

1 10A NCAC 15 .1904 is proposed for adoption as follows:

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3 **10A NCAC 15 .1904 GENERAL TECHNICAL REQUIREMENTS FOR FACILITIES USING**
4 **THERAPEUTIC RADIATION MACHINES**

5 (a) Protection Surveys:

6 (1) The licensee shall ensure that radiation shielding surveys of all new facilities, and existing facilities
7 not previously surveyed are performed with an operable radiation measurement survey instrument
8 calibrated in accordance with Rule .1908 of this Chapter. The radiation protection survey shall be
9 performed by, or under the direction of, an Authorized Medical Physicist or a qualified expert and
10 shall verify that, with the therapeutic radiation machine in a "BEAM-ON" condition:

11 (A) Radiation levels in restricted areas are not likely to cause personnel exposures more than
12 the limits specified in Rule .1601(a)(8) of this Chapter; and

13 (B) Radiation levels in unrestricted areas do not exceed the limits specified in Rule
14 .1601(a)(15) of this Chapter.

15 (2) In addition to the requirements of Subparagraph (a)(1) of this Rule, a radiation protection survey
16 shall also be performed:

17 (A) After making any change in the treatment room shielding;

18 (B) After making any change in the location of the therapeutic radiation machine within the
19 treatment room;

20 (C) After relocating the therapeutic radiation machine;

21 (D) After changes in occupancy of surrounding areas; or

22 (E) Before using the therapeutic radiation machine in a manner that could result in increased
23 radiation levels in areas outside the external beam radiation therapy treatment room.

24 (3) The survey record shall include: the date of the measurements; the reason the survey is required; the
25 manufacturer's name; model number and serial number of the therapeutic radiation machine; the
26 instrument(s) used to measure radiation levels; a plan of the areas surrounding the treatment room
27 that were surveyed; the measured dose rate at several points in each area expressed in microsieverts
28 or millirems per hour; the calculated maximum level of radiation over a period of one (1) week for
29 each restricted and unrestricted area; and the signature of the individual responsible for conducting
30 the survey;

31 (4) If the results of the surveys required by this Paragraph indicate any radiation levels in excess of the
32 limits specified in Parts (A) or (B) of Subparagraph(a)(1), the licensee shall disable the machine
33 from use, label clearly, and not use the unit:

34 (A) Except as may be necessary to repair, replace, or test the therapeutic radiation machine, the
35 therapeutic radiation machine shielding, or the treatment room shielding; or

36 (B) Until the licensee has received a specific exemption from the Agency.

1 (b) Modification of Radiation Therapy Unit or Room Before Beginning a Treatment Program. If the survey required
2 by Subparagraph (a) of this rule indicates that an individual in an unrestricted area may be exposed to levels of
3 radiation greater than those permitted by Rule .1601(a)(15) of this Chapter, before beginning the treatment program
4 the licensee shall:

5 (1) Either equip the unit with beam direction interlocks or add additional radiation shielding to ensure
6 compliance with Paragraph Rule .1601(a)(15) of this Chapter;

7 (2) Perform the survey required by Subparagraph (a)(1) of this Rule again; and

8 (3) Include in the report required by Subparagraph (d) of this Rule the results of the initial survey, a
9 description of the modification made to comply with Subparagraph (b)(1) of this Paragraph, and the
10 results of the second survey; or

11 (4) Request and receive a license amendment under authorizing radiation levels in unrestricted areas
12 greater than those permitted by Paragraph Rule .1601(a)(15) of this Chapter.

13 (c) Radiation Measuring Equipment. The licensee shall have, when required, appropriate and operable radiation
14 measuring equipment available for use and calibrated in accordance with Rule .0927. Radiation measuring equipment
15 includes, but is not limited to, dosimetry systems, survey instruments, and other radiation measuring devices used in
16 planning, guiding, and administering radiation.

17 (d) Reports of External Beam Radiation Therapy Surveys and Measurements. The licensee for any therapeutic
18 radiation machine subject to Rules within this subpart shall furnish a copy of the records required in Subparagraphs
19 (a) and (b) of this rule to the Agency within thirty (30) days following completion of the action that initiated the record
20 requirement.

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22 History Note: Authority G.S. 104E-7;

23 Eff. October 1, 2025.