

10A NCAC 15 .0805 AREA REQUIREMENTS

(a) Each radiation area, as defined in Rule .1601(a)(3) of this Chapter, containing RGDs shall be:

- (1) conspicuously posted with caution signs, in accordance with the requirements of Rule .1601(a)(34) of this Chapter, bearing the words "CAUTION – RADIATION AREA", or words having a similar meaning; and
- (2) supervised continuously during operation of the RDG or shall utilize one or more of the following:
 - (A) door interlocks;
 - (B) entry monitors; or
 - (C) engineering controls.

(b) Access to each restricted area where an individual may receive a dose equivalent exceeding 100 mrem in any year, but does not exceed levels of a radiation area, shall be designated as a controlled area. The area shall be controlled by:

- (1) visibly separating adjacent uncontrolled areas so doses do not exceed the limits of Rule .1601(a)(15) of this Chapter; and
- (2) posting a sign bearing the words "Warning: X-rays in Use", or words having a similar meaning.

(c) The local components of RGDs shall be located and arranged to include sufficient shielding or access control to ensure no radiation levels exist in any area surrounding the local components that result in a dose to an individual in excess of the dose limits in Rule .1601(a)(15) of this Chapter.

(d) Surveys shall be performed for each RGD, as set forth in Rule .1601(a)(23) of this Chapter, to show compliance with Paragraph (c) of this Rule.

- (1) Radiation survey instruments shall be:
 - (A) capable of measuring the radiation energies of the RGD surveyed; and
 - (B) calibrated annually when a frequency is not recommended by the manufacturer.
- (2) Equipment surveys shall confirm radiation levels do not exceed the requirements of Rule .0806(c)(7); .0806(d)(3); and .0806(h)(2) of this Section. Surveys shall be performed:
 - (A) prior to initial use and include testing of warning and safety devices;
 - (B) prior to use following any change in the initial arrangement, including the number or type of local components in the system or x-ray tube source housing;
 - (C) prior to use following any maintenance requiring the disassembly or removal of a local component in the system or x-ray tube source housing that could affect the radiation exposure to personnel; and
 - (D) during the performance of calibration, maintenance, or any alignment procedure if the presence of a primary x-ray beam is required while any local component in the system is disassembled or removed.
- (3) A registrant may apply to the agency for approval of procedures differing from those in Subparagraph (d) of this Rule, provided that the registrant demonstrates satisfactory compliance with Paragraph (c) of this Rule.
- (4) Records shall be available for agency review during inspection.

(e) RGDs in Rule .0806(i) and .0807(2) of this Section, installed after the effective date of this Rule, shall ensure the following provisions are met:

- (1) A floor plan with equipment arrangement shall be submitted to the agency for review and acknowledgement prior to installation of the system. The floor plan shall include:
 - (A) the proposed location of the system;
 - (B) direction of the useful beam;
 - (C) adjacent areas; and
 - (D) location of the operator.
- (2) An area radiation survey shall be performed prior to initial use to show compliance with dose limits of the rules in Section .1600 of this Chapter. The survey shall include:
 - (A) a drawing of the room indicating the location of the x-ray tube and orientation of the useful beam;
 - (B) radiation levels at the operator location and adjacent areas;
 - (C) survey instrument used; and
 - (D) name of the service provider that is registered, in accordance with Rule .0205 of this Chapter, and date the survey was performed.
- (3) Modifications to the room, RGD, or adjacent areas that may increase the radiation dose to any individual shall require a new survey.

- (4) Records of the floor plan with equipment arrangement and survey shall be available for review by an authorized representative of the Radiation Protection Section during inspection.

*History Note: Authority G.S. 104E-7; 104E-12;
Eff. February 1, 1980;
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