

71-9253

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**TRANSNUCLEAR**

June 14, 2002  
E-19612

Mr. E. William Brach, Project Director  
U. S. Nuclear Regulatory Commission  
Spent Fuel Project Office  
One White Flint North  
11555 Rockville Pike  
Washington, DC 20555

Subject: TN-FSV Safety Analysis Report  
Docket No. 71-9253

Reference: TN Letter E-19547

Dear Mr. Brach:

In the referenced letter, Transnuclear, on behalf of the DOE, requested an amendment to the C of C for the TN-FSV Packaging. This letter is being submitted to supplement that request with an additional change to the SAR.

The second sentence in the third paragraph under Section 8.1.4 currently describes the TN-FSV cask body as being included in the leakage testing. However, ANSI N14.5-1997, states: "periodic leakage rate testing shall be performed for all containment boundary seals, closures, valves, rupture disks, etc. Periodic leakage testing need not include inaccessible surfaces." The containment body/welds of the TN-FSV packaging are not accessible; therefore, in accordance with ANSI N14.5, the TN-FSV body need not be leak tested. Accordingly, enclosed is page 8-2, Rev 5 with the word *body* removed from the second sentence. Please replace page 8-2 sent to you earlier with the referenced application letter with the enclosed page 8-2.

If you have any questions, please call me.

Sincerely,



Michael Mason  
Chief Engineer

attachments: as stated above (3 copies)

cc: Brian DeMonia (DOE) 1 copy

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### 8.1.2 Weld Inspections

Weld inspections are performed in accordance with the drawings and applicable ASME code sections specified in this Addendum. All welding is performed using qualified processes and qualified personnel, according to the ASME Boiler and the Pressure Vessel Code<sup>(1)</sup>. Welds are examined in accordance with the ASME Boiler and Pressure Vessel code requirements. NDE requirements for welds are specified on the drawings provided in Chapter 1. All NDE is performed in accordance with written and approved procedures. The inspection personnel are qualified in accordance with SNT-TC-1A<sup>(2)</sup>. Location, type, and size of the weld are confirmed by measurement.

### 8.1.3 Structural and Pressure Tests

The structural analyses performed on the Oak Ridge Container are presented in Chapter 2. To ensure that the ORC can perform its design function, the structural materials are chemically and physically tested to confirm that the required properties are met. Base materials are examined in accordance with the ASME Boiler and Pressure Vessel code requirements.

In accordance with 10CFR71.85(b), containment boundaries with an MNOP less than 5 psig are not required to be subjected to a structural pressure test.

### 8.1.4 Leakage Tests

Fabrication leakage tests are performed on the containment boundary for the TN-FSV cask and the Oak Ridge Container respectively, at the Fabricator's facility. These tests are performed using the helium mass spectrometer method. The leak test is performed in accordance with ANSI N14.5<sup>(3)</sup>. The personnel performing the leakage test are qualified in accordance with SNT-TC-1A.

For the Oak Ridge Container, helium is introduced into the cavity and the mass spectrometer connected to the test port in order to test both the inner lid o-ring and the vent port o-ring. The quick disconnect in the vent port will be removed. The ORC body/lid will be tested by the gas filled envelope method, i.e., placing a helium filled bag around the body and evacuating the cavity through the drain port. The leakage rate must be less than  $1 \times 10^{-7}$  ref  $\text{cm}^3/\text{s}$  as per ANSI N14.5 Section 7.1<sup>(3)</sup>.

For the TN-FSV Packaging, the inner lid o-ring is tested by utilizing the test port connection for the mass spectrometer with helium in the cask cavity. The vent, and drain ports will be tested with the gas filled envelope method, using a helium filled bag around the component and evacuating through one of the ports. The quick disconnect is removed for the port being leak tested. The leakage rate must be less than  $1 \times 10^{-7}$  ref  $\text{cm}^3/\text{s}$ .

The permissible leakage rate for each containment boundary is less than or equal to  $1 \times 10^{-7}$  ref  $\text{cm}^3/\text{sec}$  (leaktight). The sensitivity of the leakage test procedure is at least  $5 \times 10^{-8}$  ref  $\text{cm}^3/\text{sec}$ .