

# **Century Industries**

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

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August 4, 2011

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 Contents Description - Amendment Request to Certificate of Compliance No. 9342 for the Model No. Versa-Pac Package, Docket No. 71-9342**

Dear Mr. Saverot,

Century Industries would like to thank you for the opportunity to request adjustment to the description listed under the contents section 5(b)(2)(ii) transporting Th232 within the Versa-Pac Shipping Container.

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

During the initial shipments the TRISO Fuel rods were found to contain less U-235 than previously reported. The High Temperature Gas Reactor TRISO fuel material was described as C/SIC/C coated ThUC<sub>2</sub> particles pressed with a carbon matrix to form rods approximately ½ inch x 2 inch long. Each rod was reported to weigh 12.5 grams and contain up to 0.4 grams U-235. The rods are packed in cans with pressed lids to be transported in the Versa-Pac containment.

Under 5(b)(2)(ii) and the 0.4 grams previously reported was used to determine the number of fuel rods allowable at 875. Using this number as the limiting factor, the containment in the initial shipments was only partially utilized allowing only an average U-235 content of 110g per drum, well under the allowable 350 grams.

As stated in the original request, we referred to the A2 Tables found in 49CFR 173.435 and RQ Table 49CFR 172.101 App. A, which show the reportable Th232 as unlimited and as noted the current revision of the Certificate of Compliance under Section 3 states that contents are limited to normal form material with the A2 value applied to the package and that the radionuclide inventory of the loaded contents were to be less than the calculated mixture A2 value.

Base upon that review the Th232 material is unlimited in Table A2 and acceptable for transport.

Therefore, we would therefore respectfully request that an amendment to the contents description in Section 5(b)(2)(ii) of Certificate of Compliance 9342 be granted with the TRISO Fuel material described above, limited to a maximum of 350 grams of U235, currently approved and Thorium 232 listed as unlimited to the acceptable materials that can be transported in the Versa-Pac Shipping Container, with the limiting number for transport being 350 grams of U-235 already approved.

“The allowable number of TRISO Fuel rods containing Th-232, are limited to a corresponding maximum quantity of 350 grams of U-235.”

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

Respectfully,

A handwritten signature in dark ink, appearing to read "William M. Arnold". The signature is fluid and cursive, with the first name "William" and last name "Arnold" clearly distinguishable.

William M. (Mike) Arnold  
President – Century Industries  
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Cc: File