



Serial: RNP-RA/05-0060

JUN 13 2005

United States Nuclear Regulatory Commission  
 Attn: Document Control Desk  
 Washington, DC 20555-0001

H. B. ROBINSON STEAM ELECTRIC PLANT, UNIT NO. 2  
 DOCKET NO. 50-261/LICENSE NO. DPR-23

REQUEST FOR EXEMPTION FROM 10 CFR 72.212(a)(2),  
 10 CFR 72.212(b)(2)(i)(A), 10 CFR 72.212(b)(7), AND 10 CFR 72.214,  
 AND WITHDRAWAL OF APRIL 19, 2005 EXEMPTION REQUEST FROM 10 CFR 72.212(b)(7)

Ladies and Gentlemen:

Pursuant to the provisions of 10 CFR 72.7, "Specific exemptions," Progress Energy Carolinas, Inc. (PEC), also known as Carolina Power and Light Company, requests an exemption from requirements specified in 10 CFR 72.212, "Conditions of general license issued under §72.210," and 10 CFR 72.214, "List of approved spent fuel storage casks," for H. B. Robinson Steam Electric Plant (HBRSEP), Unit No. 2.

As detailed in Attachment I, one specific exemption would be from the requirement of 10 CFR 72.212(a)(2), which states, "This general license is limited to storage of spent fuel in casks approved under the provisions of this part." The listing of approved storage casks and Certificate of Compliance (CoC) amendment numbers is provided in 10 CFR 72.214. The exemption would allow PEC to store fuel in the NUHOMS<sup>®</sup>- 24PTH model cask, using the proposed Amendment No. 8, prior to the effective date of the final rule change to 10 CFR 72.214 to add this model cask to the listing for CoC No. 1004. CoC No. 1004 is issued to Transnuclear, Inc., (TN) for the Standardized NUHOMS<sup>®</sup> System. Justification for this requested exemption, including an environmental assessment, is provided in Attachment I to this letter. Attachment II provides a letter from TN that presents additional verification for the Attachment I technical justification for the exemption.

As detailed in Attachment III, a separate specific exemption would be from a requirement of 10 CFR 72.212(b)(7), which states, "The licensee shall comply with the terms and conditions of the certificate," and from a requirement of 10 CFR 72.212(b)(2)(i)(A), which states, "Perform written evaluations, prior to use, that establish that conditions set forth in the Certificate of Compliance have been met." The exemption would only apply to compliance with one specific requirement in the Technical Specifications for 10 CFR 72, Certificate of Compliance No. 1004, which is issued to TN for the Standardized NUHOMS<sup>®</sup> System. The requirement involves cask

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lift height restrictions when outside the spent fuel pool building. Justification for this requested exemption, including an environmental assessment, is provided in Attachment III to this letter. This exemption request has previously been submitted by PEC in a letter dated April 19, 2005, "Request for Exemption from 10 CFR 72.212(b)(7)." This letter withdraws the exemption request submitted on April 19, 2005 and replaces it with this revised exemption request. The technical basis for the requested exemption remains unchanged.

These specific exemptions are required to load fuel into the planned dry fuel storage facility at HBRSEP, Unit No. 2. The first loading is planned for late July/early August 2005. Loading must occur at that time to ensure full core offload capability upon startup from Refueling Outage 23, which is scheduled to begin on September 17, 2005. It is therefore requested that NRC approval be granted by July 27, 2005. Upon NRC approval of CoC No. 1004, Amendment No. 8, PEC will modify the licensing bases for the loaded casks to incorporate CoC No. 1004, Amendment No. 8, within 90 days of issuance of the approved amendment. Therefore, the exemption is requested to remain in effect for 90 days following the effective date of the final rule change to 10 CFR 72.214 to incorporate CoC No. 1004, Amendment No. 8.

If you have any questions concerning this matter, please contact Mr. C. T. Baucom at (843) 857-1253.

Sincerely,



Jan E. Lucas

Manager – Support Services – Nuclear

RAC/rac

Attachments:

- I. Request For Exemption From 10 CFR 72.212(a)(2) and 10 CFR 72.214
- II. Transnuclear, Inc., Verification Letter
- III. Request For Exemption From 10 CFR 72.212(b)(2)(i)(A) and 10 CFR 72.212(b)(7)

c: NRC Resident Inspector, HBRSEP  
Dr. W. D. Travers, NRC, Region II  
Mr. J. R. Hall, NRC, NMSS, SFPO  
Mr. L. R. Wharton, NRC, NMSS, SFPO  
Mr. C. P. Patel, NRC, NRR

## H. B. ROBINSON STEAM ELECTRIC PLANT, UNIT NO. 2

### REQUEST FOR EXEMPTION FROM 10 CFR 72.212(a)(2) AND 10 CFR 72.214

#### I. Background

A request for Amendment No. 8 to Certificate of Compliance (CoC) No. 1004 was submitted by Transnuclear, Inc., to the NRC in an application dated September 19, 2003, as supplemented by letters dated January 22, 2004, July 6, 2004, August 16, 2004, September 17, 2004, October 11, 2004, January 14, 2005, and March 15, 2005. Amendment No. 8 would add the NUHOMS<sup>®</sup>-24PTH model cask to CoC No. 1004. The proposed Amendment No. 8 was transmitted from the NRC Spent Fuel Project Office to the Nuclear Material Safety and Safeguards (NMSS) Rule Making and Guidance Branch in a letter dated March 15, 2005, "Transnuclear, Inc. (TN) NUHOMS<sup>®</sup>-24PTH System, Amendment No. 8 – Rulemaking (TAC No. L23653)," along with the preliminary Safety Evaluation Report (SER). The proposed and direct final rulemaking to add Amendment No. 8 and the NUHOMS<sup>®</sup>-24PTH System to 10 CFR 72.214 were published in Federal Register, Volume 70, No. 100, on May 25, 2005.

The May 25, 2005, Federal Register Notice specified an effective date for the direct final rule of August 8, 2005, unless the direct final rule is withdrawn as a result of significant adverse comments. Recent discussions indicate a need to provide clarifying wording in regard to thermal loading patterns and transit time limits to the proposed Amendment No. 8 Technical Specifications. This will result in a delay in the effective date of the final rule. This delay would prevent loading of the dry fuel storage system at H. B. Robinson Steam Electric Plant (HBRSEP), Unit No. 2, prior to the next refueling outage. The consequences of this delay are further described in Section IV of this exemption request.

#### II. Exemption Request

Pursuant to the provisions of 10 CFR 72.7, "Specific exemptions," Progress Energy Carolinas, Inc. (PEC), also known as Carolina Power and Light Company, requests an exemption from the requirements specified in 10 CFR 72.212, "Conditions of general license issued under §72.210," and 10 CFR 72.214, "List of approved spent fuel storage casks," for HBRSEP, Unit No. 2.

Specific exemption is requested from the requirement of 10 CFR 72.212(a)(2), which states, "This general license is limited to storage of spent fuel in casks approved under the provisions of this part." The listing of approved storage casks and CoC amendment numbers is provided in 10 CFR 72.214. The exemption would allow PEC to store fuel under the general license requirements of 10 CFR 72.212 in the NUHOMS<sup>®</sup>-24PTH model cask, using the proposed Amendment No. 8, prior to the effective date of the final rule change to 10 CFR 72.214 to add this model cask to the listing for CoC No. 1004. PEC would store fuel using the proposed Amendment No. 8 with one exception related to cask lift height restrictions specified in the Technical Specifications. That one exception is discussed in Attachment III as a requested exemption from 10 CFR 72.212(b)(2)(i)(A) and 10 CFR 72.212(b)(7). During the period of this

exemption, PEC will also impose a limit of 1.3 kilowatts decay heat level per fuel assembly to ensure cask loadings are bounded by the analyses supporting the proposed Amendment No. 8.

### III. Justification

10 CFR 72.7 specifies that the Commission may grant exemptions from the requirements of 10 CFR Part 72 when the exemptions are authorized by law and will not endanger life or property or the common defense and security, and are otherwise in the public interest.

In the preliminary Safety Evaluation Report (SER) prepared by the NRC for Amendment No. 8, the NRC staff concluded that the Transnuclear Standardized NUHOMS<sup>®</sup> System, as amended, meets the requirements of 10 CFR Part 72. With one exception, PEC will perform the NUHOMS<sup>®</sup>- 24PTH cask storage operations in a manner consistent with the requirements specified in the CoC and Technical Specifications, as submitted for rulemaking with the preliminary SER. The one exception is related to cask lift height requirements when outside the spent fuel building, and that exception is discussed in Attachment III. As discussed in Attachment III, the NRC has already reviewed, in the preliminary SER for the proposed Amendment No. 9 to CoC No. 1004, the revised criteria PEC will use for lift height controls. Therefore, the NRC staff has completed the technical review of Amendment No. 8, as planned to be used by PEC.

As noted above, clarifying wording is needed to the Amendment No. 8 Technical Specifications related to thermal loading patterns and transit time limits. This clarifying wording is not necessary for the case where all fuel assemblies are less than or equal to 1.3 kilowatts decay heat per fuel assembly. For this case, the loading patterns and transit times specified in the proposed Amendment No. 8 are bounded by the thermal analyses supporting the proposed Amendment No. 8.

In order to ensure that the casks loaded by PEC remain within loading patterns that have been analyzed, PEC commits to only load individual assemblies that have a decay heat of less than or equal to 1.3 kilowatts while this exemption is in effect. PEC will calculate decay heat for each assembly. Attachment II provides a letter from TN verifying that with this restriction, as well as compliance with the other fuel loading criteria as specified in the Technical Specifications, PEC will be using loading patterns that are analyzed and in accordance with the proposed Amendment No. 8 reviewed by the NRC.

The loading limitations established with this exemption will ensure that analyses forming the basis for the NRC conclusions in the preliminary SER are met. Therefore, PEC concludes that this exemption will not endanger life or property or the common defense and security.

#### IV. Environmental Assessment Information

The following information is provided in support of an environmental assessment and finding of no significant impact for the proposed exemption:

##### Identification of the Proposed Action

Pursuant to the provisions of 10 CFR 72.7, "Specific exemptions," Progress Energy Carolinas, Inc. (PEC), also known as Carolina Power and Light Company, requests an exemption from the requirements specified in 10 CFR 72.212, "Conditions of general license issued under §72.210," and 10 CFR 72.214, "List of approved spent fuel storage casks," for H. B. Robinson Steam Electric Plant (HBRSEP), Unit No. 2.

The specific exemption would be from the requirement of 10 CFR 72.212(a)(2), which states, "This general license is limited to storage of spent fuel in casks approved under the provisions of this part." The listing of approved storage casks and CoC amendment numbers is provided in 10 CFR 72.214. The exemption would allow PEC to store fuel under the general license requirements of 10 CFR 72.212 in the NUHOMS<sup>®</sup>- 24PTH model cask, using the proposed Amendment No. 8, prior to the effective date of the final rule change to 10 CFR 72.214 to add this model cask to the listing for CoC No. 1004. PEC would store fuel using the proposed Amendment No. 8 with one exception related to cask lift height restrictions specified in the Technical Specifications. That one exception is discussed in Attachment III as a requested exemption from 10 CFR 72.212(b)(2)(i)(A) and 10 CFR 72.212(b)(7). During the period of this exemption, PEC will also impose a limit of 1.3 kilowatts decay heat level per fuel assembly to ensure cask loadings are bounded by the analyses supporting the proposed Amendment No. 8.

##### The Need for the Proposed Action

HBRSEP, Unit No. 2, is currently scheduled to begin Refueling Outage 23 (RO-23) on September 17, 2005. During RO-23, 56 irradiated fuel assemblies will be removed from the core for storage in the spent fuel pool. Due to the addition of these 56 assemblies to the spent fuel pool, upon restart from RO-23 in October 2005, PEC will no longer have the ability to offload a full core of 157 fuel assemblies to the spent fuel pool. This could significantly impact the ability of PEC to provide reliable electric power to its customers. Additionally, if no fuel is transferred to dry storage prior to the start of RO-23, there will be insufficient space in the spent fuel pool for the 56 new fuel assemblies that will be loaded into the core during RO-23. This will complicate the fuel handling evolutions required for core reload during RO-23.

In order to avoid these potential impacts, PEC plans to transfer 96 spent fuel assemblies (four dry storage casks of 24 assemblies each) from the current spent fuel pool inventory to the planned dry storage prior to RO-23. Due to the high burnup of the fuel remaining in the HBRSEP, Unit No. 2, spent fuel pool, PEC has chosen the

NUHOMS<sup>®</sup>-24PTH dry cask storage system. The Dry Shielded Canisters (DSCs) and Horizontal Storage Modules (HSMs), consistent with the NUHOMS<sup>®</sup>-24PTH dry cask storage system, have been constructed and are available for loading operations.

The planned transfer of the 96 fuel assemblies prior to RO-23 must be completed by September 4, 2005. After this date, resources, including personnel and equipment, will be dedicated to RO-23 preparations and will not be available for fuel transfer operations. In order to load and transfer four casks to dry storage by September 4, 2005, loading activities for the first cask must begin by late July or early August. Since the effective date for the final rule change to 10 CFR 72.214 that incorporates Amendment No. 8 is now expected to be extended a minimum of six weeks, PEC needs this exemption to allow loading in the NUHOMS<sup>®</sup>-24PTH dry cask storage system prior to RO-23 and requests approval of this exemption by July 27, 2005 to allow sufficient time to load four casks.

In addition to the potential impacts associated with full core offload capability and reload fuel handling, there would also be a cost impact associated with a delay in any transfer operations until after RO-23. PEC has currently scheduled personnel, training, and rented equipment to support practice dry runs and an NRC observed dry run during the June/July 2005 time period, to be followed directly by the planned dry cask loading. If the loading and transfer of four casks by September 4, 2005 cannot be accomplished, then PEC would have to reschedule and remobilize the personnel and equipment some time after RO-23.

Transfer of fuel assemblies from the spent fuel pool to dry storage as soon as possible would also afford PEC flexibility for fuel storage options to address issues or recommendations resulting from security aspects of spent fuel storage.

10 CFR 72.7 specifies that the Commission may grant exemptions from the requirements of 10 CFR Part 72 when the exemptions are authorized by law and will not endanger life or property or the common defense and security, and are otherwise in the public interest. PEC has concluded that these conditions for granting an exemption are met and has provided the justification in this submittal.

Further, there is no identifiable regulatory process that could be completed within the required time that would obviate this exemption request.

#### Environmental Impacts of the Proposed Action

The NRC completed an Environmental Assessment of the proposed Amendment No. 8 in March 2005 and reached the following conclusions:

“Considering the specific design requirements for each accident condition, the design of the cask would prevent loss of containment, shielding, and criticality

control. Without the loss of either containment, shielding, or criticality control, the risk to public health and safety is not compromised.

The staff reviewed the proposed changes and confirmed that the changes provide reasonable assurance that the spent fuel can be stored safely and that the changes meet the acceptance criteria specified in 10 CFR Part 72. The staff documented its findings in a Safety Evaluation Report. The occupational exposure is not significantly increased, and offsite dose rates remain well within the 10 CFR Part 20 limits. Therefore, the proposed action now under consideration would not change the potential environmental effects assessed in the initial rulemaking. Therefore, the NRC staff has determined that an acceptable safety margin is maintained and that no significant environmental impacts occur as a result of the amendment. Because the proposed changes will not change the environmental requirements for the storage of spent fuel, no change in environmental impact is anticipated.”

Since PEC will be implementing Amendment No. 8 as proposed (with the exception related to an exemption from the lift height restrictions discussed in Attachment III), with the additional requirement to select fuel assemblies with a decay heat less than or equal to 1.3 kilowatts, PEC concludes that the exemption will have no significant environmental impact. The exemption will not significantly increase the probability or consequences of accidents. There are no changes being made in the types or amounts of effluents that may be released offsite, and there is no significant increase in occupational or public radiation exposure as a result of the proposed activities. Therefore, there are no significant radiological environmental impacts associated with the proposed exemption. With regard to potential non-radiological environmental impacts, PEC has determined that the proposed exemption has no potential to affect any historic sites. It does not affect non-radiological plant effluents and has no other environmental impact. Therefore, there are no significant non-radiological environmental impacts associated with the requested exemption.

#### Environmental Impacts of the Alternatives to the Proposed Action

As an alternative to the requested exemption, the Commission could consider denial (i.e., the “no-action” alternative). Denial of the exemption would result in no change to the current environmental impacts. PEC considers the “no-action” alternative to potentially impact PEC’s ability to provide safe, affordable, competitive, and reliable electrical power generation.

#### Alternative Use of Resources

The requested exemption does not involve the use of any different resources than those previously considered in the Final Environmental Statement for HBRSEP, Unit No. 2, dated April 1975. Accordingly, the proposed action is not a major federal action significantly affecting the quality of the environment.

United States Nuclear Regulatory Commission  
Attachment II to Serial: RNP-RA/05-0060  
5 Pages including cover page

**H. B. ROBINSON STEAM ELECTRIC PLANT, UNIT NO. 2**

**REQUEST FOR EXEMPTION FROM  
10 CFR 72.212(a)(2) AND 10 CFR 72.214**

**TRANSNUCLEAR, INC., VERIFICATION LETTER**



June 9, 2005  
1116-05-157

Mr. Louis Wilson, Project Manager  
Progress Energy Carolinas, Inc.  
H. B. Robinson Unit 2  
3581 West Entrance Road  
Hartsville, SC 29550

**Subject: Confirmation that CoC 1004, Amendment 8 Proposed Revisions to Technical Specifications bound Robinson Fuel Planned for Summer Fuel Loading Campaign**

Dear Mr. Wilson

Progress Energy Carolina (PEC), Inc., is planning to store spent fuel from H.B. Robinson Steam Electric Plant (HBRSEP) Unit No. 2 in the NUHOMS<sup>®</sup> 24PTH model cask using the proposed Amendment 8 to CoC No. 1004. The proposed rule making to add Amendment No. 8 and the NUHOMS<sup>®</sup> 24PTH System to CoC No. 1004 was published in Federal Register/Volume 70, No. 100 on May 25, 2005 on page 29931.

Transnuclear (TN) has recently identified a condition related to the proposed Amendment 8 Technical Specifications (TS). The TS as currently proposed would not preclude a user from loading fuel assembly into a cask in a pattern that has not been fully supported by the analysis presented in the Safety Analysis Report (SAR) for the Amendment 8.

TN is planning to submit to the NRC a revision to the proposed Amendment 8 TS to make these TS consistent with the analysis included in the SAR for Amendment 8. A copy of these proposed revisions to the TS is attached.

TN understands that PEC is planning to load fuel assemblies with maximum heat loads of  $\leq 1.3$  kW/assembly in NUHOMS<sup>®</sup> 24PTH-L DSCs with Type 2 baskets. TN has determined that if all the fuel assemblies are  $\leq 1.3$  kW/assembly then this canister loading configuration is fully compliant with the proposed revision to the Amendment 8 TS.

In addition, TN will provide certification of conformance (CoCs) for these 24PTH-L DSCs before use at HBRSEP. The TN CoCs will certify that the as built canisters are fully compliant with the proposed revisions to Amendment 8 TS and the supporting analysis bounds the contents PEC is planning to load.

Sincerely,

Jayant Bondre, PhD  
Manager of Engineering and Licensing

7135 MINSTREL WAY, SUITE 300  
COLUMBIA, MD 21045  
Phone: 410-910-6900 ♦ Fax: 410-910-6902

Mr. Louis Wilson  
Progress Energy

June 9, 2005  
1116-05-157  
Page 2 of 2

Attachment

**Table 1-11**  
**PWR Fuel Specification for the Fuel to be Stored in the NUHOMS®-24PTH DSC**  
**(Concluded)**

<p><b><u>THERMAL/RADIOLOGICAL PARAMETERS:</u></b> <i>Allowable Heat Load Zoning Configurations for each 24PTH DSC</i></p> <p><i>Burnup, Enrichment, and Minimum Cooling Time for Configuration 1 (Without CCs)</i> <i>Burnup, Enrichment, and Minimum Cooling Time for Configuration 2 (Without CCs)</i> <i>Burnup, Enrichment, and Minimum Cooling Time for Configuration 3 (Without CCs)</i> <i>Burnup, Enrichment, and Minimum Cooling Time for Configuration 4 (Without CCs)</i> <i>Burnup, Enrichment, and Minimum Cooling Time for Configuration 5 (Without CCs)</i></p> <p><i>Burnup, Enrichment, and Minimum Cooling Time for Configuration 1 (With CCs)</i> <i>Burnup, Enrichment, and Minimum Cooling Time for Configuration 2 (With CCs)</i> <i>Burnup, Enrichment, and Minimum Cooling Time for Configuration 3 (With CCs)</i> <i>Burnup, Enrichment, and Minimum Cooling Time for Configuration 4 (With CCs)</i> <i>Burnup, Enrichment, and Minimum Cooling Time for Configuration 5 (With CCs)</i></p>	<p><i>Per Figure 1-11 or Figure 1-12 or Figure 1-13 or Figure 1-14 or Figure 1-15.</i></p> <p><i>Per Table 1-3a for Zone 1 fuel.</i></p> <p><i>Per Table 1-3b for Zone 2 fuel.</i></p> <p><i>Per Table 1-3b for Zone 2 fuel and Table 1-3c for Zone 3 fuel.</i> <i>Per Table 1-3d for Zone 4 fuel.</i></p> <p><i>Per Table 1-3c for Zone 3 fuel and Table 1-3d for Zone 4 fuel.</i></p> <p><i>Per Table 1-3e for Zone 1 fuel.</i></p> <p><i>Per Table 1-3f for Zone 2 fuel.</i></p> <p><i>Per Table 1-3f for Zone 2 fuel and per Table 1-3g for Zone 3 fuel.</i> <i>Per Table 1-3h for Zone 4 fuel.</i></p> <p><i>Per Table 1-3g for Zone 3 fuel and per Table 1-3h for Zone 4 fuel.</i></p>
<p><i>Maximum Initial Fuel Enrichment</i></p>	<p><i>5.0 wt. % U-235</i></p>
<p><i>Decay Heat</i></p>	<p><i>Type 1 Basket:</i> <i>≤40.8 kW for 24PTH-S and 24PTH-L DSCs with decay heat limits for Zones 1, 2, 3 and 4 as specified in Figure 1-11 or Figure 1-12 or Figure 1-13 or Figure 1-14.</i></p> <p><i>Type 2 Basket:</i> <i>Same as Type 1 Basket except ≤31.2 kW/DSC and ≤1.3 kW/fuel assembly for 24PTH-S and 24PTH-L DSCs.</i> <i>≤24.0 kW for 24PTH-S-LC DSC with decay heat limits as specified in Figure 1-15.</i></p>
<p><i>Minimum Boron Loading in the Poison Plates</i></p>	<p><i>Per Table 1-1r</i></p>

1.2.18 Time Limit for Completion of 24PTH DSC Transfer Operation

Limit Specification:

The time limit for completion of transfer of a loaded and welded 24PTH DSC from the cask handling area to the HSM-H is as follows:

- 9.5 hours for a DSC with Heat Load Zoning Configuration 1, 2, or 3 and with basket types 1A, 1B or 1C.
- 25 hours for a DSC with a basket type 2A, 2B or 2C (without aluminum inserts).
- No time limits apply for a DSC with Heat Load Zoning Configuration 4 with a basket type 1A, 1B, or 1C (with aluminum inserts).

Applicability:

This specification is only applicable to a 24PTH-S or 24PTH-L DSC when transferred in OS197FC cask. The time limit is defined as the time elapsed after the initiation of draining of Cask/DSC annulus water and bolting of the transfer cask top cover plate until it is unbolted for insertion of the DSC into the HSM-H.

Objective:

To ensure that the fuel cladding temperatures in the 24PTH DSC do not exceed 752°F during transfer operations.

Actions:

Initiate one of the following corrective actions within two hours if specified time limits are exceeded.

1. Complete the transfer of the DSC from the transfer cask to the HSM-H, or
2. If the transfer cask is in the cask handling area in a vertical orientation, unbolt the cask top cover plate and fill the cask/DSC annulus with clean water, or
3. If the cask is in a horizontal orientation on the transfer skid, then initiate air circulation in the Cask/DSC annulus by starting one of the blowers provided on the cask transfer skid, or
4. Initiate appropriate external cooling of the cask outer surface by other means to limit the temperature increase or return the cask to the cask handling area, unbolt the cask top cover plate and fill the cask/DSC annulus with clean water.

Surveillance:

Monitoring of the time duration following the completion of the DSC sealing until the completion of unbolting of the transfer cask top plate is required.

Bases:

The required time limit is based on the transient thermal analysis presented in Appendix P of the FSAR for the transfer of the 24PTH DSC.

## **H. B. ROBINSON STEAM ELECTRIC PLANT, UNIT NO. 2**

### **REQUEST FOR EXEMPTION FROM 10 CFR 72.212(b)(2)(i)(A) AND 10 CFR 72.212(b)(7)**

#### **I. Background**

The current Technical Specifications for 10 CFR 72, Certificate of Compliance (CoC) No. 1004, which is issued to Transnuclear, Inc., (TN) for the Standardized NUHOMS<sup>®</sup> System, contains the following requirements in regard to lifting height restrictions for a Transfer Cask (TC)/Dry Shielded Canister (DSC):

Specification 1.2.10, "DSC Handling Height Outside the Spent Fuel Building," states: "Limit/Specification: 1. The loaded TC/DSC shall not be handled at a height greater than 80 inches outside the spent fuel pool building."

Specification 1.2.13, "TC/DSC Lifting Heights as a Function of Low Temperature and Location," states: "Limit/Specification: 4. The maximum lift height and handling height for all transfer operations outside the spent fuel pool building shall be 80 inches and the basket temperature may not be lower than 0°F."

This wording remains as written in the request for Amendment No. 8 to CoC No. 1004 as submitted by TN to the NRC in an application dated September 19, 2003, and as supplemented by letters dated January 22, 2004, July 6, 2004, August 16, 2004, September 17, 2004, October 11, 2004, January 14, 2005, and March 15, 2005. Amendment No. 8 would add the NUHOMS<sup>®</sup>- 24PTH model cask to CoC No. 1004. The proposed Amendment No. 8 was transmitted from the NRC Spent Fuel Project Office to the Nuclear Material Safety and Safeguards (NMSS) Rule Making and Guidance Branch in a letter dated March 15, 2005, "Transnuclear, Inc. (TN) NUHOMS<sup>®</sup>- 24PTH System, Amendment No. 8 – Rulemaking (TAC No. L23653)," along with the preliminary Safety Evaluation Report (SER). The proposed and direct final rulemaking to add Amendment No. 8 and the NUHOMS<sup>®</sup>- 24PTH System to 10 CFR 72.214 were published in Federal Register, Volume 70, No. 100, on May 25, 2005.

In Attachment I, as part of the technical justification for the exemption to 10 CFR 72.212(a)(2) and 10 CFR 72.214, PEC specifies that the NUHOMS<sup>®</sup>- 24PTH will be loaded consistent with the proposed Amendment No. 8, as reviewed by the NRC, with one exception related to the above lift height restrictions. PEC cannot comply with the above referenced specifications and therefore needs an exemption to 10 CFR 72.212(b)(2)(i)(A) and 10 CFR 72.212(b)(7), both of which specify that users shall comply with the requirements of the Certificate of Compliance.

The above wording has not caused a problem at sites where the evolution of lifting the TC/DSC out of the spent fuel pool and then lowering it onto the transfer trailer takes

place within the spent fuel pool building. However, at H. B. Robinson Steam Electric Plant (HBRSEP), Unit No. 2, the cask handling crane is outside the spent fuel pool building. After roof and wall panels are removed, the TC/DSC must be lifted out of the spent fuel pool and then moved outside the spent fuel pool building before it is lowered into the cask preparation area and then onto the transfer trailer. Therefore, for a short period of time, the TC/DSC would be lifted higher than 80 inches while outside the spent fuel pool building. This would not be in compliance with the current Technical Specifications wording.

The basis for the 80 inch lift height limit is related to the structural integrity of the TC/DSC. Evaluations have determined that drops of the TC/DSC of up to 80 inches can be sustained without breaching the confinement boundary, causing a criticality accident, or preventing the removal of spent fuel assemblies from the TC/DSC for transfer back into the spent fuel pool. These evaluations would be applicable to a drop inside or outside the spent fuel pool building. The reason the Technical Specifications requirements distinguish between inside and outside the spent fuel pool building is based on the assumption that all lifts within the spent fuel pool building will be in compliance with the heavy load requirements and procedures of the 10 CFR 50 license and hence a TC/DSC drop is not considered credible inside the spent fuel pool building.

The proposed Amendment No. 9 to CoC No. 1004, as transmitted in an October 26, 2004, letter from TN to the NRC, includes proposed changes to Specifications 1.2.10 and 1.2.13 to clarify the intent. The proposed wording states:

Specification 1.2.10, "TC/DSC Handling Height Outside the Spent Fuel Building," states: "Limit/Specification: 1. When handling a loaded TC/DSC at a height greater than 80 inches outside the spent fuel pool building, a special lifting device that has at least twice the normal stress design factor for handling heavy loads, or a single failure proof handling system shall be used."

Specification 1.2.13, "TC/DSC Lifting Heights as a Function of Low Temperature and Location," states: "Limit/Specification: 4. When handling a loaded TC/DSC at a height greater than 80 inches outside the spent fuel pool building, a special lifting device that has at least twice the normal stress design factor for handling heavy loads, or a single failure proof handling system shall be used and the basket temperature may not be lower than 0°F."

HBRSEP, Unit No. 2, will be in compliance with the revised wording, as the only time the TC/DSC will be lifted above 80 inches when inside or outside the spent fuel pool building is when the TC/DSC is being lifted by the spent fuel cask crane, which meets the 10 CFR 50 license heavy load requirements. The NRC has reviewed this revised wording and found it acceptable in the preliminary Safety Evaluation Report for the proposed Amendment No. 9 as transmitted from the NRC to TN in a letter dated March 30, 2005.

## II. Exemption Request

Pursuant to the provisions of 10 CFR 72.7, "Specific exemptions," Progress Energy Carolinas, Inc. (PEC), also known as Carolina Power and Light Company, requests an exemption from requirements specified in 10 CFR 72.212, "Conditions of general license issued under §72.210," for H. B. Robinson Steam Electric Plant (HBRSEP), Unit No. 2.

The specific exemption would be from the requirement of 10 CFR 72.212(b)(7), which states, "The licensee shall comply with the terms and conditions of the certificate," and from the requirement of 10 CFR 72.212(b)(2)(i)(A), which states, "Perform written evaluations, prior to use, that establish that conditions set forth in the Certificate of Compliance have been met."

The exemption would be limited to compliance with the requirements of Technical Specifications 1.2.10 and 1.2.13 for Certificate of Compliance No. 1004. Specifically, the exemption would be from the requirement to limit the lift height of a loaded TC/DSC to 80 inches when outside the spent fuel pool building. In lieu of this requirement, PEC procedures ensure that the TC/DSC will not be lifted higher than 80 inches when not being handled by devices that meet the existing 10 CFR 50 license heavy load requirements.

## III. Justification

10 CFR 72.7 specifies that the Commission may grant exemptions from the requirements of 10 CFR Part 72 when the exemptions are authorized by law and will not endanger life or property or the common defense and security, and are otherwise in the public interest.

The procedures that will be employed at HBRSEP, Unit No. 2, for handling of the TC/DSC will meet the intent of the Technical Specifications requirements. The intent is to preclude a drop of the TC/DSC from a height of greater than 80 inches. This will be accomplished by use of handling devices that meet the heavy load requirements whenever the TC/DSC is lifted over 80 inches, and hence a drop need not be postulated either inside or outside the spent fuel pool building. Since the intent of the Technical Specifications will be met, the exemption will not endanger life or property or the common defense and security. The exemption will be in the public interest in that it will allow for the safe and efficient storage of spent nuclear fuel at HBRSEP, Unit No. 2.

Additionally, the NRC has reviewed the revised Technical Specifications lift height limitations as written in the proposed Amendment No. 9 to CoC No. 1004 and found them acceptable in the preliminary Safety Evaluation Report as transmitted from the NRC to TN in a letter dated March 30, 2005. The PEC controls are consistent with the revised wording of proposed Amendment No. 9.

#### IV. Environmental Assessment Information

The following information is provided in support of an environmental assessment and finding of no significant impact for the proposed exemption:

##### Identification of the Proposed Action

Pursuant to the provisions of 10 CFR 72.7, "Specific exemptions," Progress Energy Carolinas, Inc. (PEC), also known as Carolina Power and Light Company, requests an exemption from requirements specified in 10 CFR 72.212, "Conditions of general license issued under §72.210," for H. B. Robinson Steam Electric Plant (HBRSEP), Unit No. 2.

The specific exemption would be from the requirement of 10 CFR 72.212(b)(7), which states, "The licensee shall comply with the terms and conditions of the certificate," and from the requirement of 10 CFR 72.212(b)(2)(i)(A), which states, "Perform written evaluations, prior to use, that establish that conditions set forth in the Certificate of Compliance have been met."

The exemption would be limited to compliance with the requirements of Technical Specifications 1.2.10 and 1.2.13 for Certificate of Compliance No. 1004. Specifically, the exemption would be from the requirement to limit the lift height of a loaded TC/DSC to 80 inches when outside the spent fuel pool building. In lieu of this requirement, PEC procedures ensure that the TC/DSC will not be lifted higher than 80 inches when not being handled by devices that meet the existing 10 CFR 50 license heavy load requirements.

##### The Need for the Proposed Action

In order to transport fuel from the spent fuel pool to a dry storage facility being constructed on the HBRSEP, Unit No. 2, site, the TC/DSC must be lifted above a height of 80 inches while outside the spent fuel pool building. This action would not be permitted based on the current and proposed Amendment No. 8 Technical Specifications wording. Therefore, the exemption is required to allow for the transfer of fuel and the implementation of plans for dry fuel storage at HBRSEP, Unit No. 2. The consequences of not being able to transfer fuel to dry storage prior to Refueling Outage 23, scheduled to begin on September 17, 2005, are discussed in Section IV of Attachment I.

10 CFR 72.7 specifies that the Commission may grant exemptions from the requirements of 10 CFR Part 72 when the exemptions are authorized by law and will not endanger life or property or the common defense and security, and are otherwise in the public interest. PEC has concluded that these conditions for granting an exemption are met and has provided the justification in this submittal.

#### Environmental Impacts of the Proposed Action

PEC has determined that the requested exemption will ensure that the intent of the Technical Specifications are met, which is to preclude a drop of a loaded TC/DSC from greater than 80 inches. Therefore, PEC concludes that the exemption will not significantly increase the probability or consequences of accidents, that no changes are being made in the types or amounts of effluents that may be released offsite, and that there is no significant increase in occupational or public radiation exposure as a result of the proposed activities. Therefore, there are no significant radiological environmental impacts associated with the proposed exemption. With regard to potential non-radiological environmental impacts, PEC has determined that the proposed exemption has no potential to affect any historic sites. It does not affect non-radiological plant effluents and has no other environmental impact. Therefore, there are no significant non-radiological environmental impacts associated with the requested exemption.

#### Environmental Impacts of the Alternatives to the Proposed Action

As an alternative to the requested exemption, the Commission could consider denial (i.e., the "no-action" alternative). Denial of the exemption would result in no change to the current environmental impacts. PEC considers the "no-action" alternative to potentially impact PEC's ability to provide safe, affordable, competitive, and reliable electrical power generation.

#### Alternative Use of Resources

The requested exemption does not involve the use of any different resources than those previously considered in the Final Environmental Statement for HBRSEP, Unit No. 2, dated April 1975. Accordingly, the proposed action is not a major federal action significantly affecting the quality of the environment.