



Nuclear Operations Division

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April 18, 2008  
08-058

E. William Brach  
Director, Spent Fuel Project Office  
Office of Nuclear Material Safety and Safeguards  
U.S. Nuclear Regulatory Commission  
Washington, DC 20555-0001

## References:

- 1) Docket No. 71-9250
- 2) Letter dated March 26, 2008, NRC (Staab) to BWXT (Cole) Request for Additional Information for the Review of the Model No. 5X22 Package
- 3) Letter dated February 15, 2008, BWXT (Cole) to NRC (Brach) Certificate Renewal
- 4) Letter dated February 4, 2008, NRC (Nelson) to BWXT (Morrell) Notice of Expiration of Certificate of Compliance No. 9250

Subject: Response to Request for Additional Information for Review of the Model No. 5X22 Package (TAC L24187)

Dear Mr. Brach:

BWX Technologies, Inc. (BWXT) is providing its response to the request for additional information (RAI) dated March 26, 2008. The request that the Safety Analysis Report (SAR) be revised to be consistent with the contents authorized by the Certificate of Compliance (CoC) has been fulfilled, and the revised page 1.1 of the SAR is provided in the enclosure. This provided information is in accordance with 10 CFR 71.7.

The requested information for RAI question (2) is in accordance with 10 CFR 71.55 (b) & (e) and 71.59 (a)(2). In a recent telephone conversation on April 9, 2008, with Mr. Chris Staab, Project Manager, Division of Spent Fuel Storage and Transportation, BWXT informed Mr. Staab that we would be unable to provide this information by April 25, 2008. Therefore, BWXT requests an extension for providing this evaluation to the NRC no later than August 31, 2008. BWXT requests the additional time to adequately evaluate whether a 9-meter (30 foot) drop test at a shallow angle orientation could result in lid separation and to determine the effects of this scenario. The additional time is

necessary to perform criticality safety analysis for the accident conditions assuming different degrees of damage. If this evaluation proves unsuccessful, BWXT will notify the NRC to discuss further actions.

The renewal application for this package was submitted more than 30 days before the expiration of the CoC. It is our understanding that BWXT is in timely renewal and is permitted to continue to use this package until final action has been taken.

Should you have any questions in this regard, please contact me at (434) 522-5665.

Sincerely,

*Chief Off for Barry L. Cole*

Barry L. Cole

Manager, Licensing and Safety Analysis  
(Licensing Officer)

Enclosure

cc: NRC, Resident Inspector  
NRC, Region II  
NRC, Amy Snyder  
NRC, Chris Staab

**Enclosure**

## 1. GENERAL INFORMATION

The 5X22 shipping container is a Type B(U) package for the transportation of highly enriched unirradiated fissile material as a liquid, and unirradiated fissile material as a solid. It has been designed to the requirements of 10 CFR 71. The 5X22 also meets the requirements of International Atomic Energy Agency Safety Series No. 6, 1985 Edition.

The 5X22 shipping container, Figure 1-1, is a 55 gallon drum which contains an inner vessel, Figure 1-2. The inner vessel is a stainless steel container with a welded bottom cap and a top weld neck flange which is closed by a bolted blind flange. The closure includes a pair of leak-testable O-rings. The interior cavity of the inner vessel is 5 inches in diameter by 22 inches long. The inner vessel is centered in the drum by fiberboard and supported by plywood disks.

Nomenclature used in this document

Shipping container      The drum loaded with the containment vessel

Inner vessel              The closed 5 inch pipe which serves as the containment boundary for the material to be shipped

This Safety Analysis Report for Packaging (SARP) is prepared in accordance with Nuclear Regulatory Commission (NRC) Regulatory Guide 7.9 (Proposed Revision 2, Dated 5/86). The B&W Fuel Company, as agent for BWXT, Nuclear Products Division, has designed the 5X22 and generated this SARP under the Quality Assurance (QA) plan approved by the NRC under Docket 71-0506. Production packages will be fabricated and used by the under their QA plan, approved by the NRC under Docket 71-0088.

### 1.1 Introduction

The model designation for the shipping container is "5X22". It is designed to ship fissile materials in the form of solids, pellets, powder, crystals or liquid solutions. The inner vessel is not pressurized and uses air as a cover gas. The container is designed for use for both fissile controlled shipments and fissile shipments.

### 1.2 Package Description

#### 1.2.1 Packaging

The general arrangement of the shipping container is shown in Figure 1-1. All references in this document to a DOT type