

## Corpening, Taylor

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**From:** Barrett, Matt <Matthew.Barrett@unc.edu>  
**Sent:** Tuesday, May 28, 2024 1:45 PM  
**To:** Rulescoordinator, Dhsr  
**Subject:** [External] My edits for the .800 rules

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To whom it may concern,

I looked over the proposed .0800 rules and below are my comments on changes.

### 10A NCAC 15 .0801(b)

6 (b) This Section does not pertain to radiation safety requirements for ~~x-ray equipment that is covered in other sections~~  
7 industrial radiographic machines for non-human use that are covered in Section .0500 of this Chapter Chapter, (e.g.,  
8 x-rays in the healing arts in Section .0600 of this Chapter, and particle accelerators in Section .0900 of this Chapter).  
9 Chapter.

(comment)

Presently in section .100 definitions, .500 definitions, .600 definitions, and .800 definitions, there are no definitions of industrial radiographic machines, or healing arts. If in .801(b) you are defining what is included in this scope, then I would prefer if the definitions for what is in the scope of the .800 rules is contained in .802 or in .104.

### 10A NCAC 15 .0803(b)

1 No individual shall be permitted to operate or maintain RGDs unless the individual has received instruction in the  
2 basic principles of radiation protection, training ~~provided by the manufacturer~~ for the specific RGD in use, and  
3 instruction in the operating and emergency procedures. Instruction and training shall include:

(comment)

The number of research machine all across NC is enormous. By a strict reading of .803b cabinet x-ray machines would require the manufacturer to come back for as long as those machines are in use and train the operators. I cannot see users of cabinet x-ray machines figuring out who the vendor was and getting training back with those manufacturers.

### 10A NCAC 15.0803(e)

1 (e) Each registrant shall provide ~~must review 10 CFR 20.1502 to determine if~~ ring or wrist individual monitoring devices ~~are~~  
2 required ~~to when individuals are:~~  
3 (1) operating open-beam RGDs; and  
3 (2) performing maintenance on an RDG, if the maintenance procedures require the presence of a  
primary x-ray beam when any local component in the RGD is disassembled or removed.

### 10A NCAC 15 .0805(a)(2)

3 (2) supervised continuously during operation ~~of the RGD~~ or shall utilize one or more of the following:

- 4 (A) door interlocks;
- 5 (B) entry monitors; or
- 6 (C) engineering controls.

10A NCAC 15.0805(d)

- 1 (d) Surveys shall be performed for each RGD, as set forth in Rule .1601(a)(~~50~~(23) of this Chapter, to show compliance
- 2 with Paragraph (c) of this Rule.

10A NCAC 15.0805(d)(2)

- 3 (2) Equipment surveys shall confirm radiation levels do not exceed the requirements of Rule
- 4 .0806(c)(7); .0806(d)(3); and .0806(h)(2) of this Section. Surveys shall be performed:

10A NCAC 15.0806(g)

- 1 ~~(3) The power switch shall have the power logo: I/O.~~
- (Not all XRFs have the power switch of I/O. Don't see use of making it so specific. Especially when h(3) already defines that it needs to indicate when the device is on.)

10A NCAC 15.0806(h)

- 1 (4) Each indicating system for automatic beam controls shall consist of at least one "ON" indicating
- 2 signal, and one "OFF" indicating signal. ~~If lights are used, green indicates the "OFF" and red~~
- 3 ~~indicates any other condition of the useful beam control.~~
- 4 (5) Indicators for RGDs high voltage control ~~shall be a yellow or amber warning light with the words~~
- 5 ~~"HIGH VOLTAGE ON" and~~ shall be located on the control panel and near the x-ray tube source
- 6 housing. The warning light shall illuminate only when power is applied to the RGD.

10A NCAC 15.0806(i)

- 1 (4) The ~~"X-ray On" Beam-on~~ indicator control shall be:
- 2 ~~(A) yellow or amber in color;~~
- 3 ~~(B)(A) of a fail-safe design; and~~
- 4 ~~(C)(B) have two indicators viewable from the control panel indicating when x-rays are being~~
- 5 produced in a period of greater than 0.5 seconds.
- 6 ~~(5) The "X-ray Off" indicators shall be:~~
- 7 ~~(A) red in color; and~~
- 8 ~~(B) permanently marked.~~

(Comment)

Since we don't control the manufacturers, we have no idea what color they make something. So unless those specifics are in the federal rules why define the color? I just want to know it is visible and it is there.

Matt

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