**Section 346.510 Training**

a) Before personnel are permitted to operate an irradiator without a supervisor present, they shall be instructed in:

1) The fundamentals of radiation protection applied to irradiators (including the differences between external radiation and radioactive contamination; units of radiation dose; IEMA, Division of Nuclear Safety, dose limits; why large radiation doses shall be avoided; how shielding and access controls prevent large doses; how an irradiator is designed to prevent contamination; the proper use of survey meters and personnel dosimeters; other radiation safety features of an irradiator; and the basic function of the irradiator);

2) The requirements of this Part and 32 Ill. Adm. Code 340 and 400 that are relevant to the irradiator;

3) The operation of the irradiator;

4) Those operating and emergency procedures listed in Section 346.530 that the person is responsible for performing;

5) Case histories of accidents or problems involving irradiators.

b) Before personnel are permitted to operate an irradiator without a supervisor present, they shall pass a written test on the instruction received consisting primarily of questions based on the licensee's operating and emergency procedures that the person is responsible for performing and other operations necessary to safely operate the irradiator without supervision.

c) Before personnel are permitted to operate an irradiator without a supervisor present, they shall have received on-the-job training or simulator training in the use of the irradiator as described in the license application, and shall also demonstrate the ability to perform those portions of the operating and emergency procedures that they are to perform.

d) The licensee shall conduct safety reviews for irradiator operators at least annually. The licensee shall give each operator a brief written test on the information. Each safety review shall include, to the extent appropriate, each of the following:

1) Changes in operating and emergency procedures since the last review, if any;

2) Changes in regulations and license conditions since the last review, if any;

3) Reports on recent accidents, mistakes or problems that have occurred at irradiators, if any;

4) Relevant results of inspections of operator safety performance;

5) Relevant results of the facility's inspection and maintenance checks; and

6) A drill to practice an emergency or abnormal event procedure.

e) The licensee shall evaluate the safety performance of each irradiator operator at least annually to ensure that regulations, license conditions and operating and emergency procedures are followed. The licensee shall discuss the results of the evaluation with the operator and shall instruct the operator on how to correct any mistakes or deficiencies observed.

f) Personnel who will be permitted unescorted access to the radiation room of the irradiator or the area around the pool of an underwater irradiator, but who have not received the training required for the operators and the radiation safety officer, shall be instructed and tested in any precautions they should take to avoid radiation exposure, any procedures or parts of procedures listed in Section 346.530 that they are expected to perform or comply with, and their proper response to alarms required in this Part. Tests may be oral.

g) Personnel who shall be prepared to respond to alarms required by Sections 346.230(b), 346.230(i), 346.270(a), 346.290(a), 346.290(b), and 346.590(b) shall be trained and tested on how to respond. Each person shall be retested at least once a year. Tests may be oral.

(Source: Amended at 47 Ill. Reg. 9201, effective June 22, 2023)