

71-9342

**Century Industries**

**P.O. Box 17084, Bristol, Virginia 24209**

**Phone: 423-646-1864/276-628-7553**

March 19, 2013

Mr. Pierre M. Saverot – Project Manager  
Office of Nuclear Material Safety and Safeguards  
Mail Stop: EBB-3D-02M  
United States Nuclear Regulatory Commission  
Executive Boulevard Building  
6003 Executive Boulevard  
Rockville, Maryland 20852

**RE: Request to Amend Certificate of Compliance No. 9342 for the Model No. Versa-Pac  
Package and Drawing Corrections to the SAR under Docket No. 71-9342**

Dear Mr. Saverot,

Certificate Number	Model Number
USA/9342/AF	VP-55 & VP-110

In support of our request for amendment to the Certificate of Compliance Revision 6 and Safety Analysis Report Revision 6, we have provided 2 copies of the Versa-Pac Shipping Container Safety Analysis Report, Revision 7, a Drawing Change Table, and a copy of the DAHER-TLI Engineering Services report Titled: Evaluation of Thermal Degradation of Packaging Material in Versa-Pac.

Century Industries would like to thank you for the opportunity to request the following revisions to the Certificate of Compliance:

- Revise paragraph 5. (b)(1) to remove the 200 gram limit on hydrogenous materials.

The Versa-Pac thermal evaluation predicts surface temperatures on the inner containment that are less than the auto-ignition temperature for polyethylene or paper. However, assuming the heat flux exposure is greater than the critical heat flux for ignition for polyethylene and paper, combustion in a sealed container is limited by the amount of air present to support the chemical reaction for the thermal degradation of the fuel. The maximum temperature is limited by the quantity of air present in a sealed container. Therefore, there is no need to limit the quantity of paper or polyethylene to ensure the integrity of a sealed Versa-Pac inner container.

A flat gasket made from fiberglass-reinforced silicone sheet provides the seal for the inner container lid. This gasket material is suitable for operating temperatures from -100 to 500F. During normal shipping conditions, the silicone containment seal is compatible with the approved contents and temperature conditions. The heat energy transferred from the external thermal event or added by a secondary internal combustion of the plastic packing

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material would not produce sufficient thermal degradation products to compromise the integrity of the silicone in the gasket material.

A limit on the quantity of hydrogenous packing material has no safety significance for criticality safety or containment of the radioactive material contents. Please see the revision to Section 3 in the SAR for justification. The revision includes the addition of Paragraph 3.5.7, Evaluation of Thermal Degradation of Packaging Material in Versa-Pac on page 3-6, as well as the addition of this evaluation in Appendix 3.5.7.

- The limit on the quantity of hydrogenous packing material in the Versa-Pac approval certificate, USA/9342/AF-96, should be removed, and the contents condition revised as follows:

5.(b)(1) Type and Form of Material

Contents may be pre-packaged in polyethylene, polytetrafluoroethylene, aluminum, and carbon steel per Table No.1-4 of the application. Aluminum Trihydrate, Sodium Borate (Borax, fused), perlite, paper labels, plastic tape, plastic bags, plastic bottles and desiccant such as "Quik-Solid" are also authorized as packing materials. Materials with a hydrogen density greater than 0.141 g/cm<sup>3</sup> are not authorized.

Radioactive contents shall have an auto-ignition temperature and melting point greater than 600°F.

Century Industries would also request revision to the Versa-Pac licensing drawings currently listed in the Versa-Pac SAR Rev. 6 in order to correct and remove typographical errors, duplicate information, and outer drum measurements not necessary to satisfy the SAR requirements. We are submitting the following revised drawings along with a detailed Drawing Change Table for review: VP-55-LD-1 Rev. 9, VP-55-LD-2 Rev. 11, VP-110-LD-1 Rev. 9, and VP-110-LD-2 Rev. 9. These drawings are found in Appendix 1.3.1, pages 1-14 thru 1-17.

We respectfully request that an accelerated review of this submittal be granted to meet our present client's shipping needs, scheduled to begin in mid-April, 2013. We also request that the Certificate of Compliance changes to content be retroactive to include previously manufactured Versa-Pac shipping containers, so that users can fully utilize the Versa-Pac.

If you or the staff have any questions, or need any additional information, please let me know.

Respectfully,



William M. (Mike) Arnold  
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E-Mail: CenturyIndWMA@aol.com

**Drawing Change Table  
for  
SAR and CoC Rev. 7 Request**

<b>Drawing No.</b>	<b>Item</b>	<b>Before Changes</b>	<b>After Changes</b>	<b>Justification</b>
VP-55-LD-1 Rev. 9 VP-55-LD-2 Rev. 11 VP-110-LD-1 Rev. 9 VP-110-LD-2 Rev. 9	Drawing Information Box	PATENTS PENDING	PATENT NO. US 7,628,287,B1	Change in status
VP-55-LD-1 Rev. 9	SB	16 GA. SHEET SHEET	16 GA. SHEET	Typo – Duplication
VP-55-LD-1 Rev. 9	GB	HI TEMP. HEAT RES. SILICONE COATED FIBERGLASS SLEEVE GASKET	HI TEMP. HEAT RES. SILICONE COATED FIBERGLASS GASKET	Incorrect description
VP-55-LD-1 Rev. 9	IB	CI-1 POLYURETHANE CLOSED CELL FOAM PER SOP 6.11	UF-1 POLYURETHANE CLOSED CELL FOAM PER SOP 6.11	The actual name of the foam specified in SOP 6.11 is UF-1.
VP-55-LD-1 Rev. 9	IC	CI-1 POLYURETHANE CLOSED CELL FOAM PER SOP 6.11	UF-1 POLYURETHANE CLOSED CELL FOAM PER SOP 6.11	The actual name of the foam specified in SOP 6.11 is UF-1.
VP-55-LD-1 Rev. 9	ID	1/8 THICK X 24" WIDE – 10 PCF	1/8 THICK	"X 24" WIDE" - unnecessary information; "10 PCF" - typo not included on previous dwg. revisions
VP-55-LD-1 Rev. 9	IG	CI - POLYURETHANE CLOSED CELL FOAM PER SOP 6.11	UF-1 POLYURETHANE CLOSED CELL FOAM PER SOP 6.11	The actual name of the foam specified in SOP 6.11 is UF-1.

Drawing Change Table  
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VP-55-LD-1 Rev. 9	Drum Drawing	From Left to Right: 34 1/2" TOP OF COVER 34 1/4" TOP OF CURL 11 5/8" TOP OF CURL 11" 3" 23 7/8" BOLT RING 1' 10 1/2" I.D. 23 1/16" Ø 34 1/4" TOP OF BOLT RING	Removed all of these dimensions.	The SAR requires a specific UN rating as a minimum. The measurements tied fabrication to a specific supplier as well. Removal allows other qualified suppliers to provide the drum for the package. Not safety-related and have no relevance to the performance of the Versa-Pac.
VP-55-LD-2 Rev. 11	Detail 7	No label. There was also an odd attachment to the inside of PA.	<u>DETAIL 7</u> Removed the attachment.	Typos
VP-55-LD-2 Rev. 11	Properties listed under the Blind Nut drawings.	Mechanical Properties & Chemistry of C1018	Removed.	AISI C1018 is referenced in the Bill of Materials, and the properties are found in the specification.
VP-110-LD-1 Rev. 9	GB	HI TEMP. HEAT RES. SILICONE COATED FIBERGLASS SLEEVE GASKET	HI TEMP. HEAT RES. SILICONE COATED FIBERGLASS GASKET	Incorrect description
VP-110-LD-1 Rev. 9	IB	CI-1 POLYURETHANE CLOSED CELL FOAM PER SOP 6.11	UF-1 POLYURETHANE CLOSED CELL FOAM PER SOP 6.11	The actual name of the foam specified in SOP 6.11 is UF-1.
VP-110-LD-1 Rev. 9	IC	CI-1 POLYURETHANE CLOSED CELL FOAM PER SOP 6.11	UF-1 POLYURETHANE CLOSED CELL FOAM PER SOP 6.11	The actual name of the foam specified in SOP 6.11 is UF-1.

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VP-110-LD-1 Rev. 9	IG	CI - POLYURETHANE CLOSED CELL FOAM PER SOP 6.11	UF-1 POLYURETHANE CLOSED CELL FOAM PER SOP 6.11	The actual name of the foam specified in SOP 6.11 is UF-1.
VP-110-LD-1 Rev. 9	Drum Drawing	From Left to Right: 42 1/2" TOP OF COVER 42 1/4" TOP OF CURL 15 3/8" TOP OF CURL 11 1/2" 3" 30 7/16" 31 3/16" BOLT RING 30" I.D. 42 3/4" TOP OF BOLT RING	Removed all of these dimensions.	The SAR requires a specific UN rating as a minimum. The measurements tied fabrication to a specific supplier as well. Removal allows other qualified suppliers to provide the drum for the package. Not safety-related and have no relevance to the performance of the Versa-Pac.
VP-110-LD-1 Rev. 9	CLOSURE CONTAINMENT POINT 3	DRAWING	REMOVED	Duplicate – also found on Dwg. No. VP-110-LD-2 Rev. 9
VP-110-LD-1 Rev. 9	CLOSURE CONTAINMENT POINT 2	DRAWING	REMOVED	Duplicate – also found on Dwg. No. VP-110-LD-2 Rev. 9
VP-110-LD-2 Rev. 9	Detail 7	No label. There was also an odd attachment to the inside of PA.	<u>DETAIL 7</u> Removed the attachment.	Typos
VP-110-LD-2 Rev. 9	Properties listed under the Blind Nut drawings.	Mechanical Properties & Chemistry of C1018	Removed.	AISI C1018 is referenced in the Bill of Materials, and the properties are found in the specification.