



U.S. DEPARTMENT OF ENERGY

DOE Packaging Certification Program

CERTIFICATE OF COMPLIANCE For Radioactive Materials Package

DOE F 5822.1 (5-85 Formerly EV-618)

1a. Certificate Number 9013	1b. Revision No. Rev 0	1c. Package Identification No. USA/9013/B( ) (DOE)	1d. Page No. 1	1e. Total No. Pages 2
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2. PREAMBLE

- 2a. This certificate is issued under the authority of 49 CFR Part 173.7(d).
- 2b. The packaging and contents described in item 5 below meet the safety standards set forth in subpart E, "Package Approval Standards" and subpart F, "Package, Special Form, and LSA-III Tests" Title 10, Code of Federal Regulations, Part 71.
- 2c. 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) Date: May 16, 1983
(1) Prepared by (Name and address): U.S. Department of Energy Idaho Operations Office 1955 Fremont Ave. Idaho Falls, ID 83415 Patrick AFB, FL 32925-3002	(2) Title and Identification of report or application:  Nuclear Packaging, Inc. application dated May 16, 1983, as supplemented [See 5.(e)]	

4. CONDITIONS

This certificate is conditional upon the fulfilling of the applicable Operational and Quality Assurance requirements of 49CFR parts 100-199 and 10CFR Part 71, and the conditions specified in item 5 below.

5. Description of Packaging and Authorized Contents, Model Number, Transport Index, Other Conditions, and References:

(a) Packaging

NOTE: THIS COC IS NOT AUTHORIZED FOR SHIPMENTS IN COMMERCE, BUT IS ONLY AUTHORIZED FOR STORAGE OR USE UNDER AN APPROVED AND ACTIVE DOE EXEMPTION.

- (1) Model Number: Husman Irradiator DA521, Serial Numbers M 001, M 002, and M 003
- (2) Description:

The package is cylindrical, steel-encased, lead filled, weldments consisting of two main units, the biological shield and a movable rotor. The main biological shield has a 5/8-inch outer carbon steel wall and a 3/8-inch thick inner stainless steel wall. A stationary center core is part of the main shield and constructed of 3/8-inch thick stainless steel material. The movable rotor unit contains three specimen chambers spaced 120 degrees apart. It consists of a 3/8-inch thick stainless steel housing filled with lead and rotates around the center core. Within the main shield are three line sources, located 120 degrees apart about the center of the irradiation position. The packages are 36-1/2 inches in diameter by 40 inches long. The packaging maximum gross weight is 18,500 lbs.

6a. Date of Issuance: 6/18/15	6b. Expiration Date: June 30, 2020
FOR THE U.S. DEPARTMENT OF ENERGY	
7a. Address (of DOE Issuing Office) U.S. Department of Energy Office of Packaging and Transportation, EM-33 1000 Independence Avenue SW Washington, DC 20585	7b. Signature, Name, and Title (of DOE Approving Official)  Frank Marcinowski Headquarters Certifying Official Deputy Assistant Secretary for Waste Management

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(3) Drawings:

The packaging is constructed in accordance with the following Radiation International, Inc., Drawing Nos.:

80017, Rev D	Irradiator
400229, Rev C	Cover Assembly, Rotor Housing
400230, Rev C	Housing, Rotor
400231, Rev A	Rotor Assembly
400232, Rev B	Base Assembly
400261, Rev A	Irradiator Shipping Assembly
400246, Rev D	Husman Irradiator Main Assembly
100556, Rev B	Bolt, Alignment

(b) Contents:

(1) Type and form of material.

Special Form Cs-137 in doubly encapsulated stainless steel cylinders, as shown on Oak Ridge National Laboratory, Drawing No. SK342, Issue C

(2) Maximum quantity or material per package.

18,250 curies of Cs-137

(c) Criticality Safety Index (CSI) = 0

(d) Conditions:

- (1) This CoC does **not** authorize shipments in commerce, but only authorizes use for storage or use under an approved and active DOE Exemption.
- (2) A barrier (permitting the free circulation of air) must be provided with sufficient separation distance to ensure that the requirement of 10 CFR 71.43(g) will be met.
- (3) In addition to the requirements of Subpart G of 10 CFR Part 71 each package shall be operated, prepared for shipment, and maintained in accordance with Chapters 7 and 8 of the Supplement (Reference 2)

(e) References

- (1) Nuclear Packaging, Inc. application dated May 16, 1983
- (2) *Request for DOE Exemption for Model No 521 Husman Irradiators Serial Numbers: M-001, M-002, and M-003*, Revision 1, CCN 235714, Attachment 1, Supplement dated May 2015



## **EM Environmental Management**

safety ❖ performance ❖ cleanup ❖ closure

### **DOE Packaging Certification Program**

#### PACKAGE CERTIFICATION APPROVAL RECORD

Certificate of Compliance Number 9013  
Package Identification No. USA/9013/B( ) (DOE)  
Model Husman Irradiator DA521

Docket 14-33-9013

The Department of Energy (DOE) Certificate of Compliance (CoC), Certificate Number 9013, Revision 0, Package Identification No. USA/9013/B( ) (DOE), for Model No. Husman Irradiator DA521, is issued to authorize storage of the following serial numbers: M 001, M 002, and M 003.

Revision 0 of DOE CoC 9013 is based on Revision 3 of the Nuclear Regulatory Commission (NRC) CoC 9013.

Since the use of all packages with "open parenthesis" (open paren.) designations (e.g., B( ), B( )F) is not authorized for shipments under the Department of Transportation (DOT) and NRC regulations after October 1 2008, any shipment made using these packages must be made on a case-by-case basis. Approval for use of these packages for DOE can only be made under a DOE Exemption issued in accordance with DOE Order 460.1C under the signature of the Headquarters Certifying Official.

The use of a DOE Exemption to make potential future shipments to a DOE site is equivalent to the process used by DOT and NRC to extend the use of "open paren." packages for restricted controlled shipments. Therefore, this certificate does not authorize shipments in commerce.

The expiration date for DOE Certificate Number 9013, Revision 0, is June 30, 2020.

Frank Marcinowski  
Headquarters Certifying Official  
Deputy Assistant Secretary  
for Waste Management

Date: 6/18/15