Nuclear Waste Partnership
An Amentum-led partnership with BWXT and Orano

TS:22:03047
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October 10, 2022

ATTN: Document Control Desk
Director, Spent Fuel Project Office
Office of Nuclear Material Safety and Safeguards
U.S. Nuclear Regulatory Commission
Washington, DC 20555-0001

Subject: RESPONSE TO REQUEST FOR ADDITIOINAL INFORMATION ON REVISION 26 OF THE TRUPACT-II SHIPPING PACKAGE APPLICATION, DOCKET NO. 71-9218, AND REVISION 9 OF THE HalfPACT SHIPPING PACKAGE APPLICATION, DOCKET NO. 71-9279

References:
1. Letter from T. E. Sellmer to Document Control Desk dated August 18, 2022, subject: Revision 26 of the TRUPACT-II Shipping Package Application, Docket No. 71-9218, and Revision 9 of the HalfPACT Shipping Package Application, Docket No 71-9279
2. Letter from N. Garcia Santos to T. E. Sellmer dated September 19, 2022, Subject: Application for the Model Nos. TRUPACCT-II and HalfPACT Transport Packages – Request for Additional Information, (EPIDs L-2022-LLA-0122 and L-2022-LLA-0123)

Dear Sir or Madam:

Nuclear Waste Partnership LLC, on behalf of the U.S. Department of Energy (DOE), hereby submits an amendment to Revision 26 of the application for a Certificate of Compliance (CoC) for the TRUPACT-II Packaging, U.S. Nuclear Regulatory Commission (NRC) Docket No. 71-9218, and Revision 9 of the application for a CoC for the HalfPACT Packaging, NRC Docket No. 71-9279 (Reference 1). This amendment is in response to the Request for Additional Information (Reference 2) and consists of the following documents:

- TRUPACT-II SAR, Revision 26
- HalfPACT SAR, Revision 9

Individual responses to the RAI are provided in Attachment A. All technical changes added in response to the RAI are indicated by right-bars in the margin of the documents ("|") and are summarized in Attachment B. Right-bars in the margin of the documents ("|") indicating technical changes made to the documents in the original submittal and amendment of this application also have been retained.

This submission contains files, one or more of which contains hyperlinks to other files or to Internet websites. These hyperlinks are either inoperable or are not essential to the use of the filing. Any material referenced by hyperlinks to Internet websites that was essential for use of this filing has been submitted as part of the filing. Any material referenced by a hyperlink to another file that was essential for the use of this filing has either been included by reference or submitted as part of this filing.

As stated in Reference 1, an expedited review of this application is requested. The requested need date is no later than November 22, 2022. This expedited review will allow for the flexibility to perform the repairs necessary to keep the TRUPACT-II and HalfPACT fleet in SAR compliance and continue to meet the shipment commitments that DOE has with the States relative to the reduction of the transuranic waste footprint at the generator sites.

If you have any questions regarding this submittal, please contact Mr. Daniel Staber of my staff at (575) 234-7134.

Sincerely,

TODD SELLMER (Affiliate)

Digitally signed by TODD SELLMER (Affiliate)
Date: 2022.10.10 10:13:20 -06'00'

T. E. Sellmer, Manager
Packaging and Information Systems

TES:clm

cc: C. Gadbury, CBFO
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J. Shenk, EM-4.24
L. F. Gelder, SRRC
N. Garcia Santos, USNRC
B. H. White, USNRC

The following table summarizes the components of this submittal. No deviations occur from the NRC-prescribed PDF formatting for the submitted files. Please contact Ms. C. L. Morrison at (505) 350-3693 or cindy.morrison@wipp.ws to resolve any discrepancies in this submittal.

File Name	File Size (MB)	Release Level	Submittal Type
001 Transmittal Letter – October 2022.pdf	0.2	Publicly Available	EIE
002 TRUPACT-II SAR R26 – October 2022.pdf	38.4	Publicly Available	EIE
003 HalfPACT SAR R9 – October 2022.pdf	43.2	Publicly Available	EIE

Responses to NRC Request for Additional Information (RAI) on Revision 26 of the TRUPACT-II Safety Analysis Report (SAR) and Revision 9 of the HalfPACT SAR

MATERIALS EVALUATION (M)

RAI-M-1 Revise the wording in Note 33 (Drawing No. 2077-500SNP, Revision AB for TRUPACT-II and Drawing No. 707-SAR, Revision 11 for HalfPACT) to clarify if the intent of "optional" was to be a non-metallic tube, a coating, or not be present after foam pour.

The proposed wording could be interpreted such that the package could have neither a tube nor a coating on the foam and still be in accordance with the drawing requirements.

The outer containment vessel (OCV) vent port access tube is classified as a Category C component per NUREG-6407, Classification of Transportation Packaging and Dry Spent Fuel Storage System Components According to Importance to Safety," according to the application. The requested change appears to indicate that the tube is optional after foam pour, i.e., it is not needed. This appears to conflict with the definition of an important to safety component – it cannot be considered optional if relied on for a safety function. There could be options for choice of materials, but not the existence of an important to safety component.

The staff needs this information to determine compliance with Title 10 *Code of Federal Regulations* (10 CFR) 71.33(a).

Response:

The primary purpose of the vent port access tube is to maintain a passageway from the package's exterior to the outer confinement vessel's (OCV's) vent port feature for the polyurethane foam pouring process during construction of the packagings. The secondary purpose of the vent port tube is to minimize the potential for particulates from the exposed foam from contaminating the vent port that would require subsequent cleaning. Therefore, any type of nonmetallic barrier will serve the secondary purpose, but is not required for continued packaging operation since it serves only for convenience.

Historically for NWP, NUREG-6407 has been employed to implement the graded approach for every component identified on the packaging SAR drawing. As such, components with little or no importance to safety have been assigned a Category C designation for conservatism and

convenience. Although not actually serving a safety-significant function, the OCV vent port access tube is not initially optional due to its function during the foam pour fabrication process for maintaining a passageway to the OCV vent port. The OCV vent port access tube also aids in facilitating cleanliness of the vent port access passageway during operations. However, as discussed previously for the post-foam pour condition, the secondary purpose of the OCV vent port tube can be achieved with either of the nonmetallic barriers identified in response #2 below, or not utilized at all since the OCV vent port access tube does not perform a safety-significant function during normal packaging operations.

SAR Drawings No. 2077-500SNP and 707-SAR have been revised to clarify the applicability of the Note 33 “OPTIONAL” designation and the optional surface coating materials.

RAI-M-2 Provide additional information in the safety analysis report regarding the coating discussed in the proposed change.

If the coating is intended to replace a NUREG-6407 Category C component, then it is also a Category C component. Specify the coating materials, the acceptance criteria for this coating, and the inspection and maintenance program associated with the coating, in order to ensure that the coating remains able to perform its important to safety function.

The staff needs this information to determine compliance with 10 CFR 71.31(c) and 10 CFR 71.87(b).

Response:

The intended optional coating material, if it is utilized, will be an RTV silicone adhesive per MIL-A-46106, or epoxy adhesive per ASTM D1763 or DOD-A-82720. Because the vent port tube (or coating) is not important to safety, there are no acceptance criteria, other than the surface coating material specifications, nor an inspection and maintenance program associated with the optional surface coatings.

SAR Drawings No. 2077-500SNP and 707-SAR have been revised to clarify the optional surface coating materials.

RAI-M-3 Revise Sections 1.2.1.1.1, 1.2.1.4, and 1.3.2 in the safety analysis report to remove references to fiberglass as the material for the connecting tube/OCV vent port access tube.

Sections 1.2.1.1.1, 1.2.1.4, and 1.3.2 all refer to the tube as fiberglass. To be consistent with the requested changes to the drawing, please update these sections accordingly.

Furthermore, please clarify that both the non-metallic tube and the polymer resin surface coating described in the application are compatible with the surrounding materials and will not cause any reactions contrary to 10 CFR 71.43(d).

The staff needs this information to determine compliance with 10 CFR 71.43(d).

Response:

The aforementioned sections in Chapter 1 of both the TRUPACT-II and HalfPACT SARs have been revised as noted.

Section 2.4.4 of the SARs has been revised to address the nonmetallic tube material and optional surface coatings, RTV silicone adhesive has been used to bond the fiberglass tubes to the vent port fittings and epoxy adhesive has been used to bond polyurethane foam (or ceramic fiber) plugs to the vent port and seat test port access plugs; numerous visual inspections have verified that degradation of the metallic components has never occurred. A variety of other nonmetallic materials are also successfully utilized throughout the packagings without problems (e.g., Esterfoam annular foam ring, silicone wear pad, plastic fire consumable vent plugs, silicone RTV per Flag Note 34, fiberglass OCA lift tube, etc.); therefore, the currently proposed vent port tube replacement materials are fully in compliance with the requirements of 10 CFR §71.43(d).

TRUPACT-II SAR, Revision 26, October 2022			
Section	**Page**	**Change Description**	**Justification**
General		Revised header for revision number and date.	Administrative change. No impact to safety basis.
1.2.1	1.2-2, 1.2-3, 1.2-5	Revised text describing the OCV vent port access tube to allow for other non-metallic material to be used.	Any non-metallic material is acceptable since the primary function of the tube is to maintain a passageway during the foam pour process. No impact to safety basis.
1.3.2	1.3.2-3	Inserted “or other non-metallic material” after “fiberglass” in the definition for OCV Vent Port Access Tube.	See the previous justification.
2.4.4	2.4-1	Revised to address the non-metallic tube material and optional surface coatings.	The materials specified for the tube and optional surface coatings have been used successfully for locations elsewhere on this packaging. No impact to safety basis.

TRUPACT-II Packaging SAR Drawing, 2077-500SNP, Revision BB, October 2022			
Sheet	**Zone**	**Change Description**	**Justification**
General		Revised header to update revision number.	Administrative change. No impact to safety basis.
1	B6	Revised Flag Note 33, as referenced in Section H-H (Zone C-3/4) on Sheet 4.	Clarified application of the optional designation and permissible coatings that may be utilized after foam pour. Added material specifications.

HalfPACT SAR, Revision 9, October 2022			
Section	**Page**	**Change Description**	**Justification**
General		Revised header for revision number and date.	Administrative change. No impact to safety basis.
1.2.1	1.2-2, 1.2-3, 1.2-5	Revised text describing the OCV vent port access tube to allow for other non-metallic material to be used.	Any non-metallic material is acceptable since the primary function of the tube is to maintain a passageway during the foam pour process. No impact to safety basis.
1.3.2	1.3.2-3	Inserted “or other non-metallic material” after “fiberglass” in the definition for OCV Vent Port Access Tube.	See the previous justification.
2.4.4	2.4-1	Revised to address the non-metallic tube material and optional surface coatings.	The materials specified for the tube and optional surface coatings have been used successfully for locations elsewhere on this packaging. No impact to safety basis.

HalfPACT Packaging SAR Drawing, 707-SAR, Revision 12, October 2022			
Sheet	**Zone**	**Change Description**	**Justification**
General		Revised header to update revision number.	Administrative change. No impact to safety basis.
1	C6	Revised Flag Note 33, as referenced in Section H-H (Zone C-3/4) on Sheet 5.	Clarified application of the optional designation and permissible coatings that may be utilized after foam pour. Added material specifications.