

U.S. NUCLEAR REGULATORY COMMISSION
CERTIFICATE OF COMPLIANCE
For Radioactive Materials Packages

1.(a) Certificate Number	1.(b) Revision No.	1.(c) Package Identification No.	1.(d) Pages No.	1.(e) Total No. Pages
9853	1	USA/9853/AF	1	3

2. PREAMBLE

- 2.(a) This certificate is issued to satisfy Sections 173.393a, 173.394, 173.395, and 173.396 of the Department of Transportation Hazardous Materials Regulations (49 CFR 170-189 and 14 CFR 103) and Sections 146-19-10a and 146-19-100 of the Department of Transportation Dangerous Cargoes Regulations (46 CFR 146-149), as amended.
- 2.(b) The packaging and contents described in item 5 below, meets the safety standards set forth in Subpart C of Title 10, Code of Federal Regulations, Part 71, "Packaging of Radioactive Materials for Transport and Transportation of Radioactive Material Under Certain Conditions."
- 2.(c) 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--

3.(a) Prepared by (Name and address):
Oak Ridge National Laboratory
P.O. Box X
Oak Ridge, TN 37830

3.(b) Title and identification of report or application:
Safety Analysis Report for Packaging:
The Unirradiated Fuel Shipping Container,
as supplemented.

3.(c) Docket No. 71-9853

4. CONDITIONS

This certificate is conditional upon the fulfilling of the requirements of Subpart D of 10 CFR 71, as applicable, and the conditions specified in item 5 below.

5. Description of Packaging and Authorized Contents, Model Number, Fissile Class, Other Conditions, and References:

(a) Packaging

(1) Model Nos.:

ORNL Unirradiated Fuel Shipping Container,
BNL Unirradiated Fuel Shipping Container, or
NBS Unirradiated Fuel Shipping Container,

(2) Description

A right cylindrical stainless steel drum enclosing a fuel basket provided with seven (7) cavities. The outer shell and lid are fabricated from eleven (11) gauge plate and the base is 1/4" thick plate. The outer lid is held in place by six (6), 5/8" bolts (stainless steel) and nuts (carbon steel). The basket is fabricated from 16 gauge stainless steel and the base is fabricated from eleven (11) gauge stainless steel plate. Eight (8), 3/8" bolts and nuts retain the basket lid (0.125" thick aluminum) in place.

The basket is supported on 2" by 6" timbers inside the outer shell. The remaining space around the basket is filled with phenolic foam insulation.

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5. (a) Packaging (continued)

<u>Item</u>	<u>ORNL</u>	<u>BNL</u>	<u>NBS</u>
Outside dimension, in	24-1/2	24-1/2	26
Container length, in	56-5/8	75-1/2	87-1/8
Base, in	29 x 29	29 x 29	30-1/2 x 30-1/2
Inside cavity cross section, in	4 x 4	4 x 4	4-1/2 x 4-1/2
Inside cavity length, in	39-1/4	58-1/8	69-11/16
Gross weight, lbs	580	700	850

(3) Drawings

The packaging is constructed in accordance ORNL Drawing Numbers:

ORNL Container - X3E-10191-002, Rev. B,
X3E-10191-003, Rev. B,
DS-XDE-10191-1, Rev. 1;

BNL Container - X3E-10191-010, Rev. B,
X3E-10191-011, Rev. B;
DS-XDE-10191-2, Rev. 1; or

NBS Container - X3E-10191-100, Rev. C,
X3E-10191-101, Rev. D,
DS-XDE-10191-3, Rev. 1.

(b) Contents

(1) Type and form of material

Unirradiated uranium fuel element enriched in the U-235 isotope composed of aluminum plates.

(2) Maximum quantity of material per package

ORNL-BNL Container -

Seven (7) fuel elements containing 370 grams U-235 per fuel element.

NBS Container -

Seven (7) fuel elements containing 370 grams U-235 per fuel element; or two (2) fuel elements containing 210 grams U-235 per fuel element and four (4) fuel elements containing 841 grams U-235 per fuel element.

(c) Fissile Class

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6. The fire resistant phenolic foam shall be in accordance with AEC Materials and Equipment Specification SP-9 or as modified by ORGDP Reports K/TL-729 and K/P-6567S.
7. The package authorized by this certificate is hereby approved for use under the general license provisions of 10 CFR §71.12(b).
8. Expiration date: November 30, 1984.

REFERENCES

Safety Analysis Report for Packaging: The Unirradiated Fuel Shipping ORNL/ENG/TM-15, September 1979.

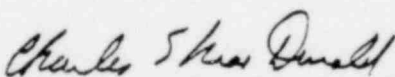
Nuclear Criticality Safety Assessment of ORR, NBS, HFBR Fuel Element Shipping Package, J. T. Thomas, ORNL/CDS/TM-77.

Union Carbide letter dated September 10, 1979.

ORNL letter dated September 18, 1979.

Department of Energy letters dated: November 1, 1979; and February 21 and April 4, 1980.

FOR THE U.S. NUCLEAR REGULATORY COMMISSION


Charles E. MacDonald, Chief
Transportation Certification Branch
Division of Fuel Cycle and
Material Safety

Date: MAY 22 1980