

SECOND NOTICE CHANGES  
32 ILL. ADM. CODE 320

TITLE 32: ENERGY  
CHAPTER II: ILLINOIS EMERGENCY MANAGEMENT AGENCY  
SUBCHAPTER b: RADIATION PROTECTION

PART 320  
REGISTRATION AND OPERATOR REQUIREMENTS  
FOR RADIATION INSTALLATIONS

Section

<u>320.5</u>	<u>Purpose and Scope</u>
320.10	Registration
320.15	Incorporations by Reference (Repealed)
320.20	Amendments and Changes in Status
320.30	Discontinued Use (Repealed)
320.40	Exemptions
320.50	Noncompliance (Repealed)
320.60	Requirements for All Operators of Radiation Installations
320.70	Additional Requirements for Operators of Class D Radiation Installations

AUTHORITY: Implementing and authorized by Sections 24.7, 25 and 25.1 of the Radiation Protection Act of 1990 [420 ILCS 40/24.7, 25 and 25.1].

SOURCE: Filed April 20, 1974 by the Department of Public Health; transferred to the Department of Nuclear Safety by P.A. 81-1516, effective December 3, 1980; codified at 7 Ill. Reg. 11278; amended at 10 Ill. Reg. 17529, effective September 25, 1986; amended at 14 Ill. Reg. 13644, effective August 13, 1990; amended at 18 Ill. Reg. 3363, effective February 22, 1994; amended at 20 Ill. Reg. 6912, effective May 1, 1996; amended at 23 Ill. Reg. 14488, effective January 1, 2000; amended at 27 Ill. Reg. 3465, effective February 17, 2003; recodified from the Department of Nuclear Safety to the Illinois Emergency Management Agency at 27 Ill. Reg. 13641; amended at 36 Ill. Reg. 17376, effective November 30, 2012; amended at 48 Ill. \_\_\_\_\_, effective \_\_\_\_\_.

**Section 320.5 Purpose and Scope**

- a) This Part establishes the registration requirements for radiation installations pursuant to Section 24.7 of the Radiation Protection Act of 1990 [420 ILCS 40].
- b) This Part applies to all radiation installations that possess any radiation machines that electronically produce ionizing radiation.

(Source: Added at 48 Ill. Reg. \_\_\_\_\_, effective \_\_\_\_\_)

SECOND NOTICE CHANGES  
32 ILL. ADM. CODE 320

**Section 320.10 Registration**

- a) For purposes of registration pursuant to this Part, the following definitions shall apply:~~phrase “radiation installation” shall mean any location or facility where radiation machines are located.~~
- 1) "Agency" means the Illinois Emergency Management Agency and Office of Homeland Security;
  - 2) "Inoperable radiation machine" means any radiation machine, including particle accelerators, that is not capable of producing radiation due to the absence or failure of components necessary for operation. Radiation machines that are not in operation due only to disconnection from an electrical supply shall be considered operable.
  - 3) "Minimal threat devices" means radiation machines capable of generating or emitting fields of radiation that, during the operation of which, an individual cannot accidentally place a body part in the primary beam path and no deliberate exposure or physical injury to an individual can occur which would exceed the applicable limits specified in 32 Ill. Adm. Code 340.310(a). Examples include, but are not limited to, analytical, cabinet, and baggage/package/project type fluoroscopic units; spectroscopic radiation machines; facilities with x-ray machines which are incorporated in lead boxes or enclosed in a shielded room, which comply with the requirements of 32 Ill. Adm. Code 350.3050.
  - 4) "Particle accelerator" shall have the same meaning as provided in 32 Ill. Adm. Code 310.20.
  - 5) "Radiation installation" means any location or facility where radiation machines are used.
  - 6) "Radiation machine" means any device that produces radiation when in use [420 ILCS 40/4(h)], except those that produce radiation only from radioactive materials.
- b) Radiation Installation Registration
- 1) Any operator of a radiation installation shall register that radiation installation with the ~~Illinois Emergency Management Agency (Agency)~~. The operator shall register the radiation installation, before ~~it~~the ~~installation~~ is placed ~~into~~in operation, ~~in a format on a form~~ prescribed by

SECOND NOTICE CHANGES  
32 ILL. ADM. CODE 320

the Agency that shall include the:

- A) Operator and facility~~The operator's~~ name;
- B) Location~~The location~~ and confines of the radiation installation; ~~and~~
- C) Type~~The type~~, manufacturer, model, serial number, and room or area location of all radiation machines possessed; and
- D) Telephone number, email address, and Federal Employer Identification Number (FEIN).

2) Radiation machines that are located in a single building or in a group of buildings that are contiguous to one another, and used by the same operator, shall be treated as a single radiation installation unless requested otherwise in writing by the operator and approved by the Agency.

3) Until proper disposal occurs, all inoperable radiation machines shall be included in the registration information required by subsection (b)(1)(C).

4) Out-of-State Radiation Machines.

A) Any owner/operator of a radiation machine brought into the State of Illinois for temporary use, not to exceed 180 days in a calendar year, shall provide notice to the Agency at least three business days before the equipment is brought into the State.

B) The notice shall include the information in subsection (b)(1)(A) through (D) and:

i) Registering state and registration number of the facility, if applicable;

ii) The exact location where the radiation machine is to be used;

iii) Nature, duration, and scope of work; and

iv) Onsite contact in the State including name, telephone number, and email address.

c) Radiation Installation Classifications

SECOND NOTICE CHANGES  
32 ILL. ADM. CODE 320

Radiation installations shall be divided into the following 4 classes:

- 1) Class A – Class A shall include dental offices and veterinary offices with radiation machines used solely for diagnosis; nonmedical business entities that possess open radiography radiation machines used by industrial radiographers or law enforcement personnel, other non-medical registered installations including research/development, academic, industrial, law enforcement, and all other minimal threat devices used in the process of conducting their business, all installations using commercially manufactured cabinet radiographic/fluoroscopic radiation machines with interlocked doors and shielded sufficiently to meet the requirements of 32 Ill. Adm. Code 340.310(a) and radiation machines used as gauges.
  - 2) Class B – Class B shall include offices or clinics of persons licensed under the Medical Practice Act of 1987 [225 ILCS 60] or the Podiatric Medical Practice Act of 1987 [225 ILCS 100] with radiation machines used solely for diagnosis and all radiation installations using portable radiographic/fluoroscopic units and particle accelerators, all installations using spectroscopy radiation machines, noncommercially manufactured cabinet radiographic/fluoroscopic radiation machines, portable radiographic/fluoroscopic units, diffraction radiation machines, non-cabinet baggage/package fluoroscopic radiation machines and electronic beam welders. Test booths, bays or rooms used by manufacturing, assembly or repair facilities for testing radiation machines shall be categorized as Class B radiation installations.
  - 3) Class C – Class C shall include installations using open radiography radiation machines which are unique and have potential radiation threat concerns whose operation or use may require the registrant to monitor in accordance with 32 Ill. Adm. Code 340.520. This does not include radiation installations with radiation machines that are specified as another class, and closed radiographic/fluoroscopic radiation machines.
  - 4) Class D – Class D shall include all hospitals and other facilities using mammography, computed tomography (CT), or therapeutic radiation machines.
  - 5) Radiation installations for which more than one class is applicable shall be assigned a classification based on the radiation machines' use and associated radiation hazard.
- d) ~~Machine~~-Registration Fees

SECOND NOTICE CHANGES  
32 ILL. ADM. CODE 320

- 1) ~~The operator of a radiation installation shall pay an annual registration fee for each radiation machine registered with the Agency on January 1 of each year. Operators of radiation installations shall annually update their registration no later than December 31<sup>st</sup> with the status of each radiation machine in their possession. Every operator of a radiation installation shall register radiation machines annually on a form prescribed by the Agency.~~
- 2) ~~The Agency shall bill the operator for the registration fee as soon as practical after January 1. The registration fee shall be due and payable within 60 days after the date of billing. If after 60 days the registration fee is not paid, the Agency may issue an order directing the operator of the installation to cease use of all radiation machines or take other appropriate enforcement action as provided in Section 36 of the Act. Fees collected under this Section are not refundable. [420 ILCS 40/24.7] The fees An annual registration fee for each machine possessed on January 1 of each year shall be submitted with the registration form. This fee, based on the classification type of radiation installation facility and radiation machines possessed, are listed in this subsection (d)(2) as follows:~~

<u>Radiation Installation Facility Type Classification</u>	Fee Per Radiation Machine
Class A – Dental and veterinary offices.	\$50
Class A — <u>Radiation installations using minimal threat devices and open radiography machines used by industrial radiographers or law enforcement personnel. X-ray gauges and installations only using commercially manufactured cabinet radiation</u>	\$75

SECOND NOTICE CHANGES  
32 ILL. ADM. CODE 320

~~machines with  
interlocked doors  
and shielded  
sufficiently to meet  
the requirements of  
32 Ill. Adm. Code  
340.310(a).~~

Class B – Offices or clinics of persons licensed under the Medical Practice Act, and all <u>radiation</u> installations using portable radiographic/ fluoroscopic units <u>or particle</u> <u>accelerators.</u>	\$175
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Class B – Podiatric offices.	\$100
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<del>Class B—All installations using spectroscopy, non-commercially manufactured cabinet units, non- cabinet baggage/package units, diffraction radiation machines and/or electron beam welders. Also, installations with test booths, bays or rooms used by manufacturing, assembly or repair facilities for testing radiation machines.</del>	\$175
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Class C – <u>Installations</u>	\$250
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SECOND NOTICE CHANGES  
32 ILL. ADM. CODE 320

~~using open or  
closed radiography  
machines.~~

Class D – <del>All hospitals and other facilities using mammography, computed tomography (CT), or therapeutic radiation machines.</del>	\$100
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~~3) The Agency shall bill the operator for the registration fee as soon as practical after January 1. The registration fee shall be due and payable within 60 days after the date of billing. If after 60 days the registration fee is not paid, the Agency may issue an order directing the operator of the installation to cease use of all radiation machines or take other appropriate enforcement action as provided in Section 36 of the Act. Fees collected under this Section are not refundable. [420 ILCS 40/24.7]~~

e) All radiation installations are subject to inspection at all times. The frequency of inspections is based on the associated radiation hazards located at the radiation installation. Class A radiation installations should expect to be inspected approximately once every 5 years. Class B should expect to be inspected approximately once every 2 years. Class C and D radiation installations should expect to be inspected approximately once annually.

f) Operators of radiation installations shall comply with all applicable rules in 32 Ill. Adm. Code: Chapter II, Subchapter b and d, including the accreditation requirements for radiologic technologists provided in 32 Ill. Adm. Code 401, certification requirements for industrial radiographers provided in 32 Ill. Adm. Code 405, and reporting requirements for any stolen, lost, or missing sources of radiation sources in accordance with 32 Ill. Adm. Code 340.1210.

(Source: Amended at 48 Ill. Reg. \_\_\_\_\_, effective \_\_\_\_\_)

**Section 320.20 Amendments and Changes in Status**

a) Operators of radiation installations that have been registered pursuant to Section 320.10 shall notify the Agency within 30 days after the installation of any new, used or relocated radiation machines, or the reactivation of any radiation

SECOND NOTICE CHANGES  
32 ILL. ADM. CODE 320

machines.

- b) If any operator discontinues using radiation machines, the operator shall notify the Agency within 30 days after the discontinuance. The notification shall include the date of discontinuance and the disposition of the radiation machines.
- c) Within 30 days after changing the operator of a radiation installation, the new operator shall notify the Agency.
- d) For radiation machines taken possession of as a result of foreclosure, bankruptcy, or other legal proceeding, the operator of the radiation installation shall notify the Agency within 30 days of the change in possession.
- e) To comply with this Section, facilities may use the online registration system located on the Agency's website at <https://iemaohs.illinois.gov/> under the heading of Nuclear & Radiation Safety.
- f) Failure to comply with the requirements in this Section may result in the collection of registration fees for the years that the radiation installation was not properly registered.

(Source: Amended at 48 Ill. Reg. \_\_\_\_\_, effective \_\_\_\_\_)

### **Section 320.40 Exemptions**

An operator shall be exempt from the radiation installation ~~and machine~~ registration requirements of this Part for the following:

- a) Electrical equipment that is manufactured for purposes other than generation of radiation, where the generation of radiation is incidental to operation (such as a television or electron microscope).
- b) Radiation machines while in transit or storage incident to transit.
- c) Radiation machines provided for demonstration use or to replace out of service equipment during the out of service period. Notification in accordance with subsection 320.10(b)(1)(C) shall be provided to the Agency for the exemption.
- d) Radiation machines taken possession by a financial institution as a result of foreclosure, bankruptcy, or other legal proceeding.

(Source: Amended at 48 Ill. Reg. \_\_\_\_\_, effective \_\_\_\_\_)



SECOND NOTICE CHANGES  
32 ILL. ADM. CODE 320

**Section 320.70 Additional Requirements for Operators of Class D Radiation Installations**

- a) Each operator of a Class D radiation installation shall utilize the services of an individual, registered with the Agency pursuant to 32 Ill. Adm. Code 410, to implement and maintain a comprehensive radiation protection program. Activities related to diagnostic radiation producing machines shall be performed by a registered diagnostic imaging specialist (DIS). Activities related to therapeutic radiation machines shall be performed by a registered therapeutic radiological physicist (TRP). Each operator shall ensure that registered individuals:
- 1) Conduct an annual performance evaluation of all radiation machines and verify their inclusion in the radiation installation registration.
  - 2) Determine and document in a report to the radiation installation facility that the radiation machines evaluated are being maintained and operated in accordance with standards established by the Agency to protect the public health as set forth in 32 Ill. Adm. Code: Chapter II, Subchapters b and d. Noncompliance items shall be readily identified in the report.
  - 3) Establish and oversee the equipment-related quality assurance practices. Specifically, these quality assurance practices shall include as a minimum:
    - A) For therapeutic radiation machines, compliance with the quality assurance requirements specified in 32 Ill. Adm. Code 360.110(d) or 360.120(e).
    - B) For computed tomography machines, compliance with the quality assurance requirements specified in 32 Ill. Adm. Code 360.75.
    - C) For mammography machines, compliance with the quality assurance requirements specified in 32 Ill. Adm. Code 370.100.
  - 4) ~~Establish and oversee a quality assurance program for the film processors. The program shall include specifications for processor cleaning and maintenance and procedures to ensure the processor is optimized and properly maintained.~~

~~AGENCY NOTE: The Agency recommends daily sensitometry and densitometry evaluation for processors used in facilities with heavy workloads. However, the diagnostic imaging specialist or therapeutic radiological physicist is the individual best qualified to determine the appropriate quality assurance program for each~~

SECOND NOTICE CHANGES  
32 ILL. ADM. CODE 320

~~processor, based on its workload and conditions of use.~~

~~45)~~ Users of digital imaging acquisition systems shall follow a quality assurance/quality control protocol for image processing established by the manufacturer for each radiation machine. The program shall include the entire imaging chain from detector to the monitor used for interpretation and:

A) The operator of the radiation installation registrant shall include the protocol in its operating and safety procedures. The procedures shall be in writing or electronically available for Agency review.

B) The operator of the radiation installation registrant shall document the frequency at which the quality assurance/quality control protocol is performed. Documentation shall include the date and initials of the individual completing the document and shall be maintained at the site where performed for inspection by the Agency.

C) The protocol shall include but not be limited to the following:

i) Cleaning and erasure of all imaging plates used in computed radiography (CR);

ii) Quality control phantom analysis including, but not limited to, low contrast detectability, spatial resolution, and artifacts;

AGENCY NOTE: The phantom analysis can be done either by the facility or DIS. Frequency and pass/fail criteria should based on recommendations of the manufacturer or as established by the DIS.

iii) Evaluation of ~~repeat/reject~~repeat/retake x-ray examinations;

iv) Review of exposure index, deviation index, s-number, or dose index values from clinically acquired radiographic images.

b) Each operator of a Class D radiation installation shall maintain and have available for review by the Agency:

SECOND NOTICE CHANGES  
32 ILL. ADM. CODE 320

- 1) Accurate and thorough radiation machine evaluation reports.
  - 2) Records of quality assurance testing performed.
  - 3) Records of calibrations, maintenance or repair.
  - 4) Records of corrective action taken for items of non-compliance.
  - ~~5) Records of film processor cleaning and maintenance.~~
  - 56) Records of digital imaging quality control.
- c) The records and reports required by this Section shall be maintained for a period of at least one inspection cycle.

(Source: Amended at 48 Ill. Reg. \_\_\_\_\_, effective \_\_\_\_\_)