



UNITED STATES  
NUCLEAR REGULATORY COMMISSION  
WASHINGTON, D.C. 20555-0001

November 10, 2015

Mr. Scott P. Murray  
Manager, Facility Licensing  
GE Hitachi Nuclear Energy  
3901 Castle Hayne Road  
Wilmington, NC 28402

SUBJECT: APPLICATION FOR MODEL NO. 2000 TRANSPORTATION PACKAGE –  
SECOND ROUND REQUEST FOR ADDITIONAL INFORMATION

Dear Mr. Murray:

By letter dated September 25, 2015, GE Hitachi Nuclear Energy, submitted responses to a request for additional information (RAI) which had been issued by staff on April 4, 2015, on special authorization request to Certificate of Compliance (CoC) No. 9228 for the Model No. 2000 transportation package.

As a result of the staff's review of the applicant's responses to the first round RAI, the staff is issuing the enclosed second round RAI. We request that you provide this information by November 30, 2015. Inform us at your earliest convenience, but no later than November 23, 2015, if you are not able to provide the information by that date. To assist us in re-scheduling your review, you should include a new proposed submittal date and the reasons for the delay.

If you have any questions regarding this matter, please contact me at 301-415-5253.

Sincerely,

/RA/

Huda Akhavannik  
Spent Fuel Licensing Branch  
Division of Spent Fuel Management  
Office of Nuclear Material Safety  
and Safeguards

Docket No. 71-9228  
TAC No. L24974

Enclosure: Request for Additional Information

Mr. Scott P. Murray  
Manager, Facility Licensing  
GE Hitachi Nuclear Energy  
3901 Castle Hayne Road  
Wilmington, NC 28402

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ROUND REQUEST FOR ADDITIONAL INFORMATION

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Enclosure: Request for Additional Information  
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<b>OFC:</b>						
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<b>DATE:</b>	11/6/15	11/6/15	11/6/15	11/9/15	11/10/2015	
<b>OFC:</b>						
<b>NAME:</b>						
<b>DATE:</b>						

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**Request for Additional Information**  
**GE Hitachi Nuclear Energy**  
**Docket No. 71-9228**  
**Model No. 2000 Package**

**1.0 General Information**

- 1-1 Provide licensing drawings that specify the cask bottom dish dimensions.

Both perfect and mixed thermal resistance situations were considered in the application. However, in the perfect resistance scenario, very high peak temperatures were experienced in package drain port region, which was justified as non-realistic due to cask bottom forging “dish” (between HPI bottom plug and package bottom). The cask licensing drawings do not specify the dimensions of the “dish.”

This information is needed to determine compliance with 10 CFR 71.73.

**4.0 Containment**

- 4-1 Provide Appendix 4.5.1 which was not included in the application.

As previously requested in the first round RAI 4.3, provide Appendix 4.5.1, “Cask Penetration Leaktightness,” test procedure and results for review. The staff needs to verify that the test demonstration method is appropriate and that test results demonstrate adequate seal performance.

This information is needed to determine compliance with 10 CFR 71.33, 71.43(f), 71.51.

- 4-2 Provide test conditions and results on permeation of the new perfluoroelastomer seal material.

As previously requested in the first round of RAI 4.16, provide test conditions and results on permeation of the new perfluoroelastomer seal material for the staff to justify whether the new perfluoroelastomer seal material is permeable to helium.

SAR Section 4.1.3.1, “Seals and Welds,” of the application should be revised to include information on permeation related to the new perfluoroelastomer seal material.

This information is needed to determine compliance with 10 CFR 71.43(d), 71.51(a)(1), 71.85(a) and 71.87 (c).

- 4-3 Demonstrate the performance of the new fluoroelastomer seals to the minimum temperature of -15°F.

In the response to first round RAI 4.5, the applicant stated that the acceptance testing for these seals will span a temperature range for the new seals of -15°F to ~620°F. Staff must verify that the new perfluoroelastomer seal material will perform its intended function at all applicable temperatures.

This information is needed to determine compliance with 10 CFR 71.33, 71.43(f), 71.51.

## Observations

1. Section 4.3 of the safety analysis report (containment under hypothetical accident conditions) states that, “the analytical evaluations under HAC presented in section 2 show that the stresses throughout the package structures are below the failure criteria for the material.” Staff notes that the safety basis for the package structure other than the new insert is found in NEDO-31581, and therefore the reference should be corrected
2. The primary containment boundary presented in Figure 4.2-1 of “Special Authorization RAI Responses, Attachment 2” should be included in the revised main application safety analysis report, Chapter 4. Add a statement in Chapter 4 that the leakage rate test is performed to the entire containment boundary of the package, including all containment welds and base metals, for fabrication, maintenance and periodic leakage rate tests.
3. Response to RAI 4.10 clarified a typo referring to “12 usages,” however, in the revised Section 8.2 the “12 usages” term is still present and should be revised.