



Ohio Administrative Code

Rule 3701:1-58-61 Full calibration measurements on teletherapy units.

Effective: October 4, 2010

(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.