# Ohio Administrative Code

## Rule 3701:1-67-07 Calibration of survey instruments.

Effective: June 1, 2013

(A) The handler shall ensure each facility location authorized to use therapy equipment shall have available appropriately calibrated portable survey equipment, which is capable of measuring doses over the range ten microsievert (one mrem) per hour to ten millisievert (one thousand mrem) per hour. The survey instrument(s) shall be operable and calibrated in accordance with rule 3701:1-67-07 of the Administrative Code.

(B) The handler shall ensure that the survey instruments used to show compliance with Chapter 3701:1-67 of the Administrative Code have been calibrated before first use, at intervals not to exceed twelve months, and following repair.

(C) To satisfy the requirements of paragraph (B) of this rule, the handler shall ensure that the survey instruments are:

(1) Calibrated on all required scale readings up to ten millisieverts (one thousand millirem) per hour with an appropriate radiation source that is traceable to the "National Institute of Standards and Technology" (NIST); and

(2) Calibrated on at least two points on each scale to be calibrated. These points should be at approximately one-third and two-thirds of full-scale.

(D) To satisfy the requirements of paragraph (C) of this rule, the handler shall:

(1) Consider a point as calibrated if the indicated dose rate differs from the calculated dose rate by not more than ten per cent; and

(2) Consider a point as calibrated if the indicated dose rate differs from the calculated dose rate by not more than twenty per cent if a correction factor or graph is conspicuously attached to the instrument.

(E) The handler may obtain the services of individuals licensed by the department, the United States nuclear regulatory commission, or agreement state to perform calibrations of survey instruments.

(F) The handler shall retain a record of each calibration for three years. The record shall include:

(1) A description of the calibration procedure; and

(2) A description of the source used and the certified dose rates from the source, and the rates indicated by the instrument being calibrated, the correction factors deduced from the calibration data, the name and signature of the individual who performed the calibration, and the date of calibration.

(G) The handler shall have a calibrated primary dosimetry system available for use. The system shall have been calibrated by the "National Institute for Standards and Technology" (NIST) or by an "American Association of Physicists in Medicine" (AAPM) "Accredited Dosimetry Calibration Laboratory" (ADCL). The calibration shall have been performed within the previous twenty-four months and after any servicing that may have affected system calibration.

(1) For beams with energies greater than one MV (one MeV), the dosimetry system shall have been calibrated for cobalt-60; or

(2) For beams with energies equal to or less than one MV (one MeV), the dosimetry system shall have been calibrated at an energy or energy range appropriate for the radiation being measured.

(H) The handler may have a secondary dosimetry system for quality assurance check measurements available for use. The system may either be calibrated according to the requirements of paragraph (G) of this rule or compared with a system that has been calibrated in accordance with paragraph (G) of this rule. If compared, the comparison shall have been performed within the previous twelve months and after each servicing that may have affected system calibration. The quality assurance check system may be the same system used to meet the requirement in paragraph (G) of this rule.

(I) The handler shall maintain a record of each dosimetry system calibration or comparison required by paragraph (G) and paragraph (H) of this rule for the duration of the registration. For each

calibration or comparison, the record shall include:

(1) The date;

(2) The manufacturers' names, model numbers, and serial numbers of the instruments that were calibrated or compared;

(3) The correction factors that were determined;

(4) The names of the individuals who performed the calibration or comparison; and

(5) Evidence that any comparison was performed by, or under the direct supervision and in the physical presence of, a qualified medical physicist.