

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
6078	4	USA/6078/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):	3.(b) Title and identification of report or application:
Combustion Engineering, Inc. 1000 Prospect Hill Road Windsor, Connecticut 06095	Combustion Engineering application dated July 3, 1969, as supplemented.
	3.(c) Docket No. 71-6078

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.: 927A1 and 927C1

(2) Description

A steel fuel bundle shipping container consisting of a strongback and fuel bundle clamping assembly, shock mounted to a steel outer container. A minimum 1/4" thick, 6" x 6" x 8" high steel separators are bolted between fuel bundles. The Model 927A1 container is approximately 43" in diameter by 189" long with an approximate gross weight of 6,200 lbs. The Model 927C1 container is approximately 43" in diameter by 216" long with an approximate gross weight of 7,000 lbs.

(3) Drawings

The Model 927A1 container is constructed in accordance with Applied Design Company Drawing No. 927A1, Sheets 1, 2 and 3 as revised by Applied Design Company Drawing No. 927A1 (modified) Sheets 1, 2 and 3.

The Model 927C1 container is constructed in accordance with Applied Design Company Drawing No. 927C1, Sheets 1, 2 and 3.

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5. (b) Contents

(1) Type and form of material

- (i) Palisades fuel bundles consisting of 0.359" diameter uranium dioxide pellets clad in 0.024" thick zircaloy tubes in a 15 x 15 square array with a 0.550" pitch. Each fuel bundle consists of a maximum of 164 fuel rods at 3.2 w/o enrichment in the U-235 isotope and 48 fuel rods at 2.54 w/o enrichment in the U-235 isotope.
- (ii) Mark V fuel bundles consisting of 0.380" diameter uranium dioxide fuel pellets clad in 0.26" thick zircaloy tubes in a 14 x 14 square array with a 0.580" pitch. Each fuel bundle consists of a maximum of 176 fuel rods at 3.5 w/o enrichment in the U-235 isotope.
- (iii) Arkansas fuel bundles consisting of 0.325" diameter uranium dioxide pellets clad in 0.25" thick zircaloy tubes in a 16 x 16 square array with a 0.605" pitch. Each fuel bundle consists of a maximum of 236 fuel rods at 3.5 w/o enrichment in the U-235 isotope.

(2) Maximum quantity of material per package

Two (2) Palisades fuel bundles containing not more than 25.7 Kgs U-235; or

Two (2) Mark V fuel bundles containing not more than 29.4 Kgs U-235.

Two (2) Arkansas fuel bundles containing not more than 29.8 Kgs U-235.

(c) Fissile Class

III

Maximum number of packages
per shipment

Eight (8)

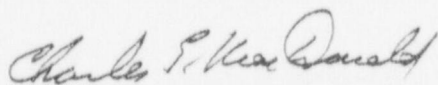
6. Each fuel assembly shall be unsheathed or shall be enclosed in an unsealed, polyethylene sheath which will not extend beyond the ends of the fuel assembly. The ends of the sheath shall not be folded or taped in any manner that would prevent flow of liquids into or out of the sheathed fuel assembly.
7. The upper bundle bracket may be secured to the strongback by either of the following hardware:
 - (i) Ten, 3/4-16 UNF Hex Head bolts with associated washers and nuts, or
 - (ii) Eight, 3/4-inch diameter steel clevis pins with associated steel hair pin cotter pins, and two, 3/4-16 UNF Hex Head bolts with associated washers and nuts. The two bolts (Part No. 27) shall be placed in the uppermost position for that specified part.
8. The package authorized by this certificate is hereby approved for use under the general license provisions of 10 CFR §71.12(b).
9. Expiration date: November 30, 1979.

REFERENCES

Combustion Engineering, Inc. application dated July 3, 1969.

Supplements dated: August 19, 1969; February 23, May 20, and June 21, 1971; July 7 and September 23, 1975; and May 3 and November 30, 1978.

FOR THE U.S. NUCLEAR REGULATORY COMMISSION


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

Date: DEC 11 1978