



Ohio Administrative Code

Rule 3701:1-58-62 Full calibration measurements on remote afterloader units.

Effective: October 4, 2010

(A) A licensee authorized to use a remote afterloader unit for medical use shall perform full calibration measurements on each unit:

(1) Before the first medical use of the unit;

(2) Before medical use under the following conditions:

(a) Following replacement of the source or following reinstallation of the unit in a new location outside the facility; and

(b) Following any repair of the unit that includes removal of the source or major repair of the components associated with the source exposure assembly;

(3) At intervals not exceeding one quarter for high dose-rate, medium dose-rate, and pulsed dose-rate remote afterloader units with sources whose half-life exceeds seventy-five days; and

(4) At intervals not exceeding one year for low dose-rate remote afterloader units.

(B) To satisfy the requirement of paragraph (A) of this rule, full calibration measurements must include, as applicable, determination of:

(1) The output within five per cent;

(2) Source positioning accuracy to within one millimeter;

(3) Source retraction with backup battery upon power failure;

(4) Length of the source transfer tubes;



- (5) Timer accuracy and linearity over the typical range of use;
- (6) Length of the applicators; and
- (7) Function of the source transfer tubes, applicators, and transfer tube-applicator interfaces.
- (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.
- (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) In addition to the requirements for full calibrations for low dose-rate remote afterloader units in paragraph (B) of this rule, a licensee shall perform an autoradiograph of the source(s) to verify inventory and source(s) arrangement at intervals not exceeding one quarter.
- (F) For low dose-rate remote afterloader units, a licensee may use measurements provided by the source manufacturer that are made in accordance with paragraphs (A) to (E) of this rule.
- (G) A licensee shall mathematically correct the outputs determined in paragraph (B)(1) of this rule for radioactive decay at intervals consistent with one per cent radioactive decay.
- (H) Full calibration measurements required by paragraph (A) of this rule and radioactive decay corrections required by paragraph (G) of this rule must be performed by the authorized medical physicist.
- (I) A licensee shall retain a record of each calibration in accordance with rule 3701:1-58-94 of the Administrative Code.