

QUALITY ASSURANCE PROGRAM

(For use of approved radiographic gamma projectors in  
accordance with requirements of 10 CFR Part 71.51.)

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GAS RENTALS, INC./LOWELL GAS

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Scope:

Gas Rentals/Lowell Gas as licensee for the possession and use of by-product material for radiographic purposes recognizes its responsibility to the Nuclear Regulatory Commission, the Commonwealth of Massachusetts, its customers and employees to establish policy and procedures for the safe use of radiographic devices.

Part of our policy and procedures under our license shall include this Quality Assurance Program. Responsibility for this program shall be Gas Rental's/Lowell Gas, as named on our license. Design and fabrication shall not be conducted under our license.

The Radiation Safety Officer is responsible for administration of this program; as well as, training, certification, document control, and auditing.

The Radiographer(s) are responsible for handling, storing, shipping, inspection, test, operations, and record keeping.

A copy of this Quality Assurance Program shall be carried in the radiographic inspection vehicle. Additional copies will be made available to supervisors and others requiring knowledge of same. A copy will remain in the documents' control file.

Organization, Authority, and Responsibility:

The organization, authority, and responsibility for Radiation Safety and Quality Assurance exists as follows:

- a. Radiation Safety Committee
- b. Radiation Safety Officer
- c. Individual Radiographer

Radiation Safety Committee (RSC):

The Radiation Safety Committee shall (1) establish policy, regulations, and procedures, (2) review qualifications and training of individual radiographers, (3) review existing procedures and facilities, and (4) request license amendments, provide for training and inspect radiographic operations and facilities.

The Committee consists of the following persons:

- a. Vice President, Operations - Chairman
- b. Safety Officer - Member
- c. Street Department Supervisor - Member
- d. Radiation Safety Officer - Secretary
- e. Consulting Health Physicist - Advisor
- f. Alternates as necessary

## Radiation Safety Officer (RSO)

The RSO is responsible for carrying out the recommendations of the Radiation Safety Committee, serving as liaison officer with the NRC and state on license matters, procuring and disposing of licensed by-product material and administering the personnel monitoring program. He also insures that a training program is provided, leak testing and instrument calibrations performed, sources returned for replacement by the manufacturer, records properly kept and assistance provided in emergency or accident situations. He will conduct inspections of radiographic operations and file appropriate reports in accordance with the requirements of parts 19, 20, 21, 34, and license conditions. He shall also be responsible for administration of the Quality Assurance Program. He shall report directly to the Vice President of Operations regarding Quality Assurance matters.

## Radiographer - Radiography Supervisor:

The radiographer has overall responsibility for actual on the job operations. He shall coordinate with the RSO on all matters pertaining to safety, training, and procedures. He shall insure that all radiation detection and monitoring devices are operable, calibrated and maintained in accordance with applicable instructions and requirements of these procedures. The radiographer shall establish and maintain adequate storage facilities for the radiographic device. He shall maintain all operational logs and records. He shall also be responsible to see that only the individuals listed on the license and authorized by the Radiation Safety Committee use the radiographic source. He shall also be responsible for adhering to the Quality Assurance Program as described.

## Quality Assurance Program

The management of Lowell Gas through the Vice President of Operations and the Radiation Safety Committee establishes and implements this Quality Assurance Program. Training, prior to engagement, for all Quality Assurance functions is required according to written procedures. Quality Assurance Program revisions will be made according to written procedures and approved by the Radiation Safety Committee. The Quality Assurance Program will insure that all defined Q.C. procedures, engineering procedures, and specific provisions of the package design approval are satisfied. The program will emphasize control of the characteristics of the package which are critical to safety.

These written procedures shall be provided by the Quality Assurance Manager (in this case RSO) and kept on file for review and inspection.

The RSO shall assure that radioactive material shipping packages are designed and manufactured under a Quality Assurance Program approved by the NRC for all packages designed or fabricated after the effective date of the Quality Assurance Program. This shall be met by obtaining a certificate of compliance from the manufacturer.

Written procedures shall be developed and maintained for the following (Radiographer shall be issued these procedures and records kept):

1. Training of radiographers in operations and emergency procedures.
2. Training of radiographers for all Quality Assurance requirements; including, materials possession, use, shipping, audits, and record keeping.
3. Maintenance of records.
4. Conduct of audits.
5. Notification of authorities (communication with corporate management, as well as, NRC and State offices.
6. Procedures for maintaining document control.
7. Procedures for writing other procedures.
8. Others as required to maintain Quality Assurance.

### Document Control:

A Document Control File will be established for the maintenance of all records relating to radiographic operations and in particular Quality Assurance Procedures and materials receipt and use functions.

RSO shall insure that all Quality Assurance functions are conducted in accordance with applicable procedures and approved changes. This file shall be available for review by authorized audit personnel and NRC inspection.

#### Handling, Storage, and Shipping:

Prior to the purchase, handling, storage, and/or shipment of radioactive material, written safety procedures shall be followed. No receipt or shipment shall take place unless all tests, certificates of compliance, inspections, etc. have been completed. Instructions will be provided for handling, storage, and shipping operations. Only persons authorized to handle radioactive material under our license shall do so.

#### Inspection, Test, and Operating Status:

Procedures shall be followed for inspection, test, and operation of the licensed radiographic projectors supplied by Technical Operations and approved for use under our license. Appropriate tags and/or markings (labels), as well as, appropriate log entry shall be maintained and recorded in accordance with written procedures.

The RSO, as responsible agent, shall insure that radiography personnel perform inspections and tests in accordance with written procedures.

#### Quality Assurance Records:

Records of package approvals (with detail), procurement, inspection, tests, logs, audit results, training qualifications, and records of all shipments shall be maintained. Equipment description and storage locations shall be maintained, as well as, written procedures.

All appropriate records and procedures shall be maintained. Records shall be identifiable and retrievable from the files. Lists of same shall be maintained by the Radiation Safety Officer.

#### Audits:

Audits shall be carried out on a periodic basis at least once per year. Members of the audit team will have no direct responsibility for the activity being audited. Results will be recorded and reported to operations management, as well as, the Radiation Safety Committee. Written check lists will be maintained for operations and Quality Assurance Audits.

Findings shall be evaluated and deficiencies corrected. The results will be maintained on file.

Audits shall serve to evaluate the effectiveness of the Quality Assurance Program and recommend changes as necessary. Consultants and others not involved in the radiographic operations may be utilized to recommend changes that would improve the safety of operations. Management shall be notified of all such actions.

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