

November 4, 2010

Mr. Todd Sellmer  
Packaging Integration  
Washington TRU Solutions LLC  
P.O. Box 2078  
Carlsbad, New Mexico 88221-2078

SUBJECT: APPLICATION FOR REVISION TO CERTIFICATE OF COMPLIANCE NO. 9212  
FOR THE MODEL NO. RH-TRU 72-B PACKAGING, DOCKET NO. 71-9212 –  
SUPPLEMENTAL INFORMATION NEEDED

Dear Mr. Sellmer:

By letter dated February 12, 2010, as supplemented April 19, August 30, and October 14, 2010, you submitted an application for revision to Certificate of Compliance (CoC) No. 9212 for the Model No. RH-TRU 72-B packaging. The application proposes to add two new payload canisters which incorporate neutron shields. NRC staff performed an acceptance review of the response to the Request for Additional Information (RAI) dated August 30, 2010, as supplemented on October 14, 2010, to determine if the additional information provided contained sufficient technical information in scope and depth to allow the staff to complete the detailed technical review.

This letter is to advise you that based on our acceptance review, the application does not contain sufficient technical information. The information needed to continue our review is described in the enclosure to this letter as Requests for Supplemental Information (RSIs). In order to schedule our technical review, the RSI responses should be provided by January 15, 2011. If the RSI responses are not received by this date, the review of this application may be delayed. This letter confirms our phone call on November 3, 2010, with respect to the supplemental information needed. If you have any questions regarding this matter, please contact Chris Staab of my staff at (301) 492 - 3321 or me at (301) 492 - 3294.

Sincerely,

**/RA/**

Robert Johnson, Acting Chief  
Licensing Branch  
Division of Spent Fuel Storage and Transportation  
Office of Nuclear Material  
Safety and Safeguards

Docket No. 71-9212

Enclosure: Request for Supplemental Information  
and Observation

November 4, 2010

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Packaging Integration  
Washington TRU Solutions LLC  
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Docket No. 71-9212

Enclosure: Request for Supplemental Information and Observation

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<b>OFC</b>	SFST	SFST	SFST				
<b>NAME</b>	BTripathi	MRahimi	RJohnson				
<b>DATE</b>	10/28/2010	10/29/2010	11/4/2010				

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WASHINGTON TRU SOLUTIONS LLC

DOCKET NO. 71-9212

REQUESTS FOR SUPPLEMENTAL INFORMATION (RSI) AND OBSERVATION

RELATED TO THE PROPOSED RH-TRU 72-B AMENDMENT

**Thermal**

**RSI-1:** Update the NS15 and NS30 thermal analyses presented in the Safety Analysis Report (SAR) to reflect the recently provided NCT and HAC thermal analyses.

The response from the Request for Additional Information (RAI) teleconference (9/27/10) provided three shielded NS15/NS30 thermal analyses that do not use bulk spatial and temporal-averaged insolation boundary conditions. As a result of the analyses, the applicant mentions that the RH-TRU 72-B SAR design decay heat limit will be changed from 300 W to 50 W per canister. In addition, the new modeling methodology and the higher temperatures of the components found as a result of the updated NS15 and NS30 analyses should be incorporated in the appropriate sections of the SAR, such as Appendix 5.1 of the RH-TRU Payload Appendices.

This information is requested by staff to determine compliance with 10 CFR 71.71 and 71.73.

**Observation -1:** As a general comment, applicants for transportation packages should refer to 10 CFR Part 71. That said, the applicant's response from the RAI teleconference (page 7 of 14) refers to TS-G-1.1 in applying self-shading to the current SAR package thermal evaluation such that the average solar insolation is reduced to 127.32 W/m<sup>2</sup>. Although it is uncertain the TS-G-1.1 revision used by the applicant, TS-G-1.1 (Rev. 1, 2008) uses 200 W/m<sup>2</sup> as a minimum solar insolation for "shaded" curved surfaces, per Section 655.6, Figure 4.

**Shielding**

**RSI-1:** Provide an analysis of the effect of lead slump on the HAC dose rates.

The applicant provided some discussion in response to the shielding RAI #1 on this subject, indicating that slumping will not occur. However, staff does not find the basis for this conclusion to be applicable. Thus, a shielding analysis should be provided for lead slump, as predicted using the method in the "Cask Designers Guide" document. The analysis should also account for any void between the top of the lead shielding and the outer cask top flange resulting from package fabrication. The analysis should account for the assumed 2% of the source escaping the canister's neutron shield insert and lodging as close to the slump area as allowed by the package HAC configuration. The remainder of the source should likewise be positioned as near as possible to the slump zone while remaining within the canister's neutron shield insert. Using analyses for a few radionuclide contents (e.g., Co-60), the applicant may demonstrate that the dose rates for the puncture HAC configuration bound those for the lead slump configuration.

This information is needed to confirm compliance with 10 CFR 71.51 and 71.73.

**RSI-2:** Provide sufficient detail regarding the pre-shipment dose rate measurements and results of previous measurements to demonstrate the acceptability of this method, for the current amendment only, for use to meet the requirements of 10 CFR 71.35(a) and 71.47.

Per 10 CFR 71.35(a), an application for a Part 71 Certificate of Compliance (CoC) must include a demonstration that the package containing the proposed contents at the proposed quantity limits satisfies, among other things, the requirements in 10 CFR 71.47. The current amendment application seeks to use pre-shipment dose rate measurements to meet this requirement. While pre-shipment measurements are normally not accepted as fulfilling this requirement, they may be found acceptable in the current case for only the current amendment only with certain additional conditions and the provision of further information to justify that the package's compliance with 10 CFR 71.47 will be ensured for the proposed contents at the proposed quantities. Package operations descriptions in Chapter 7, "Package Operations," of the SAR should also be modified to incorporate (by reference is acceptable) these conditions.

The applicant has provided some information regarding performance of pre-shipment measurements; however, this information does not completely satisfy the RAI. In addition to the measurement descriptions currently provided by the applicant, descriptions should be included that explicitly state that the neutron and gamma dose rate measurements are performed on the package surface and at 2 meters from the package surface. This ensures clarity as to which surfaces are being referenced. A statement should be added that clearly states that both gamma and neutron dose rate measurements are always performed and that they are done with appropriate instruments of appropriate/adequate dose rate ranges. The descriptions should also include that a grid is established for the entire package surface with squares no larger than a few inches (4 inches for example) on a side, with measurements taken at every grid location. Similarly, a description of how the 2-meter dose rate measurements are/will be comprehensive is also needed.

To justify the use of measurements in this case, the applicant should provide the results of representative cases from the measurements performed on previous shipments under the current CoC. The information should demonstrate the comprehensive nature of the measurements. The applicant should provide the maximum measured surface and 2-meter dose rates for the package radial side and axial end surfaces, the contents descriptions (including Curie quantity(ies) and the form of the contents) for each result case included in the information. Results should be provided that cover the range of contents forms that are (to be) shipped in the RH-TRU 72-B package. Also, if the cases are not for the maximum allowed Curie quantity(ies) of the radionuclides present in the given cases, the applicant should also provide an evaluation of the dose rates for a package containing the maximum allowed quantities. A conservative approach to this task would be to take the highest dose rate contributor (both for gamma sources and neutron sources) present in the particular case and scale up its quantity to the maximum allowed by the CoC. Then, because the NS15 and NS30 differ from the current waste canisters, justification should be provided as to why the supplied results are sufficient to demonstrate that the higher quantities in the NS15 and NS30 canisters will meet 71.47 limits. The justification should be quantitative as well as qualitative, noting effects of geometry and shielding differences between the proposed canisters and the currently approved canisters.

The applicant should modify the application to include the requested information.

This information is needed to confirm compliance with 10 CFR 71.35(a) and 71.47.