**Section 320.70 Additional Requirements for Operators of Class D Radiation Installations**

a) Each operator of a Class D radiation installation shall utilize the services of an individual, registered with the Agency pursuant to 32 Ill. Adm. Code 410, to implement and maintain a comprehensive radiation protection program. Activities related to diagnostic radiation producing machines shall be performed by a registered diagnostic imaging specialist (DIS). Activities related to therapeutic radiation machines shall be performed by a registered therapeutic radiological physicist (TRP). Each operator shall ensure that registered individuals:

1) Conduct an annual performance evaluation of all radiation machines and verify their inclusion in the radiation installation registration.

2) Determine and document in a report to the radiation installation that the radiation machines evaluated are being maintained and operated in accordance with standards established by the Agency to protect the public health as set forth in 32 Ill. Adm. Code: Chapter II, Subchapters b and d. Noncompliance items shall be readily identified in the report.

3) Establish and oversee the equipment-related quality assurance practices. Specifically, these quality assurance practices shall include as a minimum:

A) For therapeutic radiation machines, compliance with the quality assurance requirements specified in 32 Ill. Adm. Code 360.110(d) or 360.120(e).

B) For computed tomography machines, compliance with the quality assurance requirements specified in 32 Ill. Adm. Code 360.75.

C) For mammography machines, compliance with the quality assurance requirements specified in 32 Ill. Adm. Code 370.100.

4) Users of digital imaging acquisition systems shall follow a quality assurance/quality control protocol for image processing established by the manufacturer for each radiation machine. The program shall include the entire imaging chain from detector to the monitor used for interpretation and:

A) The operator of the radiation installation shall include the protocol in its operating and safety procedures. The procedures shall be in writing or electronically available for Agency review.

B) The operator of the radiation installation shall document the frequency at which the quality assurance/quality control protocol is performed. Documentation shall include the date and initials of the individual completing the document and shall be maintained at the site where performed for inspection by the Agency.

C) The protocol shall include, but not be limited to, the following:

i) Cleaning and erasure of all imaging plates used in computed radiography (CR);

ii) Quality control phantom analysis including, but not limited to, low contrast detectability, spatial resolution, and artifacts;

AGENCY NOTE: The phantom analysis can be done either by the facility or DIS. Frequency and pass/fail criteria should be based on recommendations of the manufacturer or as established by the DIS.

iii) Evaluation of repeat/reject x-ray examinations;

iv) Review of exposure index, deviation index, s-number, or dose index values from clinically acquired radiographic images.

b) Each operator of a Class D radiation installation shall maintain and have available for review by the Agency:

1) Accurate and thorough radiation machine evaluation reports.

2) Records of quality assurance testing performed.

3) Records of calibrations, maintenance or repair.

4) Records of corrective action taken for items of non-compliance.

5) Records of digital imaging quality control.

c) The records and reports required by this Section shall be maintained for a period of at least one inspection cycle.

(Source: Amended at 49 Ill. Reg. 406, effective December 27, 2024)