

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

1.(a) Certificate Number 9853	1.(b) Revision No. 0	1.(c) Package Identification No. USA/9853/AF	1.(d) Pages No. 1	1.(e) Total No. Pages 3
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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) Models 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 Drawings Numbers:

ORNL Container - X3E - 10191-002, Rev. 4,
X3E - 10191-003, Rev. 4,
DS-XDE - 10191-1, Rev. 1;

BNL Container - X3E - 10191-010, Rev. 3,
X3E - 10191-011, Rev. 4,
DS-XDE - 10191-2, Rev. 1; or

NBS Container - X3E - 10191-100, Rev. 4,
X3E - 10191-101, Rev. 4,
DS-XDE-10191-3, Rev. 1.

(b) Contents

(1) Type and form of material

Unirradiated aluminum fuel element composed of aluminum plates with U₃O₈-Al cores.

(2) Maximum quantity of material per package

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

(c) Fissile Class

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6. The package authorized by this certificate is hereby approved for use under the general license provisions of 10 CFR §71.12(b).
7. Expiration date: November 30, 1984.

REFERENCES

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

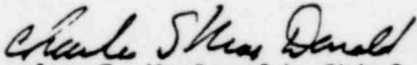
Nuclear Criticality Safety Assessment of ORR, NBS, HFBR Fuel Element Shipping Package, J. T. Thomas, ORNL/CSD/TM-77.

Union Carbide letter dated September 10, 1979.

ORNL letter dated September 18, 1979.

Department of Energy letter dated November 1, 1979.

FOR THE U.S. NUCLEAR REGULATORY COMMISSION


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

Date: NOV 20 1979

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