

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
5088	2	USA/5088/AF	1	4

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): Rockwell International 8900 DeSoto Avenue Canoga Park, CA 91304	3.(b) Title and identification of report or application: Rockwell International application dated September 8, 1980, as supplemented.
3.(c) Docket No. 71-5088	

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.: D34710-1 and D34710-2
- (2) Description

Containment vessel is a 12.250-inch ID Schedule 20 steel pipe, 40 to 41 inches long for the Model No. D34710-1 and 50 to 51 inches long for the Model No. D34710-2, with 5/16-inch thick welded end plate, and bolted flange closure with leak tight gasket. Inner container is centered and supported in a 22.5-inch diameter steel drum with minimum thickness of 18-gage. Void spaces between inner and outer container are filled with vermiculite. Gross weight of the package is 420 lbs for the Model No. D34710-1 and 480 lbs for the Model No. D34710-2.

(3) Drawings

The Model No. D34710-1 packaging is constructed in accordance with the following National Lead Company Drawing Nos.:

D34710 Sheet 1 of 2, Issue 6
D34710 Sheet 2 of 2, Issue 2

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(3) Drawings (continued)

C34711, Issue 3
C34712, Issue 4
C34713, Issue 1

The Model No. D34710-2 packaging is constructed in accordance with the following National Lead Company Drawing Nos.:

D34710 Sheet 1 of 2, Issue 6
C34799, Issue 1
C34712, Issue 4
C34713, Issue 1
D35846T-1, Issue 2, as amended by letter dated February 8, 1978.

(b) Contents

For the Model No. D34710-1 packaging:

(1) Type and form of material

Uranium metal or alloy plate type unirradiated fuel elements with a minimum active fuel length of 23 inches. Uranium may be enriched to 93.5 w/o in the U-235 isotope.

(2) Maximum quantity of material per package

2.025 kilograms U-235.

For the Model No. D34710-2 packaging:

(1) Type and form of material

MTR-type fuel elements.

(2) Maximum quantity of material

860 grams U-235.

(c) Fissile Class

For the Model No. D34710-1 packaging:

Fissile Class	II	
Minimum transport index to be shown on label	<u>Max kilograms U-235 per container</u>	<u>Transport Index</u>
	2.025	1.2
	1.700	1.0
	1.400	0.9
	1.100	0.8
	0.800	0.7
	0.500	0.5

For the Model No. D34710-2 packaging:

Fissile Class	II	
Minimum transport index to be shown on label	<u>Max grams U-235 per container</u>	<u>Transport Index</u>
	860	0.7
	500	0.5

6. For the Model No. D34710-1 packaging:

The H/X atomic ratio considering all hydrogenous material between fuel elements within the inner container and the weight of the uranium shall not exceed:

<u>Max kilograms U-235 per container</u>	<u>Maximum H/X</u>
2.025	2.2
1.700	2.6
1.400	3.2
1.100	4.1
0.800	5.6
0.500	8.9
0.350	10.4
0.290	13.0

6. (Continued)

For the Model No. D34710-2 packaging:

The H/X atomic ratio considering all hydrogenous material between fuel elements within the inner container and the weight of the uranium shall not exceed:

<u>Max grams U-235 per container</u>	<u>Maximum H/X</u>
860	6.1
800	6.5
700	7.5
600	8.7
500	10.4
400	13.0

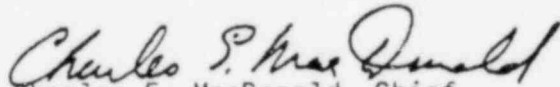
7. The packages authorized by this certificate is hereby approved for use under the general license provision of 10 CFR §71.12(b).
8. Expiration date: October 31, 1985.

REFERENCES

Rockwell International application dated September 8, 1980.

University of Missouri letter (Gooden to Ladd) dated July 30, 1968; Idaho Nuclear Corporation letter (Fox to Tingey) dated April 30, 1968; and Oak Ridge National Laboratory, Neutron Physics Annual Progress Report period ending September 1, 1958, pp 34-36.

FOR THE U.S. NUCLEAR REGULATORY COMMISSION


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

Date: OCT 17 1980