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18 November 2015

Mr. Bernard White IV
Senior Project Manager
Spent Fuel Licensing Branch
Division of Spent Fuel Management
Office of Nuclear Material Safety and Safeguards
U.S. Nuclear Regulatory Commission
11555 Rockville Pike, Mailstop: EBB-3D-02M
Rockville, MD 20852

RE: USA/9357/B(U)-96 DOCKET: 71-9357 TAC No. L24960

Dear Mr. White:

The following is provided in response to your letter dated 20 August 2015 regarding our license amendment request. Although we attempted to address the structural evaluation question in your letter by running a finite element analysis (FEA) calculation, we were unable to accurately model the induced damage after the 9 meter drop test for input into the 1 meter puncture drop test calculation. Due to difficulties associated with test unit rotation during physical testing for the 9 meter drop test to ensure impact on the Model 867 dust cover, along with our inability to adequately model the FEA calculations, we have decided to modify the Model 867 cover design to make it more similar to the currently approved dust cover profile seen on the original test units.

The new Model 867 dust cover modification will still have a tungsten cover shield insert in the dust cover, but some of the internal cover/lock assembly components have been slightly modified. This modified dust cover design now extends the same distance beyond the port tube (0.1") as the dust cover that was present on the Model Sentry 110/330 packages. This change eliminates the 0.31" extension we had tried to justify previously in response to your office's questions for this amendment. The modified Model 867 dust cover design, shown on Sheet 6 of drawing R86000 Revision N (enclosed), retains the same 0.1" impact surface profile as the actual specimens used in the normal condition transport (NCT) & hypothetical accident condition (HAC) testing used in Test Plans 180 & 195.

The newly revised Model 867 dust cover design shortens the fitting length and removes the ring spacer. These changes allow the presence of the tungsten cover shield inside the dust cover assembly, without causing the dust cover assembly to protrude beyond the port tube further than is seen in the Sentry 110/330 designs. The SENTRY 867 package with the newly revised Model 867 dust cover design will meet the acceptance criteria in 10 CFR Part 71 after the NCT and HAC testing based on its similarity to the previously tested designs under the current Type B approval (reference Test Plan Report 180 #1 and #2 and Test Plan Report 195).

NMSS01

We trust this response addresses any remaining concerns associated with our pending amendment request. Enclosed with this response is a full re-submission of the SAR including all referenced appendices and drawings. Also enclosed with this response is a list of affected pages for Revision 4 of the SAR and a summary table of changes to the SAR from Revision 3 to Revision 4. Changes to drawing R86000 from Revision L to Revision M are described on the summary table of SAR changes. Should you have any additional questions or wish to discuss this response after receipt please feel free to contact me.

Sincerely,

Lori Podolak
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S. Gravina — Engineering Approval — 18 NOV 2015 — Date

RA/QA Approval — 18 NOV 2015 — Date

Enclosure:

- Drawing R86000 Revision N
- List of Affected Pages
- SAR Revision 4
- Summary Table of Changes for SAR Revision 3 to SAR Revision 4

cc: ATTN: Document Control Desk
Spent Fuel Project Office
Office of Nuclear Material Safety and Safeguards
U.S. Nuclear Regulatory Commission
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Rockville, MD 20852

Revision 3 to the Sentry 110, Sentry 330 and 867 SAR changes are described as follows and listed under the SAR Section in Revision 3 where the change occurs.

Section Location	Summary Change	Change Reported Pursuant to 71.95	Impact of Change on Units Previously or Currently in Use under the Certificate	Action Taken By QSA Regarding Affected Units
1.1, 2.1.2	Updated reference for IAEA Regulations for the Safe Transport of Radioactive Material No. TS-R-1 from the 1996 Revised version to the currently adopted 2009 Edition.	No	No impact. Packages approved to TS-R-1 1996 Edition (Revised) also comply with the 2009 Edition of TS-R-1 as implemented in the changes to 10 CFR 71.	None. Not applicable
1.1	Updated reference to CNSC transport regulations based on revision issued in 2015.	No	No impact. Packages approved to the 2000 version of the CNSC transport regulations also comply with the 2015 version of those requirements.	None. Not applicable.
1.2.1.3 Figure 1.2e	Figure updated to remove spacer ring, shorten fitting length, and reduce dust cover protrusion beyond the outlet port.	No	No impact. Changes not implemented until approved under revised CoC.	None. Not applicable.
1.2.1.3	Revised description to remove material specification for hex head bolts used to attach the lock assemblies.	No	No impact. Specification controlled under drawing R86000. SAR text reference removed to avoid discrepancies between SAR reference and approved descriptive drawings.	None. Not applicable.
1.3	Appendix drawings updated to update drawing R86000 to Revision N. R86000 revised to shorten fitting length, remove spacer ring and return extension of dust cover assembly to 0.1 inches beyond port tube the same as for Sentry 110 and 330 designs. Also removed 0.06 inch dimension for dust cover material thickness over cover shield disk as this value is now 0.1 inches which is the same as the cover protrusion beyond the port tube. Lastly the cover shield dimensions added to the drawing.	No	No impact. Changes not implemented until approved under revised CoC.	All transport Sentry 867 packages will be reworked to comply with changes on R86000 Revision N before transport after approval.
Multiple Sections in 2.6, 2.7, 4 & 5	Updated sections to remove reference to testing under Test Plan Report 213 performed to support Model 867 redesign which was not incorporated into the approved design.	No.	No impact. Design change never implemented in packages used for transport.	None. Not applicable.

Section Location	Summary Change	Change Reported Pursuant to 71.95	Impact of Change on Units Previously or Currently in Use under the Certificate	Action Taken By QSA Regarding Affected Units
Section 2 Figures	Figure references updated as necessary based on removal of drop test figure orientations for test specimen TP180J	No	No impact. Administrative change only.	None. Not applicable.
2.6.7.1	Section revised to include assessment of normal condition drop test for the modified Model 867 dust cover assembly.	No	No impact. Changes not implemented until approved under revised CoC.	None. Not applicable.
2.6.7.6 (previously 2.6.7.7)	Section renumbered due to removal of testing under Test Plan 213.	No	No impact. Change for accuracy only based on other document changes.	None. Not applicable.
2.6.10	Section revised to include assessment of Penetration bar test for the modified Model 867 dust cover assembly.	No	No impact. Changes not implemented until approved under revised CoC.	None. Not applicable.
2.7.1.2.a 2.7.3.1 & 2.7.3.3	Section revised to include assessment of hypothetical condition drop tests for the modified Model 867 dust cover assembly.	No	No impact. Changes not implemented until approved under revised CoC.	None. Not applicable.
Table 3.2a	Table updated to comments for the some components for consistency with drawing R86000 and construction materials.	No	No impact. Descriptions for components updated for accuracy and now consistent with drawing R86000.	None. Not applicable.
4.2	Correction of typographical error by removal of unnecessary "no" in first sentence.	No	No impact. Administrative change only.	None. Not applicable.
4.3	Corrected units for dose rate at 1 meter to read 1 rem/hr instead of 1 R/hr to more accurately reflect regulatory requirement in 10 CFR 71.51(a)(2).	No	No impact. Administrative change only.	None. Not applicable.
Tables 5.1f & 5.1g	Updated to reflect results of Model 867 with modified dust cover assembly.	No	No impact. Changes not implemented until approved under revised CoC.	None. Not applicable.
5.5.1.2	Appendix documents updated to reflect profile results for Model 867 with modified dust cover assembly which replaces the results from TP180J referenced previously.	No	No impact. Changes not implemented until approved under revised CoC.	None. Not applicable.

Safety Analysis Report for the Models Sentry 330, Sentry 110 & 867
Transport Packages

List of Affected Pages	
Revision 0, October 2010	Original Submission.
Revision 1, April 2011	Revised to reflect changes made to address issues raised in USNRC RAI letter dated 7 March 2011.
Revision 2, July 2013	Revised drawing R86000 and pages 1-3, 2-42, 5-5, 5-6 and 7-1.
Revision 3, June 2015	Revised in entirety to incorporate testing under Test Plan 213 and drawing revisions.
Revision 4, November 2015	Revised to remove proposed changes from Model 867 dust cover design changes evaluated under Test Plan 213 and to reflect redesign of Model 867 dust cover identified on drawing R86000 Rev N.