**Section 335.9050 Training for Use of Unsealed Radioactive Material for Which a Written Directive is Required**

Except as provided in Sections 335.9060, 335.9070, 335.9080 and 335.9160, a licensee shall require the authorized user of unsealed radioactive material for the uses authorized under Section 335.5010 to be a physician who:

a) Is certified by a medical specialty board whose certification process has been recognized by the Agency, the U.S. Nuclear Regulatory Commission or an Agreement State and who meets the requirements in subsection (b)(2)(F). To be recognized, a specialty board shall require all candidates for certification to meet the following requirements:

1) Successfully complete residency training in a radiation therapy or nuclear medicine training program or a program in a related medical specialty that includes 700 hours of training and experience as described in subsection (b)(1) through (b)(2)(E). Eligible training programs shall be approved by the Residency Review Committee of the Accreditation Council for Graduate Medical Education, the Royal College of Physicians and Surgeons of Canada, or the Council on Postdoctoral Training of the American Osteopathic Association;

2) Pass an examination administered by diplomates of the specialty board that evaluates knowledge and competence in radiation safety, radionuclide handling, quality assurance and clinical use of unsealed radioactive materials; or

AGENCY NOTE: Specialty boards whose certification processes have been recognized by the Agency, the U.S. Nuclear Regulatory Commission or an Agreement State will be posted on the NRC's website.

b) Has successfully completed 700 hours of training and experience, including a minimum of 200 hours of classroom and laboratory training, in basic radionuclide handling techniques applicable to the medical use of unsealed radioactive material requiring a written directive. The training and experience shall include:

1) Classroom and laboratory training in the following areas:

A) Radiation physics and instrumentation;

B) Radiation protection;

C) Mathematics pertaining to the use and measurement of radioactivity;

D) Chemistry of radioactive material for medical use;

E) Radiation biology; and

2) Work experience under the supervision of an authorized user who meets the requirements in this Section, Section 335.9160 or equivalent U.S. Nuclear Regulatory Commission or Agreement State requirements. A supervising authorized user who meets the requirements in subsection (b) shall have experience in administering dosages in the same dosage category or categories (i.e., subsection (b)(2)(F)) as the individual requesting authorized user status. The work experience shall involve:

A) Ordering, receiving and unpacking radioactive materials safely, and performing the related radiation monitoring;

B) Performing quality control procedures on instruments used to determine the activity of dosages, and performing checks for proper operation of survey instruments;

C) Calculating, measuring and safely preparing patient or human research subject dosages;

D) Using administrative controls to prevent a medical event involving the use of unsealed radioactive material;

E) Using procedures to contain spilled radioactive material safely and using proper decontamination procedures;

F) Administering dosages of radioactive drugs to patients or human research subjects involving a minimum of three cases in each of the following categories for which the individual is requesting authorized user status:

i) Oral administration of less than or equal to 1.22 GBq (33 mCi) of sodium iodide I-131 for which a written directive is required;

ii) Oral administration of greater than 1.22 GBq (33 mCi) of sodium iodide I-131;

AGENCY NOTE: Experience with at least 3 cases described in subsection (b)(2)(F)(ii) satisfies the requirement in subsection (b)(2)(F)(i).

iii) Parenteral administration of any radioactive drug that contains a radionuclide that is primarily used for its electron emission, beta radiation characteristics, alpha radiation characteristics, or photon energy of less than 150 keV, for which a written directive is required; and

3) Written attestation that the individual has satisfactorily completed the requirements in subsections (b)(1) and (b)(2) and is able to independently fulfill the radiation safety-related duties as an authorized user for the medical uses authorized under Section 335.5010 for which the individual is requesting authorized user status. The attestation shall be signed by either:

A) A preceptor authorized user who meets the requirements in this Section, Section 335.9160, or equivalent U.S. Nuclear Regulatory Commission or Agreement State requirements and has experience in administering dosages in the same dosage category or categories as the individual requesting authorized user status; or

B) A residency program director who affirms in writing that the attestation represents the consensus of the residency program faculty where at least one faculty member is an authorized user who meets the requirements in this Section, Section 335.9160 or equivalent U.S. Nuclear Regulatory Commission or Agreement State requirements, has experience in administering dosages in the same dosage category or categories as the individual requesting authorized user status, and concurs with the attestation provided by the residency program director. The residency training program shall be approved by the Residency Review Committee of the Accreditation Council for Graduate Medical Education, the Royal College of Physicians and Surgeons of Canada, or the Council on Postdoctoral Training of the American Osteopathic Association and shall include training and experience specified in subsections (b)(1) and (b)(2).

(Source: Amended at 46 Ill. Reg. 966, effective December 21, 2021)