

**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*)
U.S. Department of Energy
Division of Naval Reactors
Washington, DC 20585
- b. TITLE AND IDENTIFICATION OF REPORT OR APPLICATION
Department of Energy application dated
April 22, 1991, 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.: Model 1 D1G Core Basket-Thermal Shield Shipping and Storage Container
- (2) Description

The Model 1 D1G Core Basket-Thermal Shield (CB-TS) Shipping and Storage Container is a right circular cylinder approximately 115 inches in diameter and either 209 inches long (D1G design including impact limiter assembly) or 216 inches long (D2W design including impact limiter assembly). Access for loading is provided by a removable closure head. The container, consisting of the cylindrical side walls and the bottom end, has a three layer construction with a steel inner vessel approximately eight inches thick covered with approximately nine inches of reinforced concrete which is encased by a 3/8-inch thick outer shell. The CB-TS is secured in place inside the container with an 8-inch thick steel preload ring which is bolted to the inner vessel with 72 high strength bolts.

Closure of the containment vessel is provided by the 6-inch thick steel closure head which is fastened to the inner vessel with 72 high strength bolts. A steel closure ring is welded over the bolts and provides containment. A carbon steel inner impact limiter is welded to the top end of the closure ring. A wood outer impact limiter is bolted to the top plate of the container outer shell.

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5. (a) (2) Description (continued)

For land transport, the shipping container is transported with its axis horizontal and is supported by a shipping skid. For sea transport, the shipping container is transported with its axis vertical and is supported by a shipping frame assembly. The loaded container weighs up to 185 tons.

(3) Drawings

Packagings for which fabrication was begun before March, 1991, are constructed in accordance with the General Electric Company Drawings contained in Appendix 2.10.4 of the application, and packagings for which fabrication was begun after March, 1991, are constructed in accordance with the KAPL Drawings for the redesign configuration in Appendix 2.10.4 of the application.

(b) Contents

One irradiated D1G core basket-thermal shield assembly, and not more than one core's worth of irradiated D1G support assemblies, D1G lower control rod drive mechanisms, and D1G upper support assemblies; surface contamination in the form of activated corrosion products; and not more than 3.5 gallons of residual water.

6. (a) Preloading of the preload plate and the closure head and sealing the container must be done with a temperature at or above +40 °F.
- (b) Shipment shall be made only when the average daily temperature is expected to be above +10 °F.
- (c) The D1G CB-TS Shipment shall be made no earlier than 150 days after shutdown of the reactor.
7. The package shall be prepared for shipment and operated in accordance with the Operating Procedures in Chapter 7.0 of the application, and each packaging shall be tested and maintained in accordance with the Acceptance Tests and Maintenance Program in Chapter 8.0 of the application.
8. For sea transport, the supplemental operating procedures and acceptance tests in Sections 11.0 and 12.0 of the submittal dated April 5, 2002, shall be used.

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9. Expiration Date: January 31, 2023.

REFERENCES

Department of Energy, Division of Naval Reactors, application dated April 22, 1991.

Supplements dated: Naval Reactors Letters G#92-03668, dated August 27, 1992; G#C95-10762, dated April 10, 1995; G#C96-03576, dated November 1, 1996; G#C02-0751, dated April 5, 2002; G#07-01492, dated April 17, 2007; G#12-02134, dated May 4, 2012; and G#17-02950, dated June 15, 2017.

FOR THE U.S. NUCLEAR REGULATORY COMMISSION

/RA/

Meraj Rahimi, Acting Chief
Spent Fuel Licensing Branch
Division of Spent Fuel Management
Office of Nuclear Material Safety
and Safeguards

Date: January 5, 2018

