

4731.0605 SPECIFIC LICENSE; MANUFACTURE OR INITIAL TRANSFER OF CALIBRATION OR REFERENCE SOURCES.

Subpart 1. **Manufacture or initial transfer of certain calibration sources.** An application for a specific license to manufacture or initially transfer calibration and reference sources containing plutonium for distribution to persons generally licensed under part 4731.0555 shall be approved if:

- A. the applicant satisfies the general requirements of part 4731.0575;
- B. the applicant submits sufficient information regarding each type of calibration or reference source pertinent to evaluation of the potential radiation exposure, including:
 - (1) chemical and physical form and maximum quantity of plutonium in the source;
 - (2) details of construction and design;
 - (3) details of the method of incorporation and binding of the plutonium in the source;
 - (4) procedures for and results of prototype testing of sources that are designed to contain more than 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;
 - (5) details of quality control procedures to be followed in manufacture of the source;
 - (6) a description of labeling to be affixed to the source or the storage container for the source; and
 - (7) any additional information, including experimental studies and tests, required by the commissioner to facilitate a determination of the safety of the source;
- C. each source contains no more than five microcuries of plutonium;
- D. the commissioner determines, with respect to any type of source containing more than 0.005 microcurie of plutonium that:
 - (1) 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
 - (2) the source has been subjected to and has satisfactorily passed the prototype tests prescribed by item E; and
- E. for any type of source that is designed to contain more than 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 0.005 microcurie of plutonium, as follows:

(1) an initial measurement. The quantity of radioactive material deposited on the source must be measured by direct counting of the source;

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

(3) a wet wipe test. The entire radioactive surface of the source must be wiped with filter paper, moistened with water, with the application of moderate finger pressure. Removal of radioactive material from the source must 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;

(4) a water soak test. The source must be immersed in water at room temperature for a period of 24 consecutive hours. The source must then be removed from the water. Removal of radioactive material from the source must 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;

(5) a dry wipe test. On completion of the preceding tests under subitems (1) to (4), the dry wipe test described in subitem (2) must be repeated; and

(6) observations. Removal of more than 0.005 microcurie of radioactivity in any test prescribed by this item is cause for rejection of the source design. Results of prototype tests submitted to the commissioner must be given in terms of radioactivity in microcuries and percent of removal from the total amount of radioactive material deposited on the source.

Subp. 2. **Labeling.** A person licensed under this part must affix to each source or storage container for the source a label that:

A. contains sufficient information relative to safe use and storage of the source; and

B. includes the following statement or a substantially similar statement containing the information called for:

"The receipt, possession, use, and transfer of this source, Model ..., Serial No. ..., are subject to a general license and the regulations of the Minnesota Department of Health, the Nuclear Regulatory Commission, or a state with which the Nuclear Regulatory

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)".

Subp. 3. **Test before transfer.** A person licensed under this part must perform a dry wipe test upon each source containing more than 0.1 microcurie of plutonium before transferring the source to a general licensee under part 4731.0555. The test must 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 must be measured by using radiation detection instrumentation capable of detecting 0.005 microcurie of plutonium. If the test discloses more than 0.005 microcurie of radioactive material, the source is deemed to be leaking or losing plutonium and must not be transferred to a general licensee under part 4731.0555.

Statutory Authority: *MS s 144.1202; 144.1203*

History: *29 SR 755*

Published Electronically: *March 12, 2009*