

May 27, 2010

U.S. Nuclear Regulatory Commission
11555 Rockville Pike
Rockville, MD 20852-2738

Attention: Document Control Desk

Subject: Response to Request for Additional Information Regarding Authorization to Use a TRIGA Element Positioning Device in the TRIGA Basket in the Model No. NAC-LWT Package, U.S. Nuclear Regulatory Commission (NRC) Certificate of Compliance (CoC) No. 9225, when Shipping General Atomic TRIGA Fuel

Docket 71-9225 TAC Number: L24417

- References:
1. USNRC CoC No. 9225, Revision 55, Model No. NAC-LWT Package, Dated March 23, 2010
 2. NAC-LWT Safety Analysis Report (SAR), Revision 40, and Approved Supplements, NAC International, January 2010
 3. Request for Authorization to Use a TRIGA Element Positioning Device in the TRIGA Basket in the Model No. NAC-LWT Package, U.S. Nuclear Regulatory Commission (NRC) Certificate of Compliance (CoC) No. 9225, when Shipping General Atomic TRIGA Fuel, NAC International, May 11, 2010
 4. Model No. NAC-LWT Review Telephone Call, NRC, May 27, 2010

In response to Reference 4, NAC hereby provides the requested information.

NRC staff requested NAC to provide additional clarification for this statement in Reference 3: "The use of the fuel cell divider has no negative impact on any of the structural, thermal, containment or shielding analyses presented in Reference 2 as supplemented."

The following information is provided to clarify the above statement:

Structural:

The structural evaluations for the normal conditions of transport and the accident conditions of transport for the TRIGA basket are contained in Sections 2.6.12.7 and 2.7.7.9 of Reference 2, respectively. Section 2.6.12.7 defines the weights employed in both evaluations, and states that the evaluations use a bounding weight of 13.2 pounds for each of the TRIGA elements (as opposed to 8.8 pounds) and 20 pounds for the damaged fuel can. The requested configuration

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will not use the damaged fuel can and the weight of the spacer for handling is to be less than 20 pounds. Therefore, the structural evaluations in Sections 2.6.12.7 and 2.7.7.9 bound the structural conditions defined for the shipment with the requested instrumented TRIGA element assemblies and cell divider.

Thermal:

The thermal evaluations for the normal conditions of transport and the accident conditions of transport for the TRIGA basket are contained in Sections 3.4.1.5 and 3.5.5.3 of Reference 2, respectively. The thermal evaluation in Section 3.4.1.5 treats the TRIGA element as being positioned in the center of the basket cell without contact, which is conservative. Also, the inner shell temperature applied as a boundary condition to the calculation was based on a heat load of 1.26 kW as opposed to the TRIGA design basis heat load of 1.05 kW. The evaluation in Section 3.4.1.5 also employed a damaged fuel can, which is not to be used in the current TRIGA shipment and is considered as an additional conservatism. Therefore, the thermal evaluations in Sections 3.4.1.5 and 3.5.5.3 bound the thermal conditions defined for the shipment with the requested instrumented TRIGA element assemblies and cell divider.

Containment:

The NAC-LWT cask is configured for a leaktight containment boundary during TRIGA fuel element transport. Refer to Chapter 4 of Reference 2. Therefore, internal content configuration, including the presence or absence of cell dividers, has no effect on containment functions for the TRIGA shipment.

Shielding:

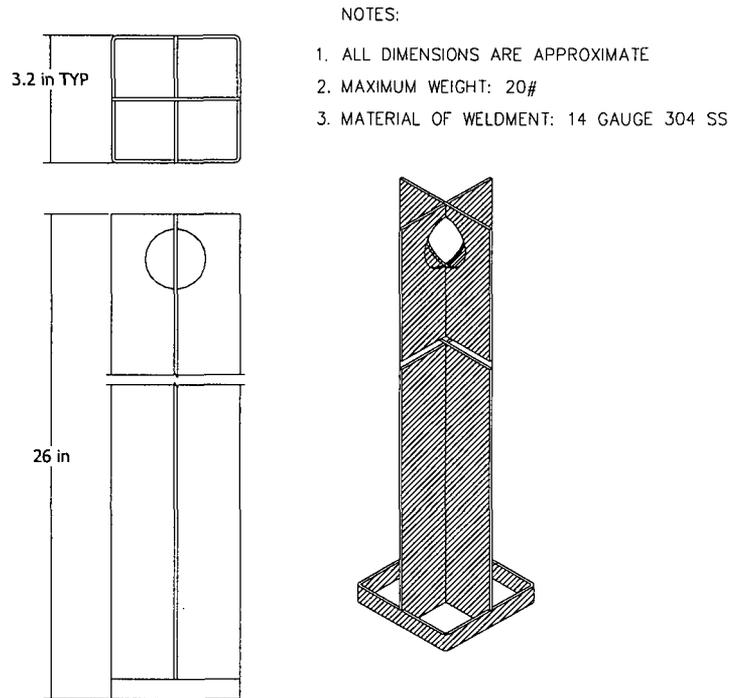
Shielding evaluations in Chapter 5 of Reference 2 do not credit any material besides fuel elements within the basket cell. The cell divider provides additional shielding mass; therefore, its inclusion during transport presents a conservative scenario.

The NRC staff also requested that approximate dimensions and the approximate weight of the cell divider be added to the sketch provided in Reference 3.

NAC has revised the sketch to provide the requested information. As use of the cell dividers will be limited to facilitate loading of instrumented TRIGA fuel element assemblies only, the maximum height of the divider has been changed to approximately 26 inches. The weight of the device is limited to 20 pounds, which is the same as the weight of the damaged fuel can.

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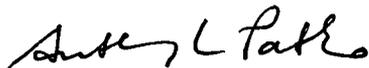
Similarly to other handling and support hardware (e.g. Fuel Rod Capsule, TPBAR Waste Container, etc.) approved based on conceptual sketches, NAC does not intend to provide a license drawing for the 304 stainless steel cell divider. The revised sketch is presented below:



The fuel cell divider provides no safety function. Its sole purpose is to facilitate loading and positioning of instrumented TRIGA fuel element assemblies within the TRIGA basket fuel cell.

If you have any comments or questions, please contact me on my direct line at 678-328-1274. Any requested additional information will be provided promptly.

Sincerely,



Anthony L. Patko
Director, Licensing
Engineering