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

NR:RR:NSPlate G#16-04427
September 20, 2016

Marc L. Dapas
Director, Office of Nuclear Materials Safety and Safeguards
Nuclear Regulatory Commission
Washington, DC 20555

S-6213 POWER UNIT SHIPPING CONTAINER - NUCLEAR REGULATORY COMMISSION CERTIFICATE OF COMPLIANCE USA/9186/B(U)F-96; REQUEST FOR RENEWAL

Background: The S-6213 power unit shipping container is used to ship S9G power units from the Naval Nuclear Propulsion Program's core vendor to the two shipyards that build VIRGINIA-class submarines, Electric Boat – Groton and Newport News Shipbuilding. The container is also authorized to ship S6W power units. The Program owns three S-6213 Power Unit Shipping Containers. Two of those are model 1 containers, and the other is a model 2 container. The two models are nearly identical except the model 1 containers are made of carbon steel and the model 2 container is made of HY-80 steel. The model 1 containers were fabricated in the late 1970s, and the model 2 container was fabricated in 1993.

Request for NRC Renewal: This letter requests renewal of the Nuclear Regulatory Commission (NRC) Certificate of Compliance (CoC) for the S-6213 Power Unit Shipping Container, USA/9186/B(U)F-96. The NRC CoC expires on March 31, 2017. Naval Reactors has reviewed the safety and operational documentation for the three S-6213 Power Unit Shipping Containers, and there have been no operational experiences or container modifications that would preclude continued use of these containers. The enclosure to this letter provides the proposed revision 14 to the DOE-NR CoC for your review. There are no technical changes to the proposed DOE-NR CoC.

If you have any questions, please do not hesitate to call me at (202) 781-5921.

B. K. MILES
Naval Reactors

Copy to and enclosure: see next page.

Enclosure: (1) DOE-NR CERTIFICATE OF COMPLIANCE FOR THE S-6213 POWER UNIT SHIPPING CONTAINER, USA/9186/B(U)F-96, REVISION 14 (PROPOSED)

Copy to:
M. Lombard, Director, Spent Fuel Storage & Transportation, NMSS, NRC
S. Ruffin, Chief, Spent Fuel Licensing Branch, SFST, NMSS, NRC
B. White, Senior Project Manager, Licensing Branch, SFST, NMSS, NRC
General Manager, BMPC
Manager, Reactor Servicing, BMPC
Manager, Reactor Servicing Systems, RS, BMPC
Manager, Shipping Containers, RSS, RS, BMPC
Manager, Container Design and Support, SC, RSS, RS, BMPC
Z. J. Bromley, Container Design and Support, SC, RSS, RS, BMPC
KAPL ADSARS
NRLFO

ENCLOSURE (1)

DOE-NR CERTIFICATE OF COMPLIANCE FOR THE S-6213 POWER UNIT SHIPPING CONTAINER, USA/9186/B(U)F-96, REVISION 14 (PROPOSED)

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.

DOE F 5822.1
(5-85)
(Formerly EV-618)

U. S. DEPARTMENT OF ENERGY

CERTIFICATE OF COMPLIANCE

For Radioactive Materials Packages

OMB Approval
No. 1910-2000

1a. Certificate Number	1b. Revision No.	1c. Package Identification No.	1d. Page No.	1e. Total No. Pages
USA/9186/B(U)F-96 (DOE-NR)	14 (Proposed)	USA/9186/B(U)F-96 (DOE-NR)	1	3

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)*:	(2) Title and Identification of report or application:	(3) Date
Bettis Atomic Power Laboratory P. O. Box 79 West Mifflin, PA 15122-0079 Knolls Atomic Power Laboratory P. O. Box 1072 Schenectady, NY 12301-1072	Safety Analysis Report for Shipping the S6W Shipboard Power Unit or the S9G Power Unit in the S-6213 Power Unit Shipping Container	May 28, 1975

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, Criticality Safety Index for Criticality Control, Other Conditions, and References:

S-6213 POWER UNIT SHIPPING CONTAINER

a. Models: Model 1, S-6213 Power Unit Shipping Container
Model 2, S-6213 Power Unit Shipping Container

b. Description of Packaging

The Model 1 S-6213 power unit shipping container (PUSC) consists of a carbon steel cylindrical shell approximately 9-1/4 feet in outside diameter by 39-1/2 feet long, including hemispherical steel end impact limiters, with 10-3/4 foot outside diameter central flanges joining the barrel and cover halves. The Model 2 S-6213 PUSC is of the same design as the Model 1, except that the primary container material is HY-80 steel. A power unit is supported in the PUSC by a centrally located thick circular steel plate (PU head) which is clamped between the central mating flanges of the PUSC fastened by 94, 2-inch diameter high strength studs. The upper and lower extremities of the power unit cantilever into the barrel and cover halves without additional support. A lower support adapter, which has a 1.0-inch diametric clearance with the core barrel in normal shipping conditions and limits core barrel deflection in accident conditions, is installed in the barrel end of the container for the S6W shipboard power unit shipment. A shipping/lifting ring, a flange adapter, and a lower support adapter are installed in the container during shipment of the S9G power unit.

The PUSC is shipped in the horizontal position on a support frame which is secured to a specifically built flatbed railcar. The nominal loaded weight for the S6W shipboard power unit shipment is approximately 378,100 pounds. The nominal loaded weight of the S9G power unit shipment is approximately 329,000 pounds.

6a. Date of Issuance: RESERVED	6b. Expiration Date: March 31, 2022

FOR THE U.S. DEPARTMENT OF ENERGY

7a. Address *(of DOE Issuing Office)*	7b. Signature, Name and Title *(of DOE Approving Official)*
Naval Reactors U. S. Department of Energy Washington, D. C. 20585	SJ Trautman Deputy Director, Naval Reactors

5. (Continued)

c. Authorized Contents

For the Model 1 and Model 2 S-6213 PUSC, one S9G power unit (Next Generation Reactor or Virginia Forward Fit), containing uranium enriched in the U-235 isotope.

For the Model 2 S-6213 PUSC, one S6W shipboard power unit (Advanced Fleet Reactor) containing uranium enriched in the U-235 isotope.

d. Criticality Safety Index

CSI = 100

e. Other Conditions (Restrictions)

1. Model 1 S-6213 PUSCs serial numbers 1 and 2 were fabricated prior to August 31, 1986, but meet the requirements of a B(U)F-96 container and therefore are authorized packaging per 10CFR71.19(e).

2. The S6W shipboard power unit (Advanced Fleet Reactor) authorized content shipped in the Model 2 S-6213 PUSC is designated as B(U)F.

3. For the Model 1 S-6213 PUSC, a nondestructive examination of the entire length of both inner and outer surfaces of the four tie-down support bracket-to-container wall butt welds shall be conducted prior to each loaded shipment as documented in the S-6213 PUSC Technical Manual (NAVSEA 0989-055-4000).

4. Transport by air of fissile material is not authorized.

f. References

None.

g. Additional Information

For the Model 1 S-6213 PUSC, Nuclear Regulatory Commission concurrence with revised tie-down support bracket weld nondestructive inspection requirements is contained in their memorandum FCTR:JEJ 71-9186 dated August 9, 1978. Nuclear Regulatory Commission concurrence that the shipment of the S6W shipboard power unit (Advanced Fleet Reactor) complies with the requirements of Title 10, Code of Federal Regulations, Part 71 is contained in their memorandum dated January 16, 1991. Nuclear Regulatory Commission concurrence that the shipment of the S9G power unit (Next Generation Reactor) complies with the requirements of Title 10, Code of Federal Regulations, Part 71 is contained in their memorandum dated August 21, 1998.

For the Model 2 S-6213 PUSC, Nuclear Regulatory Commission concurrence that the shipment of S6W shipboard power units (Advanced Fleet Reactor) complies with the requirements of Title 10, Code of Federal Regulations, Part 71 is contained in their memorandum SGTB:DTH 71-9186 dated March 11, 1992.

For the Model 1 and Model 2 S-6213 PUSC, Nuclear Regulatory Commission concurrence that the shipment of the S9G power unit (Next Generation Reactor) complies with the requirements of Title 10, Code of Federal Regulations, Part 71 is contained in their memorandum dated November 6, 2008. The NRC reviewed a material fracture toughness evaluation submitted via G#C08-00667 dated March 13, 2008 and concluded that the evaluation justified upgrade of the Package Identification Number suffix designation to B(U)F-96. Nuclear Regulatory Commission concurrence with renewal of this Certificate of Compliance is contained in their memorandum dated December 6, 2011.

5. (Continued)

For the Model 1 and Model 2 S-6213 PUSC, Nuclear Regulatory Commission concurrence that the shipment of the S9G power unit (Next Generation Reactor or Virginia Forward Fit) complies with the requirements of Title 10, Code of Federal Regulations, Part 71 is contained in their memorandum dated July 25, 2016.