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ILLINOIS EMERGENCY MANAGEMENT AGENCY

NOTICE OF PROPOSED AMENDMENTS

TITLE 32: ENERGY

CHAPTER II: ILLINOIS EMERGENCY MANAGEMENT AGENCY

SUBCHAPTER b: RADIATION PROTECTION

PART 346

LICENSES AND RADIATION SAFETY REQUIREMENTS FOR IRRADIATORS

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AUTHORITY: Implementing and authorized by the Radiation Protection Act of 1990 [420 ILCS 40/10].

SOURCE: Adopted at 29 Ill. Reg. 20933, effective December 16, 2005; amended at 35 Ill. Reg. 974, effective December 30, 2010; amended at 38 Ill. Reg. 21467, effective October 31, 2014; amended at 46 Ill. Reg. _____, effective _____.

SUBPART A: GENERAL PROVISIONS

Section 346.40 Definitions

~~"Annually" means at intervals not to exceed 12 months.~~

"Doubly encapsulated sealed source" means a sealed source in which the radioactive material is sealed within a capsule and that capsule is sealed within another capsule.

"Irradiator" means a facility that uses radioactive sealed sources for the irradiation of objects or materials and in which radiation dose rates exceeding 5 grays (500 rads) per hour exist at 1 meter from the sealed radioactive sources in air or water, as applicable to the irradiator type, but does not include irradiators in which both the sealed source and the area subject to irradiation are contained within a device and are not accessible to personnel.

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"Irradiator operator" means an individual who has successfully completed the training and testing described in Section 346.510 ~~of this Part~~ and is authorized by the terms of the license to operate the irradiator without a supervisor present.

"Panoramic dry-source-storage irradiator" means an irradiator in which the irradiations occur in air in areas potentially accessible to personnel and in which sources are stored in shields made of solid materials. The term includes beam-type dry-source-storage irradiators in which only a narrow beam of radiation is produced for performing irradiations.

"Panoramic irradiator" means an irradiator in which the irradiations are done in air and in areas potentially accessible to personnel. The term includes beam-type irradiators.

"Panoramic wet-source-storage irradiator" means an irradiator in which the irradiations occur in air in areas potentially accessible to personnel and in which the sources are stored under water in a storage pool.

"Pool irradiator" means any irradiator at which the sources are stored or used in a pool of water, including panoramic wet-source-storage irradiators and underwater irradiators.

"Product conveyor system" means a system for moving the product to be irradiated to, from and within the area where irradiation takes place.

"Radiation room" means a shielded room in which irradiations take place. Underwater irradiators do not have radiation rooms.

"Sealed source" means any radioactive material that is used as a source of radiation and is encased in a capsule designed to prevent leakage or escape of the radioactive material.

"Seismic area" means any area where the probability of a horizontal acceleration in rock of more than 0.3 times the acceleration of gravity in 250 years is greater than 10 percent, as designated by the U.S. Geological Survey.

"Underwater irradiator" means an irradiator in which the sources always remain shielded under water and personnel do not have access to the sealed sources or the space subject to irradiation without entering the pool.

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(Source: Amended at 46 Ill. Reg. _____, effective _____)

SUBPART B: SPECIFIC LICENSING REQUIREMENTS

Section 346.150 ~~Start~~ Commencement of Construction

~~The applicant may not begin~~ Commencement of construction of a new irradiator may not occur prior to submission to the Agency of an application for a license for the irradiator. As used in this Section, the term "construction" is defined in 32 Ill. Adm. Code 310.20. Any activities undertaken prior to the issuance of a license are entirely at the risk of the applicant and have no bearing on the issuance of a license with respect to the requirements of the Radiation Protection Act of 1990 and regulations and orders issued under the Act. Commencement of construction as defined in 32 Ill. Adm. Code 310.20 may include non-construction activities if the activity has a reasonable nexus to radiological safety and security.

(Source: Amended at 46 Ill. Reg. _____, effective _____)

SUBPART C: DESIGN AND PERFORMANCE REQUIREMENTS OF IRRADIATORS

Section 346.230 Access Control

- a) Each entrance to a radiation room at a panoramic irradiator shall have a door or other physical barrier to prevent inadvertent entry of personnel if the sources are not in the shielded position. Product conveyer systems may serve as barriers as long as they reliably and consistently function as a barrier. It shall not be possible to move the sources out of their shielded position if the door or barrier is open. Opening the door or barrier while the sources are exposed shall cause the sources to return promptly to their shielded position. The personnel entrance door or barrier shall have a lock that is operated by the same key used to move the sources. The doors and barriers shall not prevent any person in the radiation room from leaving.
- b) In addition, each entrance to a radiation room at a panoramic irradiator shall have an independent backup access control to detect personnel entry while the sources are exposed. Detection of entry while the sources are exposed shall cause the

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sources to return to their fully shielded position and shall also activate a visible and audible alarm to make the person entering the room aware of the hazard. The alarm shall also alert at least one other person who is onsite of the entry. That person shall be trained on how to respond to the alarm and prepared to promptly render or summon assistance.

- c) A radiation monitor shall be provided to detect the presence of high radiation levels in the radiation room of a panoramic irradiator before personnel entry. The monitor shall be integrated with a personnel access door to prevent room access when radiation levels are high. Attempted personnel entry while the monitor measures high radiation levels shall activate the alarm described in subsection (b) [of this Section](#). The monitor may be located in the entrance (normally referred to as the maze) but not in the direct radiation beam.
- d) Before the sources move from their shielded position in a panoramic irradiator, the source control shall automatically activate conspicuous visible and audible alarms to alert personnel in the radiation room that the sources will be moved from their shielded position. The alarms shall give personnel enough time to leave the room before the sources leave the shielded position.
- e) Each radiation room at a panoramic irradiator shall have a clearly visible and readily accessible control that would allow a person in the room to make the sources return to their fully shielded position.
- f) Each radiation room of a panoramic irradiator shall contain a control that prevents the sources from moving from the shielded positions unless the control has been activated and the door or barrier to the radiation room has been closed within a preset time after activation of the control.
- g) Each entrance to the radiation room of a panoramic irradiator and each entrance to the area within the personnel access barrier of an underwater irradiator shall be posted as required by 32 Ill. Adm. Code 340.920. Radiation postings for panoramic irradiators shall comply with the posting requirements of 32 Ill. Adm. Code 340.920, except that signs may be removed, covered, or otherwise made inoperative when the sources are fully shielded.
- h) If the radiation room of a panoramic irradiator has roof plugs or other movable shielding, it shall not be possible to operate the irradiator unless the shielding is in its proper location. This requirement may be met by interlocks that prevent

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operation if shielding is not placed properly or by an operating procedure requiring inspection of shielding before operating.

- i) Underwater irradiators shall have a personnel access barrier around the pool that shall be locked to prevent access when the irradiator is not attended. Only operators and facility management shall have access to keys to the personnel access barrier. There shall be an intrusion alarm to detect unauthorized entry when the personnel access barrier is locked. Activation of the intrusion alarm shall alert a person (not necessarily onsite) who is prepared to respond or summon assistance.

(Source: Amended at 46 Ill. Reg. _____, effective _____)

Section 346.250 Shielding

- a) The radiation dose rate in areas that are normally occupied during operations of a panoramic irradiator may not exceed 0.02 millisievert (2 millirems) per hour at any location 30 centimeters or more from the wall of the room when the sources are exposed. The dose rate shall be averaged over an area not to exceed 100 square centimeters having no linear dimensions greater than 20 cm. Areas where the radiation dose rate exceeds 0.02 millisievert (2 millirems) per hour shall be locked, roped off or posted.
- b) The radiation dose at 30 centimeters over the edge of the pool of a pool irradiator may not exceed 0.02 millisievert (2 millirems) per hour when the sources are in fully shielded position.
- c) The radiation dose rate at 1 meter from the shield of a dry-source-storage panoramic irradiator when the source is shielded may not exceed 0.02 millisievert (2 millirems) per hour and at 5 centimeters from the shield may not exceed 0.2 millisievert (20 millirems) per hour.

(Source: Amended at 46 Ill. Reg. _____, effective _____)

Section 346.330 Irradiator Pools

- a) For licenses initially issued after December 1, 2005, irradiator pools shall either:

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- 1) Have a water-tight stainless steel liner or a liner metallurgically compatible with other components in the pool; or
- 2) Be constructed so that there is a low likelihood of substantial leakage and have a surface designed to facilitate decontamination.

In either case, the licensee shall have a method to safely store the sources during repair of the pool.

- b) For licenses initially issued after December 1, 2005, irradiator pools shall have no outlets more than 0.5 meter below the normal low water level that could allow water to drain out of the pool. Pipes that have intakes more ~~than then~~ 0.5 meter below the normal low water level and that could act as siphons shall have siphon breakers to prevent the siphoning of pool water.
- c) A means shall be provided to replenish water losses from the pool.
- d) A visible indicator shall be provided in a clearly visible location to indicate if the pool water level is below the normal low water level or above the normal high water level.
- e) Irradiator pools shall be equipped with a purification system designed to be capable of maintaining the water during normal operation at a conductivity of 20 microsiemens per centimeter or less and with a clarity so that the sources can be seen clearly.
- f) A physical barrier, such as a railing or cover, shall be used around or over radiator pools during normal operation to prevent personnel from accidentally falling into the pool. The barrier may be removed during maintenance, inspection and service operations.
- g) If long handled tools or poles are used in irradiator pools, the radiation dose rate in the handling areas of the tools may not exceed 0.02 millisievert (2 millirems) per hour.

(Source: Amended at 46 Ill. Reg. _____, effective _____)

Section 346.350 Source Rack Protection

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If the product to be irradiated moves on a product conveyor system, the source rack and the mechanism that moves the rack shall be protected by a barrier or guides to prevent products and product carriers from hitting or touching the rack or mechanism.

(Source: Amended at 46 Ill. Reg. _____, effective _____)

Section 346.390 Design Requirements

Irradiators whose construction begins after December 1, 2005, shall meet the design requirements of this Section.

- a) **Shielding.** For panoramic irradiators, the licensee shall design shielding walls to meet generally accepted building code requirements for reinforced concrete and design the walls, wall penetrations, and entranceways to meet the radiation shielding requirements of Section 346.250 ~~of this Part~~. If the irradiator will use more than 2×10^{17} becquerels (5 million curies) of activity, the licensee shall evaluate the effects of heating of the shielding by the irradiator sources.
- b) **Foundations.** For panoramic irradiators, the licensee shall design the foundation, with consideration given to soil characteristics, to ensure it is adequate to support the weight of the facility shield walls.
- c) **Pool integrity.** For pool irradiators, the licensee shall design the pool to assure that it is leak resistant, that it is strong enough to bear the weight of the pool water and shipping casks, that a dropped cask would not fall on sealed sources, that all outlets or pipes meet the requirements of Section 346.330(b) ~~of this Part~~ and that metal components are metallurgically compatible with other components in the pool.
- d) **Water handling system.** For pool irradiators, the licensee shall verify that the design of the water purification system is adequate to meet the requirements of Section 346.330(e) ~~of this Part~~. The system shall be designed so that water leaking from the system does not drain to unrestricted areas without being monitored.
- e) **Radiation monitors.** For all irradiators, the licensee shall evaluate the location and sensitivity of the monitor to detect sources carried by the product conveyor system as required by Section 346.290(a) ~~of this Part~~. The licensee shall verify that the product conveyor is designed to stop before a source on the product

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conveyor would cause a radiation overexposure to any person. For pool irradiators, if the licensee uses radiation monitors to detect contamination under Section 346.590(b) ~~of this Part~~, the licensee shall verify that the design of radiation monitoring systems to detect pool contamination included sensitive detectors located close to where contamination is likely to concentrate.

- f) Source rack. For pool irradiators, the licensee shall verify that there are no crevices on the source or between the source and source holder that would promote corrosion on a critical area of the source. For panoramic irradiators, the licensee shall determine that source rack drops due to loss of power will not damage the source rack and that source rack drops due to failure of cables (or alternative means of support) will not cause loss of integrity of sealed sources. For panoramic irradiators, the licensee shall review the design of the mechanism that moves the sources to assure that the likelihood of a stuck source is low and that, if the rack sticks, a means exists to free it with minimal risk to personnel.
- g) Access control. For panoramic irradiators, the licensee shall verify from the design and logic diagram that the access control system will meet the requirements of Section 346.230 ~~of this Part~~.
- h) Fire protection. For panoramic irradiators, the licensee shall verify that the number, location and spacing of the smoke and heat detectors are appropriate to detect fires and that the detectors are protected from mechanical and radiation damage. The licensee shall verify that the design of the fire extinguishing system provides the necessary discharge patterns, densities, and flow characteristics for complete coverage of the radiation room and that the system is protected from mechanical and radiation damage.
- i) Source return. For panoramic irradiators, the licensee shall verify that the source rack will automatically return to the fully shielded position if offsite power is lost for more than 10 seconds.
- j) Seismic. For panoramic irradiators to be built in seismic areas, the licensee shall design the reinforced concrete radiation shields to retain their integrity in the event of an earthquake by designing to the seismic requirements of an appropriate source, such as ~~either the Chapter 21, "Special Provisions for Seismic Design", of the American Concrete Institute Standard "Building Code Requirements for Reinforced Concrete" (ACI 318-89), or "Special Provisions for Seismic Design" (Chapter 21)~~ or local building codes, whichever is most current.

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- k) Wiring. For panoramic irradiators, the licensee shall verify that electrical wiring and electrical equipment in the radiation room are selected to minimize failures due to prolonged exposure to radiation.

(Source: Amended at 46 Ill. Reg. _____, effective _____)

SUBPART D: OPERATION OF IRRADIATORS

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 of ~~this Part~~ that the person is responsible for performing;
 - 5) Case histories of accidents or problems involving irradiators; ~~and~~
 - ~~6) Radiation detection and measurement instrumentation and their proper use and personnel dosimeters.~~
- 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

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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

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346.530 ~~of this Part~~ 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) ~~of this Part~~ 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 46 Ill. Reg. _____, effective _____)

Section 346.550 Personnel Monitoring

- a) Irradiator operators shall wear a personnel dosimeter while operating a panoramic irradiator or while in the area around the pool of an underwater irradiator. The personnel dosimeter must be capable of detecting high energy photons in the normal and accident dose ranges. Personnel monitoring shall be provided in accordance with the requirements of 32 Ill. Adm. Code 340.510(d), (e) and (f).
- b) Each ~~personnel~~ dosimeter shall be assigned to and worn by only one person. Film badges shall be processed at least monthly and all other personnel dosimeters that require replacement shall be replaced at least quarterly. All personnel dosimeters shall be evaluated at least quarterly or promptly after replacement, whichever is more frequent. ~~, and other personnel dosimeters shall be processed at least quarterly.~~
- c) Other personnel who enter the radiation room of a panoramic irradiator shall wear a dosimeter, which may be a pocket dosimeter. For groups of visitors, only 2 people who enter the radiation room are required to wear dosimeters. If pocket dosimeters are used to meet the requirements of this subsection, a check of their response to radiation shall be done at intervals not to exceed 12 months ~~least annually~~. Acceptable dosimeters shall read within ± 30 percent of the true radiation dose.

(Source: Amended at 46 Ill. Reg. _____, effective _____)

Section 346.570 Radiation Surveys

- a) A radiation survey of the area outside the shielding of the radiation room of a panoramic irradiator shall be conducted with the sources in the exposed position

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before the facility starts to operate. A radiation survey of the area about the pool of pool irradiators shall be conducted after the sources are loaded but before the facility starts to operate. Additional radiation surveys of the shielding shall be performed at intervals not to exceed 3 years and before resuming operation after addition of new sources or any modification to the radiation room shielding or structure that might increase dose rates.

- b) If the radiation levels specified in Section 346.250 ~~of this Part~~ are exceeded, the facility shall be modified to comply with the requirements in Section 346.250 ~~of this Part~~.
- c) Portable radiation survey meters used for required surveys shall be calibrated at ~~intervals not to exceed 12 months~~ ~~least annually~~ to an accuracy of $\pm 20\%$ for the gamma energy of the sources in use. The calibration shall be done at ~~2-two~~ points on each scale or, for digital instruments, at one point per decade over the range that will be used. Portable radiation survey meters shall be a type that does not saturate and read zero at high radiation dose rate.
- d) Water from the irradiator pool, other potentially contaminated liquids and sediments from pool vacuuming shall be monitored for radioactive contamination before release to unrestricted areas. Radioactive concentrations shall not exceed those specified in ~~table 2, column 2, or table 3 of Appendix B to 10 CFR 20, "Annual Limits on Intake (ALIs) and Derived Air Concentrations (DACs) of Radionuclides for Occupational Exposure; Effluent Concentrations; Concentrations for Release to Sewerage.", published at 72 Fed. Reg. 55922, October 1, 2007. 32 Ill. Adm. Code 340.1030.~~
- e) Before releasing resins for unrestricted use, the resins shall be monitored in an area with a background level less than 0.5 microsievert (0.05 millirem) per hour. The resins may be released only if the survey does not detect radiation levels above background radiation levels. The survey meter used shall be capable of detecting radiation levels of 0.5 microsievert (0.05 millirem) per hour.
- f) For pool irradiators, all empty or loaded source transport containers shall be surveyed for removable contamination prior to insertion into the pool.

(Source: Amended at 46 Ill. Reg. _____, effective _____)

Section 346.590 Detection of Leaking Sources

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- a) Each dry-source-storage sealed source shall be tested for leakage in accordance with the requirements of 32 Ill. Adm. Code 340.410.
- b) For pool irradiators, sources may not be put into the pool unless the licensee tests the sources for leaks or has a certificate from a transferor that a leak test has been done within the 6 months before the transfer. Water from the pool shall be checked for contamination each day the irradiator operates. The check may be done either by using a radiation monitor on a pool water circulating system or by analysis of a sample of pool water. If a check for contamination is done by analysis of a sample of pool water, the results of the analysis shall be available within 24 hours. If the licensee uses a radiation monitor on a pool water circulating system, the detection of above normal radiation levels shall activate an alarm. The alarm set-point shall be set as low as practical, but high enough to avoid false alarms. The licensee may reset the alarm set-point to a higher level if necessary to operate the pool water purification system to clean up contamination in the pool if specifically provided for in written emergency procedures.
- c) If a leaking source is detected, the licensee shall arrange to remove the leaking source from service and have it decontaminated, repaired or disposed of by an [Agency, U.S. Nuclear Regulatory Commission](#), or Agreement State licensee that is authorized to perform these functions. The licensee shall promptly check its personnel, equipment, facilities and irradiated product for radioactive contamination. No product may be shipped until the product has been checked and found free of contamination. If a product has been shipped that may have been inadvertently contaminated, the licensee shall arrange to locate and survey that product for contamination. If any personnel are found to be contaminated, decontamination shall be performed promptly. If contaminated equipment, facilities or products are found, the licensee shall have them decontaminated or disposed of by an [Agency, U.S. Nuclear Regulatory Commission](#), or Agreement State licensee that is authorized to perform these functions. If a pool is contaminated, the licensee shall arrange to clean the pool until the contamination levels do not exceed the appropriate concentration in table 2, column 2, of Appendix B to 10 CFR 20, published at 72 Fed. Reg. 55922, October 1, 2007. (See 32 Ill. Adm. Code 340.1220 for reporting requirements.)

(Source: Amended at 46 Ill. Reg. _____, effective _____)

Section 346.670 Entering and Leaving the Radiation Room

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- a) Upon first entering the radiation room of a panoramic irradiator after an irradiation, the irradiator operator shall use a survey meter to determine that the source has returned to its fully shielded position. The operator shall check the functioning of the survey meter with a radiation check source prior to entry.
- b) Before exiting from and locking the door to the radiation room of a panoramic irradiator prior to a planned irradiation, the irradiator operator shall:
 - 1) Visually inspect the entire radiation room to verify that no one else is in it; and
 - 2) Activate a control in the radiation room that permits the sources to be moved from the shielded position only if the door to the radiation room is locked within a pre-set time after setting the control.
- c) During a power failure, the area around the pool of an underwater irradiator may not be entered without using an operable and calibrated radiation survey meter, unless the over-the-pool monitor required by Section 346.290(b) ~~of this Part~~ is operating with backup power.

(Source: Amended at 46 Ill. Reg. _____, effective _____)

SUBPART E: RECORDS

Section 346.810 Records and Retention Periods

The licensee shall maintain the following records at the irradiator for the periods specified.

- a) A copy of the license, license conditions, documents incorporated into a license by reference and amendments to these materials, until superseded by new documents or until the Agency terminates the license for documents not superseded.
- b) Records of each individual's training, tests and safety reviews provided to meet the requirements of Section 346.510(a), (b), (c), (d), (f), and (g) ~~of this Part~~, until 5 years after the individual terminates work.

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- c) Records of the annual evaluations of the safety performance of irradiator operators required by Section 346.510(e) ~~of this Part~~, for 5 years after the evaluation.
- d) A copy of the current operating and emergency procedures required by Section 346.530 ~~of this Part~~, until superseded or the Agency terminates the license. ~~Records of the radiation safety officer's review and approval of changes in procedure as required by Section 346.530(c)(3) of this Part, retained for 5 years from the date of the change.~~
- e) Evaluations of personnel dosimeters required by Section 346.550 ~~of this Part~~, until the Agency terminates the license.
- f) Records of radiation surveys required by Section 346.570 ~~of this Part~~, for 5 years from the date of the survey.
- g) Records of radiation survey meter calibrations required by Section 346.570 ~~of this Part~~ and pool water conductivity meter calibrations required by Section 346.630(b) ~~of this Part~~, until 5 years from the date of each test.
- h) Records of the results of leak tests required by Section 346.590(a) ~~of this Part~~ and the results of contamination checks required by Section 346.590(b) ~~of this Part~~, for 5 years from the date of each test.
- i) Records of inspection and maintenance checks required by Section 346.610 ~~of this Part~~, for 5 years.
- j) Records of major malfunctions, significant defects, operating difficulties or irregularities and major operating problems that involve required radiation safety equipment, for 5 years after repairs are completed.
- k) Records of the receipt, transfer and disposal of all licensed sealed sources as required by 32 Ill. Adm. Code 310.40. The licensee shall retain each record of receipt of byproduct material as long as the material is possessed and for 5 years following transfer or disposal of the material. The licensee who disposed of the material shall retain each record of disposal of byproduct material until the Agency terminates each license that authorizes disposal of the material.

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- l) Records on the design checks required by Section 346.390 ~~of this Part~~ and the construction control checks as required by Section 346.410 ~~of this Part~~, until the license is terminated. The records shall be signed and dated. The title or qualifications of the personnel signing the record shall be included.
- m) Records related to decommissioning of the irradiator as required by 32 Ill. Adm. Code 330.310 and 330.320.

(Source: Amended at 46 Ill. Reg. _____, effective _____)

Section 346.830 Reports

- a) In addition to the reporting requirements in other Parts of Agency regulations, the licensee shall report the following events if not reported under other Parts of Agency regulations ~~already reported~~:
 - 1) Source stuck in an unshielded position.
 - 2) Any fire or explosion in a radiation room.
 - 3) Damage to the source racks.
 - 4) Failure of cable or drive mechanism used to move the source racks.
 - 5) Inoperability of the access control system.
 - 6) Detection of radiation source by the product exit monitor.
 - 7) Detection of radioactive contamination attributable to licensed radioactive material.
 - 8) Structural damage to the pool liner or walls.
 - 9) Abnormal water loss or leakage from the source storage pool.
 - 10) Pool water conductivity exceeding 100 microsiemens per centimeter.

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- b) The report shall include a telephone report within 24 hours as described in 32 Ill. Adm. Code 340.1220 and a written report within 30 days as described in 32 Ill. Adm. Code 340.1230.

(Source: Amended at 46 Ill. Reg. _____, effective _____)

DRAFT