



Lehigh Testing Laboratories, Inc.

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PDR-Return
396-SS

71-9007

U.S. NUCLEAR REGULATORY COMMISSION
Transportation Certification Branch
Washington, DC 20555

July 26, 1982

ATTENTION: MR. CHARLES E. MAC DONALD, CHIEF
REFERENCE: REGISTRATION FOR USE OF TYPE "B"
(U) PACKAGE

Dear Mr. MacDonald:

Please register our company as an authorized user and shipper
of the following Type "B" (U) Packaging:

- A. Automation Industries' Model 500-SU Source Changer
Package Identification No. USA/90006/B(U).

AND/OR

- B. Automation Industries' Model 520 Iriditron,
Package Identification No. USA/9007/B(U).

We have reviewed Automation Industries' Operating Instructions
for the above package and/or packages and incorporated these
instructions into our Operating Procedures.

Section 9 F of our "Administrative Manual" is also changed to
show Richard Recchia included as an additional "Assistant Radi-
ation Safety Officer". Mr. Recchia was the RSO for LTL from
December 31, 1978 to February 1, 1980.

Our company is currently operating under U.S. NRC License No.
07-01173-03, authorizing possession and use of gamma radiography
sources and exposure devices.

Yours very truly,

LEHIGH TESTING LABORATORIES, INC.

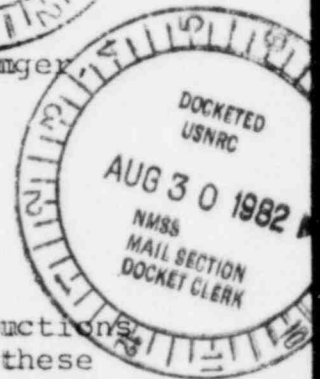
[Signature]
Herman L. Ostroff
Manager, Nondestructive Testing

HLO:mjp

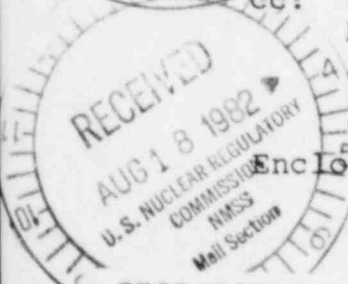
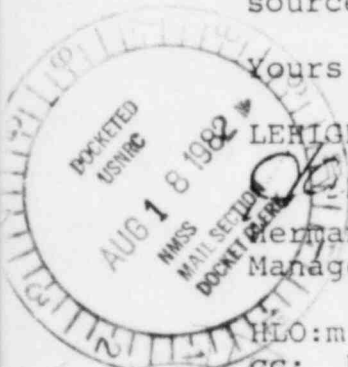
cc: U.S. DEPARTMENT OF TRANSPORTATION
Material Transportation Bureau

Attn: Mr. Richard R. Rawl
DMT 221
Washington, DC 20590

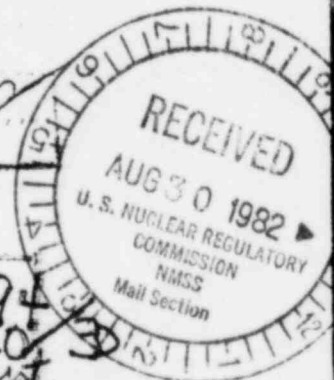
Enclosures



FEE EXEMPT



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8. SOURCE CHANGES (IRIDIUM 192 ONLY)

- A. General - Source changes must be performed by the Radiographer and/or the Radiation Safety Officer.

Lehigh personnel shall perform source changes for Iridium 192 only. Cobalt 60 sources shall be changed only by the supplier, Tech/Ops, Inc. or Automation Industries, Inc.

Proceed according to the following instructions for source changer Tech/Ops Model 650 or Automation Industries Model 500-SU. This is a portable, shielded container for transferring encapsulated radioisotope sources into radiography projectors. The source changer has depleted uranium for shielding. The design of the unit meets the Type B requirements of the United States Department of Transportation.

Container Capacity - 200 Curies \pm 20% of Iridium 192; depleted Uranium (U238) shielding weighs 35 pounds. The housing is made of steel. Every loaded Model 650 and Model 500-SU source changer is shipped from the manufacturer with the following items:

1. Source decay chart and leak test certification, which is to be kept with Lehigh's records.
2. Source identification (ID) plate, which is to be affixed to Lehigh's projector.
3. Return shipping labels.
4. Tamperproof seals.
5. Instruction Manual.

B. Instructions for Operating Source Changer - Model 650

1. Upon receiving the Model 650 source changer, conduct a radiation survey to ensure that the source is in its proper storage position.
2. Locate source changer and projector in a restricted area where the source may be exposed.
3. Place units to minimize any bend radius in the source guide tube (radius must be less than 20 inches) and control cabling (radius must be less than 36 inches).
4. Set projector as for an exposure and open source changer. To remove cover, break seal wire and unbolt; then remove source holddown cap by breaking seal wire and unbolting. CAUTION - when source holddown is removed, the source connector is exposed. Special care should be taken not to dislodge source when handling the changer.

8. SOURCE CHANGES (IRIDIUM 192 ONLY) continued

19. Again survey the source changer to ensure that the radiation level does not exceed 200 mR/hr at the surface, and that the radiation level does not exceed 10 mR/hr at a distance three feet from any exterior surface (this latter measurement is the "Transport Index").
20. Complete the applicable shipping labels, attach them to two opposite sides of the container, and return the container to Tech/Ops.

C. Instructions for Operating Source Changer - Model 500-SU

After unlocking the access cover plate, proceed as follows:

1. Be certain to have an operating survey meter on hand.
2. Locate the source changer within two feet of the shielded head.
3. Remove plug or source tube from your machine outlet.
4. Remove round plug from source changer, save new source number plate.
5. Connect the short change tube supplied to your machine outlet. (empty hole)
6. Connect source position indicator control to your machine lock box and extend control, so that operator is positioned full 25 feet from machine. (Now unlock your machine.)
7. Run decayed source into source changer, by turning control handle clockwise until source stops in the changer.
8. At this point, the survey meter must be employed to insure that source has been safely located in shielded position.
9. Disconnect short change tube at source changer, and disengage disconnects, being careful not to pull out source.
10. Replace round plug, securing decayed source in changer.
11. Remove hex head plug from source changer, being careful not to pull out source cable inside. (This is your new source.)
12. Carefully pull the source cable disconnect only enough to allow joining of disconnects.
13. Join disconnects on control cable and source cable.

8. SOURCE CHANGES (IRIDIUM 192 ONLY) continued

14. Connect short⁴ change tube to source changer outlet.
15. Pull source into machine by turning control handle counter-clockwise. (Check radiation levels and lock your machine.)
16. After a monitor check has been made with a survey meter, remove short change tube.
17. Replace hex head plug on empty source changer hole.
18. Removed decayed source number plate from plate holder on your machine, and replace with new source number plate attached to lead seal wire. Attach old source number plate to source changer cap plug, by lacing seal wire provided through number plate when sealing returned source.
19. A lead seal wire has been furnished with your new source. It is to be used for resealing source changer cap plugs and attaching old source number plate.
20. Two D.O.T. style shipping labels are included in the envelope. These are to be pasted over the similar labels on the shipping box. The blank spaces should be filled in as follows:
 - (a) Principal Radioactive Content
 - (b) Activity of Contents-----Number of Curies
 - (c) Transportation Index-----By Radiation Survey
MR/HR at 3 Feet.
21. Place the short change tube within the compartment, close the hinged cover, and secure with the padlock.

12. DESCRIPTION OF LEAK TESTING PROCEDURES
(Per Item 6(i) on Form AEC-313R)

A. General

Lehigh Testing Laboratories shall use the Technical Operations Leak Test Kit Type 518 or Automation Ind. Leak Test Kit Model LT-100. The sample shall be taken either by the Radiation Safety Officer or by a qualified Radiographer of Lehigh Testing Laboratories, Inc., or by an authorized and licensed technician, Technical Operations, Inc., or Automation Ind., Inc.

The assay of the sample shall be performed by Technical Operations, Inc., Burlington, Mass. or Automation Ind., Inc., Phoenixville, Pa.

B. Specific Instructions for Use of Leak Test Kit

Leak Test Kit Type 518 or LT-100 is designed for use on Technical Operations Gamma Ray Projectors. It provides a convenient and safe method of performing leak tests or radiographic sources in accordance with N.R.C. regulations, which require such tests at intervals of not more than 6 months.

Contents of Kit

Flexible swab holder with swab
Vial of solution
Plastic Envelope or Tube
Mailing Box
Identification Sheet

1. Personnel obtaining swab samples for subsequent leak testing shall wear film badge and pocket dosimeter.
2. Be sure source is fully retracted into projector. (Use a survey meter to be sure that radiation levels are normal).
3. Remove source tube from face of shield or remove shipping plug.
4. Wet the swab with solution. Shake off excess and insert the swab into the hole in the shield. Wipe the interior of the hole thoroughly by rotating swab holder several times.
5. Withdraw swab and place in plastic envelope.
6. The swab should be monitored by turning the survey meter to its most sensitive range. Place the meter in an area of negligible background radiation and move the swab in its plastic envelope to the meter; do not move the meter to the swab.

12. DESCRIPTION OF LEAK TESTING PROCEDURES (continued)

7. If there is no indication on the meter, or if the indication is no more than 0.2 mR/hr above background, put the plastic envelope with swab in the mailing box and mail to Technical Operations, Inc., Burlington, Mass. or Automation Ind., Inc., Phoenixville, Pa. Be sure to fill out and return the identification sheet.
8. If the swab should exhibit more than 0.2 mR/hr. do not mail. Immediately notify the Radiation Safety Officer.

The wipe-test swab will be subjected to a radio-assay capable of detecting 0.005 microcuries of removable radioactive contamination. Upon completion of this radio-assay, Tech/Ops or Automation Ind. will issue a leak-test certificate* by return mail. The NRC requires that such certificates be maintained for inspection by the Commission for at least six months after the next required leak test is performed or until the sealed source is transferred or disposed of.

If a leak test shows the presence of 0.005 microcuries or more of removable radioactive contamination, this shall constitute evidence that the sealed source is leaking. The source shall be withdrawn immediately from service under such circumstances by the Radiation Safety Officer per NRC Regulation 10 CFR 34.25 (d).

*Sample copy attached--see Appendix, Form 20

Experience Record of R. Recchia

4/70 to 6/74

Branch Radiographic Laboratories, Inc.; Cranford NJ;
Lead Radiographer

Closely involved in record keeping in anticipation of NRC audits. Also performed a large amount of radiography (approximately 75% of total time) using T.O. 533, 660 and 680 exposure devices for Ir¹⁹² and Co⁶⁰ sources. Performed leak tests, source changes, maintenance and inspections on the above-mentioned equipment, and also assisted in survey meter calibrations.

6/74 to 3/75

Public Service Electric & Gas; Newark NJ, NDT Consulting Engineer

Major responsibilities entailed surveillance of NDT activities at Salem Nuclear Generating Station. This included observing and commenting on the radiographic operations of the testing lab on the site at the time, both from a safety viewpoint as well as assuring adherence to specifications.

3/75 to 3/76

Branch Radiographic Labs of VA; Surry, VA; Level II Technician

Performed some radiography on welder qualifications, etc., and also insured accurate record keeping of source usage, meter calibrations and leak tests. Equipment used included T.O. 660 exposure device and Eberline E-130G survey meters.

3/76 to 9/76

Stone & Webster Engineering Corp.; Mineral VA Quality Control Inspector

At this time did not accept radiography assignment.

9/76 to 8/77

Not applicable to this application.

8/77 to 9/78

Soil and Material Engineers, Inc.; Greensboro, NC
NDE Manager

In this position primary responsibilities included equipment purchasing, author of NRC License Revisions, author of North Carolina By-product license 49-490-1, and radiographer using a T.O. 683 Iridium¹⁹² exposure device and Victoreen 492 Survey meters. Just prior to separation, a satisfactory audit was performed on the radiographic operations by the state regulatory agency.

Experience Record of R. Recchia
: (Continued)

10/78 to 12/79

Lehigh Testing Laboratories, New Castle, DE

Involved in Administration of Lic. No. 07-01173-3.
Worked with two 660 T/O units and peripheral equipment.
Trained full-time radiographer.

12/79 to 12/80

Arabian American Oil Company, Ras Tanura, Saudi Arabia

Responsible for supervising ex-pat radiographic
operators and radiographic equipment.

1/81 to 1/82

Negev Airbase Constructors, Onda Israel

Responsible for supervising Israeli radiographers.

4/82 to Present

Lehigh Testing Laboratories, New Castle, DE
NDT Supervisor; Assistant Radiation Safety Officer