

71-0872

Connex Pipe Systems, Inc.
One Connex Way
P.O. Box 275
Troutville VA 24175
Tel: 540-992-1600
Fax: 540-992-6100

CONNEX
PIPE SYSTEMS, INC.

February 12, 1997

Director
Office of Nuclear Safety and Safeguards
U. S. Nuclear Regulatory Commission
Washington, DC 20555-0001

Dear Sir:

In accordance with 10CFR 71.12, Connex Pipe Systems, Inc. NRC License #45-26591-01 with Amendment # 1 requests to be registered as a user of Amersham Corporation, Model 660A and 660B package identification number USA 9033/B(U) and Amersham Corporation source changer Model number USA/9269/B(U) type 'B', under terms of Certificate of Compliance Number 9032/9033 issued to Amersham Corporation, Burlington, MA.

Please find enclosed check in the amount of \$340.⁰⁰ to cover the cost of the application fee.

Sincerely,

CONNEX PIPE SYSTEMS, INC.

Ralph E. Nodes

Ralph E. Nodes
Radiation Safety Officer

REN/nkg
Enclosure

cc: Robert Beldyk

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A member of
PI
PROSPECT
INDUSTRIES

19 CFR 71 QUALITY ASSURANCE PROGRAM

1. ORGANIZATION

The final responsibility for the Quality Assurance Program for Part 71 requirement rests with Connex Pipe Systems, Inc. Design and fabrication of radioactive material shipping packages shall not be conducted under this Quality Assurance Program. The Quality Assurance Program is implemented using the attached organization chart.

The Radiation Safety Officer is responsible for overall administration of the Program, training and certification, document control and auditing.

The Radiographers are responsible for handling, storing, shipping, inspection, test, operating status and record keeping.

2. QUALITY ASSURANCE PROGRAM

The management of Connex Pipe Systems, Inc. establishes and implements this Quality Assurance Program. Training for all Quality Assurance functions, prior to engagement in these functions, is required according to written procedures. Quality Assurance revisions will be made according to written procedures with management approval. The Quality Assurance Program will ensure that all defined Quality Control Procedures, Engineering Procedures and specific provisions of the package design approval are satisfied. The Quality Assurance Program will emphasize control of the characteristics of the package which are critical to safety.

The Radiation Safety Officer shall assure that all radioactive material shipping packages are designed and manufactured under a Quality Assurance Program approved by the USNRC for all packages designed or fabricated after January 1, 1979.

3. DOCUMENT CONTROL

All documents related to a specific shipping package will be controlled through the use of written procedures. All document changes will be performed according to written procedures approved by management.

The Radiation Safety Officer shall insure that all Quality Assurance functions are conducted in accordance with the latest applicable changes to these documents.

4. **HANDLING, STORAGE AND SHIPPING**

Written safety procedures concerning the handling, storage and shipping of packages for certain special form radioactive material will be followed. Shipments will not be made unless all tests, certifications, acceptance, and final inspections have been completed. Work instructions will be provided for handling, storage, and shipping operations. Radiography personnel shall perform the critical handling, storage and shipping operations.

5. **INSPECTION TEST AND OPERATING STATUS**

Inspections test and operating status of packages for certain special form radioactive material will be indicated and controlled by written procedures. Status of non-conforming parts or package will be positively maintained by written procedures.

Radiography personnel shall perform the regulatory required inspections and tests in accordance with written procedures. The Radiation Safety Officer shall ensure that these functions are performed.

6. **QUALITY ASSURANCE RECORDS**

Records of package approvals (including references and drawings), inspection, 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.

These records will be maintained in accordance with written 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.

7. **AUDITS**

Established schedule of audits of the Quality Assurance Program will be performed using written checklists. 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.

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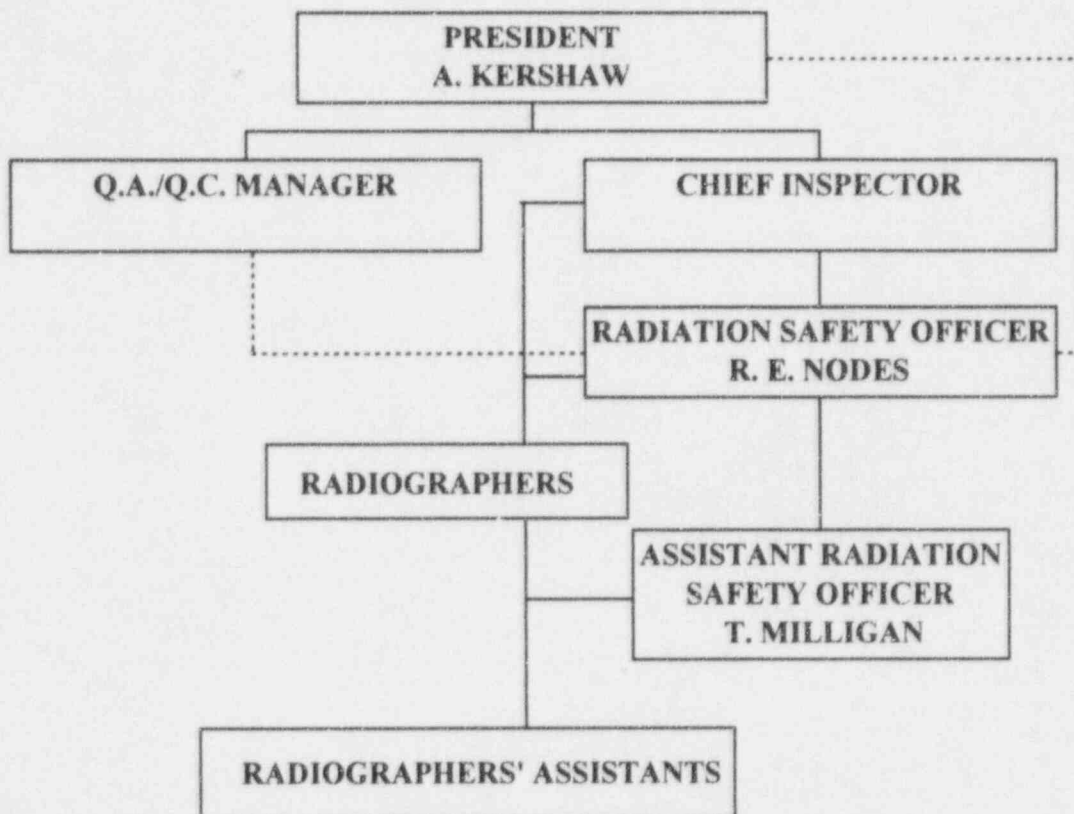
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**ORGANIZATION STRUCTURE/CONNEX PIPE SYSTEMS, INC.
RADIATION SAFETY PROGRAM**



5.2

Operating Instructions for Technical Operations Source Changer:

1. Locate the source changer and exposure device in a restricted area.
Position the devices to avoid sharp bends in the guide tube and drive cables.
2. Set up the exposure device the same as for a radiography exposure.
3. Remove the cover from the source changer by breaking the seal wire and removing the bolts.
4. Remove the source hold-down rod by breaking the seal wire and unthreading the shipping plug on the empty chamber in the source changer.
5. Connect one end of a guide tube extension to the exposure device and the other end to the fitting above the empty chamber in the source changer.
6. At the drive cable controls, crank the source from the exposure device.
Survey the guide tube, the exposure device, and the source changer on all sides to insure the source has been properly transferred to the shielded position in the source changer.
7. Unscrew the source guide tube from the source changer and disconnect the drive cable from the source assembly by moving the lock pin down and sliding the drive cable connector out through the key way.
Install the shipping plug to secure the source in the source changer.

8. Unscrew the shipping plug from the source changer chamber holding the replacement source and couple the drive cable to the source by depressing the lock pin, sliding the drive connector into the key way, and releasing the lock pin. Test for proper engagement.
9. Connect the guide tube to the fitting above the chamber containing the new source.
10. At the drive cable controls, crank the source from the source changer to its shielded position in the exposure device.
11. Approach the exposure device with the survey meter, survey the exposure device on all sides, survey the guide tube and survey the source changer on all sides to ensure the source has been properly transferred.
12. Lock the exposure device.
13. Disconnect the source guide tube from the source changer and insert the shipping plug into the empty housing.
14. Affix the identification plate of the new source to the exposure device and attach the identification plate of the old source to the source hold-down caps using a metal seal wire.
15. Seal wire the source hold-down cap in place.
16. Bolt the source changer cover in place and seal wire.
17. Survey all exterior surfaces of the source changer to ensure that the radiation level does not exceed 200 milliroentgens per hour at contact. Record this radiation reading on the transfer log.

18. Measure the radiation level at 1 meter from all exterior surfaces of the source changer and ensure that the radiation level is less than 10 milliroentgens per hour. The maximum radiation level measured 1 meter (approx. 39-3/8") from any exterior surface is the Transport Index. Record this radiation reading on the transfer log.
(Example: With the maximum radiation level of 2.2 milliroentgens per hour, the Transport Index is 2.2)
19. Two Yellow Type II D.O.T. 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:

Principal Radioactive Content - spell out
(Iridium 192 or Cobalt 60, not IR 192)
Activity of Contents--Number of Curies
Transportation Index--By Radiation Survey MR/hr at 1 meter
Note: The D.O.T. index and isotope/curies shall be noted
on the shipper's papers.
20. Apply the RADIOACTIVE Yellow II shipping labels, properly completed, to two (2) opposite sides of the container.
21. **Return the container to:**

Amersham Inc.
40 North Avenue
Burlington, Massachusetts 01803

6.0 **Storage of Sources and Exposure Devices**

- 6.1 Radiographic exposure devices measuring less than four (4) inches from the sealed source storage position to any exterior surface of the device, shall have no radiation level in excess of 50 milliroentgens per hour at six (6) inches from any exterior surface of the device. Radiographic exposure devices measuring a minimum of four (4) inches from the sealed source storage position to any exterior surface of the device, and all storage containers for sealed sources of radiographic exposure devices, shall have no radiation level in excess of 200 milliroentgens per hour at any exterior surface, and ten (10) milliroentgens per hour at one meter from any exterior surface. The radiation levels specified are with the sealed source in the shielded (i.e., "off") position.
- 6.2 When not in use, all exposure devices (and source changers if at Connex plant) shall be placed in the locked storage cabinets in the radiography area by the individual radiographers. These cabinets must be marked

"CAUTION RADIOACTIVE MATERIAL".

NOTE:

In addition to being stored in locked cabinets, the exposure devices themselves must be locked when not actually being used for an exposure.

- 6.3 It is the duty of each radiographer to initial the checklist (Exhibit I) when returning the exposure device to the storage cabinet. This sign-off indicates that it has been properly returned and that radiation surveys have been performed to assure safe access by individuals.
- 6.4 At the termination of a shift the radiograph cells are not personally attended by a radiographer or radiographer's assistant, the cell gates shall be closed and locked unless the exposure device is stored and locked in the metal storage cabinet. Terminal locking at the end of a shift shall be indicated by initialing the checklist, Exhibit I. The keys to the device, storage cabinets and cell gates shall be maintained on the radiographer's person. Each radiographer is assigned such keys for his personal retention.
- 6.5 The Radiation Safety Officer, or his delegated responsible person (Lead Radiographer), shall audit at least one radiograph cell at the end of each shift and each radiographer every three (3) months. This is to ensure that this Paragraph 7.0 is being complied with. The Internal Inspection Checklist, Exhibit V, contains a 14 point verification plan to assure all radiographers are complying with the rules and regulations established by this manual.
- 6.6 In addition to the above, Fire Department authorities are to be notified of the location and nature of all radioactive materials stored on the premises.