UNITED STATES
NUCLEAR REGULATORY COMMISSION
OFFICE OF NUCLEAR MATERIAL SAFETY AND SAFEGUARDS
WASHINGTON, D.C. 20555

April 10, 1990

NRC INFORMATION NOTICE NO. 90-24: TRANSPORTATION OF MODEL SPEC 2-T RADIOGRAPHIC EXPOSURE DEVICE

Addressees:

All NRC licensees authorized to use, transport, or operate radiographic exposure devices and source changers.

Purpose:

This information notice is provided to alert licensees of a recent change in the NRC Certificate of Compliance No. 9056, which imposes more restrictive requirements for proper transportation of the model SPEC 2-T radiographic exposure device.

It is suggested that licensees review this information for applicability to operations involving transportation of radiography devices, and distribute it to persons responsible for proper transport of devices. However, this notice does not constitute new NRC requirements, and no written response is required.

Description of Circumstances:

A certificate of compliance is issued by the NRC when a specific package meets the requirements of 10 CFR Part 71 and is approved by the NRC for transport of radioactive material. Conditions for proper transportation of the model SPEC 2-T radiographic exposure device are stated in NRC certificate of compliance (COC) No. 9056 (Attachment 1). These conditions augment the requirements of the U.S. Department of Transportation and 10 CFR Part 71 of the Commission's Regulations for the transportation of radioactive materials.

Prior to this recent change, the COC specified that for transportation of more than 110 curies of iridium-192, the radiographic exposure device must either be within a protective overpack or transported by exclusive use shipment in accordance with the requirements of 49 CFR 173.441(b). The purpose for this condition was to assure that the radiation dose rate on the surfaces of the radiographic exposure device or its overpack did not exceed 200 millirem per hour.

The NRC was informed that the surface dose rate on the radiography device could exceed 200 millirem per hour when loaded with 110 curies of iridium-192. Apparently, the radiation measurements used to determine the 110 curie maximum activity were not corrected for the distance between the surface of the device and the effective center of the radiation measurement instrument. This correction was because of the small dimensions of the model SPEC 2-T depleted uranium shield.

Discussion:

The staff evaluated the information obtained from previous radiation measurements and determined that the dose rates had been underestimated. The maximum activity in the model SPEC 2-T device that corresponds to a surface dose rate of 200 millirem per hour is 45 curies of iridium-192. As a result, conditions 8 and 9 of the NRC's COC No. 9056 were amended to specify 45 curies instead of 110 curies. Also, the maximum quantity of iridium-192 per package was reduced from 240 curies to 225 curies.

Users of the model SPEC 2-T device should be aware of the enclosed amended COC No. 9056 issued on February 21, 1990. Users should also note that a radiation survey must be made prior to each shipment to ensure that the external radiation levels of the devices or the overpack do not exceed the limits specified in 10 CFR 71.47, and 49 CFR 173.441.

This information notice does not require any written response to the NRC. If you have any questions about this matter, please contact the appropriate NRC regional office or this office.

Richard E. Cunningham

Richard E. Cunningham, Director
Division of Industrial and
Medical Nuclear Safety
Office of Nuclear Material Safety
and Safeguards

Technical Contact: Steven L. Baggett, NMSS
492-0542

Attachments:
1. NRC Certificate of Compliance
No. 9056.
2. List of Recent NMSS Information Notices.
3. List of Recent NRR Information Notices.

LIST OF RECENTLY ISSUED
NMSS INFORMATION NOTICES

Information Notice No.	Subject	Date of Issuance	Issued to
90-20	Personnel Injuries Resulting from Improper Operation of Radwaste Incinerators	03/22/90	All U.S. NRC licensees who process or incinerate radioactive waste
90-16	Compliance with New Decommissioning Rule	03/07/90	All materials licensees
90-15	Reciprocity: Notification of Agreement State Radiation Control Directors before Beginning Work in Agreement States	03/07/90	All holders of NRC materials licenses which authorize use of radioactive material at temporary job sites
90-14	Accidental Disposal of Radioactive Materials	03/06/90	All NRC Byproduct Materials Licensees
90-09	Extended Interim Storage of Low-Level Radioactive Waste by Fuel Cycle and Materials Licensees	02/05/90	All holders of NRC materials licenses
90-01*	Importance of Proper Response to Self-Identified Violations by Licensees	01/12/90	All holders of NRC materials licenses
89-85	EPA's Interim Final Rule on Medical Waste Tracking and Management	12/15/89	All medical, academic, industrial, waste broker, and waste disposal site licensees

*Correct Number for 90-01 should be 90010145.

NRC FORM 618
10 CFR 71

U.S. NUCLEAR REGULATORY COMMISSIO

CERTIFICATE OF COMPLIANCE
FOR RADIOACTIVE MATERIALS PACKAGES

ATTACHMENT 1

1.a. CERTIFICATE NUMBER	b. REVISION NUMBER	c. PACKAGE IDENTIFICATION NUMBER	d. PAGE NUMBER	e. TOTAL NUMBER PAGE
9056	6	USA/9056/B(U)	1	2

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)

Source Production and
Equipment Company, Inc.
113 Teal Street
St. Rose, LA 70087

b. TITLE AND IDENTIFICATION OF REPORT OR APPLICATION:

Source Production and Equipment Company Inc. application dated March 13, 1989 as supplemented.

c. DOCKET NUMBER 71-9056

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 No.: SPEC 2-T

(2) Description

A steel encased, uranium shielded Gamma Ray Projector. Primary components consist of an outer steel shell, internal bracing, depleted uranium shield, and a Zircalloy "S" tube. The contents are securely positioned in the Zircalloy "S" tube by a source cable locking device and shipping plug. The unit resembles a rectangular box approximately 13" long by 4-5/8" high by 4-1/4" wide with a maximum gross weight of 49 pounds.

(3) Drawings

The packaging is constructed in accordance with Source Production and Equipment Company, Inc. Drawing Nos. 12688-1. Rev. (0); 788-1 Rev. (0); and 788-2 Rev. (0).

The packaging may also be as shown in Source Production and Equipment Company Drawing No. 1000, Rev (0) provided fabrication was completed prior to June 8, 1989.

The overpack is a 12 gallon open head 20 or 22 gauge National Motor Freight Classification 100-G, Item 260 steel drum constructed in accordance with Source Production and Equipment Company, Inc. Drawing No. 53189-2 Rev. (0).

(b) Contents

(1) Type and form of material

Iridium 192 as sealed sources which meet the requirements of special form radioactive material.

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(2) Maximum quantity of material per package

225 curies

6. The source must be secured in the shielded position of the packaging by the shipping plug, source assembly, and locking device. The shipping plug and source assembly used must be fabricated of materials capable of resisting a 1475°F fire environment for one-half hour and maintaining their positioning function. The source assembly ball stop must engage the locking device. The flexible cable of the source assembly and shipping plug must be of sufficient length and diameter to provide positive positioning of the source in the shielded position.

7. The nameplates must be fabricated of materials capable of resisting the fire test of 10 CFR Part 71 and maintaining their legibility.

8. For transportation of more than 45 curies per package in private carriage the shipment must be in accordance with 49 CFR 173.441(b).

9. For transportation of more than 45 curies per package by a common carrier, the package must be within a protective overpack as described and constructed in accordance with 5(a)(3).

10. The packaging authorized by this certificate is hereby approved for use under the general license provisions of 10 CFR §71.12.

11. Expiration date: August 31, 1994.

REFERENCES

Source Production and Equipment Company, Inc. application dated March 13, 1989.

Supplements dated: July 6, August 21, and August 28, 1989.

FOR THE U.S. NUCLEAR REGULATORY COMMISSION

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

Date: FEB 21 1990

LIST OF RECENTLY ISSUED NRC INFORMATION NOTICES

Information Notice No.	Subject	Date of Issuance	Issued to
90-23	Improper Installation of Patel Conduit Seals	4/4/90	All holders of OLs or CPs for nuclear power reactors.
90-22	Unanticipated Equipment Actuations Following Restoration of Power to Rosemount Transmitter Trip Units	3/23/90	All holders of OLs or CPs for nuclear power reactors.
90-21	Potential Failure of Motor-Operated Butterfly Valves to Operate Because Valve Seat Friction was Underestimated	3/22/90	All holders of OLs or CPs for nuclear power reactors.
90-20	Personnel Injuries Resulting from Improper Operation of Radwaste Incinerators	3/22/90	All NRC licensees who process or incinerate radioactive waste.
90-19	Potential Loss of Effective Volume for Containment Recirculation Spray at PWR Facilities	3/14/90	All holders of OLs or CPs for PWRs.
90-18	Potential Problems with Crosby Safety Relief Valves Used on Diesel Generator Air Start Receiver Tanks	3/9/90	All holders of OLs or CPs for nuclear power reactors.
90-17	Weight and Center of Gravity Discrepancies for Copes-Vulcan Valves	3/8/90	All holders of OLs or CPs for nuclear power reactors.
89-59, Supp. 2	Suppliers of Potentially Misrepresented Fasteners	3/7/90	All holders of OLs or CPs for nuclear power reactors.

OL = Operating License
CP = Construction Permit