NRC FORM 618 (8-2000) 10 CFR 71			U.S. NUCLEAR REGULATORY COMMISSION		
CERTIFICATE OF COMPLIANCE FOR RADIOACTIVE MATERIAL PACKAGES					
1. a. CERTIFICATE NUMBER	b. REVISION NUMBER	c. DOCKET NUMBER	d. PACKAGE IDENTIFICATION NUMBER	PAGE	PAGES
9295	0	71-9295	USA/9295/B(U)F-96	1 OF	5

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)*

Packaging Technology, Inc.
1102 Broadway Plaza, Suite 300
Tacoma, WA 98402-3526

b. TITLE AND IDENTIFICATION OF REPORT OR APPLICATION

Packaging Technology, Inc., application dated June 25, 2004, 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.: MFFP

(2) Description

The MFFP body is made of a 9/16-inch thick XM-19 austenitic stainless steel cylindrical shell with the flange section and a 1-1/2 inch bottom end plate welded to it. A circumferentially continuous doubler plate, constructed of Type XM-19 austenitic stainless steel, is welded to each end of the shell, near the end of each impact limiter. Welded to the doubler plate are the impact limiter attachment lugs, six per impact limiter. The doubler plate also serves to provide a tiedown interface with the transportation skid.

The seal flange is located at the open end of the body, and consists of a locally thicker wall section to accommodate the closure lid sealing area and the closure bolt threaded holes. The transition between the shell and the seal flange section is a 3:1 taper. Polyurethane foam is used to build the outer diameter of the body out to the full diameter of the sealing flange and closure lid.

The closure lid is a weldment constructed of Type XM-19 3/4-inch outer plate and 5/8-inch thick inner plate, stiffened with eight 1/2-inch thick radial ribs that are three inches deep. A 1/2-inch thick, 6 inch inner diameter cylinder forms a hub at the inner end of the radial ribs. The ribs are welded on all four edges to the adjacent structure. Each rib has a projection that passes through a slot in the outer plate, and the ribs and outer plate are welded together.

The closure lid inner plate is welded to the outer ring. The seal flange of the closure lid has a minimum thickness of one inch, and provides location for three O-ring bore

5.(a)(2) continued

seals with the middle seal providing the containment seal. The seals are 3/8-inch diameter butyl rubber O-ring.

Three unirradiated fuel assemblies are held in place inside the overpack by a strongback assembly which is constructed from 1/4-inch thick Type 304 stainless steel weldment, a series of clamp arm assemblies, a top, and a bottom plate assemblies. Neutron poison plates are placed inside the weldment. A series of fuel control structure (FCS) limits lateral expansion of fuel rods during vertical and near vertical hypothetical accident condition (HAC) free drops and also hold neutron poison plates.

A pair of conical-shaped impact limiters filled with polyurethane foam provide thermal and impact protections. The closure lid end impact limiter has 1/4-inch thick shells to resist perforation from the HAC puncture drop, and to protec the closure lid and sealing area from puncture and HAC fire damage.

The approximate dimensions and weights of the package are as follows:

Overall package outside dimensions (inches)	
Without Impact Limiters	
Diameter	30
Length	171
With Impact Limiters	
Diameter	60
Length	201
Maximum content weight	4,740 lbs
Maximum package weight (Including contents)	14,130 lbs

(3) Drawings

This packaging shall be constructed and assembled in accordance with the following drawing numbers contained in the Safety Analysis Report.

(a) Shipping Package	99008-10, Rev. 2, Sheet 1
(b) Body Assembly	99008-20, Rev. 2, Sheets 1 through 5
(c) Strongback Assembly	99008-30, Rev. 2, Sheets 1 through 7
(d) Top Plate Assembly	99008-31, Rev. 1, Sheets 1 through 3
(e) Bottom Plate Assembly	99008-32, Rev. 0, Sheets 1 and 2
(f) Clamp Arm Assembly	99008-33, Rev. 1, Sheets 1 through 4
(g) Fuel Control Structure Assembly	99008-34, Rev. 2, Sheets 1 and 2

5.(a)(3) continued

(h) Impact Limiter 99008-40, Rev. 1, Sheets 1 through 3

(b) Contents

(1) Type and Form of Material

Unirradiated 17 x 17 fuel assemblies with solid PuO2+UO2 pellets in zirconium based alloy (M5) tubes. The fuel assemblies are based on the MK-BW/MOX1 17 x 17 PWR design. The fuel assemblies may contain Burnable Poison Rod Assemblies (BPRA). The physical specifications for the unirradiated fuel assemblies and the burnable poison rod assemblies are provided in Tables 1 and 2.

Table 1 - Fuel Assembly Physical Parameters

Parameter	Values
Fuel Rod Cladding Material	M5
Fuel Rod Array	17 x 17
Fuel Rods per Fuel Assembly	264
Guide Tubes per Ful Assembly	24
Instrument Tubes per Fuel Assembly	1
Guide/Instrument Tube thickness (inches)	0.015
Fuel Assembly Length (inches)	161.61
Fuel Assembly Maximum Width (inches)	8.565
Fuel Rod Pitch (inches)	0.496
Fuel Rod Length (inches)	152.4
Fuel Rod Outside Diameter (inches)	0.374
Fuel Rod Clad Thickness (inches)	0.023
Active Fuel Length (inches)	144.0
PuO2 + UO2 weight (pounds)	1,157
Heavy Metal Weight (pounds)	1,020
Maximum Fuel Assembly Weight including Burnable Poison Rod Assembly (pounds)	1,580
Maximum Initial Pu Enrichment (weight% of heavy metal)	6.0

Table 2 - Burnable Poison Rod Assembly Parameters

Parameter	Value
Poison Rod Cladding Material	Zircaloy-4
Poison/Thimble Plug Rod Array	24
Burnable Poison Material	AL_2O_3-B_4C
Maximum Weight of BPRA, pounds	65

(2) Maximum Quantity of Material per Package

The packaging is designed to hold three unirradiated fuel assemblies with the specifications on the fuel pellets and their enrichment provided in Table 3.

Table 3 - Nuclear Design Parameters for Fuel Assemblies

Parameter	Value
Pellet Diameter (inches)	0.323
Effective Pellet Density (gram/cm3)	10.31
Uranium Concentration Range (weight%)	Total Uranium 94.0 weight% or greater of which: U-234: 0 to 0.05 U-235: 0 to 0.30 U-238: 99.65 to 100
Plutonium Concentration Ranges (weight)	Pu-238: 0 to 0.05 Pu-239: 90.0 to 95.0 Pu-240: 5.0 to 9.0 Pu-241: 0.0 to 1.0 Pu-242 0.0 to 0.1

(c) Criticality Safety Index 0.0

6. 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 the Package Operations of Chapter 7 of the application, as supplemented.

(b) The packaging must meet the Acceptance Tests and Maintenance Program of Chapter 8 of the application, as supplemented.

(c) The boron-10 areal density within each of the internal neutron poison plates shall be verified as described in Section 8.1.5.2 of the SAR.

(d) If wrapping is used on the unirradiated fuel assemblies, the ends must be assured to be open during shipment in the packaging.

7. The package authorized by this certificate is hereby approved for use under the general license provisions of 10 CFR 71.17.

8. Expiration date: June 30, 2010.

REFERENCES

Packaging Technology, Inc., application dated June 25, 2004.

Supplement dated: February 4, February 10 , and April 8, 2005.

FOR THE U.S. NUCLEAR REGULATORY COMMISSION

Robert J. Lewis, Chief
Licensing Section
Spent Fuel Project Office
Office of Nuclear Material Safety
and Safeguards

Date: _____