 DSC.

- Add Table 1-1ff to specify the minimum B10 content of the poison plates as a function of the various NUHOMS®-32PTH1 basket types.

- Revise Tables 1-3a through 1-3h to include additional initial enrichments, to meet client needs.

- Add Fuel Qualification Tables 1-4a, 1-4b, 1-4c, 1-4d, 1-4e and 1-4f for the NUHOMS®-61BTH DSC.

- Add Fuel Qualification Tables 1-5a, 1-5b, 1-5c, 1-5d, 1-5e and 1-5f for the NUHOMS®-32PTH1 DSC.

- Add Figures 1-17, 1-18, 1-19, 1-20, 1-21, 1-22, 1-23 and 1-24 to specify the eight heat load zoning configurations analyzed for the NUHOMS®-61BTH DSC.

- Add Figure 1-25 to specify the locations inside the NUHOMS®-61BTH DSC where up to 16 damaged fuel assemblies may be stored.

- Add Figures 1-26, 1-27, and 1-28 to specify the three heat load zoning configurations analyzed for the NUHOMS®-32PTH1 DSC.

- Revise the Title and "Applicability" subsections of Specification 1.2.3a to extend the applicability of this specification to the NUHOMS®-61BTH and NUHOMS®-32PTH1 DSC.

- Revise the Title, "Applicability" and the "Bases" sections of Specification 1.2.4a to extend the applicability of this specification to the NUHOMS®-61BTH and NUHOMS®-32PTH1 DSC.

- Add a new Specification 1.2.7e, entitled "HSM-H Dose Rates with a Loaded Type 2 61BTH DSC Only", to specify the limiting doses rates due to the storage of a loaded Type 2 61BTH DSC inside the HSM-H.

- Add a new Specification 1.2.7f, entitled "HSM or HSM-H Dose Rates with a Loaded Type 1 61BTH DSC Only", to specify the limiting doses rates due to the storage of a loaded Type 1 61BTH inside the HSM or HSM-H.

- Add a new Specification 1.2.7g, entitled "HSM-H Dose Rates with a Loaded 32PTH1 DSC Only", to specify the limiting doses rates due to the storage of a loaded 32PTH1 DSC inside the HSM-H.

- Revise the Title of Specification 1.2.8 to include Type 1 61BTH DSC, since this DSC is qualified for storage in the Standardized HSM based on the shielding analysis provided Appendix T of the FSAR.

- Add a new specification 1.2.8b, entitled "HSM-H Maximum Air Exit Temperature with a Loaded 61BTH DSC", to specify the limiting air exit temperature due to the storage of a either a Type 1 or Type 2 NUHOMS®-61BTH DSC inside the HSM-H.

- Add a new specification 1.2.8c, entitled "HSM-H Maximum Air Exit Temperature with a Loaded 32PTH1 DSC", to specify the limiting air exit temperature due to the storage of a NUHOMS®-32PTH1 DSC inside the HSM-H.

- Add a new Specification 1.2.11d, entitled "Transfer Cask Dose Rates with a Loaded 61BTH DSC", to specify the limiting doses rates due to the transfer of a loaded 61BTH DSC inside the Transfer Cask.

- Add a new Specification 1.2.11e, entitled "Transfer Cask Dose Rates with a Loaded 32PTH1 DSC", to specify the limiting doses rates due to the transfer of a loaded 32PTH1 DSC inside the Transfer Cask.

- Revise the Title, Limit No. 1, and Bases of Specification 1.2.14, entitled "TC/DSC Transfer Operations at High Ambient Temperatures" to clarify that this Specification applies to all currently licensed systems (24P, 52B, 61BT, 32PT, 24PHB, and 24PTH DSCs) and the NUHOMS®-61BTH DSC. This clarification is needed since the new 32PTH1 system is designed for a maximum ambient temperature of 106°F as discussed in the next bullet item.

- Add a new Specification 1.2.14a, entitled "TC/DSC Transfer at High Ambient Temperatures (32PTH1 DSC Only)" to specify the maximum ambient temperature limit of 106°F for the NUHOMS®-32PTH1 system.

- Add a new Specification 1.2.15d, entitled "Boron Concentration in the DSC Cavity Water for the 32PTH1 Design Only", to specify the minimum boron concentration required during loading of the NUHOMS®-32PTH1 system.

- Revise the Limit No.2 of Specification 1.2.17b to correct a spelling error in the term "vacuum drying".

- Add a new Specification 1.2.18a, entitled "Time Limit for Completion of Type 2 61BTH DSC Transfer Operation" to specify the limits for the completion of transfer of a loaded NUHOMS®-61BTH DSC.

- Add a new Specification 1.2.18b, entitled "Time Limit for Completion of 32PTH1 DSC Transfer Operation" to specify the limits for the completion of transfer of a loaded NUHOMS®-32PTH1 DSC.

- Revise the bases section of Specification 1.3.1 to add FSAR Appendices T and U which provide the analysis for the storage of NUHOMS®-61BTH and NUHOMS®-32PTH1 DSCs

inside a HSM-H. In addition, replace the term "40 hours limit" with "analyzed time limit" to describe the time limit in a generic manner.

- Update Table 1.3.1 to reflect the changes as described above.

2.2 Changes to the NUHOMS® UFSAR, Revision 9

Enclosures 3 and 4 of this submittal contain a proprietary, non-public and a non-proprietary, public version of proposed revision of the NUHOMS® CoC 1004 UFSAR, respectively.

Changes to Chapter 1 are made to reflect the purposes of this amendment.

Changes to Appendix M are made to reflect storage of Control Components in the NUHOMS®-32PT-DSC and withdrawal of the maximum allowable assembly average initial enrichment analysis for certain fuel assemblies associated with the NUHOMS® -32PT DSC.

Changes to Appendix P are made to reflect storage of WE 15x15 Partial Length Shield Assemblies (PLSAs) in the NUHOMS®-24PTH DSC and the addition of lower enrichment burnup and cooling times to the fuel qualification tables.

This submittal includes a new UFSAR Appendix T which has been prepared in a format consistent with the Standard Review Plan for Dry Cask Storage (NUREG 1536). It provides a description of the design features and a comprehensive evaluation of the new 61BTH system. It also documents the changes where applicable to the existing safety analyses provided in the UFSAR.

This submittal includes a new UFSAR Appendix U which has been prepared in a format consistent with the Standard Review Plan for Dry Cask Storage (NUREG 1536). It provides a description of the design features and a comprehensive evaluation of the new 32PTH1 system. It also documents the changes where applicable to the existing safety analyses provided in the UFSAR.

3.0 JUSTIFICATION OF CHANGES

The NUHOMS® -32PT DSC currently allows for storage of Burnable Poison Rod Assemblies (BPRAs) for the Westinghouse 17x17 (WE17) class and B&W 15x15 (BW15) class of fuel assemblies only. Due to the needs of our clients that utilize these systems for other classes of fuel assemblies and intend to use Control Components (CCs) other than BPRAs, changes have been made to allow for the use of CCs in Combustion Engineering 14x14 (CE14), Westinghouse 14x14 (WE14) and Westinghouse 15x15 (WE15) class fuel assemblies. The Combustion Engineering 15x15 (CE15) class of fuel assemblies are not authorized for storage with CCs.

Another change in the NUHOMS® -32PT is the withdrawal of the analysis that determines the maximum allowable assembly average initial enrichment as a function of soluble boron concentration and Poison Rod Assembly (PRA) loading for the WE14, CE14 and CE15 assembly classes with the 20-poison plate basket. This basket design has been determined to be uneconomical and therefore this detailed evaluation is removed for simplicity. Therefore, the criticality evaluation with the 20-poison plate basket utilizes a single soluble boron concentration of 2500 ppm only, for all assembly classes.

WE 15x15 Partial Length Shield Assemblies (PLSAs) are currently being utilized by our clients to reduce the fluence in the reactor vessel. When discharged, these fuel assemblies will be available for loading in dry storage systems. Therefore, allowing for the storages of PLSAs for the WE15 class fuel assemblies in the NUHOMS® -24PTH DSC is needed.

The NUHOMS® 61BTH and 32PTH1 system designs have been developed based on research and development efforts driven by the needs of the commercial nuclear power industry.

TN is in discussions with utilities for dry storage systems who will use the provisions of this amendment. Supporting the needs of these utilities involves initial use in early February 2008. Accordingly, TN requests that the staff assign appropriate priority for review of this application consistent with that timing.

4.0 EVALUATION OF CHANGES

TN has evaluated the NUHOMS®-61BTH system for structural, thermal, shielding, confinement and criticality adequacy and has concluded that the addition of the NUHOMS®-61BTH System to the standardized NUHOMS® System has no significant effect on safety. This evaluation is documented in Appendix T of the UFSAR, included in this application.

TN has evaluated the NUHOMS®-32PTH1 system for structural, thermal, shielding, confinement and criticality adequacy and has concluded that the addition of the NUHOMS®-32PTH1 System to the standardized NUHOMS® System has no significant effect on safety. This evaluation is documented in Appendix U of the UFSAR, included in this application.

TN has evaluated the changes to allow for the storage of CCs within the WE14, WE15 and CE14 class fuel assemblies in the NUHOMS® -32PT DSC. These changes do not affect the structural, thermal, shielding or confinement evaluations significantly, since the resulting configurations are bounded by the design basis configurations evaluated in Appendix M of the UFSAR. However, small changes to the various Chapters in Appendix M of the UFSAR and the Technical Specifications have been made to include this change (definitions, terminology and scope of CCs). The criticality evaluation is expanded to include the effect of CCs on these fuel designs and is documented in Chapter M.6 of the UFSAR. Additionally, the criticality evaluation for the 20-poison plate basket has also been revised to retain only the results at a soluble boron concentration of 2500 ppm. These evaluations are documented in Appendix M of the UFSAR.

TN has evaluated the changes to allow for the storage of PLSAs for the WE15 class fuel assemblies in the NUHOMS® -24PTH DSC. These changes do not affect the structural, thermal, criticality or confinement evaluations significantly, since the resulting configurations are bounded by the design basis configurations evaluated in Appendix P of the UFSAR. The shielding evaluation, particularly, the source term evaluation is expanded to determine the bounding parameters (burnup, enrichment, irradiation history) for the PLSAs such that the source terms (radiological and thermal) are bounded by those utilized in the existing evaluations. These evaluations are documented in Appendix P of the UFSAR and the Technical Specifications.