December 6, 2000

Mr. Robert M. Grenier
President and Chief Operating Officer
Transnuclear West Inc.
39300 Civic Center Drive
Suite 280
Fremont, CA 94538

SUBJECT: REQUEST FOR ADDITIONAL INFORMATION REGARDING APPROVAL TO ADD NUHOMS®-61BT DRY STORAGE CANISTER TO THE STANDARDIZED NUHOMS® SYSTEM (TAC NO. L23137)

Dear Mr. Grenier:

By letter dated July 15, 2000, as amended on September 1, 2000, Transnuclear West Inc. (TN West) submitted a request to amend Certificate of Compliance No. 1004. TN West requested approval to add the NUHOMS®-61BT dry storage canister (DSC) to the Standardized NUHOMS® System. The staff has determined that additional information is required to assess compliance with 10 CFR Part 72. Enclosed is the staff's request for additional information (RAI) for the continued review of your request.

To the extent practicable, we request that TN West respond to this RAI by providing a response to each item in the RAI. We would be willing to meet with you to discuss and clarify the enclosed RAI. Your response to the enclosed RAI is expected by January 22, 2001. If you are unable to meet the January 2001 milestone, you must notify us in writing, at least 2 weeks prior to January 22 of your new response date and the reasons for the delay. The staff will then assess the impact of the new response date and issue a revised schedule. Please reference Docket No. 72-1004 and TAC No. L23137 in future correspondence related to this request..

If you have questions concerning this request, please contact me at 301-415-8538.

Sincerely,
/RA/ original signed by /s/
Timothy Kobetz, Project Manager
Licensing Section
Spent Fuel Project Office
Office of Nuclear Material Safety
and Safeguards

Docket No. 72-1004

Enclosure: Request for Additional Information

December 6, 2000

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President and Chief Operating Officer
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39300 Civic Center Drive
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TRANSNUCLEAR WEST INC.
DOCKET NO. 72-1004
TAC NO. L23137

REQUEST FOR ADDITIONAL INFORMATION

This document, titled Request for Additional Information (RAI), contains additional information requirements identified by the U.S. Nuclear Regulatory Commission (NRC) staff during its review of Transnuclear West Inc. (TN West) application to add the NUHOMS®-61BT dry storage canister (DSC) to the Standardized NUHOMS® System.

Each individual RAI describes information needed by the staff for it to complete its review of the application and determine whether TN West has demonstrated compliance with the regulatory requirements. Where an individual RAI relates to TN West's apparent failure to meet one or more regulatory requirements or where an RAI specifically focuses on compliance issues associated with one or more specific regulatory requirements (e.g., specific design criteria or accident conditions), such requirements will be specified in the individual RAI.

Note that RAI items may refer to the Spent Fuel Project Office's (SFPO) Interim Staff Guidance (ISG). The ISG was developed as a result of management decisions on several key issues related to the review and approval of spent fuel storage systems and represents positions discussed in meetings with the Nuclear Energy Institute. The ISG will be incorporated into the next revision of NUREG-1536, "Standard Review Plan for Dry Cask Storage Systems (SRP)."

Chapter 1 General Information

In accordance with 10 CFR 72.24(c)(3), the following information is required for the staff to evaluate whether all structures, systems, and components important to safety will satisfy the design bases with an adequate margin of safety.

1-1 Revise the drawings to eliminate the use of the term “reference dimension” when inappropriate and provide specific tolerance dimensions.

Reference dimensions should only be used when the dimension is an accumulation of other dimensions. For example, all of the dimensions in Section B-B of drawing NUH–61B-1060 are listed as reference in which the general tolerance would not apply to the individual components.

1-2 Either revise drawing NUH-61BT-1064 to indicate that dimension of 0.31 inches as the thickness of the poison plates are a minimum dimension or revise the criticality analyses to consider a thickness of 0.19 inches (0.31 inches minus the tolerance of 0.12 inches).

1-3 Revise the tolerances shown on drawing NUH-61B-1064 to indicate the minimum thickness for the fuel compartment assembly.

The thickness of the fuel compartment assembly shown on the drawing indicates a dimension of 0.12 inches in which the general tolerance of ± 0.12 inches would apply per drawing NUH-61B-1060.

1-4 Clarify the geometrical arrangement of and describe how the use of multiple pieces (of neutron absorber), as noted in drawing NUH61B 1063, Note 16, will result in successful absorption with no significant streaming effects at any gap created at the intersection of multiple pieces.

The descriptions and drawings in the amendment do not include a definition of the multiple pieces. This information is required by the staff to assess compliance with 10 CFR 72.124 (a) and (b) which states that the materials used for criticality control functions shall be adequate for performance of intended functions.

1-5 Update drawing NUH-61BT-1060 to specify the type of closure welds and inspection methods to be used for the inner top cover plate to the canister shell and siphon vent block welds.

Drawing NUH-61B-1060, Rev. 0, Note 8, states to weld the inner top cover plate (Item 9) to the canister shell (Item 2) after spent fuel assemblies and top shield plug (Item 8) have been placed in the canister (by others). However, this weld has not been specified in any of the drawings provided in Subsection K.1.5. Section B-B does not identify a weld between Items 2 and 9, although Item 2 is illustrated with an unspecified weld preparation geometry. Note 12, drawing NUH-61B-1060, states, “Primary containment boundary consists of Items 2, 4, 9, 11, and 12.” It appears that the weld between Items 2 and 9 is required for this specific design concept.

In addition, Section D-D, does not specify a weld for the junction of Item 9, the inner top cover plate, with Item 12, the siphon vent block. These elements are also part of the containment boundary.

This information is required by the staff to assess compliance with 10 CFR 72.236(e) which requires the spent fuel storage cask to be designed to provide redundant sealing of the confinement systems.

1-6 Clarify the description of Item 52 in drawings NUHOMS-61BT-1060, -1061, and -1062, in addition clarify how Item 52 will be secured in place.

Drawing NUH-61B-1060, Sheet 2, Rev. 0, Section D-D, Item 52 is shown with a beveled top edge to the “cap screw vent port plug” that is apparently intended to allow the bevel to function as a weld preparation surface. However, Drawing NUH-61B-1062, Sheet 2, Rev. 0, details Item 52 as a square shouldered “cap screw” with 1.00 inch diameter with a head of 0.50 inches.

Furthermore, in Chapter K.7, Subsection K.7.1.1 it is stated that, “The test port in the outer cover plate is then sealed by welding a small cover plate over the port.” Drawing

NUH-61B-1065, Sheet 1, Rev. 0 which contains the “Parts List” does not identify an element/part known as a “cover plate.” Therefore, it is not clear how Item 52 is secured in place.

This information is required by the staff to assess compliance with 10 CFR 72.24(c)(3) which requires the technical information provided for the design be sufficient in detail to meet 10 CFR 72.40 requirements regarding the dimensions of components important to safety.

Chapter 2 Principle Design Criteria

2-1 Update Tables K.2-1 and K.2-2 to include the following changes:

a. Either delete “or equivalent reload design” or add the number of fuel rods and water holes for each assembly class. Alternatively, include an analysis in the Safety Analysis Report (SAR) which varies the number of fuel rods and water holes for the fuel assemblies.

b. Include the allowed fissile material (e.g., UO_2).

c. Specifically state which basket design may be used for damaged fuel assemblies (only type C), and that it is limited to a maximum of 16 damaged fuel assemblies in the 2x2 compartments of the basket.

These changes are required to provide consistency with the changes to the Technical Specifications (TS). Although the minimum boron loading specified in Table K.2-2 is only allowed in basket type C, it is much clearer to actually state the basket type. Also, the limit is up to 16 damaged assemblies in the 2x2 compartments which is much clearer than the current description. This information is necessary for the staff to assess compliance with 10 CFR 72.236(a).

2-2 Revise Section K.2.1 to include a description/definition of damaged fuel assemblies.

The SAR does not define damaged fuel assemblies. This information is necessary for the staff to assess compliance with 10 CFR 72.24(g), 72.26, 72.44(c), and 72.122(l).

2-3 Update Table K.2-8 to include weld filler material and the electroless-nickel plating as important to safety or provide justification on why they are not important to safety.

The weld filler material is important to safety as it is part of the confinement boundary. It is not clear whether the electroless-nickel provides a safety function. This information is necessary for the staff to assess compliance with 10 CFR 72.236(e).

2-4 Correct the title of Table K.2-8.

The title of Table K.2-8, “Classification of NUHOMS-OS197-1 DSC Components” is in error and should address the NUHOMS®-61BT Dry Shielded Canister Storage System. This is also incorrect in the Table of Contents.

Chapter 3 Structural

3-1 State all deviations from ASME Code Section III, for the design and fabrication of the NUHOMS® 61BT DSC and provide justification for each deviation.

Section K.2.5 of Appendix K states that the NUHOMS®-61BT (shell and closure) is designed and fabricated, to the maximum practicable extent, as a Class I component in accordance with the rules of the ASME Boiler and Pressure Vessel Code, Section III, Subsection NB, Article NB-3200. However, it is not clear what "to the maximum extent practical" includes. Interim Staff Guidance 10, Revision 1, states that commitments to ASME Code Section III, with proposed alternatives to the Code, should be documented in the application. It should be noted that NRC staff has not yet endorsed ASME Boiler and Pressure Vessel Code Case N-595-1 with regard to welded cask closures.

This information is required for the staff to assess compliance with 10 CFR 72.24(c)(4) which requires that the applicable codes and standards be included in the technical information of the amendment application.

3-2 Justify the use of Service Level D allowables of ASME Section III, Appendix F, for the basket stress limits under accident conditions.

Appendix F in Subsection F-1200 contains the following statement: "The limits and rules specified for core support are intended to assure maintenance of structural integrity but not to prevent leakage."

This information is required for the staff to assess compliance with 10 CFR 72.24(c)(4) which requires that the applicable codes and standards be included in the technical information of the amendment application.

Chapter 4 Thermal

4-1 Revise the boundary conditions applied to the 61BT DSC component in the application. Specifically, the following information is required for the staff to assess compliance with 10 CFR 72.128(a)(4), 72.236(h), and 72.236(g).

a. Revise the thermal analysis or justify the use of a 90^{o} symmetry model to simulate boundary conditions for the analysis of the 61BT DSC for normal and off-normal conditions of storage.

The maximum DSC outer surface temperatures reported in Table 8.1-25 of Revision 5 of the SAR show a significant difference in temperatures on the bottom and top of the DSC which would indicate that use of a 90^{o} symmetry model may not be appropriate. It is not clear from the SAR that the most limiting heat load was used in the analysis.

b. Revise the thermal analysis to clarify the boundary conditions for the blocked vent accident.

Section K.4.4.1 of the amendment application states that the analysis for the NUHOMS-52BT DSC, as described in the SAR, bounds the analysis for the NUHOMS®-61BT DSC as shown in figure K.4-4. However, it is not clear how the accident condition temperatures reported in Table 8.1-25 of the SAR bound the temperatures shown in figure K.4-4.

4-2 Revise the description of the thermal model for the NUHOMS®-61BT DSC to include the heat transfers assumptions (i.e. radiation, convection, and conduction) used in the thermal analysis.

This information is required for the staff to assess compliance with 10 CFR 72.128(a)(4), 72.236(h), and 72.236(g).

Chapter 5 Shielding

5-1 Revise Section K.5, fourth paragraph, to state that the limiting features also include the hardware materials. Also, clarify that storage of other fuel of similar design requires an analysis to show that the fuel is bounded by the fuel listed in Table K.5-1.

Other fuel and fuel hardware parameters such as the fuel type (UO_2 v. MOX), number of water holes in an assembly, and the cobalt impurities in the hardware may also be important to the shielding evaluation. Before other fuel assembly types are stored in the NUHOMS®-61 BT DSC, an analysis should be performed showing that the assumptions used in the SAR bound the new fuel type. This information is required for the staff to assess compliance with 10 CFR 72.236(d).

5-2 Describe the axial burnup profiles used in the analysis.

This is required to show that the magnitude of the neutron and gamma source terms given in the SAR result in the bounding dose rates. This information is required for the staff to assess whether the dose rate calculations meet the requirements of 10 CFR 72.104.

5-3 Revise Section K.5.3.1 to clarify the first sentence.

Section K.5.3.1 erroneously states that the material densities are in Section 7.0 of the Consolidated Safety Analysis Report (CSAR).

5-4 Revise the shielding analysis to consider fuel without fuel channels.

As specified in the proposed TS, fuel is allowed to be stored with or without fuel channels. Since the channels provide some shielding, the shielding calculations should be performed without the channels included in the shielding model. However, the channels should be included in the source term calculation. This will bound storage of BWR fuel both with and without channels. This information is required for the staff to assess whether the dose rate calculations will meet the requirements of 10 CFR 72.104.

5-5 Justify smearing the basket in the axial region.

The basket should not be homogenized in the axial direction as this can result in non-conservative results.

5-6 Provide a table with dose rates for loading 61BT similar to Table 7.4-1, NUHOMS® System Operations Enveloping Time for Occupational Dose Calculations, of the CSAR.

The loading/unloading operations for the 61BT DSC are different from the other DSCs and may take longer due to the number of assemblies to be loaded and due to the placing of the caps on the damaged fuel assembly cells. This information is required for the staff to assess compliance with 10 CFR 72.24(e).

5-7 Provide dose rate calculations and results, based on design basis fuel, for the Cask-DSC annular gap and any other locations where streaming may occur, in Section K.5.4.

The SAR should indicate the dose rate at all locations accessible to occupational personnel during cask loading, transport, and maintenance and surveillance operations. This information is required for the staff to assess compliance with 10 CFR 72.24(e).

5-8 Update Table K.5-2 to include changes made to Tables 7.3-2 through 7.3-5.

Some of the total dose rate values in CSAR Section 7 are different than those given in Table K.5-2 (e.g., cask top axial surface dose rates).

5-9 Provide a shielding analysis, based on design basis fuel, for damaged fuel.

The damaged fuel could reconfigure such that it is at the bottom of the 61BT DSC. This information is required for the staff to assess compliance with 10 CFR 72.24(e).

5-10 Provide dose rates, based on design basis fuel, to support the accident scenario in K.11.2.5.3 and justify the results. Also resolve discrepancies between CSAR section 8.2.5.3, Tables 7.3-2 through 7.3-5 of the CSAR, and Table K.5-2.

The analysis provided in the CSAR, Section 8.2.5.3, does not describe the fuel used for this analysis. It is not clear that this is the bounding fuel. The values provided here do not match any of the values given in Tables 7.3-2 through 7.3-5 of the CSAR or the cask accident dose rates given in Table K.5-2 for the bounding 24P/52B. Also, the accident dose rates given for the 61BT DSC in Table K.5-2 are higher than the 24P/52B DSCs. This information is required for the staff to assess compliance with 10 CFR 72.106(b).

5-11 Provide offsite dose calculations for a typical cask array, using design basis fuel, for the 61BT DSC. Also describe this evaluation in Section K.10.

It is not clear that the dose rates given in Table K.11-1 use design basis fuel. This information is required for the staff to assess compliance with 10 CFR 72.104(a).

Chapter 6 Criticality

6-1 Discuss the sensitivity of the system reactivity to varying component dimensions within tolerance limits.

The criticality evaluation presented in Section K.6 discusses the sensitivity of k_{eff} to minimal poison plate dimensions. A discussion of the least material condition delineation and the sensitivity of k_{eff} to dimensional variations in components such as fuel rods, basket cells, and the shell surrounding the basket should also be provided. Changes in component dimensions could yield a lower amount of moderator displacement and, potentially, a higher system reactivity. This issue may be significant for configurations yielding k_{eff} values that are close to the upper subcritical limit.

This information is required for the staff to assess compliance with the nuclear criticality safety requirements specified in 10 CFR 72.124 and 72.236(c).

6-2 Justify using a boron-10 arial density of 0.032 g/cm^2 in the determination of the most reactive fuel lattice and the most reactive configuration for damaged fuel.

It is unclear as to why the arial density used as the basis in the analyses presented in Section K.6.4.2 (A) and (C) differs from the parameters presented in Table K.6-1. Provide a rationale for using a higher arial density basis in these analyses.

This information is required for the staff to assess compliance with the nuclear criticality safety requirements specified in 10 CFR 72.124 and 72.236(c).

6-3 Provide a rationale for the use of a 76% boron-10 credit in the determination of the most reactive configuration for damaged fuel.

It is unclear as to why a lower boron-10 credit is used in the analyses presented in Section K.6.4.2 (B) relative to the 90% credit value utilized in other criticality analyses. Discuss the reasons for using the lower boron credit value.

This information is required for the staff to assess compliance with the nuclear criticality safety requirements specified in 10 CFR 72.124 and 72.236(c).

Chapter 7 Confinement

7-1 Update Table 3.2-1, Summary of NUHOMS® Component Design Loadings, of the NUHOMS® SAR to include the NUHOMS®-61BT DSC. Alternatively, provide a table similar to this in Appendix K.

A summary table of the design criteria for the 61BT DSC was not provided by the applicant. This information is required for the staff to assess compliance with 10 CFR 72.24(l).

7-2 Include the confinement boundary welds in the confinement boundary description in Section K.3.1.2.1. Also provide a drawing of the confinement boundary in the SAR.

The confinement boundary in Section K.3.1.2.1 is not completely identified. The associated welds are also considered part of the confinement boundary. This is needed to show compliance with 10 CFR 72.128 and 72.236(e).

7-3 Explain, in Section K.7 of the SAR, how the continued confinement capabilities of the DSC are ensured.

Storage confinement systems with redundant welded closures do not typically require a closure monitoring system. However, a periodic surveillance program to enable the licensee to take corrective actions to maintain safe storage conditions is necessary. This is needed to show compliance with 10 CFR 72.122(h)(4) and 72.128(a)(1).

7-4 Provide additional information regarding the the leakage testing described in Section K.7.1.1, for the inner and outer bottom cover plates and the DSC.

Subsection K.7.1.1 states that the inner plate and outer bottom cover plates are tested at the fabricator to meet leak tight criteria. However, it is not clear if the leak tight check includes the 125 percent pressure test of the structural/confinement boundries.

As required by 10 CFR 72.236(j) the spent fuel storage cask must be inspected to ascertain that there are no cracks, pinholes, uncontrolled voids, or other defects that could significantly reduce its confinement effectiveness.

Chapter 8 Operating Procedures

8-1 Provide a discussion concerning the loading/unloading of damaged fuel assemblies, including using the type C basket, and the placement of the screens in this basket.

The operating procedures discussed in the SAR do not address the loading of damaged fuel assemblies, although damaged fuel is included in the TS. This is needed to show compliance with 10 CFR 72.40(a)(5), 72.122(l), 72.128(a)(5), 72.234(f) and 72.234(m).

8-2 Revise the operating procedures to use the same units as those used in the proposed TS.

The units in the proposed TS and the operating procedures in Section K.8 are inconsistent.

Chapter 9 Acceptance Tests and Maintenance Program

9-1 Provide qualification test data on durability for the Boron Carbide/Aluminum Metal Matrix Composite (MMC). Data should be included for both the isostatic pressing and sintering fabrication process and the vacuum hot pressing fabrication process.

The materials are not produced to a recognized industry standard. Therefore, details on the methods of production, acceptable variations in chemistry, tolerance levels for properties, etc., are unknown. Qualification test data for the proposed materials are required by the staff to: (1) assess whether the proposed conductivity values are

bounding; and (2) assess whether the durability of both the borated aluminum and boron carbide metal matrix composite plates is adequate for the thermal and environmental conditions (including radiation) over a 20-year service life of the cask.

This information is required for the staff to assess compliance with 10 CFR 72.122 which requires structures, systems and components (SSCs) important to safety to be designed, fabricated, erected and tested to quality standards commensurate with the importance to safety of the function to be performed, and 10 CFR 72.124(a) and (b) which requires materials used for criticality control functions to be adequate for performance of intended functions.

9-2 Provide additional justification for the use of 90 percent credit for the neutron absorbing materials is warranted. The discussion should include both the Boron-Aluminum Alloy Using Enriched Boron material and the Boron Carbide/Aluminum MMC material.

The transmissivity of these materials is a function of their homogeneity. Because accepted consensus standards are not available for this material, qualification test data and statistical analyses are required to demonstrate that, for all heats produced and for all plates within a heat, the methods of production will result in acceptable absorptivity.

The analysis should: (1) determine the uniformity over an entire plate for the composite material; and (2) show with a confidence level of 95 percent that the attenuation results, for thermal neutrons in the range of energy values pertinent to the application, as taken from coupons will equal or exceed the minimum requirements. For the Boron-Aluminum Alloy material the coupon test data and the analyses should be sufficient to support the argument that this product has nearly uniform attenuation characteristics. For the MMC material, the discussion should include the specific level of attenuation required on each coupon taken from production lots to ensure with 95 percent confidence that the product will meet the specified minimum everywhere within the plate materials.

This information is required for the staff to assess compliance with 10 CFR 72.122 which requires structures, systems and components (SSCs) important to safety to be designed, fabricated, erected and tested to quality standards commensurate with the importance to safety of the function to be performed, and 10 CFR 72.124(a) and (b) which requires materials used for criticality control functions to be adequate for performance of intended functions.

9-3 With regard to the acceptance testing for the Boron Carbide/Aluminum MMC, clarify the statement “In the event...additional measurements may be made to accept the coupon.” The intent of this statement is not clear. For example, it could mean count until you like the count you get or do a recount but at a different location, or recheck the counting procedure. The measured values everywhere within a plate of a uniform material are expected to be the true absorptivity, plus or minus the measurement error; additional measurements should not be needed.

This information is required for the staff to assess compliance with 10 CFR 72.124(a) and (b) which requires materials used for criticality control functions to be adequate for performance of intended functions.

9-4 With regard to the acceptance testing for Boron Carbide/Aluminum MMC, specify the energy level to be used in neutron transmission measurements, in acceptance tests of the absorber plate materials.

Absorber performance is required for the range of energy levels appropriate for the application. Measurements taken outside this range may not correlate directly with service requirements.

This information is required for the staff to assess compliance with 10 CFR 72.124(a) and (b) which requires materials used for criticality control functions to be adequate for performance of intended functions.

9-5 With regard the application of "lessons learned" from the qualification testing of Boron Carbide/Aluminum MMC, specify how TN West proposes to differentiate between changes that improve (selective) properties and those that may alter the uniformity or durability of the composite material.

Proposed changes that clearly lead to an improvement in one or more properties of a material may also lead to alterations in other important characteristics related to performance (uniformity and durability). The validity of the qualification test data over the range of "changes" permitted under the SAR could be open to question if changes are permitted in materials after the qualification testing has been completed.

This information is required for the staff to assess compliance with 10 CFR 72.122 which requires structures, systems and components (SSCs) important to safety to be designed, fabricated, erected and tested to quality standards commensurate with the importance to safety of the function to be performed, and 10 CFR 72.124(a) and (b) which requires materials used for criticality control functions to be adequate for performance of intended functions.

Chapter 11 Accident Analysis

11-1 Perform a fire and explosion accident analyses for the NUHOMS® 61BT DSC or provide justification that a fire or explosion that could affect the DSC is not credible.

SSCs must be designed and located so that they can continue to perform their safety functions effectively under credible fire and explosion exposure conditions. The DSC is moved to the storage pad with a transporter, thus a hypothetical fire accident should be considered based on a ruptured fuel tank of a typical transporter. This is required to meet 10 CFR 72.122(c).

Chapter 12 Conditions for Cask Use

The following regulatory requirements are applicable in this chapter: 10 CFR 72.11, 72.24(g), 72.26, 72.44(c), 72.104, 72.106, 72.234(a), 72.236, and Subparts C, E, F, G, H, and I. It should be noted that other regulatory requirements may be applicable to this section.

12-1 Revise Tables 1-1c and 1-1d, of TS 1.2.1, Fuel Specifications as follows:

a. Either delete “or equivalent reload design” or add the number of fuel rods and water holes for each assembly class. Alternatively, include an analysis which varies the number of fuel rods and water holes for the fuel assemblies.

b. Include the allowed fissile isotopes allowed.

The SAR does not address varying the number of fuel rods or water holes. Items 1.a and 1.b are needed to show compliance with 10 CFR 72.24(g), 72.26, and 72.44(c).

12-2 Revise Table 1-1d, of TS 1.2.1 to specifically state which basket design may be used for damaged fuel assemblies (only type C), and that it is limited to a maximum of 16 damaged fuel assemblies.

Although the minimum boron loading specified in Table K.2-2 is only allowed in basket type C, it is much clearer to actually state the basket type. Also, the limit is up to 16 damaged assemblies in the 2x2 compartments which is much clearer than the current description.

12-3 Define damaged fuel assemblies in the SAR and in the TS.

Since damaged assemblies are not placed in a canister that can be easily removed from the cask basket, then the assembly should be structurally intact such that it may be grappled. Also, damaged fuel assemblies are usually limited to cladding damage greater than pinhole leaks and hairline cracks, but where pellets won’t fall out of the rod. This is needed to show compliance with 10 CFR 72.24(g), 72.26, 72.44(c), and 72.122(l).

12-4 Add a note to clarify TS Table 1-1c ad 1-1d which states that no interpolation of radiological parameters is allowed between the different groups in these tables.

The SAR evaluations do not justify interpolation between these groups.