

**Lehigh Testing
Laboratories, Inc.**

RADIATION SAFETY MANUAL

SECTION: APPENDIX F

PAGE: 1 OF 6

REVISION: 3

DATE: November 17, 1989

QUALITY ASSURANCE PROGRAM

FOR TRANSPORTING PACKAGES OF RADIOACTIVE MATERIALS

(as required by 10 CFR Part 71.51)

ISSUED: January 2, 1979

NRC No: 71-0269

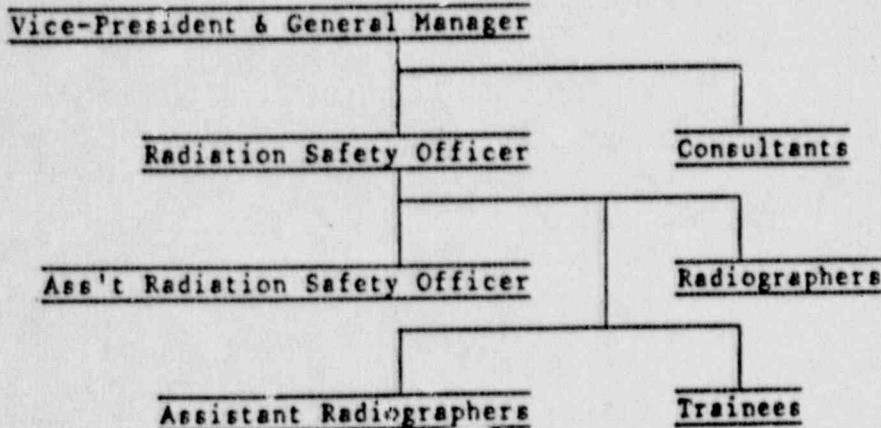
REVISED: November 17, 1989 (Rev. 3)

Incorporated into LTL Radiation Safety Manual as Appendix F

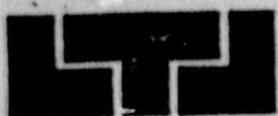
NOTICE

The management of Lehigh Testing Laboratories, Inc., establishes and implements this Quality Assurance Program for Transporting Packages of Radioactive Material. Training for all QA Program functions, prior to engagement in these functions, is required. QA Program revisions shall be made according to written procedures with management approval. Design and fabrication of packages for shipping radioactive materials shall not be part of this QA Program.

The organizational responsibilities at Lehigh Testing Laboratories, Inc. for administration of this program are presented in the chart below:



8911290153 891117
PDR ADOCK 07100269
C PDC



RADIATION SAFETY MANUAL

QUALITY ASSURANCE PROGRAM FOR TRANSPORTING RADIOACTIVE MATERIALS (cont'd)

I. PURPOSE

This Quality Assurance Program is established pursuant to Section 71.51 of 10 CFR Part 71, "Packaging of Radioactive Material for Transport, and Transportation of Radioactive Material Under Certain Conditions". Section 2.3 of Lehigh's Radiation Safety Manual, "Transportation Procedures for Sealed Sources", is incorporated as an essential part of this QA Program.

II. RESPONSIBILITY

- (A) Radiation Safety Officer, NDT Department - The Radiation Safety Officer is responsible for overall administration of the program, training and certification, document control, and auditing. The Radiation Safety Officer shall assure that all radioactive material shipping packages used by Lehigh are designed and manufactured under a Quality Assurance Program for all packages designed or fabricated after July 1, 1978. This requirement can be satisfied by receiving a certification to this effect from the manufacturer. The Assistant Radiation Safety Officer shall assume the responsibility of the Radiation Safety Officer in his absence.
- (B) Radiographers - NDT Dept. - The Radiographers are responsible for handling, storing, shipping, inspection, tests, operating status and recordkeeping.
- (C) Final Responsibility - The final responsibility for compliance of the Quality Assurance Program with Section 71.51, of 10 CFR Part 71 rests with Lehigh Testing Laboratories, Inc.

III. DOCUMENT CONTROL

Certificates assuring that all radioactive material shipping packages are designed and manufactured under a Quality Assurance Program approved by the Nuclear Regulatory Commission for all packages designed or fabricated after July 1, 1978 shall be obtained and kept on file by the Radiation Safety Officer.

All documents related to a specific shipping package will be reviewed and kept on file by the Radiation Safety Officer. All document changes will be reviewed and approved by the Radiation Safety Officer prior to their implementation in this Q.A. Program. The Radiation Safety Officer shall insure that all Q.A. functions are conducted in accordance with the latest applicable changes to these documents.

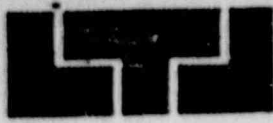


RADIATION SAFETY MANUAL

QUALITY ASSURANCE PROGRAM FOR TRANSPORTING RADIOACTIVE MATERIALS (cont'd)

IV. HANDLING, STORAGE AND SHIPPING

- (A) The handling, storage and shipping of packages for certain special form radioactive material shall be accomplished by qualified radiography personnel, who have been instructed in handling, storage and shipping operations by the Radiation Safety Officer, in accordance with established safety procedures.
- (B) Shipments of special form radioactive material shall be made only in containers acceptable per DOT Regulations 49 CFR Parts 173-179.
1. Only shipping containers authorized by NRC License No. 07-01173-03 as issued to Lehigh Testing Laboratories, Inc. shall be used.
 2. The step-by-step instructions issued by the manufacturer of the container shall be followed in detail and in the sequence presented.
 3. The source shall be securely locked in the fully shielded position as confirmed by carefully performed and recorded radiation surveys.
 4. No package with radiation levels in excess of 200 milliroentgens per hour at the package surface, or 10 milliroentgens per hour at one meter, shall be released for shipment, as specified in DOT Regulations.
 5. Package labeling and accompanying shipping papers shall be properly completed.
- (C) Packages having Yellow III labels (those with dose rates exceeding 200 mR/hr at the surface, or exceeding 10 mR/hr at one meter from the surface) which contain special form radioactive material transported under the supervision of Lehigh personnel shall be transported in vehicles posted with four signs reading "Radioactive". These signs shall be affixed to the vehicle at the front, rear and both sides. The signs shall be black letters at least four inches high on a yellow background. (Note that Lehigh's Radiation Safety Manual, Section 2.3, currently prohibits shipments of packages requiring Yellow III labels by Lehigh, so this paragraph is not applicable unless Lehigh's NRC license is amended to permit such shipments.)
1. Packages shall be placed in the rear of the vehicle as far away from personnel as possible. Packages shall be secured by tying and blocking to prevent shifting or movement causing damage to the vehicle or packages.
 2. The exterior surface and passenger compartment of the transporting vehicle shall be surveyed to insure that radiation levels do not exceed two milliroentgens per hour.



RADIATION SAFETY MANUAL

QUALITY ASSURANCE PROGRAM FOR TRANSPORTING RADIOACTIVE MATERIALS (cont'd)

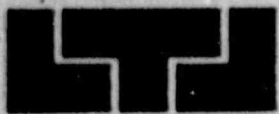
- (D) Packages containing special form radioactive material received from a carrier shall be monitored as soon as practicable after receipt, but no later than 3 hours after the package is received or 18 hours if received after normal working hours. If radiation levels are found on the external surfaces in excess of 200 milliroentgens per hour or in excess of 10 milliroentgens per hour at one meter from the surface, the final delivering carrier, the Nuclear Regulatory Commission and the Delaware State Board of Health shall be notified immediately by telephone and telegraph.
- (E) Any time a package containing special form radioactive material is not in use, being transported, etc., the package shall be securely locked and placed in a storage room or container, which shall also be locked.
1. The storage area or container shall be surveyed to ensure that no radiation area existing on the exterior surface is in excess of the requirements for an unrestricted area, that is, in excess of two milliroentgens per hour.
 2. The storage area or container shall be posted with signs stating "CAUTION (OR DANGER) - RADIOACTIVE MATERIAL".

V. INSPECTION, TEST AND OPERATING STATUS

- (A) The Radiation Safety Officer shall be responsible for obtaining and maintaining in his files all records of inspection, test and operating status of packages for certain special form radioactive material.
- (B) The Radiation Safety Officer shall ensure that all inspections and tests have been performed in accordance with written procedures, by qualified radiography personnel, that the status is indicated by tag, label, marking or log entry and the status of nonconforming parts or packages will be positively maintained by written procedures.

VI. QUALITY ASSURANCE RECORDS

- (A) Records of package approvals, inspections, tests, operating logs, audit results, personnel training and qualifications and records of shipments will be maintained. Descriptions of equipment and written procedures will also be maintained.
- (B) These records will be maintained in accordance with established procedures. The records will be identifiable and retrievable. A list of these records, with their storage locations, will be maintained by the Radiation Safety Officer.



Lehigh Testing
Laboratories, Inc.

SECTION: APPENDIX F

PAGE: 5 OF 6

REVISION: 3

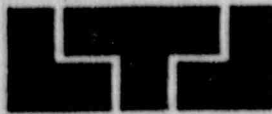
DATE: November 17, 1989

RADIATION SAFETY MANUAL

QUALITY ASSURANCE PROGRAM FOR TRANSPORTING RADIOACTIVE MATERIALS (cont'd)

VII. AUDITS

Established schedules of audits of the Quality Assurance Program will be performed using written checklists (Appendix 1). Results of audits will be maintained and reported to management. Audit reports will be evaluated and deficient areas corrected. The audits will be dependent on the safety significance of the activity being audited, but each activity will be audited at least once per year. Audit reports will be maintained as part of the Quality Assurance records. Members of the audit team shall have no responsibility in the activity being audited.



RADIATION SAFETY MANUAL

QUALITY ASSURANCE PROGRAM FOR TRANSPORTING RADIOACTIVE MATERIALS (cont'd)

PROGRAM AUDIT CHECKLIST:

_____ No items of noncompliance or unsafe conditions were found.

The following items of noncompliance or unsafe conditions were found:

- _____ 1. A current copy of the Quality Assurance Program was not available.
- _____ 2. Records of receipt, transfer, or disposal of radioactive material were not properly maintained.
- _____ 3. Certificates from manufacturers of radioactive material shipping containers, showing that all containers designed or fabricated after July 1, 1978 were done so under a Quality Assurance Program approved by the NRC, were not maintained.
- _____ 4. Containers were not properly labeled to indicate the presence of radioactive material.
- _____ 5. Personnel did not follow established safety procedures for handling, storage and shipping of containers containing radioactive material.
- _____ 6. Personnel training records were not properly maintained.
- _____ 7. Other (describe) _____

Remarks - describe any items of noncompliance or unsafe conditions checked above:

Auditor: _____ Date: _____

I have been informed of and understand the findings of this audit. Any items of noncompliance noted above will be corrected within the next 30 days.

RSO: _____ Date: _____