Ohio Administrative Code

Rule 3701:1-56-06 Specific licenses for the manufacture or initial transfer of calibration or reference sources.

Effective: September 1, 2012

(A) An application for a specific license to manufacture or initially transfer calibration or reference sources containing plutonium, for distribution to persons generally licensed under rule 3701:1-56-02 of the Administrative Code, will be approved if:

(1) The applicant satisfies the general requirements of the license application requirements of Chapters 3701:1-40 and 3701:1-46 of the Administrative Code, and rule 3701:1-38-02 of the Administrative Code.

(2) The applicant submits sufficient information regarding each type of calibration or reference source pertinent to evaluation of the potential radiation exposure, including:

(a) Chemical and physical form and maximum quantity of plutonium in the source;

(b) Details of construction and design;

(c) Details of the method of incorporation and binding of the plutonium in the source;

(d) Procedures for and results of prototype testing of sources, which are designed to contain more than one hundred eighty-five becquerels (0.005 microcurie) of plutonium, to demonstrate that the plutonium contained in each source will not be released or be removed from the source under normal conditions of use;

(e) Details of quality control procedures to be followed in manufacture of the source;

(f) Description of labeling to be affixed to the source or the storage container for the source; and

(g) Any additional information, including experimental studies and tests, required by the director to facilitate a determination of the safety of the source.

(3) Each source will contain no more than one hundred eighty-five kilobecquerels (five microcuries) of plutonium.

(4) The director determines, with respect to any type of source containing more than one hundred eighty-five becquerels (0.005 microcurie) of plutonium, that:

(a) The method of incorporation and binding of the plutonium in the source is such that the plutonium will not be released or be removed from the source under normal conditions of use and handling of the source; and

(b) The source has been subjected to and has satisfactorily passed the prototype tests prescribed by paragraph (A)(5) of this rule.

(5) For any type of source which is designed to contain more than one hundred eighty-five becquerels (0.005 microcurie) of plutonium, the applicant has conducted prototype tests, in the order listed, on each of five prototypes of such source, which contains more than one hundred eighty-five becquerels (0.005 microcurie) of plutonium, as follows:

(a) The quantity of radioactive material deposited on the source shall be measured by direct counting of the source.

(b) The entire radioactive surface of the source shall be wiped with filter paper with the application of moderate finger pressure. Removal of radioactive material from the source shall be determined by measuring the radioactivity on the filter paper or by direct measurement of the radioactivity on the source following the dry wipe.

(c) The entire radioactive surface of the source shall be wiped with filter paper, moistened with water, with the application of moderate finger pressure. Removal of radioactive material from the source shall be determined by measuring the radioactivity on the filter paper after it has dried or by direct measurement of the radioactivity on the source following the wet wipe.

(d) The source shall be immersed in water at room temperature for a period of twenty four

consecutive hours. The source shall then be removed from the water. Removal of radioactive material from the source shall be determined by direct measurement of the radioactivity on the source after it has dried or by measuring the radioactivity in the residue obtained by evaporation of the water in which the source was immersed.

(e) On completion of the preceding tests in paragraphs (A)(5)(a) to (A)(5)(d) of this rule, the dry wipe test described in paragraph (A)(5)(b) of this rule shall be repeated.

(f) Removal of more than one hundred eighty-five becquerels (0.005 microcurie) of radioactivity in any test prescribed by this paragraph shall be cause for rejection of the source design. Results of prototype tests submitted to the director shall be given in terms of radioactivity in microcuries and percent of removal from the total amount of radioactive material deposited on the source.

(B) Each person licensed under this rule shall affix to each source, or storage container for the source, a label which shall contain sufficient information relative to safe use and storage of the source and shall include the following statement or a substantially similar statement which contains the information called for in the following statement:

(1) The receipt, possession, use and transfer of this source, model ____, serial no. ____, are subject to a general license and the regulations of the United States nuclear regulatory commission or of a state with which the commission has entered into an agreement for the exercise of regulatory authority. Do not remove this label.

Caution - radioactive material - this source contains plutonium. Do not touch radioactive portion of this source.

(Name of manufacturer or initial transferor)

(2) Sources generally licensed under this rule prior to January 19, 1975 may bear labels authorized by the United States nuclear regulatory commission regulations in effect on January 1, 1975.

(C) Each person licensed under this rule shall perform a dry wipe test upon each source containing more than 3.7 kilobecquerels (0.1 microcurie) of plutonium prior to transferring the source to a

general licensee under rule 3701:1-56-02 of the Administrative Code. This test shall be performed by wiping the entire radioactive surface of the source with a filter paper with the application of moderate finger pressure. The radioactivity on the paper shall be measured by using radiation detection instrumentation capable of detecting one hundred eighty-five becquerels (0.005 microcurie) of plutonium. If any such test discloses more than one hundred eighty-five becquerels (0.005 microcurie) of radioactive material, the source shall be deemed to be leaking or losing plutonium and shall not be transferred to a general licensee.