

1 10A NCAC 15 .0521 is proposed for amendment as follows:

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3 **10A NCAC 15 .0521 PERFORMANCE REQUIREMENTS FOR RADIOGRAPHY EQUIPMENT**

4 (a) Equipment used in industrial radiographic operations shall meet the performance requirements of 10 CFR 34.20.

5 (b) Notwithstanding Rule .0117 of this Chapter, the regulations cited in this Rule from 10 CFR Chapter I (2015) are  
6 hereby incorporated by reference, excluding subsequent amendments and editions. Copies of these regulations are  
7 available free of charge at [http://www.ecfr.gov/cgi-bin/text-](http://www.ecfr.gov/cgi-bin/text-idx?SID=2beece594411a03e50b2468ae31f89b&pid=20160101&tpl=/ecfrbrowse/Title10/10tab_02.tpl)  
8 [idx?SID=2beece594411a03e50b2468ae31f89b&pid=20160101&tpl=/ecfrbrowse/Title10/10tab\\_02.tpl](http://www.ecfr.gov/cgi-bin/text-idx?SID=2beece594411a03e50b2468ae31f89b&pid=20160101&tpl=/ecfrbrowse/Title10/10tab_02.tpl).

9 ~~Equipment used in industrial radiographic operations shall meet the following minimum criteria:~~

10 ~~(1) — Each radiographic exposure device, source assembly or sealed source, and all associated equipment~~  
11 ~~shall meet the requirements specified in American National Standard N432-1980 "Radiological~~  
12 ~~Safety for the Design and Construction of Apparatus for Gamma Radiography". This publication~~  
13 ~~is incorporated by reference in Rule .0117 of this Chapter.~~

14 ~~(2) — Engineering analysis may be submitted to the agency to demonstrate the applicability of previously~~  
15 ~~performed testing on similar individual radiography equipment components. Upon review by the~~  
16 ~~agency, this may be an acceptable alternative to actual testing of the component pursuant to the~~  
17 ~~above referenced standard.~~

18 ~~(3) — In addition to the requirements specified in Item (1) of this Rule, the following requirements apply~~  
19 ~~to radiographic exposure devices, source changers, source assemblies, and sealed sources:~~

20 ~~(a) — Each radiographic exposure device shall have attached to it by the user a durable, legible,~~  
21 ~~clearly visible label bearing the following:~~

22 ~~(i) — Chemical symbol and mass number of the radionuclide in the device;~~

23 ~~(ii) — Activity and the date on which this activity was last measured;~~

24 ~~(iii) — Model number (or product code) and serial number of the sealed source;~~

25 ~~(iv) — Manufacturer's identity of the sealed source; and~~

26 ~~(v) — Licensee's name, address, and telephone number.~~

27 ~~(b) — Radiographic exposure devices intended for use as Type B transport containers shall meet~~  
28 ~~the applicable requirements of 10 CFR Part 71.~~

29 ~~(c) — Modification of radiographic exposure devices, source changers and source assemblies and~~  
30 ~~associated equipment is prohibited, unless the design of any replacement component,~~  
31 ~~including sealed source holder, source assembly, controls or guide tubes would not~~  
32 ~~compromise the design safety features of the system.~~

33 ~~(4) — In addition to the requirements specified in Items (1) and (3) of this Rule, the following requirements~~  
34 ~~apply to radiographic exposure devices, source assemblies, and associated equipment that allow the~~  
35 ~~sealed source to be moved out of the device for radiographic operations or to source changers.~~

36 ~~(a) — The coupling between the source assembly and the control cable shall be designed in such~~  
37 ~~a manner that the source assembly will not become disconnected if cranked outside the~~

1                    ~~guide tube. The coupling shall be such that it cannot be unintentionally disconnected under~~  
2                    ~~normal and reasonably foreseeable abnormal conditions.~~

3                    ~~(b) — The device shall automatically secure the source assembly when it is cranked back into the~~  
4                    ~~fully shielded position within the device. This securing system shall be designed to only~~  
5                    ~~allow release of the sealed source by means of a deliberate operation on the exposure~~  
6                    ~~device.~~

7                    ~~(c) — The outlet fittings, lock box, and drive cable fittings on each radiographic exposure device~~  
8                    ~~shall be equipped with safety plugs or covers which shall be installed during storage and~~  
9                    ~~transportation to protect the source assembly from water, mud, sand or other foreign matter.~~

10                   ~~(d) — Each sealed source or source assembly shall have attached to it or engraved in it, a durable,~~  
11                   ~~legible, visible label with the words: "DANGER RADIOACTIVE." The label shall not~~  
12                   ~~interfere with the safe operation of the exposure device or associated equipment.~~

13                   ~~(e) — The guide tube must be able to withstand a crushing test that closely approximates the~~  
14                   ~~crushing forces that are likely to be encountered during use, and be able to withstand a~~  
15                   ~~kinking resistance test that closely approximates the kinking forces that are likely to be~~  
16                   ~~encountered during use.~~

17                   ~~(f) — Guide tubes shall be used when moving the sealed source out of the device.~~

18                   ~~(g) — An exposure head or similar device designed to prevent the source assembly from passing~~  
19                   ~~out of the end of the guide tube shall be attached to the outermost end of the guide tube~~  
20                   ~~during radiographic operations.~~

21                   ~~(h) — The guide tube exposure head connection shall be able to withstand the tensile test for~~  
22                   ~~control units specified in ANSI N432.~~

23                   ~~(i) — Source changers shall provide a system for assuring that the sealed source will not be~~  
24                   ~~accidentally withdrawn from the changer when connecting or disconnecting the drive cable~~  
25                   ~~to or from a source assembly.~~

26                   ~~(5) — All associated equipment acquired after January 10, 1996 shall be labeled to identify that the~~  
27                   ~~components have met the requirements of this Rule.~~

29                   *History Note:     Filed as a Temporary Adoption Eff. August 20, 1994, for a period of 180 days or until the permanent*  
30                   *rule becomes effective, whichever is sooner;*

31                   *Authority G.S. 104E-7;*

32                   *Filed as a Temporary Adoption Eff. August 20, 1994, for a period of 180 days or until the permanent*  
33                   *rule becomes effective, whichever is sooner;*

34                   *Eff. May 1, 1995;*

35                   *Amended Eff. April 1, 1999;*

36                   *Transferred and Recodified from 15A NCAC 11 .0521 Eff. February 1, 2015; 2015;*

37                   *Amended Eff. March 1, 2017.*