

**Full calibration measurements on teletherapy units.**

- (A) A licensee authorized to use a teletherapy unit for medical use shall perform full calibration measurements on each teletherapy unit:
- (1) Before the first medical use of the unit;
  - (2) Before medical use under the following conditions:
    - (a) Whenever spot-check measurements, as described in rule 3701:1-58-64 of the Administrative Code, indicate that the output differs by more than five per cent from the output obtained at the last full calibration corrected mathematically for radioactive decay;
    - (b) Following replacement of the source or following reinstallation of the teletherapy unit in a new location;
    - (c) Following any repair of the teletherapy unit that includes removal of the source or major repair of the components associated with the source exposure assembly; and
  - (3) At intervals not exceeding one year.
- (B) To satisfy the requirement of paragraph (A) of this rule, full calibration measurements must include determination of:
- (1) The output within plus or minus three per cent for the range of field sizes and for the distance or range of distances used for medical use;
  - (2) The coincidence of the radiation field and the field indicated by the light beam localizing device;
  - (3) The uniformity of the radiation field and its dependence on the orientation of the useful beam;
  - (4) Timer accuracy and linearity over the range of use;
  - (5) On-off error; and
  - (6) The accuracy of all distance measuring and localization devices in medical use.
- (C) A licensee shall use the dosimetry system described in paragraph (A) of rule 3701:1-58-60 of the Administrative Code to measure the output for one set of exposure conditions. The remaining radiation measurements required in paragraph (B)(1) of this rule may be made using a dosimetry system that indicates relative dose rates.
- (D) A licensee shall make full calibration measurements required by paragraph (A) of this rule in accordance with published protocols accepted by nationally recognized bodies.

- (E) A licensee shall mathematically correct the outputs determined in paragraph (B)(1) of this rule for radioactive decay for intervals not exceeding one month for cobalt-60, six months for cesium-137, or at intervals consistent with one per cent decay for all other nuclides.
- (F) Full calibration measurements required by paragraph (A) of this rule and radioactive decay corrections required by paragraph (E) of this rule must be performed by the authorized medical physicist.
- (G) A licensee shall retain a record of each calibration in accordance with rule 3701:1-58-94 of the Administrative Code.

Five Year Review (FYR) Dates: 06/12/2015 and 06/01/2020

CERTIFIED ELECTRONICALLY

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Certification

06/12/2015

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Date

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