

71-9792



DEPARTMENT OF ENERGY
NATIONAL NUCLEAR SECURITY ADMINISTRATION
1000 INDEPENDENCE AVENUE SW
WASHINGTON DC 20585-1000

NR:RR:WASandman G#12-02134
May 4, 2012

Catherine Haney
Director, Office of Nuclear Material Safety and Safeguards
Nuclear Regulatory Commission
Washington, DC 20555

**NUCLEAR REGULATORY COMMISSION CERTIFICATE OF COMPLIANCE FOR THE
D1G CORE BASKET-THERMAL SHIELD SHIPPING AND STORAGE CONTAINER
[USA/9792/B(U)]; REQUEST FOR RENEWAL**

Background: The Model 1 D1G Core Basket-Thermal Shield (CB-TS) Shipping and Storage Container is used to make disposal shipments of irradiated D1G Core Basket-Thermal Shield assemblies along with associated core components internal to the assembly (not including spent fuel). The container is a right circular cylinder consisting of an inner 8-inch-thick steel vessel, a 9-inch-thick layer of reinforced concrete, and an outer 3/8-inch-thick stainless steel shell. The container is closed via a bolted closure head and a welded closure ring. The Naval Reactors Program currently owns 12 unused Model 1 D1G CB-TS containers. Since the last renewal of this Certificate of Compliance (CoC), one D1G CB-TS container was used to make a disposal shipment from Pearl Harbor Naval Shipyard to the DOE Hanford Site via Puget Sound Naval Shipyard.

Request for NRC Renewal: This letter requests renewal of the Nuclear Regulatory Commission (NRC) CoC for the D1G CB-TS Shipping and Storage Container, USA/9792/B(U). The NRC CoC expires on January 31, 2013. Since the last renewal of the CoC, there have been no operational experiences or container modifications that would preclude continued use of the container. Enclosure (1) to this letter provides a draft revision 9 of the DOE-NR CoC for your review. There are two changes to the CoC: (1) a shipping restriction related to a subset of the containers has been simplified since only those containers remain, and (2) a shipping restriction on the serial number 00031 closure head has been deleted because that closure head was used in a past shipment. If you have any questions, please do not hesitate to call me at (202) 781-6166.

B. K. Miles
Naval Reactors

Copy to & Enclosure: See page 2

L115501

Enclosure: (1) DOE-NR CERTIFICATE OF COMPLIANCE FOR THE D1G CORE
BASKET-THERMAL SHIELD SHIPPING AND STORAGE
CONTAINER, USA/9792/B(U), REVISION 9 (DRAFT)

Copy to:

D. Weaver, Director, Spent Fuel Storage & Transportation (SFST), NMSS, NRC

M. Waters, Chief, Licensing Branch, SFST, NMSS, NRC

B. White, Senior Project Manager, Licensing Branch, SFST, NMSS, NRC

J. Rankin, Licensing Branch, SFST, NMSS, NRC

KAPL ADSARS

NRLFO-P

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General Manager, KAPL

Manager, Reactor Servicing Operation (RSO), KAPL

Manager, Fleet/Prototype Refueling (F/PR), RSO, KAPL

Manager, Shipping Container Analysis, F/PR, RSP, KAPL

D. D. Woodley, Shipping Container Analysis, F/PR, RSP, KAPL

ENCLOSURE (1)

**DOE-NR CERTIFICATE OF COMPLIANCE FOR THE D1G CORE BASKET-
THERMAL SHIELD SHIPPING AND STORAGE CONTAINER, USA/9792/B(U),
REVISION 9 (DRAFT)**

The enclosed draft Certificate of Compliance shows additions and deletions from the current version of the certificate. Minor formatting and editorial changes are not highlighted.

Enclosure (1) to
Ser 08G#12-02134

U. S. DEPARTMENT OF ENERGY
CERTIFICATE OF COMPLIANCE
For Radioactive Materials Packages

1a. Certificate Number USA/9792/B(U) (DOE-NR)	1b. Revision No. 89 (DRAFT)	1c. Package Identification No. USA/9792/B(U) (DOE-NR)	1d. Page No. 1	1e. Total No. Pages 32
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2. PREAMBLE

- 2a. This certificate is issued under the authority of 49CFR Part 173.7(d).
- 2b. The packaging and contents described in item 5 below, meets the safety standards set forth in subpart E, "Package Approval Standards" and subpart F, "Package, Special Form, and LSA-III Tests" Title 10, Code of Federal Regulations, Part 71.
- 2c. 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(1) Prepared by (*Name and address*):

Knolls Atomic Power Laboratory
P.O. Box 1072
Schenectady, NY 12301-1072

(2) Title and Identification of report or application:

Safety Analysis Report for Packaging an
Irradiated D1G Type Core Basket-
Thermal Shield Assembly in the Model 1
D1G Core Basket-Thermal Shield
Shipping and Storage Container

(3) Date

October 1987

4. CONDITIONS

This certificate is conditional upon the fulfilling of the applicable Operational and Quality Assurance requirements of 49CFR Parts 100-199 and 10CFR Part 71, and the conditions specified in item 5 below.

5. Description of Packaging and Authorized Contents, Model Number, Transport Index for Criticality Control, Other Conditions, and References:

Model: Model 1 D1G Core Basket -Thermal Shield Shipping and Storage Container

a. Description of Packaging

The D1G Core Basket-Thermal Shield (CB-TS) Shipping and Storage Container is a right circular cylinder 115 inches in diameter and 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 8 inches thick covered with approximately 9 inches of reinforced concrete which is encased by a 3/8-inch-thick stainless steel outer shell. The CB-TS is secured in place inside the container by a steel preload ring that is bolted to the inner vessel with 72 high strength bolts.

Closure of the containment vessel is provided by a steel closure head that is bolted to the inner vessel with 72 high strength bolts. A steel closure ring is installed over the bolts and is welded to the inner vessel and closure head to provide containment.

An inner impact limiter and an outer impact limiter are attached to the container. The steel inner impact limiter is welded to the top end of the closure ring. The wooden outer impact limiter is bolted to the top plate of the container outer shell.

6a. Date of Issuance: September 17, 2007	6b. Expiration Date: September 30, 2012
FOR THE U.S. DEPARTMENT OF ENERGY	
7a. Address (of DOE Issuing Office) Naval Reactors U. S. Department of Energy Washington, D. C. 20585	7b. Signature, Name and Title (of DOE Approving Official) S. J. Trautman Deputy Director, Naval Reactors

5. (Continued)

For land transport, the shipping container is transported with its axis horizontal and is supported by a shipping skid or trunnion. For sea transport, the shipping container is transported with its axis vertical and is supported by a shipping frame assembly. The weight of a loaded container ranges from approximately 155½ tons to 185 tons.

b. Authorized Contents

One D1G CB-TS containing up to one core's worth of D1G support assemblies, D1G lower control rod drive mechanisms, D1G upper support assemblies and some residual water (estimated to be about 3.5 gallons). The components are irradiated and the surfaces are contaminated with activated corrosion products.

c. Criticality Safety Index

Not Applicable.

d. Other Conditions (Restrictions)

- (1) Preloading of closure heads and preload rings and sealing the container must be done with an ambient temperature between +40°F and +100°F.
- (2) ~~Shipment of containers S/N 000008 through 000019 and S/N N00020 through N00031 shall be made when the historical average daily temperature is above +10°F, subject to the following exception: shipment of any container with the closure head identified as 04241-171D6617 P5, SER N00031 (Forging S/N BG-7140) shall be made when the historical average daily temperature is above +30°F.~~
- (3) The D1G CB-TS shipments shall be made no sooner than 150 days after shutdown of the reactor.

e. References

None.

f. Additional Information

The Nuclear Regulatory Commission in memorandum SGTB:RHO 71-9792 dated October 13, 1987, concurred that shipment of the D1G prototype Core Basket-Thermal Shield in the Model 1 D1G Core Basket-Thermal Shield Shipping Container complied with the requirements of 10CFR71.

The Nuclear Regulatory Commission in memorandum SGTB:NLO 71-9792 dated August 9, 1991, concurred that the shipment of one D1G shipboard Core Basket-Thermal Shield assembly and associated irradiated components in the Model 1 D1G Core Basket-Thermal Shield Shipping Container complies with the requirements of 10CFR71.

The Nuclear Regulatory Commission in memorandum Docket #71-9792 dated October 19, 1995, concurred that the shipment of one D1G shipboard Core Basket-Thermal Shield assembly and associated irradiated components in the redesigned Model 1 D1G Core Basket-Thermal Shield Shipping Container complies with the requirements of 10CFR71.