

**From:** Soto, Soly  
**Sent:** Thursday, July 15, 2010 10:18 AM  
**To:** 'charles.temus@areva.com'  
**Cc:** Staab, Christopher  
**Subject:** Materials RAIs pertaining to BRR Package, Docket No. 71-9341

Mr. Temus,

Staff's schedule has us issuing RAIs on October 2010. However, we have finished development of the following RAIs and are transmitting them to you for your information. Please note that these RAIs are subject to change as we complete RAI development in other technical areas. A comprehensive RAI package with final RAIs will be issued by the date referenced above. You should provide your response to the RAIs in a single package. We will not accept partial RAI responses.

Materials RAIs:

RAI-1 Clarify the temperature of the elastomer O-ring seals responsible for containment under Normal Conditions of Transport and Hypothetical Accident Conditions.

On page 3.1-5, Table 3.1-1 of the BRR Package Safety Analysis Report (SAR), Rev. 3, provides temperatures of the Closure/Vent Seals, but it is unclear if this refers to the elastomer O-rings used to seal the package.

This information is requested by staff determine compliance with 10 CFR 71.51.

RAI-2 Justify that the elastomer O-rings can be used to maintain containment under Normal Conditions of Transport over prolonged periods of time, e.g. one year.

The acceptance tests require that the O-ring have a compression set of 25% or less after exposure to 70°C for 22 hours. The NCT temperature and anticipated time of use are significantly higher and longer, respectively, than the acceptance tests for the seal material.

Generic data regarding classes of elastomers from supplier handbooks are not adequate to make a safety finding.

This information is requested by staff to determine compliance with 10 CFR 71.51.

RAI-3 Require that only unused elastomer O-rings are permitted for sealing the cask in Section 7.1.2.1-19 and 7.1.2.2-15 of the Safety Analysis Report.

Under Normal Conditions of Transport, the temperature of the elastomer seals is sufficient to cause permanent loss of elasticity in the sealing materials.

This information is requested by staff to determine compliance with 10 CFR 71.51.

RAI-4 Verify that the properties of the polyurethane foam material used in the impact limiter will match the under Normal Conditions of Transport.

Acceptance testing of the foam material is conducted at room temperature; however, the temperature of the impact limiting foam may be sufficient to affect the energy absorbing properties of polyurethane foam.

This information is required by staff to determine compliance with 10 CFR 71.73(c).

Sincerely,



**Soly I. Soto Lugo**

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