

OCT 12 1990

DocId : 70-0036

SGTB:GHG  
71-6078

Combustion Engineering, Inc.  
ATTN: Mr. John F. Conant  
1000 Prospect Hill  
Windsor, CT 06095-0500

Distribution:  
NRC File Center  
NRC PDR  
SHO  
CEMacDonald  
EEaston  
ERichardson  
SGDB  
MGarcia

Regions (5)  
SGTB r/f  
NMSS r/f  
CRChappell  
MMessier  
DHuang  
GGardes

Dear Mr. Conant:

As requested by your application dated May 25, 1990, as supplemented, enclosed is Certificate of Compliance No. 6078, Revision No. 13 for the Model Nos. 927A1 and 927C1 shipping package. This certificate supersedes, in its entirety, Certificate of Compliance No. 6078, Revision No. 12 dated April 17, 1989.

Changes made to the enclosed certificate are indicated by vertical lines in the margin.

Those on the attached list have been registered as users of this package under the general license provisions of 10 CFR §71.12 or 49 CFR §173.471.

This approval constitutes authority to use this package for shipment of radioactive material and for the package to be shipped in accordance with the provisions of 49 CFR §173.471.

Sincerely,

**Original Signed by**

Charles E. MacDonald, Chief  
Transportation Branch  
Division of Safeguards  
and Transportation, NMSS

Enclosures:

1. Certificate of Compliance  
No. 6078, Rev. 13
2. Approval Record

cc w/encl:  
Mr. Michael E. Wangler  
Department of Transportation

Registered Users

OFC	:SGTB	:SGTB	:SGTB	:SGTB	:SGTB	:SGTB	:SGTB
NAME	:EEaston	:GGardes	:DHuang	:MGarcia	:ERichardson	:CChappell	:CMacDonald
DATE	: 10/12/90	: 10/12/90	: 10/12/90	: 10/12/90	: 10/12/90	: 10/12/90	: 10/12/90

R-55

OCT 22 1990

**CERTIFICATE OF COMPLIANCE  
FOR RADIOACTIVE MATERIALS PACKAGES**

1. a. CERTIFICATE NUMBER	b. REVISION NUMBER	c. PACKAGE IDENTIFICATION NUMBER	d. PAGE NUMBER	e. TOTAL NUMBER PAGES
6078	13	USA/6078/B( )	1	3

**2. PREAMBLE**

- a. This certificate is issued to certify that the packaging and contents described in Item 5 below, meets the applicable safety standards set forth in Title 10, Code of Federal Regulations, Part 71, "Packaging and Transportation of Radioactive Material."
- b. 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**

a. ISSUED TO (Name and Address)

b. TITLE AND IDENTIFICATION OF REPORT OR APPLICATION:

Combustion Engineering, Inc.  
1000 Prospect Hill Road  
Windsor, CT 06095-0500

Combustion Engineering application dated  
May 25, 1990, as supplemented

c. DOCKET NUMBER 71-6078

**4. CONDITIONS**

This certificate is conditional upon fulfilling the requirements of 10 CFR Part 71, as applicable, and the conditions specified below.

**5.**

(a) Packaging

(1) Model 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 No. 927A1 container is approximately 43" in diameter by 189" long with an approximate gross weight of 6,200 lbs. The Model No. 927C1 container is approximately 43" in diameter by 216" long with an approximate gross weight of 7,000 lbs.

(3) Drawing

The Model Nos. 927A1 and 927C1 containers are constructed in accordance with Combustion Engineering, Inc. Drawing No. NFM-E-4108, Sheets 1 through 4, Rev. 9.

(b) Contents

(1) Type and form of material

(i) Model No. 927A1: fuel bundles consisting of 0.38" diameter uranium dioxide fuel pellets clad in 0.028" thick zircaloy tubes in a 14 x 14 square array with a 0.58" pitch. Each fuel bundle consists of a maximum of 176 fuel rods with a maximum 5.0 w/o enrichment in the U-235 isotope.

(ii) Model No. 927A1: fuel bundles consisting of 0.365" diameter uranium dioxide fuel pellets clad with zircaloy tubes in a 16 x 16 square array with a 0.472" pitch. Each fuel bundle consists of a maximum of 231 fuel rods with a maximum 5.0 w/o enrichment in the U-235 isotope.

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(b)(1) Contents (Continued)

(iii) Model No. 927C1: fuel bundles consisting of 0.325" diameter uranium dioxide pellets clad in 0.025" thick zircaloy tubes in a 16 x 16 square array with a 0.506" pitch. Each fuel bundle consists of a maximum of 236 fuel rods with a maximum 5.0 w/o enrichment in the U-235 isotope.

(2) Maximum quantity of material per package

Two (2) 14 x 14 fuel bundles containing not more than 35.0 Kgs U-235; or

Two (2) 16 x 16 fuel bundles containing not more than 35.0 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. In addition to the requirements of Subpart G of 10 CFR Part 71:
  - (a) The package shall be prepared for shipment and operated in accordance with the Operating Procedures of Chapter 7 of the application, as supplemented.
  - (b) The packaging must be maintained in accordance with the Maintenance Program of Chapter 8 of the application, as supplemented.
8. The package authorized by this certificate is hereby approved for use under the general license provisions of 10 CFR §71.12.
9. Expiration date: October 31, 1995.

REFERENCE

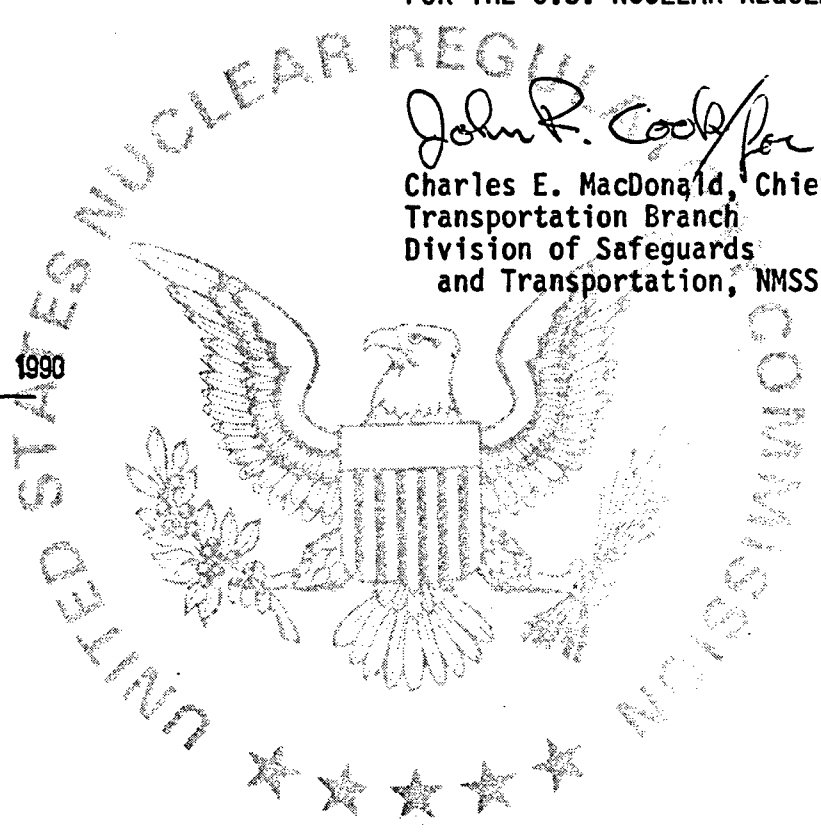
Combustion Engineering, Inc. application dated May 25, 1990.

Supplement dated: September 12, 1990.

FOR THE U.S. NUCLEAR REGULATORY COMMISSION

*John R. Cook for*  
Charles E. MacDonald, Chief  
Transportation Branch  
Division of Safeguards  
and Transportation, NMSS

Date: OCT 12 1990





UNITED STATES  
NUCLEAR REGULATORY COMMISSION  
WASHINGTON, D. C. 20555


APPROVAL RECORD  
Model Nos. 927A1 and 927C1  
Certificate of Compliance No. 6078  
Revision 13

By application dated May 25, 1990, as supplemented on September 12, 1990, Combustion Engineering, Inc. (CE) requested that Certificate of Compliance No. 6078 for the Model Nos. 927A1 and 927C1 shipping packages be renewed for a five year term. No changes were requested for the package design. The applicant submitted a consolidated application which incorporates the December 10, 1979 application and supplements referenced in Revision 12 of the certificate.

The certificate has been conditioned to require that the package be prepared for shipment and operated in accordance with the operating procedures in Chapter 7 of the application, as supplemented, and maintained in accordance with the maintenance program in Chapter 8 of the application, as supplemented.

The certificate has also been amended to delete a condition (Condition 7 of Revision 12) which authorized the use of packages fabricated in accordance with CE Drawing No. NFM-E-4108, Sheets 1 through 4, Rev. 1, until June 30, 1989. This condition provided a transition period during which these packages would be phased out or modified (in accordance with CE Drawing No. NFM-E-4108, Sheets 1 through 4, Rev. 9) to ship higher enriched fuel. The condition is no longer necessary since the transition period has expired.

The certificate has been renewed for a five year term which expires on October 31, 1995.

  
Charles E. MacDonald, Chief  
Transportation Branch  
Division of Safeguards  
and Transportation, NMSS

Date: OCT 12 1990