

LTR-20000-130-01

February 17, 2021

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

Dear Director:

DAHER-TLI hereby submits an application for amendment of license USA/9342/AF-96 for Model No. Versa-Pac. All amendment contents have been consolidated to Revision 12 to the Versa-Pac Safety Analysis Report, Docket No. 71-9342. The Safety Analysis Report enclosed in this submittal includes content that is being withheld from public disclosure because it contains information proprietary to DAHER-TLI. The affidavit for withholding from public disclosure is documented in LTR-20000-130-02, submitted jointly with this application. A redacted version of the Safety Analysis Report is also enclosed in this submittal.

Based on customer requests, DAHER-TLI is seeking a number of additions to the NRC Certificate of Compliance (CoC) for the Versa-Pac package. These requests include clarifications for and expansion of current contents, additional licensed contents, and added package functionality through optional use of the inner cavity foam block. Additionally, multiple DAHER-TLI customers have requested foreign validations for the package to allow for international shipments. As a result, Revision 12 of the SAR includes a significant consolidation effort in addition to the new analyses to support the requests for added contents and in anticipation of future submittals to foreign authorities for international validations. Below is a summary list of the substantial changes requested to the Versa-Pac NRC CoC:

Requested Versa-Pac NRC CoC Changes:

- 5.(a)(3)** Update to reference VP-55-LD Rev. 4.
- 5.(b)(1)(i)** Explicit allowance for the inclusion of neutron poisons (e.g. boron).
- 5.(b)(1)(iii)** Allowance for the shipment of UF₆ in sample tubes, when in quantities less than 0.1 kg
- 5.(b)(2)** Revision of Table 2 Ground/Vessel for new mass limits
- 5.(b)(2)** Addition to Table 2A to include new 5%, 10%, and 100% limits
- 5.(b)(2)** Revision of Table 3 to restrict ≤5% & ≤10% material to the volume of the 5-inch pipe for Ground/Vessel transport
- 5.(b)(2)** New Table for added 5-inch Pipe with Limited Hydrogenous Packing Materials

To support the request for the CoC changes listed above, the following information provides general description of the Revision 12 of the Versa-Pac SAR. Full details can be found in SAR Rev 12, Record of Revisions.

Licensing Drawing

- No changes to the Versa-Pac design, just note edits and additions for clarification and ease of use. Primary change is the addition of Note 16, which allows the Containment Insulation Plug (IG) to be optional for fuel contents that are temperature insensitive (e.g. TRISO compacts).

Section 1

- Editorial cleanup. For example, tables are renumbered to remove lettering (e.g. Table 1-1A)
- Addition of tables and text for new contents noted above
- New VP-55 licensing drawing inserted.

Section 2

- Complete consolidation and re-write of the chapter, but no change or addition to technical content. This change is made to simplify any future reviews of the chapter and support foreign validation applications. Previously, nearly all drop testing data was provided in drop test report attachments. Now results are summarized in the section and the drop test reports are included as references that will be provided upon request.

Section 3

- Addition of Appendix 3.5.3 to provide temperature profiles for the package without the containment insulation plug (IG) to support making this part optional.
- Added pressure maximum NCT and HAC pressure calculations

Section 6

- Complete consolidation and re-write of the chapter. A significant portion of the prior analyses are retained and simply moved from appendices to the body of the SAR section.
- The “standard configuration” analysis (no polyethylene limit or 5-inch pipe) is redone to remove the old SCALE 4.4 results for the 100 wt% enrichment and to match the packaging models with the rest of the analyses.
- The benchmarking calculations are replaced with a single analysis that develops individual USL equations for each enrichment band (previously a single USL applied globally).
- The “Hydrogen Limited Contents” analysis is expanded to cover 5 wt%, 10 wt%, and 100 wt% enrichments (previously only 20 wt%).
- A new analysis was added for the 5-inch pipe with hydrogen limited contents at 10 wt% and 20 wt% enrichments.

It is requested that this application be reviewed for the Joint United States – Canada process for package approval and validation, in accordance with NUREG-1886. To support customer scheduling obligations, we request the approval of the certificate revision by the end of August 2021. DAHER-TLI is committed to providing timely responses to any proposed questions to support this timing.

Thank you for your attention to this license application for the Versa-Pac. This report is being submitted in accordance with 10CFR71.1, Communications and records. The enclosures of this report are being submitted through the EIE system.

A draft Certificate of Compliance with recommended revisions and sample input/output files will be provided separately to the NRC Project Manager, Nishka Devaser. Please address any questions or comments to the undersigned.

Sincerely,

Philip Sewell
Principal Engineer
DAHER-TLI

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Non-Proprietary Enclosures:

<u>Description:</u>	<u>File Name:</u>
Affidavit to Withhold Proprietary Information	LTR-20000-130-02.pdf
SAR Revision 12, Non-Proprietary	VP SAR Rev 12-NP.pdf

Proprietary Enclosures:

<u>Description:</u>	<u>File Name:</u>
SAR Revision 12, Proprietary	VP SAR Rev 12-P.pdf