

**CERTIFICATE OF COMPLIANCE  
FOR RADIOACTIVE MATERIAL PACKAGES**

1.	a. CERTIFICATE NUMBER	b. REVISION NUMBER	c. DOCKET NUMBER	d. PACKAGE IDENTIFICATION NUMBER	PAGE	PAGES
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## 2. PREAMBLE

- a. This certificate is issued to certify that the package (packaging and contents) described in Item 5 below meets the applicable safety standards set forth in Title 10, Code of Federal Regulations, Part 71, "Packaging and Transportation of Radioactive Material."
- b. This certificate does not relieve the consignor from compliance with any requirement of the regulations of the U.S. Department of Transportation or other applicable regulatory agencies, including the government of any country through or into which the package will be transported.

## 3. THIS CERTIFICATE IS ISSUED ON THE BASIS OF A SAFETY ANALYSIS REPORT OF THE PACKAGE DESIGN OR APPLICATION

- a. ISSUED TO (*Name and Address*)  
Framatome ANP, Inc.  
P.O. Box 11646  
Lynchburg, VA 24506-1646
- b. TITLE AND IDENTIFICATION OF REPORT OR APPLICATION  
B&W Fuel Company application dated  
March 9, 1993, as supplemented.

## 4. CONDITIONS

This certificate is conditional upon fulfilling the requirements of 10 CFR Part 71, as applicable, and the conditions specified below.

## 5.

## (a) Packaging

(1) Model No.: 51032-2

(2) Description

A steel shipping container for fuel bundles, consisting of a strongback and fuel bundle clamping assembly, shock mounted to a steel outer container. Nine separator blocks, which are 6" x 8" x 8-1/2" long and have a 3/8" thick wall and a rectangular gusset plate welded inside, are bolted between fuel bundles. The outer container is composed of an 11 gauge steel shell approximately 43" diameter by 216" long. The maximum weight of the package, including contents, is 7,500 pounds.

(3) Drawings

The packaging is constructed and assembled in accordance with the following B&W Fuel Company Drawing Nos.: 1215926 C, Rev. 1; 1215929 D, Rev. 2; 1215930 D, Rev. 2; 1215931 D, Rev. 2; 1215932 D, Rev. 2; 1215933 D, Rev. 2; 1215934 C, Rev. 1; 1215935 D, Rev. 2; 1216010 D, Rev. 1.

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## (b) Contents

## (1) Type and form of material

Unirradiated fuel assemblies, composed of uranium dioxide fuel pellets clad in zircaloy tubes. Uranium is enriched to a maximum of 5.05 weight percentage U-235. The fuel assemblies may contain inserted control rod assemblies. The fuel assemblies have the following specifications:

Type	15x15	15x15	17x17	17x17	15x15
Rods Per Assembly	208	204	264	264	204
Nominal Rod Pitch (in.)	0.568	0.563	0.501	0.496	0.5625
Maximum Pellet Diameter (in.)	0.3707	0.3671	0.3252	0.3232	0.3672
Maximum Pellet Density (%TD)	97.5	97.5	97.5	97.5	97.5
Nominal Clad OD (in.)	0.430	0.422	0.379	0.374	0.422
Nominal Clad ID (in.)	0.377	0.370	0.332	0.326	0.368
Assembly Cross Section (in.)*	8.520	8.445	8.517	8.432	8.438
Active Fuel Length (in.)	144	144	144	144	120
Maximum U-235 Loading (kg)	25.20	24.24	24.62	24.32	20.20

\* Assembly cross section is the product of the nominal rod pitch and the number of rods per edge.

## (2) Maximum quantity of material per package

Two fuel assemblies. Total weight of fuel assemblies, including control rod assemblies, not to exceed 3400 pounds. Maximum quantity of radioactive material within a package may not exceed a Type A quantity.

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5. (c) Transport Index for Criticality Control (Criticality Safety Index)

Minimum transport index to be shown on  
label for nuclear criticality control:

0.4

6. Each fuel assembly must be unsheathed or must be enclosed in an unsealed polyethylene sheath which will not extend beyond the ends of the fuel assemblies. The ends of the sheaths must not be folded or taped in any manner that would prevent the flow of liquids into or out of the sheathed fuel assemblies.
7. Hydrogenous shims are not permitted within the fuel assemblies.
8. In addition to the requirements of Subpart G of 10 CFR Part 71:
- (a) The package shall be prepared for shipment and operated in accordance with Chapter 7.0 of the application.
  - (b) Each packaging shall be maintained in accordance with Section 8.2 of the application.
  - (c) Each packaging shall meet the acceptance tests in Section 8.1 of the application.
9. The package authorized by this certificate is hereby approved for use under the general license provisions of 10 CFR §71.12.
10. Expiration date: October 31, 2008.

**REFERENCES**

B&W Fuel Company application dated March 9, 1993.

Supplements dated: May 10, and July 7, 1993; April 13, 1994; June 17, 1998; November 13, 2000; February 9, 2001; and August 26, 2003.

FOR THE U.S. NUCLEAR REGULATORY COMMISSION  
/RA/  
John D. Monninger, Chief  
Licensing Section  
Spent Fuel Project Office  
Office of Nuclear Material Safety  
and Safeguards

Date: October 14, 2003