NEW JERSEY ADMINISTRATIVE CODE

Title 7, Chapter 28, Radiation Protection Programs

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TITLE 7. ENVIRONMENTAL PROTECTION

CHAPTER 28. RADIATION PROTECTION PROGRAMS

CHAPTER AUTHORITY:

N.J.S.A. 13:1B-1 et seq., 13:1D-1 et seq., and 26:2D-1 et seq.

CHAPTER SOURCE AND EFFECTIVE DATE:

Effective: February 19, 2020.
See: 52 N.J.R. 519(a).

CHAPTER HISTORICAL NOTE:

Chapter 28, Bureau of Radiation Protection, was filed and became effective prior to September 1, 1969.

Subchapter 19, Excessive Exposure to Ionizing Radiation, was adopted as R.1972 d.102, effective July 17, 1972. See: 4 N.J.R. 4(c).

Subchapter 25, Radiation Laboratory Fee Schedule, was adopted as R.1978 d.47, effective February 8, 1978. See: 9 N.J.R. 560(a), 10 N.J.R. 101(b).

Subchapter 24, Nuclear Medicine Technology, was adopted as R.1978 d.101, effective March 20, 1978. See: 9 N.J.R. 213(b), 10 N.J.R. 146(c).

Subchapter 21, Analytical X-Ray Installations, was adopted as R.1979 d.64, effective May 1, 1979. See: 10 N.J.R. 321(a), 11 N.J.R. 123(a).

Subchapter 41, Mercury Vapor Lamps, was adopted as R.1981 d.464, effective December 7, 1981. See: 13 N.J.R. 9(b), 13 N.J.R. 887(c).

Subchapter 1, General Provisions, and Subchapter 2, Use of Sources of Radiation and Special Exemptions, were repealed and Subchapter 1, General Provisions, and Subchapter 2, Use of Sources of Ionizing Radiation and Special Exemptions, were adopted as new rules by R.1983 d.592, effective December 19, 1983. See: 15 N.J.R. 391(a), 15 N.J.R. 2160(a).

Subchapter 42, Radio Frequency Radiation, was adopted as R.1984 d.337, effective August 6, 1984. See: 16 N.J.R. 7(a), 16 N.J.R. 2120(a).

Pursuant to Executive Order No. 66(1978), Subchapter 21, Analytical X-Ray Installations, was readopted as R.1984 d.353, effective August 6, 1984. See: 16 N.J.R. 1310(a), 16 N.J.R. 2276(a).

Subchapter 19, Medical Exposure to Ionizing Radiation by Radiologic Technologists, was adopted as R.1984 d.349, effective August 20, 1984. See: 16 N.J.R. 797(a), 16 N.J.R. 2271(a).

Pursuant to Executive Order No. 66(1978), Subchapter 24, Nuclear Medicine Technology, expired February 14, 1985.

Subchapter 24, Nuclear Medicine Technology, was adopted as new rules by R.1985 d.140, effective March 18, 1985. See: 17 N.J.R. 22(a), 17 N.J.R. 699(a).

Pursuant to Executive Order No. 66(1978), Subchapter 12, Transportation, was readopted as R.1985 d.387, effective August 5, 1985. See: 17 N.J.R. 1369(a), 17 N.J.R. 1884(a).

Subchapter 14, Therapeutic Installations, was repealed and Subchapter 14, Therapeutic Installations, was adopted as new rules by R.1987 d.258, effective July 6, 1987. See: 18 N.J.R. 1157(a), 19 N.J.R. 1196(c).

Subchapter 3, Registration: Radiation Protection Fee Schedule, was repealed and Subchapter 3, Registration of Ionizing Radiation-Producing Machines and Radioactive Materials, was adopted as new rules by R.1987 d.485, effective November 16, 1987. See: 19 N.J.R. 836(a), 19 N.J.R. 2167(a).

Subchapter 4, Licensing, was repealed and Subchapter 4, Licensing of Naturally Occurring and Accelerator Produced Radioactive Materials, was adopted as new rules by R.1987 d.483, effective November 16, 1987. See: 19 N.J.R. 1041(a), 19 N.J.R. 2171(a).

Subchapter 5, Controlled Areas, was repealed and Subchapter 5, Controlled Areas, was adopted as new rules by R.1987 d.484, effective November 16, 1987. See: 19 N.J.R. 839(a), 19 N.J.R. 2180(a).

Subchapter 25, Radiation Laboratory Fee Schedule, was repealed and Subchapter 25, Radiation Laboratory Fee Schedule, was adopted as new rules by R.1989 d.349, effective July 3, 1989. See: 21 N.J.R. 826(a), 21 N.J.R. 1904(a).

Pursuant to Executive Order No. 66(1978), Chapter 28, Bureau of Radiation Protection, was readopted as R.1990 d.427, effective July 30, 1990. See: 22 N.J.R. 890(a), 22 N.J.R. 2570(a).

Subchapter 16, Dental Radiographic Installations, was adopted as R.1990 d.538, effective November 5, 1990. See: 22 N.J.R. 894(a), 22 N.J.R. 3367(a).

Subchapter 27, Certification of Radon Testers and Mitigators, was adopted as R.1990 d.559, effective November 19, 1990 (operative January 13, 1991). See: 21 N.J.R. 3369(a), 22 N.J.R. 3516(a).

Subchapter 20, Particle Accelerators for Industrial and Research Use, was adopted as R.1992 d.52, effective February 3, 1992. See: 23 N.J.R. 1401(c), 24 N.J.R. 416(a).

Subchapter 15, Medical Diagnostic X-Ray Installations, was repealed and Subchapter 15, Medical Diagnostic X-Ray Installations, was adopted as new rules by R.1993 d.510, effective October 18, 1993. See: 25 N.J.R. 7(a), 25 N.J.R. 1039(a), 25 N.J.R. 4770(a), 25 N.J.R. 5148(a).

Subchapter 48, Fees for the Registration of Nonionizing Radiation Producing Sources, was adopted as R.1995 d.6, effective January 3, 1995. See: 25 N.J.R. 5422(a), 26 N.J.R. 793(b), 27 N.J.R. 99(a).

Pursuant to Executive Order No. 66(1978), Chapter 28, Bureau of Radiation Protection, was readopted as R.1995 d.457, effective July 28, 1995, and Subchapter 12, Transportation, was repealed by R.1995 d.457, effective August 21, 1995. See: 26 N.J.R. 4942(a), 27 N.J.R. 3157(b).

Pursuant to Executive Order No. 66(1978), Chapter 28, Bureau of Radiation Protection, was readopted as R.2000 d.120, effective February 25, 2000. As a part of R.2000 d.120, Chapter 28, Bureau of Radiation Protection, was renamed Radiation Protection Programs; and Subchapter 25, Radiation Laboratory Fee Schedule, was repealed, effective March 20, 2000. See: 31 N.J.R. 3007(a), 32 N.J.R. 1016(a).

Subchapter 24, Nuclear Medicine Technology, was repealed and Subchapter 24, Nuclear Medicine Technology, was adopted as new rules by R.2000 d.171, effective April 17, 2000. See: 31 N.J.R. 3012(a), 32 N.J.R. 1388(a).

Subchapter 12, Remediation Standards for Radioactive Materials, was adopted as R.2000 d.314, effective August 7, 2000. See: 31 N.J.R. 1723(a), 32 N.J.R. 2866(a).

Subchapter 22, Quality Assurance Programs for Medical Diagnostic X-ray Installations, was adopted as R.2001 d.37, effective January 16, 2001. See: 32 N.J.R. 1459(a), 33 N.J.R. 292(b).

Chapter 28, Radiation Protection Programs, was readopted as R.2005 d.239, effective June 21, 2005. See: 37 N.J.R. 8(a), 37 N.J.R. 2675(b).

Subchapter 19, Medical Exposure to Ionizing Radiation by Radiologic Technologists, was repealed and Subchapter 19, Radiologic Technology, was adopted as new rules by R.2008 d.234, effective August 18, 2008. See: 39 N.J.R. 4024(a), 40 N.J.R. 4790(b).

Chapter 28, Radiation Protection Programs, was amended by R.2008 d.281, effective September 15, 2008, operative upon publication of notice in the New Jersey Register by the Department of Environmental Protection that the U.S. Nuclear Regulatory Commission and the State of New Jersey have entered into an Agreement for the State to regulate source, certain special nuclear, and by-product material. See: 40 N.J.R. 2309(a), 40 N.J.R. 5196(b).

Subchapter 3, Registration of Ionizing Radiation-Producing Machines and Radioactive Materials, was renamed Registration of Ionizing Radiation-Producing Machines; Subchapter 4, Licensing of Naturally Occurring or Accelerator Produced Radioactive Materials, was renamed Licensing of Diffuse Naturally Occurring or Diffuse Accelerator Produced Radioactive Materials; Subchapter 5, Controlled Areas, was renamed Controlled Areas for Registrants; Subchapter 6, Dose Limits, was repealed and Subchapter 6, Standards For Protection Against Radiation, was adopted as new rules; Subchapter 7, Radiation Surveys and Personnel Monitoring, was renamed Radiation Surveys and Personnel Monitoring for Registrants; Subchapter 8, Records, was renamed Records for Registrants; Subchapter 9, Radioactive Contamination Control, was repealed; Subchapter 10, Labeling, Posting, and Controls, was renamed Labeling, Posting, and Controls for Registrants; Subchapter 11, Disposal of Radioactive Materials, was repealed; Subchapter 13, Reports of Thefts and Radiation Incidents, was renamed Reports of Thefts and Radiation Incidents for Registrants; Subchapter 17, Industrial and Nonmedical Radiography, was renamed Industrial and Nonmedical X-Ray Radiography; and Subchapter 50, Notices, Instructions and Reports To Workers: Inspection and Investigations, Subchapter 51, Rules of General Applicability to Domestic Licensing of Byproduct Material, Subchapter 52, General Domestic Licenses for Byproduct Material, Subchapter 53, Specific Domestic Licenses to Manufacture or Transfer Certain Items Containing Byproduct Material, Subchapter 54, Specific Domestic Licenses of Broad Scope for Byproduct Material, Subchapter 55, Medical Use of Byproduct Material, Subchapter 56, Licenses and Radiation Safety Requirements for Irradiators, Subchapter 57, Licenses and Radiation Safety Requirements for Well Logging, Subchapter 58, Domestic Licensing of Source Material, Subchapter 59, Licensing Requirements for Land Disposal of Radioactive Waste, Subchapter 60, Domestic Licensing of Special Nuclear Material, Subchapter 61, Packaging and Transportation of Radioactive Material, Subchapter 62, Exemptions and Continued NRC Regulatory Authority in Agreement States and in Offshore Waters Under Section 274 (42 U.S.C. § 2021), Subchapter 63, Licenses For Industrial Radiography Using Sealed Sources and Radiation Safety Requirements For Such Industrial Radiographic Operations, and Subchapter 64, Radioactive Materials License Fees were adopted as new rules, by R.2008 d.281, effective September 15, 2008 (operative September 30, 2009). See: 40 N.J.R. 2309(a), 40 N.J.R. 5196(b), 41 N.J.R. 3415(a).

In accordance with N.J.S.A. 52:14B-5.1d, the expiration date of Chapter 28, Radiation Protection Programs, was extended by gubernatorial directive from June 21, 2010 to June 21, 2011. See: 42 N.J.R. 468(a).

In accordance with N.J.S.A. 52:14B-5.1b, Chapter 28, Radiation Protection Programs, was scheduled to expire on June 21, 2013. See: 43 N.J.R. 1203(a).

Chapter 28, Radiation Protection Programs, was readopted, effective May 9, 2013. See: 45 N.J.R. 1400(a).

Subchapter 62, Exemptions and Continued NRC Regulatory Authority in Agreement States and in Offshore Waters Under Section 274 (42 U.S.C. § 2021), was renamed Reciprocity by R.2014 d.083, effective May 5, 2014. See: 45 N.J.R. 806(a), 46 N.J.R. 768(a).

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Subchapter 24, Nuclear Medicine Technology, was renamed Nuclear Medicine and Fusion Imaging Computed Tomography (CT) Technology, and Subchapter 61, Packaging and Transportation Of Radioactive Material, was renamed Packaging and Transportation Of Radioactive Materials by R.2016 d.022, effective March 7, 2016. As a part of R.2016 d.022, Subchapter 65, Physical Protection of Category 1 and Category 2 Quantities of Radioactive Material, was adopted as new rules, effective March 7, 2016 (operative March 19, 2016). See: 47 N.J.R. 2589(a), 47 N.J.R. 2695(a), 48 N.J.R. 409(b).

Chapter 28, Radiation Protection Programs, was readopted, effective February 19, 2020. See: Source and Effective Date.

Subchapter 19, Radiologic Technology, was renamed Radiologic Technologist and Radiologist Assistant by R.2020 d.061, effective June 15, 2020. See: 51 N.J.R. 1731(a), 52 N.J.R. 1267(a).

Subchapter 27, Certification of Radon Testers and Mitigators, was repealed effective June 6, 2022, with a delayed operative date of December 3, 2022, and Subchapter 27A, Radon Testing and Mitigation, was adopted as new rules by R.2022 d.054, effective June 6, 2022. See: 53 N.J.R. 461(a), 54 N.J.R. 1041(a). Chapter 27A, Radon Testing and Mitigation, was administratively recodified with changes, operative December 3, 2022, as Subchapter 27. See: 55 N.J.R. 165(a).

CHAPTER EXPIRATION DATE:

Chapter 28, Radiation Protection Programs, expires on February 19, 2027.

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SUBCHAPTER 1. GENERAL PROVISIONS

§ 7:28-1.1 Purpose and scope

(a) The purpose of this chapter is to prohibit and prevent the use or presence of unnecessary radiation in such manner as to be, or tend to be, injurious or dangerous to the health of the people or the industrial or agriculture potentials of the State, or to the ecology of the State and its wildlife.

(b) This chapter applies to all persons and persons licensed or registered by the Department to receive, possess, use, transfer, install, handle, transport, store, or dispose of ionizing radiation producing machines, non-ionizing radiation producing sources, diffuse technologically enhanced naturally occurring radioactive materials, diffuse accelerator-produced radioactive materials, by-product, source, or certain special nuclear material or to operate a production or utilization facility under N.J.A.C. 7:28-51 through 60. The limits in this chapter do not apply to doses due to background radiation, to exposure of patients to radiation for the purpose of medical diagnosis or therapy, to exposure from individuals administered radioactive material and released under N.J.A.C. 7:28-55.1, or to exposure from voluntary participation in medical research programs.

(c) The rules in this chapter establish standards for protection against ionizing radiation resulting from activities conducted under registrations or licenses issued by the Department.

(d) It is the purpose of the rules in this chapter to control the receipt, possession, use, transfer, and disposal of licensed material, ionizing radiation producing machines, or non-ionizing radiation producing sources by any licensee or registrant in such a manner that the total dose or exposure to an individual (including doses resulting from licensed and unlicensed radioactive material and from radiation sources other than background radiation) does not exceed the standards for protection against radiation prescribed in the rules in this chapter. However, nothing in this chapter shall be construed as limiting actions that may be necessary to protect health and safety.

HISTORY:

Amended by R.2000 d.120, effective March 20, 2000.
See: 31 N.J.R. 3007(a), 32 N.J.R. 1016(a).
In (b), substituted a reference to the Radiation Protection Programs for a reference to the Bureau of Radiation Protection.
Amended by R.2005 d.239, effective July 18, 2005.
See: 37 N.J.R. 8(a), 37 N.J.R. 2675(a).
Deleted a reference to Radiation Protection Programs.
Amended by R.2008 d.281, effective September 15, 2008 (operative September 30, 2009).
See: 40 N.J.R. 2309(a), 40 N.J.R. 5196(b), 41 N.J.R. 3415(a).
Rewrote (b); and added (c) and (d).

§ 7:28-1.2 Construction

These rules shall be liberally construed to permit the Department and its various agencies to discharge their statutory functions.

HISTORY:

Amended by R.2000 d.120, effective March 20, 2000.
See: 31 New Jersey Register 3007(a), 32 New Jersey Register 1016(a).
Substituted a reference to the Radiation Protection Programs for a reference to the Bureau of Radiation Protection.
Amended by R.2005 d.239, effective July 18, 2005.
See: 37 New Jersey Register 8(a), 37 New Jersey Register 2675(b).
Deleted a reference to Radiation Protection Programs.

§ 7:28-1.3 Practice where rules do not govern

The Commission may rescind, amend or expand these rules from time to time, in accordance with N.J.S.A. 26:2D-7, Chapter 116, Public Laws of 1958, as amended.

§ 7:28-1.4 Definitions

(a) The following words and terms, when used in this chapter, shall have the following meanings unless the context clearly indicates otherwise. Additional words and terms applicable to the chapter, incorporated from 10 CFR 20, are located at N.J.A.C. 7:28-6. Additional words and terms applicable to a specific subchapter only, will be found in that subchapter.

1. General Terms:

"Act" means the New Jersey Radiation Protection Act, Chapter 116, Public Laws of New Jersey 1958, as amended, cited as N.J.S.A. 26:2D-1 et seq.

"Agreement state" means any state with which the United States Nuclear Regulatory Commission has entered into an effective agreement under subsection 274b of the Atomic Energy Act of 1954, as amended.

"Annually" means occurring once per year at intervals of not less than 51 consecutive weeks nor more than 53 consecutive weeks.

"Area" means a bounded space such as a room, floor, building, plant or any designated geographical entity having physical or imaginary boundaries.

"Average dose rate" means an integrated or accumulated dose of radiation divided by the time over which the integration or accumulation took place or by a specified length of time.

"Commission" means the New Jersey Commission on Radiation Protection.

"Dead-man switch" means a switch which can be kept closed only when the operator applies continuous pressure.

"Department" means the New Jersey Department of Environmental Protection.

"Dose rate" means dose per unit time.

"Emergency exposure" means an exposure to radiation of an emergency worker during rescue or other emergency operations.

"Emergency worker" means a member of the owner's staff or of a public voluntary or governmental agency engaged in safety or other emergency operations.

"Exemption" means the administrative relief from the requirements of a substantive rule.

"Healing art" means the practice of any branch of medicine or surgery, any method of diagnosis of human ailment, disease, pain, injury, deformity, mental or physical condition.

"Inspection" means an official examination or observation including but not limited to tests, surveys, and monitoring to determine compliance with rules, regulations, orders, requirements and conditions of the Department.

"Installation" means a radiation source, with its associated equipment, and the area in which it is housed.

"Instructed individual" means an individual who has received appropriate instructions as to the safe means and methods of performing work with or near radiation sources.

"Ionizing radiation" means any form of radiation which has the capability of ionizing the medium through which it is passing.

"Maximum permissible dose" means the maximum dose to which the body or a particular part of the body of a person shall be permitted to be exposed continuously or intermittently in a stated period of time.

"Nonionizing radiation" means any form of radiation which does not have the capability of ionizing the medium through which it is passing.

"Owner" means a person who has title to a radiation source or who possesses a radiation source as a lessee, bailee or pursuant to the terms of a license issued by the Department, by a Federal agency, or by any other state.

"Personnel-monitoring equipment" means devices designed to be worn or carried by an individual for the purpose of measuring the dose received; for example, film badges, pocket chambers, pocket dosimeters, and thermoluminescent dosimeters.

"Qualified individual" means an individual suited by training and experience to perform dependable radiation surveys and to determine the degree of radiation hazard.

"Radiation" includes any or all of the following: electromagnetic radiation including radiofrequency, microwave, infrared, visible, ultraviolet, x-ray, or gamma ray; sonic, infrasonic, or ultrasonic waves; and particle radiation including alphas, betas, high energy electrons, neutrons, protons, and other atomic or nuclear particles.

"Research and development" means theoretical analysis, exploration, or experimentation; or the extension of investigative findings and theories of a scientific or technical nature into practical application for experimental production and testing of models, devices, equipment, materials and processes. "Research and

development" does not include the internal or external administration of radioactive material, or of radiation, to human beings.

"Semi-annually" means occurring twice per year at intervals of not less than 25 consecutive weeks nor more than 27 consecutive weeks.

"Shielding" means any material introduced into the path of radiation to reduce the radiation level.

"Source of radiation" means a material, equipment or machine emitting or capable of emitting radiation.

"State" means the State of New Jersey.

"Unnecessary radiation" means the use of nonionizing or ionizing radiation in such a manner as to be, or tend to be, injurious or dangerous to the health of the people or the industrial or agricultural potentials of the State, as defined in the Radiation Protection Act.

"User" means any individual who personally utilizes or manipulates a source of radiation.

2. Ionizing radiation terms:

"Beam-monitoring device" means a device in the useful beam to indicate the relative output of a radiation-producing machine.

"Contamination" means radioactive contamination.

"Diagnostic-type protective tube housing" means x-ray tube housing so constructed that the leakage radiation at a distance of one meter from the target cannot exceed 100 milliroentgen in one hour when the tube is operated at any of its specified ratings.

"Diffuse" means a radionuclide that has become concentrated, but not for the purpose of use in commercial, medical, or research activities.

"Domestic sewage" means waste and wastewater from humans or household operations that is discharged to or otherwise enters a treatment works.

"Domestic treatment works" or "DTW" means all publicly owned treatment works as well as any other treatment works processing primarily domestic sewage and pollutants together with any ground water, surface water, storm water or process wastewater that may be present.

"Human use" means the deliberate internal and external administration of radiation or radioactive material to human beings.

"Ionizing radiation-producing machine" means a machine or device capable of generating radiation, such as x-ray producing machines, particle accelerators, high-voltage rectifiers, high-voltage projection equipment, electron microscopes and other types of high-voltage machines.

"Leakage radiation" means all radiation coming from within an ionizing radiation-producing machine except the useful beam.

"NARM" means any naturally occurring or accelerator produced radioactive material.

"NORM" means any naturally occurring radioactive material.

"Protective barrier" means a barrier of radiation-absorbing material used to reduce radiation exposure. The types of protective barriers are as follows:

1. "Primary protective barrier" means the material, excluding filters, intercepting the useful beam for protection purposes to reduce the radiation exposure so that it does not exceed two millirems per hour;

2. "Secondary protective barrier" means a barrier sufficient to attenuate the stray radiation to reduce radiation exposure so that it does not exceed two millirems per hour.

"Radioactive material" means a natural or artificially produced substance, solid, liquid or gas which emits ionizing radiation spontaneously.

"Radioactive materials registrant" means a person who is required to register radioactive byproduct material, source material or special nuclear material with the Department pursuant to this chapter.

"Radiographer" means any individual who is in attendance at a site where ionizing radiation-producing machines are being used and who uses or supervises their use in industrial radiographic operations and who is responsible to the owner for assuring compliance with the requirements of this chapter.

"Radiographer's assistant" means any individual who, under the personal supervision of a radiographer, uses ionizing radiation-producing machines, related handling tools, or survey instruments in industrial radiography.

"Radiography" means the examination of humans or animals, or of the structure of materials by nondestructive methods, utilizing ionizing radiation-producing machines. This term is not intended to apply to techniques such as electron microscopy or x-ray diffraction.

"Registrant" means a person who is required to register an ionizing radiation-producing machine source of radiation with the Department pursuant to this chapter.

"Roentgen" means the quantity of x or gamma radiation such that the associated corpuscular emission per .001293 grams of air produces, in air, ions carrying one electrostatic unit of quantity of electricity of either sign.

"Secondary protective barrier" means a barrier intended to attenuate ionizing radiation (other than the useful beam) to the required degree.

"Sewage sludge" means the solid, semi-solid, or liquid residue generated by the processes of a domestic treatment works. Sewage sludge includes, but is not limited to, domestic septage; scum or solids removed in primary, secondary, or advanced wastewater treatment processes; and any material derived from sewage sludge.

"Shielded position" means the location within the radiographic-exposure device or storage container which by manufacturer's design, is the proper location for storage of the sealed source.

"Storage container" means a device in which radioactive materials or sources are transported or stored.

"Technologically enhanced naturally occurring radioactive materials" or "TENORM" means any naturally occurring radioactive materials whose radionuclide concentrations or potential for human exposure have been increased by any human activities.

"Total filtration" means the filtration produced by all materials inserted in the useful beam including the materials comprising the tube and its housing, any measured devices in the beam which act as a filter, and any material purposely placed in the beam as filters.

"Useful beam" means that part of the radiation beam which passes through the window, aperture cone or other collimating device of the tube housing.

"Water treatment facility" means an entity that applies a treatment device to drinking water for the purpose of reducing contaminants. The entity may be a community water system or non-community water system as defined by the EPA in 40 CFR 141.

"X-ray tube" means an electron tube which is designed for the conversion of electrical energy into x-ray energy.

3. Non-ionizing radiation terms:

"Electric field strength" means a field vector quantity that represents the force on an infinitesimal unit positive test charge at a point divided by that charge. The electric field strength is expressed in units of volts per meter (V/m).

"Far field" means a region associated with a radiating source or structure in which the field per unit solid angle is constant. In this region, the field has a predominantly plane wave character, that is, locally very uniform distributions of electric field strength and magnetic field strength in planes perpendicular to the direction of propagation. Generally, the far field region begins several wavelengths distant from the source.

"Fixed radio frequency device" means a device operating at a specific location for a period of 30 days or more.

"Magnetic field strength" means a field vector that is equal to the product of the magnetic flux density and the reciprocal of the permeability. Magnetic field strength is expressed in units of amperes per meter (A/m).

"Microwave oven" means an oven which is designed to heat, cook or dry food through the applications of radio frequency electromagnetic energy, and which is designed to operate at a frequency of 916 MHz or 2.45 GHz.

"Near field" means a region near a radiating source or structure in which the electric and magnetic fields do not have a substantially plane wave character, but vary considerably from point to point. The extent of the near field is only vaguely defined and depends on several factors the most important of which is the size of the radiating structure with respect to the wavelength of the emitted electromagnetic energy. In general, this distance extends to at least five wavelengths from the radiating device.

"Power density" means the rate of energy transported into a small sphere divided by the cross-sectional area of that sphere. Power density is expressed in units of watts per meter squared (W/m^2), or for convenience milliwatts per centimeter squared (mW/cm^2).

"Power density, plane wave equivalent" means a quantity that is associated with any electromagnetic wave that is equal in magnitude to the power density of a plane wave that has the same electric or magnetic field strength.

"Radiating device" means the antenna, leakage port, or any other part of a device that emits radio frequency electromagnetic energy.

"Radio frequency" means the frequency range of 300 kilohertz (kHz) to 100 gigahertz (GHz).

"Radio frequency device" means any stationary device, machine, equipment or installation which is capable of generating a radio frequency electromagnetic field. This does not include devices which are marketed as consumer products, including, but not limited to citizens band radios, remote controlled toys, remote controlled garage door openers, mobile radio transmitter under authorization of the Federal Communications Commission or any other device specifically exempted by the Commission on Radiation Protection as not presenting a potential hazard or harm to a worker or the public.

"Radio frequency protection guide (RFPG)" means the mean squared electric field strength, the mean squared magnetic field strength, and the equivalent plane wave power density which shall not be exceeded. The RFPG is an upper limit of exposure. Exposure to levels slightly in excess of the RFPG is not harmful, however, such exposure is not desirable. In all cases the exposure shall be reduced to values that are as low as reasonably achievable.

"Specific absorption rate (SAR)" means the time derivative of the incremental energy (dW) absorbed by (dissipated in) an incremental mass (dm) contained in a volume element (dV) of a given density (ρ).

$$SAR = \frac{ddW}{dt\,dm} = \frac{ddW}{dt\rho dV}$$

The specific absorption rate is expressed in units of watts per kilogram (W/kg). In view of the proliferation of terms for describing the electromagnetic radiation conditions in biological materials and the discipline oriented interpretation of these terms, it is recommended that the name "specific absorption rate" be used for the quantity defined here, rather than such a name as "absorbed power density per unit mass".

HISTORY:

Amended by R.1984 d.337, effective August 6, 1984.
See: 16 N.J.R. 7(a), 16 N.J.R. 2120(a).
"Fixed radio frequency device" added.
Amended by R.1985 d.502, effective October 7, 1985.
See: 17 N.J.R. 1626(a), 17 N.J.R. 2389(a).
Added definitions "shielded position" and "x-ray tube" in (b).
Amended by R.1992 d.52, effective February 3, 1992.
See: 23 N.J.R. 1401(c), 24 N.J.R. 416(a).
Added definitions "registrant" and "protective barrier"; deleted old definitions for "primary and secondary barriers" and replaced with new definitions.
Administrative Correction.
See: 25 N.J.R. 5665(a).
Amended by R.2005 d.156, effective May 16, 2005.
See: 36 N.J.R. 2336(a), 37 N.J.R. 1826(a).
Rewrote the section.
Amended by R.2008 d.281, effective September 15, 2008 (operative September 30, 2009).
See: 40 N.J.R. 2309(a), 40 N.J.R. 5196(b), 41 N.J.R. 3415(a).
Added new designation (a) to the introductory paragraph; rewrote the introductory paragraph of (a); recodified former (a) as (a)1; in (a)1, deleted definitions "Absorbed dose", "ALARA", "Background radiation", "Calendar quarter", "Controlled area", "Dose equivalent", "Occupational dose", "Person", "Radiation area", "State license", "State licensee" and "Survey", and added definitions "Annually" and "Semi-annually"; recodified former (b) as (a)2; in (a)2, deleted definitions "Adult", "Airborne-radioactivity area", "Byproduct material", "Collective dose", "Committed dose equivalent", "Committed effective dose equivalent", "Curie", "Declared pregnant woman", "Deep-dose equivalent", "Dose or radiation dose", "Effective dose equivalent", "High radiation area", "License", "Licensee", "Medical radiographer", "Member of the public", "Minor", "Monitoring", "Public dose", "Rad", "Radiographic-exposure device", "Reference man", "Rem", "Residual", "Sanitary sewer system", "Sealed source", "Source material", "Special nuclear material in quantities not sufficient to form a critical mass", "Stochastic effects", "Total effective dose equivalent", "Unrefined and unprocessed ore", "Unrestricted area", "Very high radiation area", and "Weighting factor", and added definitions "Diffuse", "Domestic sewage", "Domestic treatment works" and "Sewage sludge", and in definition "Radioactive materials registrant", substituted "byproduct" for "by-product", in definition "Radiographer", substituted "radiation-producing machines" for "radiation sources", in definition "Radiographer's assistant", deleted "sources of ionizing radiation including" following "uses" and "radiographic-exposure devices, sealed sources or" following "machines,", in definition "Radiography", deleted "sealed sources or" following "utilizing", and in definition "Registrant", substituted "an ionizing radiation-producing" for "a"; and recodified former (c) as (a)3.
AUTHORITY:
N.J.S.A. 13:1D-1 et seq., and specifically N.J.S.A. 26:2D-1 et seq.

§ 7:28-1.5 Communications

(a) Communications concerning this chapter, or matters relating to radiation protection, may be addressed to the New Jersey Department of Environmental Protection, Radiation Protection and Release Prevention, Mail Code 25-01, PO Box 420, Trenton, New Jersey 08625-0420. Telephone: (609) 984-5636, Fax: (609) 633-2210. The physical location of the office is 25 Arctic Parkway, Ewing, New Jersey 08638. Applications and forms may be obtained from the website at http://www.state.nj.us/dep/rpp/index.htm.

(b) Communications regarding radioactive materials including byproduct, source, special nuclear materials less than a critical mass, or diffuse naturally occurring radioactive materials except those communications related to 10 CFR 37.27, Requirements for criminal history records checks of individuals granted unescorted access to category 1 or category 2 quantities of radioactive material, shall be addressed to the New Jersey Department of Environmental Protection, Bureau of Environmental Radiation, Mail Code 25-01, PO Box 420, Trenton, NJ 08625-0420. Telephone: (609) 984-5400, Fax: (609) 984-5595. The physical location of the office is 25 Arctic Parkway, Ewing, NJ 08638.

(c) All emergency notification of incidents involving sources of radiation in this State shall be immediately reported to either one of the following agencies:

1. Radiation Protection Element
   New Jersey Department of Environmental Protection
   25 Arctic Parkway
   Ewing, NJ 08638
   Telephone: (609) 984-5462
   Hours: 8:00 A.M. to 5:00 P.M. daily, except Saturday, Sunday, and Holidays

After hours and weekends toll free: 1 (877) 927-6337
(1-877 WARN DEP)

2. Communications Officer
   New Jersey State Police Office of Emergency Management
   West Trenton, NJ 08628
   Telephone: 609-882-2000
   Hours: 24 hours, seven days.

HISTORY:

Amended by R.2000 d.120, effective March 20, 2000.
See: 31 N.J.R. 3007(a), 32 N.J.R. 1016(a).
Rewrote the section.
Amended by R.2005 d.239, effective July 18, 2005.
See: 37 N.J.R. 8(a), 37 N.J.R. 2675(a).
Rewrote the section.
Amended by R.2008 d.281, effective September 15, 2008 (operative September 30, 2009).
See: 40 N.J.R. 2309(a), 40 N.J.R. 5196(b), 41 N.J.R. 3415(a).
In (a), inserted ", Telephone: (609) 984-5636, Fax: (609) 633-2210" and inserted the last sentence; and in the last paragraph of (b)1, deleted ": (609) 292-7172 or" following "weekends".
Amended by R.2014 d.083, effective May 5, 2014.
See: 45 N.J.R. 806(a), 46 N.J.R. 768(a).
In (a), substituted ", Mail code 25-01," for "Element,", "420" for "415", and "0420" for "0415".
Amended by R.2016 d.022, effective March 7, 2016 (operative March 19, 2016).
See: 47 N.J.R. 2589(a), 47 N.J.R. 2695(a), 48 N.J.R. 409(b).
Added new (b); recodified former (b) as (c); and in (c)1, deleted "and Release Prevention" following the first occurrence of "Protection", and substituted "(1-877 WARN DEP)" for "(1 (877) WARN-DEP)".

§ 7:28-1.6 Incorporation of the Code of Federal Regulations by reference

(a) Portions of this chapter that are incorporated by reference from any portion of the Code of Federal Regulations (CFR) shall be understood in the manner set forth in this section.

(b) Unless specifically excluded by these rules, when a provision of the CFR is incorporated by reference, all notes, appendices, diagrams, tables, and figures are also incorporated by reference.

(c) Supplements, amendments, or other changes including, without limitation, repeals or stays that affect the meaning or operational status of a Federal regulation incorporated by reference, brought about by

either judicial or administrative action and adopted or otherwise noticed by the Nuclear Regulatory Commission (NRC) in the Federal Register, shall be paralleled by a similar automatic update to the New Jersey rule so that the New Jersey rule will have the same meaning and status as its Federal counterpart.

(d) Provisions of the CFR that are excluded from incorporation by reference in these rules are excluded in their entirety, unless otherwise specified. If there is a cross-reference to a Federal citation that is specifically entirely excluded from incorporation, the cross-referenced citation is not incorporated by virtue of the cross-reference.

(e) Federal statutes and regulations that are cited in the CFR that are not specifically adopted by reference shall be used to assist in interpreting the Federal regulations.

(f) In the event that there are inconsistencies or duplications in the requirements of the provisions incorporated by reference from the CFR and the rules set forth in this chapter, the provisions incorporated by reference from the CFR shall prevail, except where the rules set forth in this chapter are more stringent. This includes N.J.A.C. 7:28-12, Remediation Standards for Radioactive Materials, which replaces 10 CFR Part 20, Subpart E, in its entirety, and N.J.A.C. 7:28-55.1(b)5 and 6, which specifically exclude provisions of the CFR that allow determination of dosage of unsealed byproduct material for medical use by methods that do not include direct measurements. The foregoing notwithstanding, as to subparts the NRC identifies as compatibility categories A or B, in the event of inconsistencies or duplications, the provisions of the CFR shall prevail, except as provided in Table 1 below and the non-substantive substitutions identified in individual subchapters of this chapter.

(g) Nothing in these provisions incorporated by reference from the CFR shall affect the Department's authority to enforce statutes, rules, permits, licenses, or orders administered or issued by the Commissioner.

(h) The following provisions of the CFR are not incorporated by reference:

1. Each subpart that the NRC identifies as compatibility category "NRC." The compatibility category of a subpart is published in the Federal Register when the regulation is promulgated;

2. Each section entitled "violations";

3. Each section entitled "communications";

4. Each section that includes "information collection requirements" in the heading; and

5. Any reference to a master material license or a permit issued by a master material licensee.

(i) The following words and terms in the CFR shall be replaced as indicated in Table 1 below, except as otherwise indicated in this chapter:

Table 1: Replacement terms for terms in CFR provisions incorporated by reference

Terms in CFR	Replacement Terms
Of this part	Of this subchapter
To this part	To this subchapter
By this subpart	By this subchapter
Subject to this subpart	Subject to this subchapter
Under this subpart	Under this subchapter
In this subpart	In this subchapter
Agreement State or Agreement State agency	Agreement State or the NRC
Any non-Agreement State	The State of New Jersey, where the Department maintains jurisdiction
Commission NRC Nuclear Regulatory Commission U.S. NRC	Department
Act Atomic Energy Act Atomic Energy Act of 1954	Radiation Protection Act
Section __ of the Act	the Act
Part 19	N.J.A.C. 7:28-50
Part 20	N.J.A.C. 7:28-6

Terms in CFR	Replacement Terms
Part 30	N.J.A.C. 7:28-51
Part 31	N.J.A.C. 7:28-52
Part 32	N.J.A.C. 7:28-53
Part 33	N.J.A.C. 7:28-54
Part 34	N.J.A.C. 7:28-63
Part 35	N.J.A.C. 7:28-55
Part 36	N.J.A.C. 7:28-56
Part 37	N.J.A.C. 7:28-65
Part 39	N.J.A.C. 7:28-57
Part 40	N.J.A.C. 7:28-58
Part 61	N.J.A.C. 7:28-59
Part 70	N.J.A.C. 7:28-60
Part 71	N.J.A.C. 7:28-61
Part 150	N.J.A.C. 7:28-62
NRC Operations Center (301-816-5100)	Department of Environmental Protection's hotline 1-877 WARNDEP (1-877-927-6337)
Written interpretation by the General Counsel	Written interpretation signed and approved by the Commissioner of the Department
NRC regional office or Director of the office of Federal and State Materials and Environmental Management Programs; Director, Division of Security Policy, Office of Nuclear Security and Incident Response; or Director of the Office of Nuclear Material Safety and Safeguards	Bureau of Environmental Radiation at the address specified in N.J.A.C. 7:28-1.5(b)
10 CFR 20.1401	N.J.A.C. 7:28-12
10 CFR 20.1402	
10 CFR 20.1403	
10 CFR 20.1404	
10 CFR 20.1405	

(j) Replace each section entitled "criminal penalties" with the sentence, "The Radiation Protection Act of 1958, N.J.S.A. 26:2D-1 et seq., provides for criminal sanctions for violation of any provision of the Act."

(k) In each section entitled "specific exemptions," replace the sentence "The Commission may, upon application of any interested person or upon its own initiative, grant such exemptions from the requirements of the regulations in this part as it determines are authorized by law and will not endanger life or property or the common defense and security, and are otherwise in the public interest" with "The Department, with approval of the Commission on Radiation Protection, may, upon application of any interested person or upon its own initiative, grant such exemptions from the requirements of the regulations in this subchapter as it determines are authorized in accordance with the provisions of N.J.A.C. 7:28-2.8."

(l) In each section entitled "interpretations," replace "Except as specifically authorized by the Commission in writing, no" with "No."

(m) If the incorporation by reference replaces "Commission," "NRC," "Nuclear Regulatory Commission," or "U.S. NRC" with "Department," replace any NRC contact information with the contact information in N.J.A.C. 7:28-1.5(b).

(n) Unless otherwise specified, all written reports required by a provision of the CFR incorporated by reference shall be sent to the Manager, Bureau of Environmental Radiation at the address specified in N.J.A.C. 7:28-1.5(b).

HISTORY:

New Rule, R.2016 d.022, effective March 7, 2016 (operative March 19, 2016).
See: 47 N.J.R. 2589(a), 47 N.J.R. 2695(a), 48 N.J.R. 409(b).
Amended by R.2020 d.061, effective June 15, 2020.
See: 51 N.J.R. 1731(a), 52 N.J.R. 1267(a).
In (f), inserted the second sentence, and inserted "except as provided in Table 1 below and the non-substantive substitutions identified in individual subchapters of this chapter"; in (h)3, deleted "and" from the end; in (h)4, substituted "; and" for a period; added (h)5; and in Table 1 in (i), inserted "Part 31" through "Part 36", "Part 39", and "Part 61".

SUBCHAPTER 2. USE OF SOURCES OF IONIZING RADIATION AND SPECIAL EXEMPTIONS

§ 7:28-2.1 Authorized use of sources of ionizing radiation

(a) No person shall manufacture, use, operate, receive, possess, dispose, transfer, distribute or arrange for the distribution, sell, lease, install, transport or store sources of ionizing radiation in a manner other than prescribed in this chapter.

(b) No person shall cause, suffer, allow or permit any person to manufacture, use, operate, receive, possess, dispose, transfer, distribute or arrange for the distribution, sell, lease, install, transport or store sources of ionizing radiation in a manner other than prescribed in this chapter.

HISTORY:

Amended by R.2005 d.156, effective May 16, 2005.
See: 36 New Jersey Register 2336(a), 37 New Jersey Register 1826(a).
Inserted references to manufacture, distribution, sales, and leasing of sources of ionizing radiation throughout.

§ 7:28-2.2 Supervision

(a) All sources of radiation, except those specifically exempted by other sections of this chapter, shall be under the supervision of at least one person who has demonstrated to the Department, or to any agency recognized by the Department, that the person's training and experience satisfies the Department requirements in the following areas of radiation protection:

1. Principles and practices of radiation protection;

2. X-ray and/or radioactivity measurements and monitoring techniques and instruments;

3. Mathematics and calculations basic to the use of radiation;

4. Biological effects of radiation; and

5. Any additional information, qualifications or experience as may be required by the Department.

(b) Any person applying to the Department for a State license, registration or certificate pursuant to this chapter, shall include in his application the name of at least one person who has satisfied the requirements of (a) above.

HISTORY:

Amended by R.2005 d.156, effective May 16, 2005.
See: 36 New Jersey Register 2336(a), 37 New Jersey Register 1826(a).

§ 7:28-2.3 Instruction

(a) All persons working in or frequenting the vicinity of radiation-producing machines or radioactive material shall be instructed in the operation and/or use of the sources of radiation and the function and need of any applicable safeguards for the sources of radiation, in accordance with preestablished procedures that have been documented and are on file for review and inspection.

(b) All visitors to controlled areas shall be instructed or escorted to prevent unnecessary exposure to radiation. See N.J.A.C. 7:28-6.1 (Standards for protection against radiation) and 7:28-7.4(a)4 (Use of personnel monitoring equipment for visitors).

HISTORY:

Amended by R.2014 d.083, effective May 5, 2014.
See: 45 N.J.R. 806(a), 46 N.J.R. 768(a).
In (b), inserted "7:28-6.1 (Standards for protection against radiation) and".

§ 7:28-2.4 Unattended radiation sources

No person shall cause, suffer, allow or permit any source of radiation to remain unattended and accessible to unauthorized use.

§ 7:28-2.5 Protective devices, systems or mechanisms

(a) No person shall operate a radiation-producing machine or utilize radioactive material whenever shielding for the source of radiation permits levels of radiation that exceed or have the potential to exceed the radiation limits specified in N.J.A.C. 7:28-6.1 (Standards for protection against radiation).

(b) No person shall operate a radiation-producing machine or utilize radioactive material whenever any device, system or mechanism designed for the protection against radiation required by this chapter has not been installed or is operating improperly.

(c) No person shall operate a radiation-producing machine or utilize a radioactive material whenever any device, system, or mechanism designed for the protection against radiation provided at the time of manufacture, installation, or retrofitted to the equipment is not operating properly.

HISTORY:

Amended by R.2005 d.239, effective July 18, 2005.
See: 37 N.J.R. 8(a), 37 N.J.R. 2675(a).
Amended by R.2014 d.083, effective May 5, 2014.
See: 45 N.J.R. 806(a), 46 N.J.R. 768(a).
In (a), substituted "6.1 (Standards for protection against radiation)" for "6.2 (Radiation levels outside controlled areas)"; and added (c).

§ 7:28-2.6 Intentional human irradiation

(a) Only persons licensed or otherwise permitted by law shall arrange for irradiation, application or administration of radiation to a human being or any part thereof, for the purpose of medical diagnosis or treatment.

(b) No provision in N.J.A.C. 7:28 regarding the treatment of human beings in the healing arts is intended to conflict with, supplant or supersede any requirement of the Medical Practices Act of New Jersey.

§ 7:28-2.7 Exemptions for prevention or control of diseases

Rules contained in N.J.A.C. 7:28-6 or 7 and 7:28-13.2 (Reportable radiation incidents) shall not apply insofar as they relate to the intentional exposure of human beings to radiation for the purpose of diagnosis, treatment or investigation for the prevention or control of disease.

§ 7:28-2.8 Special exemptions

The Department, upon application and a showing of hardship or compelling need, with the approval of the Commission, may grant an exemption from any requirement of these rules should it determine that such exemption will not result in any exposure to radiation in excess of the limits permitted by N.J.A.C. 7:28-6, Standards for Protection Against Radiation, or 7:28-12, Remediation Standards for Radioactive Materials.

HISTORY:

Amended by R.2005 d.156, effective May 16, 2005.
See: 36 N.J.R. 2336(a), 37 N.J.R. 1826(a).
Substituted ", Dose Limits" for "Permissible Dose Rates, Radiation Levels and Concentrations" following the N.J.A.C. reference.
Amended by R.2008 d.281, effective September 15, 2008 (operative September 30, 2009).
See: 40 N.J.R. 2309(a), 40 N.J.R. 5196(b), 41 N.J.R. 3415(a).
Substituted "Standards for Protection Against Radiation" for "Dose Limits".
Amended by R.2014 d.083, effective May 5, 2014.
See: 45 N.J.R. 806(a), 46 N.J.R. 768(a).
Inserted ", or 7:28-12, Remediation Standards for Radioactive Materials".

§ 7:28-2.9 Prohibited use

(a) Hand-held fluoroscopic screens shall not be used.

(b) Shoe-fitting fluoroscopic devices shall not be used.

§ 7:28-2.10 Emergency precautions

(a) All owners of radioactive materials shall make a study of potential radiation hazards which may arise from radiation incidents, theft of radioactive materials, fires, floods, windstorms and other disasters within and near the installation with regard to the protection of the following:

1. Tenants and employees;

2. Emergency workers;

3. General public; and

4. Fire fighters and police.

(b) Such studies shall be made for radioactive materials on hand and shall be made in advance of the receipt of additional radioactive materials.

(c) An emergency operational plan, prepared from these studies, shall inform all persons concerned of their duties and responsibilities. This plan shall be made available to the Department on request.

§ 7:28-2.11 Inspections

(a) All persons shall afford the Department an opportunity to inspect any source of radiation and the operation associated with the source of radiation as well as the facilities and premises where the source of radiation is being used or stored.

(b) Upon request of the Department all persons shall make available for inspection by the Department records kept pursuant to the rules in N.J.A.C. 7:28.

§ 7:28-2.12 Tests

Upon request of the Department, all persons shall perform, and/or permit the Department to perform if it so desires, such tests as the Department deems appropriate or necessary for the administration of this chapter.

§ 7:28-2.13 Violations

(a) The Department may obtain an injunction or other court order to prevent a violation of the provisions of:

1. The Act; or

2. A regulation or order issued pursuant to the Act.

(b) The Department may impose a civil penalty for a violation of:

1. Any provision of this chapter or order issued hereunder;

2. Any term, condition, or limitation of a license issued under this chapter; or

3. A revocation under N.J.A.C. 7:28-4.16, 51 through 60, or 63.

(c) The Department shall not approve an amendment request to terminate a license or release a facility for unrestricted use in accordance with N.J.A.C. 7:28-12 until the licensee has satisfied all outstanding civil penalties imposed in accordance with this chapter.

HISTORY:

New Rule, R.2008 d.281, effective September 15, 2008 (operative September 30, 2009).
See: 40 N.J.R. 2309(a), 40 N.J.R. 5196(b), 41 N.J.R. 3415(a).
Amended by R.2014 d.083, effective May 5, 2014.
See: 45 N.J.R. 806(a), 46 N.J.R. 768(a).
In (b)3, updated the first N.J.A.C. reference; and added (c).

SUBCHAPTER 3. REGISTRATION OF IONIZING RADIATION-PRODUCING MACHINES

§ 7:28-3.1 Registration for possession of ionizing radiation-producing machines

(a) Any person, manufacturer, dealer or State, county or local government shall register with the Department every ionizing radiation-producing machine possessed within the State of New Jersey except as exempted by N.J.A.C. 7:28-3.2.

(b) Any person, manufacturer, dealer or State, county or local government shall apply for such registration within 30 days after taking possession, custody or control of ionizing radiation-producing machines on forms available from the Department.

(c) Any person, manufacturer, dealer or State, county or local government shall retain a copy of the registration at the facility for inspection by employees and the Department.

HISTORY:

Amended by R.2008 d.281, effective September 15, 2008 (operative September 30, 2009).
See: 40 N.J.R. 2309(a), 40 N.J.R. 5196(b), 41 N.J.R. 3415(a).
Section was "Registration for possession of ionizing radiation-producing machines and radioactive by-product material, source material and special nuclear material". In (a), deleted "all radioactive by-product material, source material, special nuclear material and" following "Department"; and in (b), deleted "radioactive by-product material, source material, special nuclear material and" preceding "ionizing".

§ 7:28-3.2 Exemptions from registration for possession of ionizing radiation-producing machines

(a) Ionizing radiation-producing machines not being used in such a manner as to produce radiation, such as equipment in storage or on display, are exempt from registration. Machines that are operated while on display must meet the requirements of N.J.A.C. 7:28-3.1.

(b) Electrical equipment that is not primarily intended to produce radiation and that does not produce radiation greater than 0.5 millirem per hour at any readily accessible point five centimeters from its surface is exempt from registration. Production-testing facilities for such equipment shall not be exempt if any individual might receive a radiation dose exceeding the limits established in N.J.A.C. 7:28-6.1.

(c) Ionizing radiation-producing machines possessed, stored or used by agencies of the United States Government are exempt from registration.

HISTORY:

Amended by R.2008 d.281, effective September 15, 2008 (operative September 30, 2009).
See: 40 N.J.R. 2309(a), 40 N.J.R. 5196(b), 41 N.J.R. 3415(a).
Section was "Exemptions from registration for possession of ionizing radiation-producing machines and radioactive by-product material, source material and special nuclear material". Deleted (d) through (f).
Amended by R.2014 d.083, effective May 5, 2014.
See: 45 N.J.R. 806(a), 46 N.J.R. 768(a).
In (b), updated the N.J.A.C. reference.

§ 7:28-3.3 Registration of ionizing radiation-producing machines

(a) Registration of ionizing radiation-producing machines shall pertain to each x-ray tube and its accompanying transformer, generator and control panel. If more than one x-ray tube operates off the same control panel, a separate registration is required for each tube.

(b) All registrations issued for ionizing radiation-producing machines shall expire pursuant to the schedule at N.J.A.C. 7:28-3.12(f) or shall expire one year from the date of initial application as determined by the Department. Registrations are renewable by the registrant for a period of one year upon payment of the fee provided in N.J.A.C. 7:28-3.12.

(c) Applications for new registrations for ionizing radiation-producing machines will be accepted throughout the calendar year. The annual registration fee set forth in N.J.A.C. 7:28-3.12 shall be either prorated from the date the registration is issued until its expiration date pursuant to N.J.A.C. 7:28-3.12(f), except that the Department may issue a registration for an additional year when an application is initially filed during the last three months of the registration year, or shall be assessed in full from the date of application until its expiration date one year later as determined by the Department.

HISTORY:

Amended by R.2014 d.083, effective May 5, 2014.
See: 45 N.J.R. 806(a), 46 N.J.R. 768(a).
In (b), substituted "pursuant to the schedule at N.J.A.C. 7:28-3.12(f)" for "on May 19 of each renewal year"; and in (c), substituted "pursuant to N.J.A.C. 7:28-3.12(f)" for "on May 19 following the date of application".

§ 7:28-3.4 Temporary registration of ionizing radiation-producing machines

(a) Any person, manufacturer, dealer or State, county or local government having temporary possession, custody or control of any ionizing radiation-producing machine for the purpose of replacing a registered machine that is out of service for a period longer than 60 days or for evaluation prior to purchase for a period longer than 60 days shall obtain a registration for temporary possession, custody or control of said machine.

(b) Application for temporary registration shall be submitted, on forms available from the Department, within 30 days after taking temporary possession, custody or control. No registration fee will be charged if the period of temporary possession, custody or control does not exceed 60 days. If the period exceeds 60 days, the annual registration fee for said machine set forth in N.J.A.C. 7:28-3.12 will be charged as of the date of application for the temporary registration.

(c) Within 30 days after relinquishment of temporary possession, custody or control of an ionizing radiation-producing machine, the registrant shall notify the Department in writing to terminate the temporary registration. The Department shall continue to charge a registration fee until a written notice of termination is received from the registrant.

§ 7:28-3.5 (Reserved)

HISTORY:

Amended by R.1991 d.417, effective August 5, 1991.
See: 22 N.J.R. 3300(a), 23 N.J.R. 2362(a).
(a) Added specific to a "specific" license; (c) deleted old text pertaining to fees and added new.
Amended by R.2005 d.156, effective May 16, 2005.
See: 36 N.J.R. 2336(a), 37 N.J.R. 1826(a).
In (b), inserted "radioactive materials" preceding reference to registrant throughout.
Repealed by R.2008 d.281, effective September 15, 2008 (operative September 30, 2009).
See: 40 N.J.R. 2309(a), 40 N.J.R. 5196(b), 41 N.J.R. 3415(a).
Section was "Registration of radioactive by-product material, source material and special nuclear material".

§ 7:28-3.6 Transfer of registration for ionizing radiation-producing machines

Registrations for ionizing radiation-producing machines are not transferable.

HISTORY:

Amended by R.2008 d.281, effective September 15, 2008 (operative September 30, 2009).
See: 40 N.J.R. 2309(a), 40 N.J.R. 5196(b), 41 N.J.R. 3415(a).
Section was "Transfer of registration for possession of radioactive by-product material, source material, special nuclear material and ionizing radiation-producing machines". Deleted "possession of radioactive by-product material, source material, special nuclear material and" preceding "ionizing".

§ 7:28-3.7 Amendments to registration of ionizing radiation-producing machines

(a) A registrant must notify the Department in writing within 30 days after any change in the following information on the application for registration of an ionizing radiation-producing machine:

1. Trade name;
2. X-ray tube capacity;
3. Type of housing;
4. Generator power;
5. Owner;
6. Co-owner;
7. Location of machine including address (number, street, city, zip code, county) and room number;
8. Machine category;
9. Manufacturer;
10. Control panel model number; and
11. Control console serial number.

§ 7:28-3.8 (Reserved)

HISTORY:

Amended by R.2005 d.156, effective May 16, 2005.
See: 36 N.J.R. 2336(a), 37 N.J.R. 1826(a).
Inserted "radioactive materials" preceding "registrant".
Repealed by R.2008 d.281, effective September 15, 2008 (operative September 30, 2009).
See: 40 N.J.R. 2309(a), 40 N.J.R. 5196(b), 41 N.J.R. 3415(a).
Section was "Amendments to registration of radioactive by-product material, source material or special nuclear material".

§ 7:28-3.9 Sale, installation, relocation or disposal of ionizing radiation-producing machines

(a) Whenever a manufacturer or dealer sells, installs, relocates or disposes of an ionizing radiation-producing machine, said manufacturer, agent or dealer shall give written notification thereof to the Department within 30 days of such sale, installation, relocation or disposal. Said notification shall include the manufacturer, model and serial number of each component, name and address of the new owner(s), address of the relocated machine or details of the final disposition of the machine. Notification shall be submitted on a form available from the Department. The Department may accept the current form used by the United States Food and Drug Administration for Report of Assembly of a Diagnostic X-ray System if the Department determines that the information is complete and accurate.

(b) Whenever an owner sells, relocates or disposes of an ionizing radiation-producing machine, said owner shall:

1. Give written notification to the Department on forms available from the Department within 30 days of such sale, relocation or disposal;

2. Include the New Jersey registration number, manufacturer, model and serial number of each component;

3. Include the name and address of the new owner(s); and

4. Include the address of the relocated machine, or details of the final disposition of the machine; and

5. Be responsible for all fees until the written notification is received by the Department.

§ 7:28-3.10 Denial of an application for registration, and suspension, modification, or revocation of registration of ionizing radiation-producing machines

(a) The Department, in addition to any penalties authorized by the Act, may deny an application for registration or suspend, modify or revoke a registration of ionizing radiation-producing machines by reason of amendments to the Act, adoption of rules, orders issued by the Department pursuant to said Act or if the applicant or registrant:

1. Fails to comply with any provisions of the Act or any rules promulgated pursuant thereto including the timely payment of registration fees;

2. Falsifies or makes misleading statements in the application for registration;

3. Falsifies or makes misleading statements in any documents which were utilized to obtain a registration;

4. Alters registration documents;

5. Falsifies required records;

6. Aids, abets, combines with, or conspires with any person for any purpose which will evade or be in violation of the provisions of the Act or any rules promulgated pursuant thereto; or

7. Allows a registration to be used by any person for any purpose which will evade or be in violation of the provisions of the Act or any rules promulgated pursuant thereto.

(b) Except as provided in N.J.S.A. 26:2D-12 in cases of emergency, no registration shall be denied, modified, suspended or revoked prior to a hearing conducted by the Office of Administrative Law pursuant to N.J.S.A. 52:14B-1 et seq., the Administrative Procedure Act, and N.J.A.C. 1:1-1 et seq., the Uniform Administrative Practice Rules, on the basis of a Notice of Intent filed by the Department stating the grounds for denial, suspension, modification or revocation of a registration.

(c) The Department may terminate a registration upon request submitted by the registrant to the Department in writing.

HISTORY:

Amended by R.2005 d.156, effective May 16, 2005.
See: 36 N.J.R. 2336(a), 37 N.J.R. 1826(a).
Inserted a reference to a radioactive materials registrant in (a) and (c).
Amended by R.2008 d.281, effective September 15, 2008 (operative September 30, 2009).
See: 40 N.J.R. 2309(a), 40 N.J.R. 5196(b), 41 N.J.R. 3415(a).
Section was "Denial of an application for registration, and suspension, modification, or revocation of registration of ionizing radiation-producing machines, radioactive by-product material, source material or special nuclear material". In the introductory paragraph of (a), deleted "radioactive by-product material, source material or special nuclear material" following "machines" and ", radioactive materials registrant" following "applicant"; and in (c), deleted "radioactive materials registrant or" preceding "registrant".

§ 7:28-3.11 (Reserved)

HISTORY:

Amended by R.2005 d.239, effective July 18, 2005.
See: 37 N.J.R. 8(a), 37 N.J.R. 2675(a).
Repealed by R.2008 d.281, effective September 15, 2008 (operative September 30, 2009).
See: 40 N.J.R. 2309(a), 40 N.J.R. 5196(b), 41 N.J.R. 3415(a).
Section was "Table of radioactive materials and quantities exempt from registration".

§ 7:28-3.12 Application and annual registration renewal fees for ionizing radiation-producing machines

(a) On initial registration of each x-ray tube, each registrant shall pay an application fee of $ 40.00 plus the prorated portion of the applicable annual registration renewal fee set forth in (b), (c), (d) or (e) below for the remainder of the first year of registration.

(b) Each registrant of an ionizing-radiation-producing machine used in a dental facility shall pay:

1. The initial application and registration fees for each x-ray tube pursuant to (a) above, and

2. In each year after the expiration of the first year of registration established pursuant to (f) below, the annual registration renewal fee per x-ray tube as follows:

DENTAL FACILITIES

Machine Category and Description		Annual Registration Renewal Fee Per X-Ray Tube
01D	Dental Machine	$ 92

(c) Each registrant of an ionizing-radiation-producing machine used in a hospital facility shall pay:

1. The initial application and registration fees for each X-ray tube pursuant to (a) above; and

2. In each year after the expiration of the first year of registration establish pursuant to (f) below, the annual registration renewal fee per X-ray tube follows:

HOSPITAL FACILITIES

Machine Category and Description		Annual Registration Renewal Fee Per X-Ray Tube
01H	Dental Machine	$ 140.00
02H	Fixed Medical Radiographic Machine	208.00
03H	Mobile Medical Radiographic Machine	208.00
31H	Portable Medical Radiographic Machine (hand carried)	208.00
06H	Motor Vehicle Mounted Medical Radiographic Machine	208.00
04H	Fixed Medical Fluoroscopic Machine	163.00
05H	Mobile Medical Fluoroscopic Machine	163.00
32H	Portable Medical Fluoroscopic Machine (hand carried)	163.00
33H	Motor Vehicle Mounted Medical Fluroscopic Machine	163.00
07H	Fixed Medical Radiographic Fluoroscopic Machine	253.00
08H	Mobile Medical Radiographic Fluoroscopic Machine	253.00
34H	Portable Medical Radiographic Fluoroscopic Machine (hand carried)	253.00
35H	Motor Vehicle Mounted Medical Radiographic Fluoroscopic Machine	253.00
09H	CT Scan Machine	163.00
10H	Mammography Machine	298.00

HOSPITAL FACILITIES

Machine Category and Description		Annual Registration Renewal Fee Per X-Ray Tube
36H	Motor Vehicle Mounted Mammography Machine	298.00
37H	Mobile Mammography Machine	298.00
44H	MQSA Mammography Machine	73.00
45H	MQSA Motor Vehicle Mounted Mammography Machine	73.00
46H	MQSA Mobile Mammography Machine	73.00
11H	Medical Therapeutic Machine 60 kVp	253.00
12H	Medical Therapeutic Machine 61 kVp to 999 kVp	253.00
14H	Medical Therapeutic Machine 1 MeV and above	343.00
30H	Radiation Therapy Simulator Machine	208.00
38H	Biomedical (non-human) Research Machine	140.00
21H	Electron Microscope Machine	140.00
22H	Cabinet X-ray Machine	140.00
28H	Bone Densitometer Machine	118.00

(d) Each registrant of an ionizing-radiation-producing machine used in a non-hospital facility (including, but not limited to, doctors' offices, medical facilities, industrial facilities, schools, and government facilities) shall pay:

1. The initial application and registration fees for each X-ray tube pursuant to (a) above; and

2. In each year after the expiration of the first year of registration established pursuant to (f) below, the annual registration renewal fee per X-ray tube as follows:

NON-HOSPITAL FACILITIES

Machine Category and Description		Annual Registration Renewal Fee Per X-Ray Tube
01N	Dental Machine	$ 106.00
02N	Fixed Medical Radiographic Machine	140.00
03N	Mobile Medical Radiographic Machine	140.00
31N	Portable Medical Radiographic Machine (hand carried)	140.00
06N	Motor Vehicle Mounted Medical Radiographic Machine	140.00
04N	Fixed Medical Fluoroscopic Machine	118.00
05N	Mobile Medical Fluoroscopic Machine	118.00
32N	Portable Medical Fluoroscopic Machine (hand carried)	118.00
33N	Motor Vehicle Mounted Medical Fluoroscopic Machine	118.00
07N	Fixed Medical Radiographic Fluoroscopic Machine	163.00
08N	Mobile Medical Radiographic Fluoroscopic Machine	163.00
34N	Portable Medical Radiographic Fluoroscopic Machine (hand carried)	163.00

NON-HOSPITAL FACILITIES

Machine Category and Description		Annual Registration Renewal Fee Per X-Ray Tube
35N	Motor Vehicle Mounted Medical Radiographic Fluoroscopic Machine	163.00
09N	CT Scan Machine	118.00
10N	Mammography Machine	298.00
36N	Motor Vehicle Mounted Mammography Machine	298.00
37N	Mobile Mammography Machine	298.00
44N	MQSA Mammography Machine	73.00
45N	MQSA Motor Vehicle Mounted Mammography Machine	73.00
46N	MQSA Mobile Mammography Machine	73.00
11N	Medical Therapeutic Machine ≤60 kVp	118.00
12N	Medical Therapeutic Machine >61 kVp to 999 kVp	253.00
14N	Medical Therapeutic Machine 1 MeV and above	343.00
30N	Radiation Therapy Simulator Machine	208.00
38N	Biomedical (non-Human) Research Machine	140.00
17N	Industrial/Research Radiography Machine	151.00
39N	Portable Industrial Radiography Machine	151.00
40N	Shielded Room Radiography Machine	151.00
18N	Electron Beam Welder/Furnace Machine	129.00
19N	Analytical X-ray Machine ≤16 kVp	118.00
20N	Analytical X-ray Machine >16 kVp	118.00
21N	Electron Microscope Machine	106.00
22N	Cabinet X-ray Machine	106.00
23N	X-ray Baggage Machine	106.00
24N	Particle Accelerator Machine (non-medical use) ≤30 kVp	185.00
25N	Particle Accelerator Machine (non-medical use) >30 kVp	196.00
28N	Bone Densitometer Machine	95.00
41N	Machine not specifically listed above, ≤50 kVp	118.00
42N	Machine not specifically listed above, 51 kVp to 999 kVp	118.00
43N	Machine not specifically listed above, 1 MeV and above	140.00

(e) Each registrant of an ionizing-radiation-producing machine used in a veterinary facility shall pay:

1. The initial application and registration fees for each X-ray tube pursuant to (a) above, and

2. In each year after the expiration of the first year of registration established pursuant to (f) below, the annual registration renewal fee per X-ray tube as follows:

VETERINARY FACILITIES

Machine Source Category and Description		Annual Registration Renewal Fee Per X-Ray Tube
01V	Dental Machine	$ 86.00
02V	Fixed Medical Radiographic Machine	100.00
03V	Mobile Medical Radiographic Machine	100.00
31V	Portable Medical Radiographic Machine (hand carried)	100.00
04V	Fixed Medical Fluoroscopic Machine	91.00
05V	Mobile Medical Fluoroscopic Machine	91.00
32V	Portable Medical Fluoroscopic Machine (hand carried)	91.00
07V	Fixed medical Radiographic Fluoroscopic Machine	109.00
08V	Mobile Medical Radiographic Fluoroscopic Machine	109.00

(f) The expiration date of each year of registration shall be specified by the Department on the billing invoice sent to each registrant. The registration expiration date shall be based on the first letter of the registrant name as follows:

1. For a registrant whose name begins with a numeric character or A through F, the registration expiration date shall be August 31 of each calendar year;

2. For a registrant whose name begins with G through L, the registration expiration date shall be September 30 of each calendar year;

3. For a registrant whose name begins with M through R, the registration expiration date shall be October 31 of each calendar year; and

4. For a registrant whose name begins with S through Z, the registration expiration date shall be November 30 of each calendar year.

(g) Each registrant shall pay the initial registration application fee and annual registration renewal fee within 60 days of the date of the invoice billing issued by the Department. Any fee payment postmarked or handcarried to the Department after the invoice due date will be subject to a $ 25.00 per month late charge. If necessary, the Department will issue a second invoice. Late charges must be paid within 30 days of the second invoice. If a registrant fails to pay a fee by the original invoice due date, the registration of the ionizing-radiation-producing machine shall be deemed expired.

(h) When two or more X-ray tubes are operated from the same generator, the registrant shall pay an application fee and an annual registration renewal fee for each tube.

(i) Each registrant shall make payment only by check or money order made payable to "Treasurer, State of New Jersey." Each payment shall be accompanied by the invoice issued by the Department and shall be submitted to the address specified on the invoice: Department of Treasury, Division of Revenue, PO Box 417, Trenton, New Jersey 08646-0417.

(j) An application fee will not be charged for any machine registered pursuant to the Radiation Protection Code prior to November 16, 1987. However, the registrant shall pay the applicable annual registration renewal fee for any such machine.

(k) A fee submitted to the Department is non-refundable.

HISTORY:

Amended by R.1990 d.400, effective August 6, 1990.
See: 22 N.J.R. 1653(a), 22 N.J.R. 2302(a), 22 N.J.R. 2830(a).
Fees increased.
Repeal and New Rule, R.1995 d.49, effective January 17, 1995.
See: 26 N.J.R. 3797(a), 27 N.J.R. 336(a).
Formerly "Fees for initial registration application and annual registration of ionizing radiation-producing machines".
Amended by R.1999 d.369, effective October 18, 1999.
See: 31 N.J.R. 1130(a), 31 N.J.R. 3087(c).
In (c)2 and (d)2, inserted references to MQSA Mammography Machines, MQSA Motor Vehicle Mounted Mammography Machines and MQSA Mobile Mammography Machines.
Amended by R.2005 d.239, effective July 18, 2005.

See: 37 N.J.R. 8(a), 37 N.J.R. 2675(a).
In (i), amended the address.
Amended by R.2014 d.083, effective May 5, 2014.
See: 45 N.J.R. 806(a), 46 N.J.R. 768(a).
Section was "Application and annual registration renewal fees for ionizing-radiation-producing machines". In the introductory paragraph of (d), inserted a comma following "including" and following "to"; in the entry for 24N in the table in (d)2, substituted "185.00" for "196.00"; in the entry for 25N in the table in (d)2, substituted "196.00" for "185.00"; in (f)1, inserted "a numeric character or"; and added (k).

§ 7:28-3.13 (Reserved)

HISTORY:

New Rule, R.1991 d.417, effective August 5, 1991.
See: 23 N.J.R. 3300(a), 23 N.J.R. 2362(a).
Amended by R.2005 d.156, effective May 16, 2005.
See: 36 N.J.R. 2336(a), 37 N.J.R. 1826(a).
Rewrote (a); in (d), substituted "registration" for "license" following "annual" in the first sentence; added (h). Amended by R.2005 d.239, effective July 18, 2005.
See: 37 N.J.R. 8(a), 37 N.J.R. 2675(a).
In (f), amended the address.
Repealed by R.2008 d.281, effective September 15, 2008 (operative September 30, 2009).
See: 40 N.J.R. 2309(a), 40 N.J.R. 5196(b), 41 N.J.R. 3415(a).
Section was "Fees for registration of radioactive by-product material, source material and special nuclear material".

SUBCHAPTER 4. LICENSING OF DIFFUSE NATURALLY OCCURRING OR DIFFUSE ACCELERATOR PRODUCED RADIOACTIVE MATERIALS

§ 7:28-4.1 Scope and general provisions

(a) This subchapter shall apply to persons who produce, transfer, distribute, or arrange for the distribution, sell, lease, receive, acquire, own, transport, store, dispose, possess, or use any diffuse naturally occurring or diffuse accelerator produced radioactive materials, including TENORM, in this State.

(b) No person shall produce, transfer, distribute, or arrange for the distribution, sell, lease, receive, acquire, own, transport, store, dispose, possess, or use any diffuse naturally occurring or diffuse accelerator produced radioactive materials, including TENORM, in this State unless authorized by a specific license issued by the Department as provided by N.J.A.C. 7:28-4.7 and 4.8, a general State license as provided in N.J.A.C. 7:28-4.5, or an exemption as provided in N.J.A.C. 7:28-4.3. Excepted from this provision are by-product, source and special nuclear materials.

HISTORY:

Amended by R.2005 d.156, effective May 16, 2005.
See: 36 N.J.R. 2336(a), 37 N.J.R. 1826(a).
Rewrote the section.
Amended by R.2008 d.281, effective September 15, 2008 (operative September 30, 2009).
See: 40 N.J.R. 2309(a), 40 N.J.R. 5196(b), 41 N.J.R. 3415(a).
Inserted "diffuse" throughout; in (b), deleted "State" following "specific" and "general" and substituted "by-product" for "byproduct"; and in (c), deleted "State" preceding "license".
Amended by R.2014 d.083, effective May 5, 2014.
See: 45 N.J.R. 806(a), 46 N.J.R. 768(a).
In (a), deleted "manufacture," following "who"; in (a) and (b), inserted "transport, store, dispose,", and inserted a comma following "distribute" and "possess"; in (b), deleted "manufacture," following "shall"; and deleted (c).

§ 7:28-4.2 Recognition of licenses for diffuse NARM from other jurisdictions

(a) Any person who possesses a specific license or equivalent licensing document issued by a Federal agency or any other state is granted a general license in this State provided that the provisions of (b)1 through 4 below have been met.

(b) Any person who possesses a specific license or equivalent licensing document issued by a Federal agency or any other state may, pursuant to the general license in (a) above, transport, receive, possess, or use the radioactive materials specified in such license within this State for a period not in excess of 180 days

in any period of 12 consecutive months without obtaining a specific license from the Department provided that:

1. The license does not limit the activity to specified installations or locations;

2. The licensee notifies the Department in writing at least three days prior to the time that such radioactive material is brought into this State. Such notification shall indicate the location, period, and type of proposed possession and use within this State, and shall be accompanied by a copy of the pertinent licensing document. If in a specific case the three-day period would impose an undue hardship on the user, he may, upon application to the Department, obtain permission to proceed sooner;

3. The licensee complies with all the terms and conditions of the license;

4. The licensee provides such other information as the Department may request; and

(c) The Department may withdraw, limit or qualify its acceptance of such licenses issued by another agency, or any product distributed pursuant to such licensing documents, upon determining that such action is necessary in order to prevent undue hazard to public health and safety or property.

HISTORY:

Amended by R.2005 d.156, effective May 16, 2005.
See: 36 N.J.R. 2336(a), 37 N.J.R. 1826(a).
In (b), substituted "product" for "produce" preceding "distributed".
Amended by R.2008 d.281, effective September 15, 2008 (operative September 30, 2009).
See: 40 N.J.R. 2309(a), 40 N.J.R. 5196(b), 41 N.J.R. 3415(a).
Section was "Recognition of licenses from other jurisdictions". Rewrote the section.

§ 7:28-4.3 Exemption from requirement for a license for production, transfer, distribution, or arrangement of distribution, sale, lease, receipt, acquisition, ownership, possession, or use of all diffuse naturally occurring or diffuse accelerator produced radioactive materials

(a) A person shall be exempt from the requirement to obtain a license for the following activities:

1. The person is a plant or laboratory owned by or operated on behalf of a Federal agency;

2. The person is a common or contract carrier and is transporting or storing radioactive materials covered by N.J.A.C. 7:28-4.7 in the regular course of carriage for another, or storage incident thereto;

3. The person produces, receives, possesses, uses, transfers, distributes, or arranges for the distribution, sells, leases, owns, or acquires materials containing diffuse naturally occurring or diffuse accelerator produced radioactive materials in concentrations not in excess of those exempted in (b) below;

4. The person owns or possesses naturally occurring radioactive materials, occurring in natural abundance and which are not technologically enhanced naturally occurring radioactive materials, whether intentionally or unintentionally;

5. The person who receives, owns, possesses, uses, processes, transfers, distributes, arranges for the distribution, sells or leases technologically enhanced naturally occurring radioactive materials (TENORM) if the TENORM contain any combination of Radium-226 and Radium-228 at concentrations less than five pCi/g (185 Bq/kg) (dry weight) above background and less than the quantity listed in (c) below;

6. The person owns property where radon gas is being expelled to the outside atmosphere as part of a radon remediation system installed in accordance with the provisions of N.J.A.C. 7:28-27;

7. The person owns a domestic treatment works where sewage sludge is present which may contain TENORM from the separation of liquids and solids which is the outcome of normal operations of the domestic treatment works;

8. The person is involved with the distribution, including custom blending, possession, and use of fertilizers containing TENORM; and

9. The person owns property where residual contamination remaining at the site was remediated under the Radiation Protection Act (N.J.S.A. 26:2D-1 et seq.) and/or the other authorities listed in the Soil Remediation Standards at N.J.A.C. 7:28-12.2(a). Such residual concentrations may be greater than the limits specified in (a)5 above, but be under restricted conditions imposed by the Department (such as engineering and institutional controls), and meet the dose criteria specified in N.J.A.C. 7:28-12.8.

(b) The following concentrations of diffuse naturally occurring radioactive materials, including TENORM, and diffuse accelerator-produced radioactive materials, when obtained from naturally occurring materials or when produced by an accelerator are exempt from the requirements for a license:

Exempt Concentrations

Element (nuclide)	Column 1 Gas concentration (uCi/ml)	Column 2 Liq. & solid concentration (uCi/ml)***
Argon (Ar-37)	1×10^{-3}	—
Arsenic (As-73)	—	5×10^{-3}
(As-74)	—	5×10^{-4}
Barium (Ba-131)	—	2×10^{-3}
Beryllium (Be-7)	—	2×10^{-2}
Bismuth (Bi-206)	—	4×10^{-4}
(Bi-207)*	—	2×10^{-4}
Cadmium (Cd-109)	—	2×10^{-3}
Chromium (Cr-51)	—	2×10^{-2}
Cobalt (Co-56)*	—	1.2×10^{-4}
(Co-57)	—	5×10^{-3}
(Co-58)	—	1×10^{-3}
Dysprosium (Dy-159)*	—	4×10^{-3}
Fluorine (F-18)	2×10^{-6}	8×10^{-3}
Gallium (Ga-67)*	—	2×10^{-3}
Germanium (Ge-68)*	—	1.2×10^{-3}
(Ge-71)	—	2×10^{-2}
Gold (Au-196)	—	2×10^{-3}
(Au-199)	—	2×10^{-3}
Indium (In-111)*	—	1.2×10^{-3}
(In-113m)	—	1×10^{-2}
Iodine (I-123)*	4×10^{-7}	2×10^{-3}
(I-124)*	8×10^{-9}	4×10^{-5}
Iridium (Ir-190)	—	2×10^{-3}
(Ir-192)	—	4×10^{-4}
Iron (Fe-55)	—	8×10^{-3}
Krypton (Kr-85m)	1×10^{-6}	—
Lead (Pb-201)*	—	2×10^{-3}
(Pb-203)	—	4×10^{-3}
(Pb-210)*	—	2×10^{-7}
Manganese (Mn-52)	—	3×10^{-4}
(Mn-54)	—	1×10^{-3}
Mercury (Hg-197m)	—	2×10^{-3}
(Hg-197)	—	3×10^{-3}
Neptunium (Np-237)*	—	4×10^{-7}

Exempt Concentrations

Element (nuclide)	Column 1 Gas concentration (uCi/ml)	Column 2 Liq. & solid concentration (uCi/ml)***
Palladium (Pd-103)	—	3×10^{-3}
Platinum (Pt-191)	—	1×10^{-3}
(Pt-193m)	—	1×10^{-2}
(Pt-197m)	—	1×10^{-2}
Radium (Ra-226)*	—	1.2×10^{-6}
(Ra-228)	—	4×10^{-11}
Rhenium (Re-183)	—	6×10^{-3}
Rubidium (Rb-81)*	—	1×10^{-2}
(Rb-83)*	—	1.8×10^{-4}
(Rb-84)*	—	1.4×10^{-4}
Ruthenium (Ru-97)	—	4×10^{-4}
Samarium (Sm-153)	—	8×10^{-4}
Scandium (Sc-48)	—	3×10^{-4}
Silver (Ag-105)	—	1×10^{-3}
(Ag-111)	—	4×10^{-4}
Sodium (Na-22)*	—	1.2×10^{-4}
Tantalum (Ta-179)*	—	6×10^{-3}
Technetium (Tc-96)	—	1×10^{-3}
Thallium (Tl-200)	—	4×10^{-3}
(Tl-201)	—	3×10^{-3}
(Tl-202)	—	1×10^{-3}
**Thorium (Th-228)*	—	4×10^{-6}
(Th-230)*	—	2×10^{-6}
(Th-232)*	—	6×10^{-7}
(Th-234)*	—	1×10^{-4}
Thulium (Tm-170)	—	5×10^{-4}
Tungsten (Wolfram) (W-181)	—	4×10^{-3}
**Uranium (U-234)*	—	6×10^{-6}
(U-235)*	—	6×10^{-6}
(U-238)*	—	6×10^{-6}
Vanadium (V-48)	—	3×10^{-4}
Yttrium (Y-88)*	—	2×10^{-4}
(Y-92)	—	6×10^{-4}
Zinc (Zn-69m)	—	7×10^{-4}

Exempt Concentrations

Element (nuclide)	Column 1 Gas concentration (uCi/ml)	Column 2 Liq. & solid concentration (uCi/ml)***
Any other beta/gamma emitter with half-life < 3 years	1×10^{-10}	1×10^{-6}

*The values for those diffuse naturally occurring radioactive materials and diffuse accelerator produced radioactive materials, including TENORM, that are followed by a single asterisk(*) are based upon multiplying 20 times the most restrictive release concentrations specified in 10 CFR 20 Appendix B, Table 2, Columns 1 (air) and 2 (water).

**These concentrations do not apply to source material for thorium and uranium.

***uCi/g for solids

1. Many radioisotopes disintegrate into isotopes which are also radioactive. In expressing the concentrations in this section, the value given is that of the parent isotope and takes into account the radioactivity of the daughters.

2. For purposes of N.J.A.C. 7:28-4.3(a)3, where a combination of isotopes is involved, the limit for the combination shall be computed as follows:

i. Determine for each isotope in the product the ratio between the concentration present in the product and the exempt concentration established in this section for the specific isotope when not in combination. The sum of such ratios may not exceed "1" (unity).

Example:

$$\frac{\text{Concentration of Isotope A in Product}}{\text{Exempt concentration of Isotope A}} + \frac{\text{Concentration of Isotope B in Product}}{\text{Exempt concentration of Isotope B}} \leq 1$$

(c) If a person produces, transfers, distributes, or arranges for the distribution, sells, leases, receives, acquires, owns, possesses, or uses diffuse naturally occurring radioactive materials or diffuse accelerator-produced radioactive materials, including TENORM, in quantities less than those listed in N.J.A.C. 7:28-4.5(a), they are exempt from the requirement for a license.

HISTORY:

Amended by R.2005 d.156, effective May 16, 2005.

See: 36 N.J.R. 2336(a), 37 N.J.R. 1826(a).

Rewrote the section.

Amended by R.2008 d.281, effective September 15, 2008 (operative September 30, 2009).

See: 40 N.J.R. 2309(a), 40 N.J.R. 5196(b), 41 N.J.R. 3415(a).

Section was "Exemption from requirement for a State license for manufacture, production, transfer, distribution or arrangement of distribution, sale, lease, receipt, acquisition, ownership, possession or use of all naturally occurring or accelerator produced radioactive materials". In the introductory paragraph of (a), deleted "State" preceding "license"; in (a)3, inserted "diffuse" twice, deleted the N.J.A.C. reference and inserted "below"; deleted former (a)4; recodified former (a)5 through (a)10 as (a)4 through (a)9; in (a)7, substituted "domestic treatment works" for "sanitary sewer system" twice and substituted "sewage sludge is" for "residuals are"; in (a)9, substituted "(a)5" for "(a)6" and updated the N.J.A.C. reference; in the introductory paragraph of (b), substituted "diffuse naturally occurring radioactive materials" for "NARM" and inserted "and diffuse accelerator-produced radioactive materials," and deleted "State" preceding "license"; in Column 2 of the "Exempt Concentrations" table in (b), substituted three asterisks for four asterisks following "(uCi/ml)"; in the first note following the "Exempt Concentrations" table in (b), substituted "diffuse naturally occurring radioactive materials and diffuse accelerator produced radioactive materials" for "NARM nuclides"; in the second note following the "Exempt Concentrations" table in (b), deleted "as defined by the NRC" following "material"; and in (c), substituted "diffuse naturally occurring radioactive materials or diffuse accelerator produced radioactive materials" for "NARM".

Amended by R.2014 d.083, effective May 5, 2014.

See: 45 N.J.R. 806(a), 46 N.J.R. 768(a).

Section was "Exemption from requirement for a license for manufacture, production, transfer, distribution or arrangement of distribution, sale, lease, receipt, acquisition, ownership, possession or use of all diffuse naturally occurring or diffuse accelerator produced radioactive materials". In (a)3 and (c), deleted "manufactures," following "person", and inserted a comma following "distributes"; in (a)3, inserted a comma following "owns", and deleted "products or" follow-

ing "acquires"; and in (c), inserted a comma following "possesses", substituted "accelerator-produced" for "accelerator produced", and updated the N.J.A.C. reference.

§ 7:28-4.4 Types of licenses for production, transfer, distribution, or arrangement for distribution, sale, lease, receipt, acquisition, ownership, possession, or use of all diffuse naturally occurring or diffuse accelerator produced radioactive materials

(a) General licenses described in N.J.A.C. 7:28-4.5 are effective without the filing of an application with the Department or the issuance of licensing documents to particular persons.

(b) Specific licenses are issued to named persons upon application filed pursuant to the requirements of this subchapter.

(c) General licenses requiring registration, described in N.J.A.C. 7:28-4.5(b), are subject to annual certification that the material is still in the licensee's possession and the treatment system is being maintained according to the manufacturer's instructions.

HISTORY:

Amended by R.2005 d.156, effective May 16, 2005.
See: 36 N.J.R. 2336(a), 37 N.J.R. 1826(a).
Amended by R.2008 d.281, effective September 15, 2008 (operative September 30, 2009).
See: 40 N.J.R. 2309(a), 40 N.J.R. 5196(b), 41 N.J.R. 3415(a).
Section was "Types of licenses for manufacture, production, transfer, distribution or arrangement for distribution, sale, lease, receipt, acquisition, ownership, possession or use of all naturally occurring or accelerator produced radioactive materials". In (a), deleted "State" following "General"; and in (b), deleted "State" following "Specific".
Amended by R.2014 d.083, effective May 5, 2014.
See: 45 N.J.R. 806(a), 46 N.J.R. 768(a).
Section was "Types of licenses for manufacture, production, transfer, distribution or arrangement for distribution, sale, lease, receipt, acquisition, ownership, possession or use of all diffuse naturally occurring or diffuse accelerator produced radioactive materials". Added (c).

§ 7:28-4.5 General licenses for the transfer, distribution, or arrangement for distribution, sale, lease, receipt, acquisition, ownership, possession, or use of diffuse naturally occurring or diffuse accelerator produced radioactive materials

(a) The following quantities of radioactive substances, when obtained from diffuse naturally occurring materials or diffuse accelerator produced radioactive materials, are generally licensed provided that no person shall at any one time possess or use more than a total of 10 such quantities:

Radioactive Material	Not as a Sealed Source (microcuries)
Beryllium (Be-7)	50
Bismuth 207 (Bi-207)	1
Cadmium 109-Silver 109 (Cd 109 + Ag 109)	10
Cerium 141 (Ce-141)	1
Chromium 51 (Cr-51)	50
Cobalt 57 (Co-57)	20
Germanium 68 (Ge-68)	1
Iron 55 (Fe-55)	50
Manganese 52 (Mn-52)	1
Polonium 210 (Po-210)	0.1
Radium and daughters	0.1
Sodium 22 (Na-22)	10
Vanadium 48 (V-48)	1
Zinc 65 (Zn-65)	10

Radioactive Material	Not as a Sealed Source (microcuries)
Beta and/or gamma emitting radioactive material not listed above	1

(b) There are no generally licensed quantities for alpha-emitting materials other than those set forth in N.J.A.C. 7:28-4.5(a) except:

1. A non-community or community water system that treats for uranium is subject to a general license requiring registration, in accordance with this section, notwithstanding the requirements of N.J.A.C. 7:28-58.1.

2. A non-community or community water system that treats for radium may register under a general license requiring registration, in accordance with this section, if the quantity of radium on the treatment media at any one time is less than 10 times the limit in (a) above.

(c) To remain eligible for a general license requiring registration under (b) above:

1. The owner of a non-community or community water system that treats for uranium shall register the system annually with the Department.

2. The owner of a non-community or community water system that treats for radium shall register the system annually with the Department and shall pay the fee required by N.J.A.C. 7:28-64.2(e).

3. The licensee shall verify, correct, and/or supplement the information contained in the request for registration received from the Department. The annual registration information must be submitted to the Department at the address in N.J.A.C. 7:28-1.5, within 30 days of the date of the request for registration, or as otherwise indicated in the request.

4. When registering a system, the licensee shall furnish the following information and such other information pertinent to the safe operation of the water treatment system as the Department may request:

i. The name and address of the facility;

ii. The type of treatment system;

iii. A copy of a water treatment maintenance agreement in effect at the time of registration, or proof that the system has been maintained properly during the previous year;

iv. An itemization of all changes in system components, backwash frequency, or water use at the facility during the previous year; and

v. In the case of a uranium treatment system, a mass balance calculation of the total accumulated uranium on the treatment media.

5. A general licensee meeting the criteria of N.J.A.C. 7:28-4.3(b) shall be subject to the bankruptcy notification requirement in N.J.A.C. 7:28-51.1 (10 CFR 30.34(h) incorporated by reference).

(d) Persons who transfer, distribute, or arrange for the distribution, sell, lease, receive, acquire, own, possess, or use items and quantities of radioactive materials set forth in (a) above pursuant to a general license shall not:

1. Effect an increase in the radioactivity of such scheduled items or quantities by adding other radioactive material thereto, by combining radioactive material from two or more such items or quantities, or by altering them in any other manner so as to increase the rate of radiation emission;

2. Administer or direct the administration of the scheduled items or quantities or any part thereof to a human being, either externally or internally, for any purpose, including, but not limited to, diagnostic, therapeutic and research purposes;

3. Add or direct the addition of the scheduled items or quantities or any part thereof to any food, beverage, cosmetic, drug or other product designed for ingestion or inhalation by, or application to, a human being; or

4. Include the scheduled items or quantities or any part thereof in any device, instrument, apparatus, including component parts and accessories intended for use in diagnosis, treatment or prevention of disease in human beings or animals or otherwise intended to affect the structure or any function of the body of human beings or animals.

HISTORY:

Amended by R.2005 d.156, effective May 16, 2005.
See: 36 N.J.R. 2336(a), 37 N.J.R. 1826(a).
Rewrote the section.
Amended by R.2008 d.281, effective September 15, 2008 (operative September 30, 2009).
See: 40 N.J.R. 2309(a), 40 N.J.R. 5196(b), 41 N.J.R. 3415(a).
Section was "General licenses for the transfer, distribution or arrangement for distribution, sale, lease, receipt, acquisition, ownership, possession or use of naturally occurring or accelerator produced radioactive materials and certain

devices and equipment". In the introductory paragraph of (a), inserted "diffuse" twice and deleted "State" following "general"; in (b), deleted "State" following "specific"; in (c), inserted "diffuse" following "from" and substituted "diffuse accelerator produced radioactive materials" for "when produced by an accelerator"; in the introductory paragraph of (f), deleted "N.J.A.C. 7:28-4.5" preceding "(a)" and "State" preceding "license" and inserted "above"; in the introductory paragraph of (g); deleted "N.J.A.C. 7:28-4.5" preceding "(a)" and inserted "above"; and rewrote (g)3 and (g)7.

Amended by R.2014 d.083, effective May 5, 2014.

See: 45 N.J.R. 806(a), 46 N.J.R. 768(a).

Section was "General licenses for the transfer, distribution or arrangement for distribution, sale, lease, receipt, acquisition, ownership, possession or use of diffuse naturally occurring or diffuse accelerator produced radioactive materials and certain devices and equipment". Rewrote the section.

§ 7:28-4.6 Application for and renewal of specific licenses for transfer, distribution, or arrangement for distribution, sale, lease, receipt, acquisition, ownership, or possession of diffuse naturally occurring or diffuse accelerator produced radioactive materials

(a) Upon approval of an initial or renewal application, a specific license may be issued by the Department for a period of 10 years commencing on the date the license is issued.

(b) Application for specific licenses and renewals shall be filed with the Department, on forms available from the Department.

(c) All applications shall contain the following signature and certification:

1. "I certify under penalty of law that the information provided in this document is true, accurate and complete. I am aware that there are significant civil and criminal penalties for submitting false, inaccurate or incomplete information, including fines and/or imprisonment."

2. The certification shall be signed by the highest ranking corporate, partnership, or governmental officer or official at the facility or the individual for which or for whom the specific license is requested.

(d) An application for a specific license may include a request for a license authorizing one or more activities.

(e) Information included in the specific license application will be incorporated in and made a part of the terms and conditions of such license by reference.

(f) All applicants for initial and renewal applications for specific licenses shall complete the application in its entirety. The Department may accept photocopies of previous relevant applications. Information contained in previous applications, statements, or reports filed with the Department may be incorporated by reference provided that the reference is clear and specific.

(g) No initial or renewal specific licenses shall be issued unless the appropriate annual license fee required by N.J.A.C. 7:28-64.4 is paid.

(h) Upon the request of the Department at any time after the filing of the original or renewal specific license application, and before the expiration of the license, the applicant shall submit further information to enable the Department to determine whether the application should be granted or denied or whether a license should be modified or revoked.

(i) All applications for a license or amendment shall be signed by the applicant or licensee or a person duly authorized to act for and on his behalf.

(j) The Department may deny an application for a specific license if the applicant:

1. Fails to comply with any provisions of the Act or any rules promulgated thereunder;

2. Falsifies or makes misleading statements in the application for license; or

3. Falsifies or makes misleading statements in any documents which were utilized to obtain a license.

HISTORY:

Amended by R.2005 d.156, effective May 16, 2005.

See: 36 N.J.R. 2336(a), 37 N.J.R. 1826(a).

Amended by R.2008 d.281, effective September 15, 2008 (operative September 30, 2009).

See: 40 N.J.R. 2309(a), 40 N.J.R. 5196(b), 41 N.J.R. 3415(a).

Section was "Application for and renewal of specific State licenses for manufacture, transfer, distribution or arrangement for distribution, sale, lease, receipt, acquisition, ownership, possession or use of naturally occurring or accelerator produced radioactive materials". Deleted "State" following "specific" throughout; in (a), substituted "10" for five; in (d), deleted "State" preceding the second occurrence of "license"; deleted former (e); recodified former (f) through (*l*) as (e) through (k); in (g) and (h), updated the N.J.A.C. reference; and in (j), deleted "State" preceding "license" and "licensee".

Amended by R.2014 d.083, effective May 5, 2014.

See: 45 N.J.R. 806(a), 46 N.J.R. 768(a).
Section was "Application for and renewal of specific licenses for manufacture, transfer, distribution or arrangement for distribution, sale, lease, receipt, acquisition, ownership, or possession or use of diffuse naturally occurring or diffuse accelerator produced radioactive materials". Rewrote (f); deleted former (h); and recodified former (i) through (k) as (h) through (j).

§ 7:28-4.7 General requirements for approval of an application for an initial specific license or renewal of a specific license for diffuse naturally occurring or diffuse accelerator produced materials

(a) If the Department determines that an applicant meets the requirements of this subchapter and the Act, it may issue an initial specific license or renew a specific license for diffuse naturally occurring or diffuse accelerator produced radioactive materials provided:

1. The applicant is qualified by reason of training and experience to manage the radioactive material as requested in such a manner as to protect health, minimize danger to life or property, and prevent unnecessary radiation;

2. The applicant's proposed equipment, facilities and procedures are adequate to protect health, minimize danger to life or property and prevent unnecessary radiation; and

3. The applicant has appointed a radiological safety officer who shall be responsible for rendering advice and assistance on radiological safety.

HISTORY:

Amended by R.2005 d.156, effective May 16, 2005.
See: 36 N.J.R. 2336(a), 37 N.J.R. 1826(a).
In (c), inserted "specific State" preceding "license" in 8 and 9.
Amended by R.2008 d.281, effective September 15, 2008 (operative September 30, 2009).
See: 40 N.J.R. 2309(a), 40 N.J.R. 5196(b), 41 N.J.R. 3415(a).
Section was "General requirements for approval of an application for an initial specific State license or renewal of a specific State license for use of naturally occurring or accelerator produced materials". In the introductory paragraph of (a), deleted "State" following both occurrences of "specific"; and deleted (b) and (c).
Amended by R.2014 d.083, effective May 5, 2014.
See: 45 N.J.R. 806(a), 46 N.J.R. 768(a).
Section was "General requirements for approval of an application for an initial specific license or renewal of a specific license for use of diffuse naturally occurring or diffuse accelerator produced materials". In the introductory paragraph of (a), substituted "diffuse naturally occurring or diffuse accelerator produced" for "non-human use of"; in (a)1, substituted "manage" for "use" and "as" for "for the purpose"; and rewrote (a)3.

§ 7:28-4.8 Terms and conditions of general and specific licenses

(a) Each license issued pursuant to this subchapter shall be subject to all the provisions of the Act, now or hereafter in effect, and to this chapter and orders of the Department.

(b) No license to possess or utilize radioactive material pursuant to this subchapter shall be transferred or assigned, or in any manner disposed of, either voluntarily or involuntarily, directly or indirectly, through transfer of control of any license to any person, unless the Department shall, after securing full information, find that the transfer is in accordance with the provisions of the Act and shall give its consent in writing.

(c) Each person licensed by the Department pursuant to this subchapter shall confine his or her possession and use of radioactive material to the locations and purposes authorized by such license, and shall not use or permit the use of radioactive materials contrary to the applicable requirements of this chapter. Persons licensed under the provisions of this subchapter may transfer radioactive material within the State only to the persons licensed to receive such material or as otherwise authorized by the Department in writing.

(d) The Department may incorporate in any license at the time of issuance, or thereafter, all such additional requirements and conditions with respect to the licensee's distribution or arrangement for the distribution, sale, lease, receipt, possession, use, ownership, or transfer of radioactive material as it deems appropriate or necessary in order to assure compliance with this chapter and the Act.

HISTORY:

The following annotations apply to N.J.A.C. 7:28-4.8 prior to its repeal by R.2014 d.083:
Amended by R.2005 d.156, effective May 16, 2005.
See: 36 N.J.R. 2336(a), 37 N.J.R. 1826(a).

Inserted "specific State" preceding "license(e)" throughout.
Amended by R.2008 d.281, effective September 15, 2008 (operative September 30, 2009).
See: 40 N.J.R. 2309(a), 40 N.J.R. 5196(b), 41 N.J.R. 3415(a).
Section was "Special requirements for approval of an application for an initial specific State license or renewal of a specific State license for use of naturally occurring or accelerator produced radioactive materials". Deleted "State" following "specific" throughout; deleted former (a) through (c); recodified former (d) through (f) as (a) through (c); in the introductory paragraph of (a), deleted "in research and development" following "material"; in (c)2ii, substituted "0.1" for "0.5"; deleted former (g); recodified former (h) as (d); and deleted (i).

The following annotations apply to N.J.A.C. 7:28-4.8 subsequent to its recodification from N.J.A.C. 7:28-4.9 by R.2014 d.083:

Amended by R.2005 d.156, effective May 16, 2005.
See: 36 N.J.R. 2336(a), 37 N.J.R. 1826(a).
Inserted 'State" preceding "license(e)" in (b) and (e); rewrote (d).
Amended by R.2008 d.281, effective September 15, 2008 (operative September 30, 2009).
See: 40 N.J.R. 2309(a), 40 N.J.R. 5196(b), 41 N.J.R. 3415(a).
Section was "Terms and conditions of general and specific State licenses". Deleted "State" preceding "license" throughout; in (d), deleted "State" preceding "licensee's"; in the introductory paragraph of (e); updated the N.J.A.C. reference; rewrote (e)2; and deleted (f).
Recodified from N.J.A.C. 7:28-4.9 and amended by R.2014 d.083, effective May 5, 2014.
See: 45 N.J.R. 806(a), 46 N.J.R. 768(a).
Rewrote (b); in (d), deleted "manufacture," following "licensee's", and inserted a comma following "ownership"; and deleted (e). Former N.J.A.C. 7:28-4.8, Special requirements for approval of an application for an initial specific license or renewal of a specific license for use of diffuse naturally occurring or diffuse accelerator produced radioactive materials, repealed.

§ 7:28-4.9 Expiration of specific license

Except as provided in N.J.A.C. 7:28-4.10, each specific license shall expire at 12:01 A.M. of the day, in the month and year stated in the license.

HISTORY:

Amended by R.2008 d.281, effective September 15, 2008 (operative September 30, 2009).
See: 40 N.J.R. 2309(a), 40 N.J.R. 5196(b), 41 N.J.R. 3415(a).
Section was "Expiration of specific State license". Deleted "State" preceding "license".
Recodified from N.J.A.C. 7:28-4.10 and amended by R.2014 d.083, effective May 5, 2014.
See: 45 N.J.R. 806(a), 46 N.J.R. 768(a).
Updated the N.J.A.C. cite. Former N.J.A.C. 7:28-4.9, Terms and conditions of general and specific licenses, recodified to N.J.A.C. 7:28-4.8.

§ 7:28-4.10 Status of specific licenses pending renewal

In any case in which a specific licensee has filed a complete application in proper form for renewal of a specific license not less than 30 days prior to expiration of the existing specific license, such specific license and all its existing conditions shall not expire until the Department has acted upon the application.

HISTORY:

Amended by R.2005 d.156, effective May 16, 2005.
See: 36 N.J.R. 2336(a), 37 N.J.R. 1826(a).
Inserted "specific State" preceding "license(e)" throughout.
Amended by R.2008 d.281, effective September 15, 2008 (operative September 30, 2009).
See: 40 N.J.R. 2309(a), 40 N.J.R. 5196(b), 41 N.J.R. 3415(a).
Section was "Status of specific State licenses pending renewal". Deleted "State" following "specific" throughout.
Recodified from N.J.A.C. 7:28-4.11 by R.2014 d.083, effective May 5, 2014.
See: 45 N.J.R. 806(a), 46 N.J.R. 768(a).
Former N.J.A.C. 7:28-4.10, Expiration of specific license, recodified to N.J.A.C. 7:28-4.9.

§ 7:28-4.11 Amendment of a specific license at request of licensee

(a) Applications for amendment of a specific license shall be filed in accordance with N.J.A.C. 7:28-4.6 and shall specify the amendment desired and the grounds for such amendment.

(b) The Department will evaluate only amendment applications submitted by personnel authorized by the licensee.

(c) The applicant for an amended specific license shall not engage in the activities for which an amendment has been requested until approval has been granted by the Department.

HISTORY:

Amended by R.2005 d.156, effective May 16, 2005.
See: 36 N.J.R. 2336(a), 37 N.J.R. 1826(a).
Amended by R.2008 d.281, effective September 15, 2008 (operative September 30, 2009).
See: 40 N.J.R. 2309(a), 40 N.J.R. 5196(b), 41 N.J.R. 3415(a).
Section was "Amendment of a specific State license pending at request of licensee". In (a) and (c), deleted "State" following "specific"; and in (b), deleted "State" preceding "licensee".
Recodified from N.J.A.C. 7:28-4.12 by R.2014 d.083, effective May 5, 2014.
See: 45 N.J.R. 806(a), 46 N.J.R. 768(a).
Former N.J.A.C. 7:28-4.11, Status of specific licenses pending renewal, recodified to N.J.A.C. 7:28-4.10.

§ 7:28-4.12 Records

All persons licensed pursuant to this subchapter shall keep records in accordance with N.J.A.C. 7:28-6, Standards for Protection Against Radiation.

HISTORY:

Amended by R.2008 d.281, effective September 15, 2008 (operative September 30, 2009).
See: 40 N.J.R. 2309(a), 40 N.J.R. 5196(b), 41 N.J.R. 3415(a).
Updated the N.J.A.C. reference and inserted "Standards for Protection Against Radiation".
Recodified from N.J.A.C. 7:28-4.13 by R.2014 d.083, effective May 5, 2014.
See: 45 N.J.R. 806(a), 46 N.J.R. 768(a).
Former N.J.A.C. 7:28-4.12, Amendment of a specific license at request of licensee, recodified to N.J.A.C. 7:28-4.11.

§ 7:28-4.13 Inspections

(a) All licensees shall allow the Department or its agents to inspect radioactive material and the facilities and premises where radioactive material is used or stored.

(b) No person shall prevent, prohibit, obstruct, hinder, delay or interfere with personnel of this Department or its agents in performing their duties.

(c) Upon request by the Department, or its agents, licensees shall make available for inspection by the Department records kept pursuant to this chapter.

HISTORY:

Amended by R.2005 d.156, effective May 16, 2005.
See: 36 N.J.R. 2336(a), 37 N.J.R. 1826(a).
Amended by R.2008 d.281, effective September 15, 2008 (operative September 30, 2009).
See: 40 N.J.R. 2309(a), 40 N.J.R. 5196(b), 41 N.J.R. 3415(a).
In (a) and (c), deleted "State" preceding "licensees".
Recodified from N.J.A.C. 7:28-4.14 by R.2014 d.083, effective May 5, 2014.
See: 45 N.J.R. 806(a), 46 N.J.R. 768(a).
Former N.J.A.C. 7:28-4.13, Records, recodified to N.J.A.C. 7:28-4.12.

§ 7:28-4.14 Tests

(a) At the request of the Department or its agents, each licensee shall perform, or allow the Department to perform if the Department so desires, such tests as the Department deems appropriate or necessary for the administration of this subchapter, including tests of the following:

1. Radioactive material;

2. Facilities where radioactive material is utilized or stored;

3. Radiation detection and monitoring instruments; and

4. Equipment and devices used in connection with the utilization or storage of radioactive material.

HISTORY:

Amended by R.2005 d.156, effective May 16, 2005.
See: 36 N.J.R. 2336(a), 37 N.J.R. 1826(a).
Amended by R.2008 d.281, effective September 15, 2008 (operative September 30, 2009).
See: 40 N.J.R. 2309(a), 40 N.J.R. 5196(b), 41 N.J.R. 3415(a).
In the introductory paragraph of (a), deleted "State" preceding "licensee".
Recodified from N.J.A.C. 7:28-4.15 by R.2014 d.083, effective May 5, 2014.

See: 45 N.J.R. 806(a), 46 N.J.R. 768(a).
Former N.J.A.C. 7:28-4.14, Inspections, recodified to N.J.A.C. 7:28-4.13.

§ 7:28-4.15 Financial assurance and recordkeeping for decommissioning

(a) Except as set forth in (b) below, this section incorporates by reference 10 CFR 30.35 Financial assurance and recordkeeping for decommissioning, and the Appendices as referenced in 10 CFR 30.35.

(b) The following provisions of 10 CFR 30.35 are not incorporated by reference:

1. 10 CFR 30.35(a)(2).

(c) The following provisions of 10 CFR 30.35 are incorporated by reference with the specified changes:

1. 10 CFR 30.35(b)(1), replace "Each applicant for a specific license" with "Each applicant for or holder of a specific license, as determined by the Department,"

2. "Unsealed byproduct material" and "byproduct material" shall mean "diffuse NARM";

3. "Commission," "Nuclear Regulatory Commission," "U.S. Nuclear Regulatory Commission," and "NRC," shall mean "Department of Environmental Protection";

4. 10 CFR 30.35(d), delete "Greater than 10^{10} but less than or equal to 10^{12} times the applicable quantities of appendix B to part 30 in sealed sources or plated foils (For a combination of isotopes, if R, as defined in 30.35(a)(1), divided by 10^{10} is greater than, 1, but R divided by 10^{12} is less than or equal to 1) 113,000";

5. 10 CFR 30.35(g), replace "Each person licensed under this part or parts 32 through 36 and 39" with "Each person licensed under this subchapter";

6. 10 CFR 30.35(g), replace "§ 30.34(b)," with "N.J.A.C. 7:28-4.9"; and

7. 10 CFR 30.35(g)(3), delete "areas containing only sealed sources (provided the sources have not leaked or no contamination remains after any lead) or";

8. 10 CFR 30.35(g)(3)(iv), replace "10 CFR part 20, subpart E," with "N.J.A.C. 7:28-12".

HISTORY:

New Rule, R.2008 d.281, effective September 15, 2008 (operative September 30, 2009).
See: 40 N.J.R. 2309(a), 40 N.J.R. 5196(b), 41 N.J.R. 3415(a).
Former N.J.A.C. 7:28-4.16, Modification, revocation, suspension, and termination of general and specific licenses, recodified to N.J.A.C. 7:28-4.17.
Recodified from N.J.A.C. 7:28-4.16 and amended by R.2014 d.083, effective May 5, 2014.
See: 45 N.J.R. 806(a), 46 N.J.R. 768(a).
Rewrote the section. Former N.J.A.C. 7:28-4.15, Tests, recodified to N.J.A.C. 7:28-4.14.

§ 7:28-4.16 Modification, revocation, suspension, and termination of general and specific licenses

(a) Each general license shall be subject to modification, suspension or revocation by reason of amendments to the Act, adoption of rules by the Commission or the Department, orders issued by the Department pursuant to authority of the Act, or for violation or failure to observe any of the terms and provisions of the Act, license or any rule of the Commission or the Department, or order of the Department.

(b) Each specific license shall be subject to modification, suspension or revocation by reason of:

1. Amendments to the Act;

2. Adoption of rules by the Commission;

3. Orders issued by the Department pursuant to the authority of the Act;

4. Conditions revealed by the application for a specific license or statement of fact or any report, records or inspection or other means which would warrant the Department to refuse to grant a specific license on an original application;

5. Violation of or failure to observe any of the terms and provisions of the Act or the license, or any rule of the Department or order of the Department;

6. Falsification or misleading statements in any license application;

7. Alteration of licensing document;

8. Falsification of required records; or

9. Failure to make timely payment of licensing fees.

(c) If a specific license is not to be renewed or if a licensee requests a termination of its license, the licensee shall furnish to the Department, prior to the expiration date of the license, close-out surveys, wipe tests and/or soil samples demonstrating that the facility meets the requirements of N.J.A.C. 7:28-12. The facility shall also provide a disposition certificate attesting to the disposal of radioactive material.

HISTORY:

Amended by R.2005 d.156, effective May 16, 2005.
See: 36 N.J.R. 2336(a), 37 N.J.R. 1826(a).
Rewrote (c).
Recodified from N.J.A.C. 7:28-4.16 and amended by R.2008 d.281, effective September 15, 2008 (operative September 30, 2009).
See: 40 N.J.R. 2309(a), 40 N.J.R. 5196(b), 41 N.J.R. 3415(a).
Section was "Modification, revocation, suspension, and termination of general and specific State licenses". Deleted "State" preceding "license" throughout; in (b)5, deleted "Commission or" preceding the first occurrence of "Department"; in (b)7 and (b)9, deleted "State" preceding "licensing"; and in (c), deleted "State" preceding both occurrences of "licensee". Former N.J.A.C. 7:28-4.17, Requests for an adjudicatory hearing, recodified to N.J.A.C. 7:28-4.18.
Recodified from N.J.A.C. 7:28-4.17 by R.2014 d.083, effective May 5, 2014.
See: 45 N.J.R. 806(a), 46 N.J.R. 768(a).
Former N.J.A.C. 7:28-4.16, Financial assurance and recordkeeping for decommissioning, recodified to N.J.A.C. 7:28-4.15.

§ 7:28-4.17 Requests for an adjudicatory hearing

(a) When the Department denies an initial application for or renewal of a specific license, or determines to modify, revoke, suspend or terminate a general or specific license, the Department shall send a notice of decision to the applicant or licensee by certified mail return receipt requested. The notice shall advise the applicant or licensee of the right to request a contested case hearing pursuant to the Administrative Procedure Act, N.J.S.A. 52:14B-1 et seq. and the New Jersey Uniform Administrative Procedure Rules, N.J.A.C. 1:1. The notice shall include the following information:

1. Where and whom hearing requests should be sent;

2. The deadline by which hearing requests must be submitted;

3. The information that is required to be in the hearing request under (c) below; and

4. The requirements for requesting a stay under N.J.A.C. 7:28-4.19.

(b) All requests for a contested case hearing must be received by the Department within 30 calendar days of the date upon which the notice of decision was received.

(c) All requests for a contested case hearing shall be submitted, in writing, to the Department, at New Jersey Department of Environmental Protection, Office of Administrative Hearings and Dispute Resolution, ATTENTION: Adjudicatory Hearing Requests, 401 E. State Street, Mail Code 401-07A, PO Box 420, Trenton, NJ 08625-0420. The request shall contain:

1. The name, address and telephone number of the person making such request;

2. A statement of the legal authority and jurisdiction under which the request for a hearing is made;

3. A brief and clear statement of specific facts describing the Department decision appealed from as well as the nature and scope of the interest of the requestor in such decision; and

4. A statement of all facts alleged to be at issue and their relevance to the Department decision for which a hearing is requested. Any legal issues, associated with the alleged facts at issue, must also be included.

(d) The Department shall determine whether any request for a contested case hearing should be granted. In making such determination, the Department shall evaluate the request to determine whether a contested case, as defined by the Administrative Procedure Act, N.J.S.A. 52:14B-1 et seq., exists and whether there are issues of fact which, if assumed to be true, might change the Department's decision. Where only issues of law are raised by a request for a hearing, the request will be denied. Denial by the Department of a request for a contested case hearing shall constitute the final decision of the Department for the purposes of judicial appeal.

HISTORY:

Administrative Change in (c).
See: 23 N.J.R. 3325(b).
Recodified from N.J.A.C. 7:28-4.17 and amended by R.2008 d.281, effective September 15, 2008 (operative September 30, 2009).
See: 40 N.J.R. 2309(a), 40 N.J.R. 5196(b), 41 N.J.R. 3415(a).
In the introductory paragraph of (a) and in (a)4, updated the N.J.A.C. references; and in the introductory paragraph of (a), deleted "State" following both occurrences of "specific".
Recodified from N.J.A.C. 7:28-4.18 and amended by R.2014 d.083, effective May 5, 2014.
See: 45 N.J.R. 806(a), 46 N.J.R. 768(a).

In the introductory paragraph of (c), substituted "Mail Code 401-04L, PO Box" for "CN", and inserted "401 East State Street, 7th Floor,". Former N.J.A.C. 7:28-4.17, Modification, revocation, suspension, and termination of general and specific licenses, recodified to N.J.A.C. 7:28-4.16.
Administrative change, effective February 23, 2023.
See: 55 N.J.R. 528(a).

§ 7:28-4.18 Requirements governing requests for stay of the effective date of the Department decision for which an adjudicatory hearing is requested

(a) The Department may grant a stay of the effective date of a decision to deny, modify, revoke or suspend any State license. The applicant for such a stay must submit evidence that one of the following circumstances exist:

1. The granting of such stay is required as a constitutional or statutory right; or

2. The potential impact on public health, safety, welfare or the environment which might result from a decision to grant a stay is greatly outweighed by immediate, irreparable injury to the specific party requesting such stay.

(b) The decision to grant a contested case hearing request shall not automatically result in a stay of the Department action appealed from absent an express decision to stay such action by the Director. The burden shall be upon the party requesting a hearing to explicitly request a stay of action within the same document as well as to disclose reasons why such stay should be granted.

(c) Department decisions are effective, according to their terms, unless stayed by the Department in writing, upon receipt of written request pursuant to this section.

(d) Written requests for a stay of the effective date of the Department's decision must be made to the Department within 30 calendar days of the date upon which the notice of decision was received.

(e) Any stay that is granted by the Department shall be temporary and in no case shall it extend beyond the date of the Department's final decision of the contested case.

(f) Determinations made pursuant to this section shall be made in a writing mailed to the specific party making such request.

HISTORY:

The following annotations apply to N.J.A.C. 7:28-4.19 prior to its repeal by R.2008 d.281:
Amended by R.1991 d.417, effective August 5, 1991.
See: 23 N.J.R. 3300(a), 23 N.J.R. 2362(a).
In (a), changed fees in all categories; substantial rewording in 1 through 8; added 9 through 18.
In (b), substituted old text with new text; added (b)1 and 2.
Added (c), (d), (e).
Amended by R.2005 d.156, effective May 16, 2005.
See: 36 N.J.R. 2336(a), 37 N.J.R. 1826(a).
Rewrote the section.
The following annotations apply to N.J.A.C. 7:28-4.19 subsequent to its recodification from N.J.A.C. 7:28-4.18 by R.2008 d.281:
Amended by R.2005 d.156, effective May 16, 2005.
See: 36 N.J.R. 2336(a), 37 N.J.R. 1826(a).
Recodified from N.J.A.C. 7:28-4.18 by R.2008 d.281, effective September 15, 2008 (operative September 30, 2009).
See: 40 N.J.R. 2309(a), 40 N.J.R. 5196(b), 41 N.J.R. 3415(a).
Former N.J.A.C. 7:28-4.19, Specific State license fee schedule for the manufacture, production, transfer, distribution or arrangement for distribution, sale, lease, receipt, acquisition, ownership, possession or use of naturally occurring or accelerator produced radioactive material, repealed.
The following annotation applies to N.J.A.C. 7:28-4.18 subsequent to its recodification from N.J.A.C. 7:28-4.19 by R.2014 d.083:
Recodified from N.J.A.C. 7:28-4.19 by R.2014 d.083, effective May 5, 2014.
See: 45 N.J.R. 806(a), 46 N.J.R. 768(a).
Former N.J.A.C. 7:28-4.18, Requests for an adjudicatory hearing, recodified to N.J.A.C. 7:28-4.17.

§ 7:28-4.19 Confidentiality claims

(a) Any applicant required to submit any information pursuant to the Act or this chapter which in the applicant's opinion constitutes trade secrets, proprietary information or information related to national security, may assert a confidentiality claim by following the procedures set forth in this subchapter.

(b) Any applicant submitting any information to the Department and asserting a confidentiality claim covering any information contained therein shall submit two documents to the Department. One shall con-

tain all the information required by the Act or this chapter including any information which the applicant alleges to be entitled to confidential treatment. The second shall be identical to the first except that it shall contain no information which the applicant alleges to be entitled to confidential treatment. The second can be a photocopy of the first, with the allegedly confidential material blacked out.

(c) The top of each page of the first submission containing the information which the applicant alleges to be entitled to confidential treatment shall display the heading "CONFIDENTIAL" in bold type, or stamp.

(d) All parts of the text of the first submission which the applicant alleges to be entitled to confidential treatment shall be underscored or highlighted in a clearly identifiable manner. This manner of marking confidential information shall be such that both the allegedly confidential information and the underscoring or highlighting is reproducible on photocopying machines.

(e) The first submission, containing the information which the applicant alleges to be entitled to confidential treatment, shall be sealed in an envelope which shall display the word "CONFIDENTIAL" in bold type or stamp on both sides. This envelope, together with the second, non-confidential submission (which may or may not be enclosed in a separate envelope, at the option of the applicant), shall be enclosed in another envelope for transmittal to the Department. The outer envelope shall bear no marking indicating the confidential nature of the contents.

(f) To ensure proper delivery, the complete package should be sent by certified mail, return receipt requested, or by other means which will allow verification of receipt. Ordinary mail may be used, but the Department will assume no responsibility for packages until they are actually received.

HISTORY:

Recodified from N.J.A.C. 7:28-4.20 by R.2014 d.083, effective May 5, 2014.
See: 45 N.J.R. 806(a), 46 N.J.R. 768(a).
Former N.J.A.C. 7:28-4.19, Requirements governing requests for stay of the effective date of the Department decision for which an adjudicatory hearing is requested, recodified to N.J.A.C. 7:28-4.18.

§ 7:28-4.20 Access to information; non-disclosure

(a) Until such time as a final confidentiality determination has been made, access to any information for which a confidentiality claim has been made will be limited to Department employees whose activities necessitate such access and as provided at N.J.A.C. 7:28-4.23 and 4.25.

(b) No disclosure of information for which a confidentiality claim has been asserted shall be made to any other persons except as provided in this subchapter.

(c) Nothing in this section shall be construed as prohibiting the incorporation of confidential information into cumulations of data subject to disclosure as public records, provided that such disclosure is not in a form that would foreseeably allow persons, not otherwise having knowledge of such confidential information, to deduce from it the confidential information or the identity of the owner or operator who supplied it to the Department.

HISTORY:

Recodified from N.J.A.C. 7:28-4.21 and amended by R.2014 d.083, effective May 5, 2014.
See: 45 N.J.R. 806(a), 46 N.J.R. 768(a).
In (a), updated the N.J.A.C. references. Former N.J.A.C. 7:28-4.20, Confidentiality claims, recodified to N.J.A.C. 7:28-4.19.

§ 7:28-4.21 Confidentiality determinations

(a) Information for which a confidentiality claim has been asserted will be treated by the Department as entitled to confidential treatment, unless the Department determines that the information is not entitled to confidential treatment as provided in this section and N.J.A.C. 7:28-4.22.

(b) The Department shall act upon a confidentiality claim and determine whether information is or is not entitled to confidential treatment whenever the Department:

1. Receives a request under N.J.S.A. 47:1A-1 et seq. to inspect or copy such information; or

2. Desires to determine whether information in its possession is entitled to confidential treatment; or

3. Desires for any reason in the public interest to disclose the information to persons not authorized by this subchapter to have access to confidential information.

(c) The Department shall make the initial determination whether information is or is not entitled to confidential treatment.

1. If the Department determines that information is not entitled to confidential treatment, it shall so notify the applicant who submitted the information.

2. The notice required under this subsection shall be sent by certified mail, return receipt requested and shall state the reasons for the Department's initial determination.

3. An applicant who wishes to contest a determination by the Department shall, within 30 days of notification of the determination, submit evidence to support the applicant's contention that the Department's initial determination was incorrect. The evidence may include, but need not be limited to, a statement indicating:

i. The period of time for which confidential treatment is desired by the applicant (for example, until a certain date, until the occurrence of a specified event, or permanently);

ii. The measures taken by the applicant to guard against undesired disclosure of the information to others;

iii. The extent to which the information has been disclosed to others, and the precautions taken in connection therewith; and

iv. The extent of which disclosure of the information would result in substantial damage to the applicant, including a description of the damage, an explanation of why the damage would be substantial, and an explanation of the causal relationship between disclosure and the damage.

4. Failure of an applicant to furnish timely comments or exceptions waives the applicant's confidentiality claim.

5. The applicant may assert a confidentiality claim to any information submitted to the Department by an applicant as part of its comments pursuant to (c)4 above.

6. The Department may extend the time limit for submitting comments pursuant to (c)4 above for good cause shown by the applicant and upon receipt of a request in writing.

(d) After receiving the evidence, the Department shall review its initial determination and make a final determination.

1. If, after review, the Department determines that the information is not entitled to confidential treatment, the Department shall so notify the applicant by certified mail, return receipt requested. The notice shall state the basis for the determination, that it constitutes final agency action concerning the confidentiality claim, and that the Department shall make the information available to the public on the 14th day following receipt by the applicant of the written notice.

2. If, after review, the determination is made that information is entitled to confidential treatment, the information shall not be disclosed, except as otherwise provided by this subchapter. The applicant shall be notified of the Department's determination by certified mail, return receipt requested. The notice shall state the basis for the determination and that it constitutes final agency action.

HISTORY:

Recodified from N.J.A.C. 7:28-4.22 and amended by R.2014 d.083, effective May 5, 2014.
See: 45 N.J.R. 806(a), 46 N.J.R. 768(a).
In (a), updated the N.J.A.C. reference. Former N.J.A.C. 7:28-4.21, Access to information; non-disclosure, recodified to N.J.A.C. 7:28-4.20.

§ 7:28-4.22 Substantive criteria for use in confidentiality determinations

(a) When the applicant satisfies each of the following substantive criteria, the Department shall determine that the information for which a confidentiality claim has been asserted is confidential:

1. The applicant has asserted a confidentiality claim which has not expired by its terms, been waived or withdrawn;

2. The applicant has shown that reasonable measures have been taken to protect the confidentiality of the information and that the applicant intends to continue to take such measures;

3. The information is not, and has not been, available or otherwise disclosed to other persons without the applicant's consent (other than by subpoena or by discovery based on a showing of special need in a judicial or quasi-judicial proceeding, as long as the information has not become available to persons not involved in the proceeding);

4. No statute specifically requires disclosure of the information; and

5. The applicant has shown that disclosure of the information would be likely to cause substantial damage to its competitive position.

HISTORY:

Recodified from N.J.A.C. 7:28-4.23 by R.2014 d.083, effective May 5, 2014.
See: 45 N.J.R. 806(a), 46 N.J.R. 768(a).
Former N.J.A.C. 7:28-4.22, Confidentiality determinations, recodified to N.J.A.C. 7:28-4.21.

§ 7:28-4.23 Disclosure of confidential information to other public agencies

(a) The Department may disclose confidential information to persons other than Department employees only as provided in this section or N.J.A.C. 7:28-4.24.

(b) The Department may disclose confidential information to any other State agency or to a Federal agency if:

1. The Department receives a written request for disclosure of the information from a duly authorized officer or employee of the other agency;

2. The request sets forth the official purpose for which the information is needed;

3. The Department notifies the other agency of the Department's determination that the information is entitled to confidential treatment, or of any unresolved confidentiality claim covering the information;

4. The other State or Federal agency has first furnished to the Department a written formal legal opinion from the agency's chief legal officer or counsel stating that under applicable law the agency has the authority to compel the person who submitted the information to the Department to disclose such information to the other agency; and

5. The other agency agrees not to disclose the information further unless:

i. The other agency has statutory authority both to compel production of the information and to make the proposed disclosure; or

ii. The other agency has obtained the consent of the affected owner or operator to the proposed disclosure; and

6. The other agency has adopted regulations or operates under statutory authority that will allow it to preserve confidential information from unauthorized disclosure.

(c) Except as otherwise provided at N.J.A.C. 7:28-4.24, the Department shall notify in writing the applicant who supplied the confidential information of:

1. Its disclosure to another agency;

2. The date on which disclosure was made;

3. The name of the agency to which disclosed; and

4. A description of the information disclosed.

HISTORY:

Recodified from N.J.A.C. 7:28-4.24 and amended by R.2014 d.083, effective May 5, 2014.
See: 45 N.J.R. 806(a), 46 N.J.R. 768(a).
In (a) and the introductory paragraph of (c), updated the N.J.A.C. reference. Former N.J.A.C. 7:28-4.23, Substantive criteria for use in confidentiality determinations, recodified to N.J.A.C. 7:28-4.22.

§ 7:28-4.24 Disclosure by consent

(a) The Department may disclose any confidential information to any person if it has obtained the written consent of the applicant to such disclosure.

(b) The giving of consent by an applicant to disclose shall not be deemed to waive a confidentiality claim with regard to further disclosures unless the authorized disclosure is of such a nature as to make the disclosed information accessible to the general public.

HISTORY:

Recodified from N.J.A.C. 7:28-4.25 by R.2014 d.083, effective May 5, 2014.
See: 45 N.J.R. 806(a), 46 N.J.R. 768(a).
Former N.J.A.C. 7:28-4.24, Disclosure of confidential information to other public agencies, recodified to N.J.A.C. 7:28-4.23.

§ 7:28-4.25 Disclosure based on imminent and substantial danger

(a) Upon a finding that disclosure of confidential information would serve to alleviate an imminent and substantial danger to public health and the environment, the Department may:

1. Prescribe and make known to the applicant such shorter comment period (N.J.A.C. 7:28-4.21(c)4), post-determination waiting period (N.J.A.C. 7:28-4.21(d)1), or both, as it finds necessary under the circumstances; or

2. Disclose confidential information to any person whose role in alleviating the danger to public health and the environment necessitates that disclosure. Any such disclosure shall be limited to information necessary to enable the person to whom it is disclosed to carry out the activities in alleviating the danger.

(b) Any disclosure made pursuant to this section shall not be deemed a waiver of a confidentiality claim, nor shall it of itself be grounds for any determination that information is no longer entitled to confidential treatment.

HISTORY:

Recodified from N.J.A.C. 7:28-4.26 and amended by R.2014 d.083, effective May 5, 2014.
See: 45 N.J.R. 806(a), 46 N.J.R. 768(a).
In (a)1, updated the N.J.A.C. references. Former N.J.A.C. 7:28-4.25, Disclosure by consent, recodified to N.J.A.C. 7:28-4.24.

§ 7:28-4.26 Security procedures

(a) Submissions to the Department pursuant to the Act and this chapter will be opened only by persons authorized by the Department engaged in administering the Act and this chapter.

(b) Only those Department employees whose activities necessitate access to information for which a confidentiality claim has been made, shall open any envelope which is marked "CONFIDENTIAL".

(c) All submissions entitled to confidential treatment as determined at N.J.A.C. 7:28-4.21 shall be stored by the Department only in locked cabinets.

(d) Any record made or maintained by Department employees which contains confidential information shall contain appropriate indicators identifying the confidential information.

HISTORY:

Recodified from N.J.A.C. 7:28-4.27 and amended by R.2014 d.083, effective May 5, 2014.
See: 45 N.J.R. 806(a), 46 N.J.R. 768(a).
In (c), updated the N.J.A.C. reference. Former N.J.A.C. 7:28-4.26, Disclosure based on imminent and substantial danger, recodified to N.J.A.C. 7:28-4.25.

§ 7:28-4.27 Wrongful access or disclosure; penalties

(a) A person shall not disclose, seek access to, obtain or have possession of any confidential information obtained pursuant to the Act or this chapter, except as authorized by this subchapter.

(b) Every Department employee who has custody or possession of confidential information shall take appropriate measures to safeguard such information and to protect against its improper disclosure.

(c) A Department employee shall not disclose, or use for his or her private gain or advantage, any information which came into his or her possession, or to which he or she gained access, by virtue of his or her official position of employment or contractual relationship with the Department.

(d) If the Department finds that any person has violated provisions of this subchapter, it may:

1. Commence a civil action in Superior Court for a restraining order and an injunction barring that person from further disclosing confidential information.

2. Pursue any other remedy available by law.

(e) In addition to any other penalty that may be sought by the Department, violation of this subchapter by a Department employee shall constitute grounds for dismissal, suspension, fine or other adverse personnel action.

(f) Use of any of the remedies specified under this section shall not preclude the use of any other remedy.

HISTORY:

Recodified from N.J.A.C. 7:28-4.28 by R.2014 d.083, effective May 5, 2014.
See: 45 N.J.R. 806(a), 46 N.J.R. 768(a).
Former N.J.A.C. 7:28-4.27, Security procedures, recodified to N.J.A.C. 7:28-4.26.

§ 7:28-4.28 (Reserved)

HISTORY:

Recodified to N.J.A.C. 7:28-4.27 by R.2014 d.083, effective May 5, 2014.

See: 45 N.J.R. 806(a), 46 N.J.R. 768(a).
Section was "Wrongful access or disclosure; penalties".

SUBCHAPTER 5. CONTROLLED AREAS FOR REGISTRANTS

§ 7:28-5.1 Areas that registrants must control

Every area in which there is any reasonable possibility of an occupant receiving an exposure dose from radiation more than the dose specified in N.J.A.C. 7:28-6 for radiation levels outside a controlled area shall be set apart as a controlled area by any person having possession, custody or control of any ionizing radiation-producing machine.

HISTORY:

Amended by R.2000 d.120, effective March 20, 2000.
See: 31 N.J.R. 3007(a), 32 N.J.R. 1016(a).
In (b), deleted N.J.A.C. reference.
Amended by R.2008 d.281, effective September 15, 2008 (operative September 30, 2009).
See: 40 N.J.R. 2309(a), 40 N.J.R. 5196(b), 41 N.J.R. 3415(a).
Section was "Areas which must be controlled". In (a), substituted "Every" for "Except as provided in (b) below, every", deleted "and radioactive material" following "radiation" and deleted "and/or radioactive material" following "machine"; and deleted (b).

§ 7:28-5.2 Limitations on controlled areas for registrants

No area within controlled areas shall be used for residential quarters although a room or rooms in residential buildings may be set apart as a controlled area.

HISTORY:

Amended by R.2008 d.281, effective September 15, 2008 (operative September 30, 2009).
See: 40 N.J.R. 2309(a), 40 N.J.R. 5196(b), 41 N.J.R. 3415(a).
Section was "Limitations on controlled areas".

§ 7:28-5.3 Precautionary procedures

(a) Any person having possession, custody or control of any ionizing radiation-producing machine shall comply with the following precautionary procedures:

1. Area surveys shall be performed in controlled areas and in adjacent areas to insure that exposure levels to individuals conform to N.J.A.C. 7:28-6. The surveys shall be performed in accordance with N.J.A.C. 7:28-7, Radiation Surveys and Personnel Monitoring for Registrants.

2. All individuals entering a controlled area shall wear personnel monitoring equipment pursuant to the requirements for the use of personnel monitoring equipment in N.J.A.C. 7:28-7.

3. Proper and adequate instruction shall be given to all personnel working in controlled areas in the use of necessary safeguards and procedures, and they shall be supplied with such safety devices as may be required.

4. Adequate instructions or an escort shall be provided to all personnel frequenting or visiting controlled areas as shall be necessary to prevent unnecessary exposure.

5. The area shall be posted in accordance with N.J.A.C. 7:28-10.

HISTORY:

Amended by R.2005 d.239, effective July 18, 2005.
See: 37 N.J.R. 8(a), 37 N.J.R. 2675(a).
In (a), substituted "Radiation Surveys and Personnel Monitoring" for "pertaining to Radiation survey and personnel monitoring" in 1.
Amended by R.2008 d.281, effective September 15, 2008 (operative September 30, 2009).
See: 40 N.J.R. 2309(a), 40 N.J.R. 5196(b), 41 N.J.R. 3415(a).
In the introductory paragraph of (a), deleted "and/or radioactive material" following "machine"; in (a)1, inserted "for Registrants"; deleted former (a)2 and (a)3; and recodified former (a)4 through (a)7 as (a)2 through (a)5.

§ 7:28-5.4 (Reserved)

HISTORY:

Repealed by R.2008 d.281, effective September 15, 2008 (operative September 30, 2009).
See: 40 N.J.R. 2309(a), 40 N.J.R. 5196(b), 41 N.J.R. 3415(a).
Section was "Termination of controlled areas".

SUBCHAPTER 6. STANDARDS FOR PROTECTION AGAINST RADIATION

§ 7:28-6.1 Incorporation by reference

(a) Except as set forth in (b), (c), and (d) below, this subchapter incorporates by reference 10 CFR Part 20, Standards for Protection Against Radiation.

(b) The Department does not regulate nuclear reactors, special nuclear materials in quantities sufficient to form a critical mass, high-level waste disposal facilities, or byproduct material defined in Section 11e(2) of the Atomic Energy Act of 1954, as amended (42 U.S.C. § 2014). Insofar as the incorporated rules refer to those facilities and/or materials previously referenced, those references are not incorporated, nor do any cross references include those facilities and/or materials.

(c) The following provisions of 10 CFR Part 20 are not incorporated by reference. If there is a cross reference to a Federal citation specifically entirely excluded from incorporation, then the cross referenced citation is not incorporated by virtue of the cross reference:

1. 10 CFR 20.1001, Purpose;

2. 10 CFR 20.1002, Scope;

3. 10 CFR 20.1003, Definitions, the following definitions are not incorporated by reference: "act," "Commission," "Department," and "sanitary sewerage system";

4. 10 CFR 20.1007, Communications;

5. 10 CFR 20.1009, Implementation collection requirements: OMB approval;

6. 10 CFR 20.1401, General provisions and scope;

7. 10 CFR 20.1402, Radiological criteria for unrestricted use;

8. 10 CFR 20.1406(b);

9. 10 CFR 20.1403, Criteria for license termination under restricted conditions;

10. 10 CFR 20.1404, Alternate criteria for license termination;

11. 10 CFR 20.1405, Public notification and public participation;

12. 10 CFR 20.1905(g), Exemptions to labeling requirements;

13. 10 CFR 20.2201(b)(2)(i), Reports of theft or loss of licensed material;

14. 10 CFR 20.2203(c), Reports of exposures, radiation levels, and concentrations of radioactive material exceeding the constraints or limits;

15. 10 CFR 20.2206(a)(1), (3), (4), and (5), Reports of individual monitoring;

16. 10 CFR 20.2301, Application for exemptions; and

17. 10 CFR 20.2401, Violations.

(d) The following provisions of 10 CFR Part 20 are incorporated by reference with the specified changes:

1. "Nuclear Regulatory Commission," "NRC," "Commission," and "U.S. Nuclear Regulatory Commission," as used in the provisions of Part 20 of the Code of Federal Regulations that are incorporated by reference, mean the New Jersey Department of Environmental Protection, except when specifically noted in this subchapter;

2. 10 CFR 20.1003, in the definition of "ALARA," replace "licensed activity" with "licensed or registered activity," and "and licensed materials" with ", licensed materials, and registered ionizing radiation producing machine sources";

3. 10 CFR 20.1003, in the definition of "background radiation," in the first sentence replace "or special nuclear material)" with "special nuclear material, or technologically enhanced naturally occurring radioactive material)," and replace in the last sentence "or special nuclear materials regulated by the Commission" with ", or special nuclear materials regulated by the State or the NRC, or diffuse NARM regulated by the State";

4. 10 CFR 20.1003, in the definition of "controlled area," replace "licensee" with "licensee or registrant";

5. 10 CFR 20.1003, in the definition of "declared pregnant woman," replace "licensee" with "licensee or registrant";

6. 10 CFR 20.1003, in the definition of "license," replace "parts 30 through 36, 39, 40, 50, 60, 61, 63, 70, or 72," with "N.J.A.C. 7:28-4, 51 through 60, or 63";

7. 10 CFR 20.1003, in the definition of "licensed material," replace "special nuclear material," with "special nuclear material in quantities not sufficient to form a critical mass, diffuse NARM";

8. 10 CFR 20.1003, in the definition of "occupational dose," replace "licensed and unlicensed sources of radiation, whether in the possession of the licensee or other person," with "licensed and unlicensed, or registered or unregistered sources of radiation, whether in possession of the licensee or registrant or other person";

9. 10 CFR 20.1003, in the definition of "person" replace "Commission" with "Department of Environmental Protection" and delete "or the Department of Energy (except that the Department shall be considered a person within the meaning of the regulations in 10 CFR chapter I to the extent that its facilities and activities are subject to the licensing and related regulatory authority of the Commission under section 202 of the Energy Reorganization Act of 1974 (88 Stat. 1244), the Uranium Mill Tailings Radiation Control Act of 1978 (92 Stat. 3021), the Nuclear Waste Policy Act of 1982 (96 Stat. 2201), and section 3(b)(2) of the Low-Level Radioactive Waste Policy Amendments Act of 1985 (99 Stat. 1842))"

10. 10 CFR 20.1003, in the definition of "public dose," replace "under the control of a licensee," with "under the control of a licensee or registrant.";

11. 10 CFR 20.1003, in the definition of "survey," replace "or other sources of radiation." with ", other sources of radiation, or radiation from ionizing radiation-producing machines." After the last sentence in the definition of "survey," add "For registrants, the survey must be made under the supervision of a qualified individual.";

12. 10 CFR 20.1003, in the definition of "unrestricted area," replace "licensee" with "licensee or registrant";

13. 10 CFR 20.1006, delete "Except as specifically authorized by the Commission in writing, no" with "No," and replace "by the General Counsel" with "signed and approved by the Commissioner of the Department,";

14. 10 CFR 20.1201, replace "licensee" with "licensee or registrant," except in 10 CFR 20.1201(e);

15. 10 CFR 20.1207, replace entire section with "The licensee or registrant shall ensure that the annual occupational dose for minors does not exceed 10 percent of the annual dose limits specified for adult workers in 10 CFR 20.1201.";

16. 10 CFR 20.1208, replace "licensee" with "licensee or registrant";

17. 10 CFR 20.1301, replace "licensee" with "licensee or registrant;" and replace "sanitary sewer system" with "domestic treatment works";

18. 10 CFR 20.1301(a)(1), replace "licensed operation" with "licensed or registered operation";

19. 10 CFR 20.1406(c), insert "of 10 CFR Part 20" after Subpart B and replace "Subpart E of this part" with "N.J.A.C. 7:28-12";

20. 10 CFR 20.2001(a)(3), replace "within the limits of § 20.1301; or" with "within the limits of § 20.1301, provided prior permission in writing, in the form of a New Jersey Pollutant Discharge Elimination System permit, is obtained from the Department in accordance with N.J.A.C. 7:14A for discharges to ground or surface waters; or";

21. 10 CFR 20.1501(b), delete "of this part";

22. 10 CFR 20.2003, replace "sanitary sewerage" with "domestic treatment works";

23. Replace the text of 10 CFR 20.2201(a)(2) with "Reports must be made to the address and telephone numbers indicated in N.J.A.C. 7:28-1.5";

24. 10 CFR 20.2201(b)(2)(ii), replace "Administrator of the appropriate NRC Regional Office listed in Appendix D to part 20" with "Supervisor, Radioactive Materials Program of the Department";

25. Replace the text of 10 CFR 20.2202(d) with "Reports made by licensees in response to the requirements of this section must be made to the address and telephone numbers indicated in N.J.A.C. 7:28-1.5.";

26. 10 CFR 20.2203(b)(2), delete "Privacy Act Information:";

27. Replace the text of 10 CFR 20.2203(d) with "All licensees, who make reports under paragraph (a) of this section shall submit the report in writing either by mail or by hand delivery to the Supervisor, Radioactive Materials Program of the Department at the addresses indicated in N.J.A.C. 7:28-1.5";

28. 10 CFR 20.2204, replace "Administrator of the appropriate NRC Regional Office listed in Appendix D to part 20" with "Supervisor, Radioactive Materials Program of the Department";

29. 10 CFR 20.2206(c), replace the second sentence with "The licensee shall submit the report to the Supervisor, Radioactive Materials Program of the Department at the address indicated in N.J.A.C. 7:28-1.5."; and

30. Replace the language at 10 CFR 20.2402 with "Section 26:2D-22 of the Radiation Protection Act of 1958, as amended, provides for criminal sanctions for violation of any provision of the Act."

(e) Requests for adjudicatory hearings shall be made in accordance with N.J.A.C. 7:28-4.17, and requirements governing requests for stay of the effective date of the Department decision for which an adjudicatory hearing is requested are set forth at N.J.A.C. 7:28-4.18.

HISTORY:

Amended by R.2014 d.083, effective May 5, 2014.
See: 45 N.J.R. 806(a), 46 N.J.R. 768(a).
Rewrote (c) and (d).
Amended by R.2016 d.022, effective March 7, 2016 (operative March 19, 2016).
See: 47 N.J.R. 2589(a), 47 N.J.R. 2695(a), 48 N.J.R. 409(b).
In (a), substituted ", (c), and (d)" for "and (c)".

SUBCHAPTER 7. RADIATION SURVEYS AND PERSONNEL MONITORING FOR REGISTRANTS

§ 7:28-7.1 Surveys inside controlled areas

(a) The registrant shall ensure that controlled areas shall be surveyed by, or under the direction of, a qualified individual to determine if the installation is maintained and operations are conducted in compliance with this chapter.

(b) The registrant shall ensure that radiation levels shall be determined with the use of suitable instruments and methods.

(c) The registrant shall ensure that the record of a survey shall contain, but shall not be limited to the radiation levels, the time the radiation is produced, the workweek and the fraction of the workweek that any individual may be exposed to the radiation.

(d) The registrant shall ensure that subsequent surveys shall be conducted at such times and as frequently as may be necessary to assure that the controlled areas and operations remain in compliance with this chapter.

HISTORY:

Amended by R.2005 d.156, effective May 16, 2005.
See: 36 N.J.R. 2336(a), 37 N.J.R. 1826(a).
Rewrote the section.
Amended by R.2008 d.281, effective September 15, 2008 (operative September 30, 2009).
See: 40 N.J.R. 2309(a), 40 N.J.R. 5196(b), 41 N.J.R. 3415(a).
Deleted "State licensee or" preceding "registrant" throughout; in (a), substituted "chapter" for "Chapter"; and former deleted (c) and (d); recodified former (e) and (f) as (c) and (d); in (c), deleted "and when required, the radioactive air concentrations and surface contaminations" from the end; and in (d), substituted "chapter" for "Chapter".

§ 7:28-7.2 Surveys outside controlled areas

Surveys shall be made outside controlled areas at sufficient intervals and locations as may be necessary to insure compliance with N.J.A.C. 7:28-6.

HISTORY:

Amended by R.2008 d.281, effective September 15, 2008 (operative September 30, 2009).
See: 40 N.J.R. 2309(a), 40 N.J.R. 5196(b), 41 N.J.R. 3415(a).
Substituted "N.J.A.C. 7:28-6" for "Sections 6.2 (Radiation levels outside controlled areas) and 6.3 (Concentrations in effluents from controlled areas) of this Chapter".

§ 7:28-7.3 Statement in lieu of actual survey

A written statement signed by a qualified individual and including his calculations and analysis of the dose rates in the vicinity of a radiation source may be acceptable in place of the survey required in N.J.A.C. 7:28-7.1, Surveys inside controlled areas.

HISTORY:

Amended by R.2008 d.281, effective September 15, 2008 (operative September 30, 2009).
See: 40 N.J.R. 2309(a), 40 N.J.R. 5196(b), 41 N.J.R. 3415(a).

Substituted "N.J.A.C. 7:28-7.1," for "Section 7.1 (" and deleted ") of this Chapter, except when radioactive-air contamination or surface contamination is involved" from the end.

§ 7:28-7.4 Use of personnel-monitoring equipment

(a) Each owner shall supply appropriate personnel-monitoring equipment to and shall require that it be used by:

1. Each individual who enters a controlled area under such circumstances that he receives, or is likely to receive, a dose in excess of 25 millirems in any period of seven consecutive days;

2. Each individual under 18 years of age who enters a controlled area under such circumstances that he receives or is likely to receive a dose in excess of ten millirems in any period of seven consecutive days;

3. Each individual who enters a high radiation area; and

4. At least one visitor in a group of visitors entering a controlled area.

(b) All individuals required to wear personnel-monitoring equipment shall be instructed in its proper use and purpose. Records shall be kept in accordance with Section 8.1 (Personnel-monitoring records) of this Chapter.

(c) When an individual working on the premises of an owner, but not employed by him is wearing personnel-monitoring equipment provided by his employer, the owner of the radiation source shall not be required to provide additional personnel-monitoring equipment.

§ 7:28-7.5 (Reserved)

HISTORY:

Repealed by R.2008 d.281, effective September 15, 2008 (operative September 30, 2009).
See: 40 N.J.R. 2309(a), 40 N.J.R. 5196(b), 41 N.J.R. 3415(a).
Section was "Requirements for bio-assays".

SUBCHAPTER 8. RECORDS FOR REGISTRANTS

§ 7:28-8.1 Personnel-monitoring records

(a) Clear and legible records shall be maintained by the owner for calendar quarters on Form RH-26, or on a clear and legible form containing all the information required on RH-26. These records shall show the radiation exposures of all individuals who are required to wear personnel-monitoring equipment according to N.J.A.C. 7:28-7.4, Use of personnel-monitoring equipment.

(b) Each employee, at his or her request, shall be supplied by the owner with an annual statement of his or her radiation exposure record.

(c) At the request of an individual formerly employed by the owner, each owner shall furnish such individual a report of his exposure to radiation, including bio-assays, as shown in records maintained by the owner pursuant to subsection (a) of this Section. Such report shall be furnished within 30 days from the time the request is made or within 60 days from termination of employment, whichever is later. The report shall cover each calendar quarter of the individual's employment involving exposure to radiation.

(d) When an individual working on the premises of an owner, but not employed by him, is required by the owner to wear personnel-monitoring equipment, the owner of the radiation source shall furnish such individual's employer within 90 days a statement of the individual's radiation record and this shall be incorporated in the individual's exposure record.

(e) Each report or statement required by subsections (b) through (d) of this Section shall contain the following statement: "This report is furnished to you under the provisions of Subchapter 8 of the New Jersey Radiation Protection Code. You should preserve this report for future reference."

(f) The exposure records on each employee shall be preserved during the course of his employment and for at least ten years after termination of employment. Exposure records of other persons shall be preserved for at least ten years.

(g) These records or true copy of same shall be made available to the Department on request.

HISTORY:

Amended by R.2008 d.281, effective September 15, 2008 (operative September 30, 2009).
See: 40 N.J.R. 2309(a), 40 N.J.R. 5196(b), 41 N.J.R. 3415(a).
In (a), substituted "N.J.A.C. 7:28-7.4," for "Section 7.4 (" and deleted ") of this Chapter and any required bio-assays according to Section 7.5 (Requirements for bio-assays) of this Chapter" from the end; and in (b), inserted "or her" following "his" twice and deleted "and any bio-assays" from the end.

§ 7:28-8.2 Records of surveys

(a) Records shall be maintained showing the results of such surveys as are required pursuant to N.J.A.C. 7:28-7, Radiation Surveys and Personnel Monitoring for Registrants.

(b) The records of each survey shall be retained for at least ten years.

(c) These records or true copy of same shall be made available to the Department on request.

(d) The owner of any installation covered in N.J.A.C. 7:28-14 through 16 shall submit to the Department within 30 days of receipt a copy of each report of radiation surveys made in compliance with N.J.A.C. 7:28-7, Radiation Surveys and Personnel Monitoring for Registrants.

HISTORY:

Amended by R.2008 d.281, effective September 15, 2008 (operative September 30, 2009).
See: 40 N.J.R. 2309(a), 40 N.J.R. 5196(b), 41 N.J.R. 3415(a).
In (a) and (d), substituted "N.J.A.C. 7:28-7," for "Subchapter 7 (", inserted "for "Registrants", and deleted ") of this chapter" from the end; and in (d), substituted "N.J.A.C. 7:28-" for "Subchapters", and deleted "of this chapter" preceding "shall".

§ 7:28-8.3 Records from discontinued installations

The discontinuance of a radiation installation does not relieve the owner from the responsibility of retaining the records required by this Subchapter. Such owner may, however, request the Department to accept the records. The acceptance of such records by the Department relieves the owner of subsequent responsibility only in respect to their preservation as required by this Chapter.

HISTORY:

Recodified from N.J.A.C. 7:28-8.5 by R.2008 d.281, effective September 15, 2008 (operative September 30, 2009).
See: 40 N.J.R. 2309(a), 40 N.J.R. 5196(b), 41 N.J.R. 3415(a).
Former N.J.A.C. 7:28-8.3, Records of radioactive materials, repealed.

§ 7:28-8.4 (Reserved)

HISTORY:

Repealed by R.2008 d.281, effective September 15, 2008 (operative September 30, 2009).
See: 40 N.J.R. 2309(a), 40 N.J.R. 5196(b), 41 N.J.R. 3415(a).
Section was "Records of sealed source testing".

§ 7:28-8.5 (Reserved)

HISTORY:

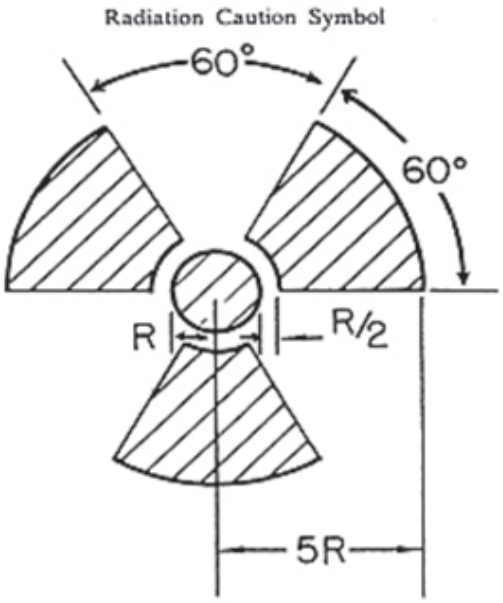
Recodified to N.J.A.C. 7:28-8.3 by R.2008 d.281, effective September 15, 2008 (operative September 30, 2009).
See: 40 N.J.R. 2309(a), 40 N.J.R. 5196(b), 41 N.J.R. 3415(a).
Section was "Records from discontinued installations".

SUBCHAPTER 9. (RESERVED)

SUBCHAPTER 10. LABELING, POSTING, AND CONTROLS FOR REGISTRANTS

§ 7:28-10.1 General requirement

(a) All signs and labels required by this Subchapter shall use the conventional radiation caution symbol shaped and colored as follows:



2. Background is to be yellow.

(b) In addition to the language prescribed in the various sections of this subchapter, any supplementary information which might be appropriate in aiding individuals to minimize exposure to radiation may be provided on or near such required signs or labels.

HISTORY:

Amended by R.2008 d.281, effective September 15, 2008 (operative September 30, 2009).
See: 40 N.J.R. 2309(a), 40 N.J.R. 5196(b), 41 N.J.R. 3415(a).
In (b), substituted "subchapter" for "Subchapter" and deleted "or to radioactive materials" following "radiation".

§ 7:28-10.2 Radiation areas

(a) Each radiation area shall be conspicuously posted with a sign or signs bearing the radiation caution symbol and the words:

1. CAUTION-RADIATION AREA; or

2. DANGER-RADIATION AREA

§ 7:28-10.3 High radiation areas

(a) Each high radiation area shall be conspicuously posted with a sign or signs bearing the radiation caution symbol and the words:

1. CAUTION-HIGH RADIATION AREA; or

2. DANGER-HIGH RADIATION AREA

(b) Each high radiation area shall be under direct, constant surveillance to protect against unauthorized or accidental entry unless:

1. It is equipped with a control device which shall cause the level of radiation to be reduced below that at which an individual might receive a dose of 100 millirems in one hour upon entry into the area;

2. It is equipped with a control device which shall energize a conspicuous visible or audible alarm signal in such a manner that the individual entering and the owner or the supervisor of the activity are made aware of the entry; or

3. It is locked to protect against unauthorized or accidental entry and the owner or the supervisor of the activity maintains direct personal control over access to the key.

§ 7:28-10.4 Labeling of equipment

All ionizing radiation-producing machines capable, when operated, of producing a radiation area shall be labeled in a manner which cautions individuals of this fact.

HISTORY:

Recodified from N.J.A.C. 7:28-10.6 and amended by R.2008 d.281, effective September 15, 2008 (operative September 30, 2009).
See: 40 N.J.R. 2309(a), 40 N.J.R. 5196(b), 41 N.J.R. 3415(a).
Section was "Labeling of equipment and containers". Deleted (a), (b), (c), and designation (d); and inserted "ionizing". Former N.J.A.C. 7:28-10.4, Airborne radioactivity areas, repealed.

§ 7:28-10.5 Removal of signs and labels

All radiation caution signs and labels which may have been posted at a time when they were required shall be removed when the condition which originally required the posting no longer exists.

HISTORY:

Recodified from N.J.A.C. 7:28-10.7 by R.2008 d.281, effective September 15, 2008 (operative September 30, 2009).
See: 40 N.J.R. 2309(a), 40 N.J.R. 5196(b), 41 N.J.R. 3415(a).
Former N.J.A.C. 7:28-10.5, Areas containing radioactive materials, repealed.

§ 7:28-10.6 Exceptions from posting and labeling requirements

Radiation areas and high radiation areas which result from the operation of therapeutic x-ray machines operated at potentials of 60 kv and below or from the operation of diagnostic x-ray machines shall be exempt from the posting requirements of N.J.A.C. 7:28-10.2, 10.3 and 10.4 provided that the operator of the equipment has taken precautions to insure that no individual other than the patient shall be in the radiation area.

HISTORY:

Recodified from N.J.A.C. 7:28-10.8 and amended by R.2008 d.281, effective September 15, 2008 (operative September 30, 2009).
See: 40 N.J.R. 2309(a), 40 N.J.R. 5196(b), 41 N.J.R. 3415(a).
Deleted designation (a) and paragraphs (b) through (g); and substituted "N.J.A.C. 7:28-" for "Sections" and "10.4" for "10.6(d) of this Chapter". Former N.J.A.C. 7:28-10.6, Labeling of equipment and containers, recodified to N.J.A.C. 7:28-10.4.

§ 7:28-10.7 (Reserved)

HISTORY:

Recodified to N.J.A.C. 7:28-10.5 by R.2008 d.281, effective September 15, 2008 (operative September 30, 2009).
See: 40 N.J.R. 2309(a), 40 N.J.R. 5196(b), 41 N.J.R. 3415(a).
Section was "Removal of signs and labels".

§ 7:28-10.8 (Reserved)

HISTORY:

Recodified to N.J.A.C. 7:28-10.6 by R.2008 d.281, effective September 15, 2008 (operative September 30, 2009).
See: 40 N.J.R. 2309(a), 40 N.J.R. 5196(b), 41 N.J.R. 3415(a).
Section was "Exceptions from posting and labeling requirements".

§ 7:28-10.9 (Reserved)

HISTORY:

Amended by R.2005 d.156, effective May 16, 2005.
See: 36 N.J.R. 2336(a), 37 N.J.R. 1826(a).
Rewrote the section.
Repealed by R.2008 d.281, effective September 15, 2008 (operative September 30, 2009).
See: 40 N.J.R. 2309(a), 40 N.J.R. 5196(b), 41 N.J.R. 3415(a).
Section was "Quantities of radioactive materials that require labeling and posting".

SUBCHAPTER 11. (RESERVED)

SUBCHAPTER 12. REMEDIATION STANDARDS FOR RADIOACTIVE MATERIALS

§ 7:28-12.1 Purpose and scope

The purpose of this subchapter is to establish minimum standards for the remediation of real property contaminated by radioactive materials. This subchapter also provides direction on remediating a site contaminated with radioactive materials with regard to sampling, surveying, and laboratory requirements, remedial action selection, and remedial action requirements.

§ 7:28-12.2 Applicability

(a) The standards and/or dose criteria in this subchapter are applicable to:

1. Remediation of radioactive contamination of real property by any technologically enhanced naturally occurring radioactive materials, source, by-product, certain special nuclear material, and diffuse NARM; and

2. Any other remediation of radioactive contamination including, without limitation, any remediation pursuant to: the Spill Compensation and Control Act, N.J.S.A. 58:10-23.11 et seq.; the Water Pollution Control Act, N.J.S.A. 58:10A-1 et seq.; the Industrial Site Recovery Act, N.J.S.A. 13:1K-6 et seq.; the Solid Waste Management Act, N.J.S.A. 13:1E-1 et seq.; the Comprehensive Regulated Medical Waste Management Act, N.J.S.A. 13:1E-48.1 et seq.; the Major Hazardous Waste Facilities Siting Act, N.J.S.A. 13:1E-49 et seq.; the Sanitary Landfill Facility Closure and Contingency Fund Act, N.J.S.A. 13:1E-100 et seq.; the Regional Low Level Radioactive Waste Disposal Facility Siting Act, N.J.S.A. 13:1E-177 et seq.; any law or regulation by which the State may compel a person or licensee to perform remediation activities; or N.J.A.C. 7:26C.

(b) The standards in this subchapter are not applicable to:

1. Materials containing naturally occurring radionuclides whose concentrations have not been technologically enhanced; or

2. Coal ash that has been or is being used in:

i. The manufacture of construction materials including, but not limited to, cinder blocks, concrete products and roofing materials;

ii. Road construction materials including, but not limited to, asphalt filler or road base material; or

iii. Landfill cover.

(c) The Department shall apply the radiation remediation standards and dose criteria in this chapter at applicable sites as "Applicable or Relevant and Appropriate Requirements" as defined in the Comprehensive Environmental Response, Compensation and Liability Act, 42 U.S.C. §§ 9601 et seq.

HISTORY:

Amended by R.2008 d.281, effective September 15, 2008 (operative September 30, 2009).
See: 40 N.J.R. 2309(a), 40 N.J.R. 5196(b), 41 N.J.R. 3415(a).
In the introductory paragraph of (a), inserted "and/or dose criteria"; in (a)1, inserted ", source, by-product, certain special nuclear material, and diffuse NARM; and"; deleted former (a)2; recodified former (a)3 as (a)2; in (a)2, inserted "or licensee"; and in (c), substituted "remediation standards and dose criteria" for "soil standards".

§ 7:28-12.3 Definitions

The following words and terms, when used in this subchapter, shall have the following meanings, unless the context clearly indicates otherwise:

"Appropriate period of time" means the length of time determined by the Department, taking into consideration the radioactive half-life, total activity, concentration, and physical condition of the residual radioactivity, geologic stability of the area, and current and projected future demographics.

"Committed dose equivalent" means the total dose equivalent averaged throughout any body tissue in the 50 years after intake of a radionuclide into the body.

"Committed effective dose equivalent" means the sum of the products of the committed dose equivalents to individual tissues resulting from an intake of a radionuclide multiplied by the appropriate weighting factor (W_T) indicated below:

Organ or Tissue	W_T
Gonads	0.25
Breast	0.15
Red bone marrow	0.12
Lung	0.12
Thyroid	0.03
Bone Surfaces	0.03
Remainder	0.30*
Whole Body (external)	1.00

*0.30 results from 0.06 for each of five "remainder" organs (excluding the skin and the lens of the eye) that receive the highest doses.

"Contaminated site" means a site as defined pursuant to the Technical Requirements for Site Remediation rules at N.J.A.C. 7:26E-1.8.

"Deep-dose equivalent" means, applied to external whole-body exposure, the dose equivalent at a tissue depth of one centimeter.

"Derived concentration guideline level" means the radionuclide-specific activity concentration corresponding to the release criterion.

"Design features" means those features of a remediation that do not rely on additional expenditures after installation to achieve their intended purpose.

"Dose equivalent" means the product of the absorbed dose (D), the quality factor (Q), and other modifying factors (N). For purposes of this definition, N = 1.

"Engineering controls" means any physical mechanism to contain or stabilize contamination or ensure the effectiveness of a remedial action. Engineering controls under this subchapter may include, without limitation, caps, covers, dikes, trenches, leachate collection systems, radon remediation systems, signs, fences, physical access controls, ground water monitoring systems and ground water containment systems including, without limitation, slurry walls and ground water pumping systems.

"Final status survey" is a survey or analysis, performed after remediation, which provides data that demonstrates that all radiological parameters satisfy the remediation standards.

"Institutional controls" means a mechanism used to limit human activities at or near a contaminated site, or to ensure the effectiveness of the remedial action over time, when contaminants remain at a site in levels or concentrations above the applicable remediation standard that would allow unrestricted use of that property. Institutional controls under this subchapter may include, without limitation, structure, land and natural resource use restrictions, well restriction areas, classification exception areas, deed notices, and declarations of environmental restrictions.

"Intake dose" means the annual radiation dose to a person from all potential intake pathways (exclusive of radon inhalation), including the ingestion of water, direct ingestion of soil, intake of foods, and the inhalation of resuspended particulate matter (in committed effective dose equivalent).

"Limited restricted-use remedial action" means any remedial action that requires the continued use of institutional controls but does not require the use of an engineering control.

"Natural background radionuclide concentration" means the average value of a particular radionuclide concentration in soils measured in areas in the vicinity of the site, in an area that has not been influenced by localized human activities, including the site's prior or current operations.

"Quality factor" means the factor by which absorbed doses are multiplied to obtain a quantity that expresses the effectiveness of the absorbed dose on a common scale for all types of ionizing radiation.

"Radioactive contamination or radioactive contaminant" means the collective amount of radiation emitted from one or more radionuclides in the soil, and on/in building materials and/or equipment at concentrations above natural background levels.

"Radioactive materials" means any material, solid, liquid, or gas, that emits radiation spontaneously.

"Radionuclide" means a type of atom that spontaneously undergoes radioactive decay.

"Regional natural background variation" means the best Department estimate, based on available data, of a region's naturally experienced variation in radiation dose from mean levels that are commonly and consistently experienced by persons in the State.

"Remedial action" means those actions taken at a site, or offsite if a radioactive contaminant has migrated or is migrating there from a radioactively contaminated site as may be required by the Department,

including, without limitation, removal, treatment, containment, transportation, securing, or other engineering or treatment measures, whether to an unrestricted use or otherwise, designed to ensure that any discharged radioactive contaminant at the site, or that has migrated or is migrating from the site, is remediated in compliance with the applicable remediation standards in this subchapter.

"Remediation" or "remediate" means all necessary actions to investigate and cleanup or respond to any known, suspected, or threatened discharge of radioactive contaminants, including, as necessary, the preliminary assessment, site investigation, remedial investigation, and remedial action.

"Remediation standards" means the combination of numeric standards that establish a level or concentration, and narrative standards, to which radioactive contaminants must be treated, removed or otherwise cleaned for soil, ground water or surface water, as established by the Department pursuant to N.J.S.A. 58:10B-12 and this chapter, in order to meet the health risk or environmental standards.

"Residual radioactivity" means radioactivity in structures, materials, soils, groundwater, and other media at a site resulting from activities under the licensee's or person responsible for the remediation's control. This includes radioactivity from all licensed and unlicensed sources used by the licensee or person responsible for the remediation, but excludes background radiation. It also includes radioactive materials remaining at the site as a result of routine or accidental releases of radioactive material at the site and previous burials at the site, even if those burials were made in accordance with the provisions of U.S. NRC regulations at 10 CFR Part 20 or the provisions of N.J.A.C. 7:28-12.15.

"Restricted use remedial action" means any remedial action that requires the continued use of engineering and institutional controls in order to meet the established health risk or environmental standards.

"Technologically enhanced naturally occurring radioactive materials" means any naturally occurring radioactive materials whose radionuclide concentrations or potential for human exposure have been increased by any human activities.

"Total effective dose equivalent" means the sum of the deep-dose equivalent (for external exposures) and the committed effective dose equivalent (for internal exposures).

"Uncontaminated surface soil" means soil whose average natural background radionuclide total concentrations are less than the remediation standards for radionuclides, and cannot exceed the background established for the site by more than two standard deviations.

"Unrestricted use remedial action" means any remedial action that does not require the continued use of engineering or institutional controls in order to meet the established standards.

"Vertical extent" means the average depth, measured in feet, of the post-remediation radioactive contamination over an affected area.

HISTORY:

Amended by R.2008 d.281, effective September 15, 2008 (operative September 30, 2009).
See: 40 N.J.R. 2309(a), 40 N.J.R. 5196(b), 41 N.J.R. 3415(a).
Rewrote definition "Appropriate period of time"; added definitions "Contaminated site" and "Residual radioactivity"; in definition "Engineering controls", inserted "physical" preceding "mechanism", substituted a comma for "and" following "fences", and inserted ", ground water monitoring systems and ground water containment systems including, without limitation, slurry walls and ground water pumping systems"; in definition "Radioactive contamination or radioactive contaminant", inserted ", and on/in building materials and/or equipment"; in definition "Remediation standards", substituted "established" for "provided" and inserted "and this chapter"; deleted definition "Residual radionuclides"; and in definition "Uncontaminated surface soil", substituted "remediation standards for" for "limits for residual".

§ 7:28-12.4 General requirements

(a) Any person or licensee conducting remediation pursuant to this subchapter shall comply with the requirements of N.J.A.C. 7:26E, Technical Requirements for Site Remediation, excluding those sections related to sampling, surveying, and background investigations. Sampling, surveying and laboratory requirements shall be in accordance with N.J.A.C. 7:28-12.5.

(b) The Department shall require a licensee to provide a decommissioning plan that addresses historical site assessment, scoping, characterization, remedial action options and selection, and a final status survey report when, based on the types, quantities, and half-lives of the licensed material, such elements of the decommissioning plan are appropriate.

(c) Compliance with this subchapter shall not relieve any person or licensee from complying with more stringent cleanup standards or provisions imposed by any other applicable statute, rule or regulation.

(d) Upon Departmental approval of the remedial action workplan or similar plan, the Department may not subsequently require a change to that workplan or similar plan in order to compel a different reme-

diation standard due to the fact that the established remediation standards have changed; however, the Department may compel a different remediation standard if the difference between the new remediation standard and the remediation standard approved by the Department in the workplan or similar plan differs by an order of magnitude.

HISTORY:

Amended by R.2008 d.281, effective September 15, 2008 (operative September 30, 2009).
See: 40 N.J.R. 2309(a), 40 N.J.R. 5196(b), 41 N.J.R. 3415(a).
In (a) and (c), inserted "or licensee"; added (b) and (d); and recodified former (b) as (c).

§ 7:28-12.5 Sampling, surveying and laboratory requirements

(a) Facilities licensed under 10 CFR Part 50 that have Nuclear Regulatory Commission-approved quality assurance plans are exempt from the requirements of this section. Otherwise, in addition to the requirements in N.J.A.C. 7:26E Appendix A IV.1, persons responsible for conducting remediations or licensees shall include the following in the radionuclide analysis reports:

1. Report final results as a value plus or minus the associated error for each sample;

2. Report data as calculated, and not report "less than" values for any sample;

3. Report minimum detectable activities;

4. Calculate results for single sample and composites to the sample collection period mid point;

5. Provide a quantitation report; and

6. Provide copies of the instrument run logs.

(b) If available, persons responsible for conducting remediations or licensees shall provide:

1. The Gamma Spectroscopy Report which includes sample specific header information, peak search, peak identification, background subtraction, activity, and minimum detectable activity;

2. The Gross Beta calculation worksheets and computer generated result forms;

3. Radiochemical Iodine calculation worksheets and computer generated result forms;

4. Liquid Scintillation calculation worksheets and computer-generated result forms; and

5. Gross Alpha and Gross Beta, radium-226, uranium, and strontium-89 and 90 calculation worksheets and computer-generated result forms.

(c) Any laboratory providing radiological analysis for soil or water shall be certified pursuant to N.J.A.C. 7:18.

(d) Sampling and surveying for radioactive contamination shall be done in accordance with the protocol specified in that version of the Department of Environmental Protection's Field Sampling Procedure Manual's section on Radiological Assessment, incorporated herein by reference, in effect at the time of sampling and surveying which may be obtained by calling the Bureau of Environmental Radiation at (609) 984-5400 or from the Radiation Protection Program's web site at http://www.state.nj.us/dep/rpp/index.htm.

HISTORY:

Amended by R.2008 d.281, effective September 15, 2008 (operative September 30, 2009).
See: 40 N.J.R. 2309(a), 40 N.J.R. 5196(b), 41 N.J.R. 3415(a).
In the introductory paragraph of (a), substituted "CFR" for "C.F.R." and inserted "or licensees"; and in (b), inserted "or licensees"; deleted former (c); recodified former (d) and (e) as (c) and (d); and in (c), inserted "or water" and deleted "for radionuclide analysis in water and, in addition, shall have participated in and passed a soil intercomparison analysis administered by either the International Atomic Energy Agency or the U.S. Department of Energy's Environmental Measurements Laboratory within the year preceding the radiological analysis for the methods of interest".

§ 7:28-12.6 Remedial action selection

Remedial action selection for all sites contaminated with radioactive material shall be in accordance with N.J.A.C. 7:26E-5.

§ 7:28-12.7 Remedial action requirements

The remedial action requirements for all sites contaminated with radioactive material shall be in accordance with N.J.A.C. 7:26E-6, with the exception of N.J.A.C. 7:26E-6.4, Post-remedial action requirements. Post-remedial sampling shall be conducted in accordance with the guidance provided in that version of the Department of Environmental Protection's Field Sampling Procedure Manual's section on Radiological Assessment, in effect at the time of the post-remedial sampling.

§ 7:28-12.8 Radiation dose standards applicable to remediation of radioactive contamination of all real property

(a) Sites shall be remediated so that the incremental radiation dose to any person from any residual radioactive contamination at the site above that due to natural background radionuclide concentration, under either an unrestricted use remedial action, limited restricted use remedial action, or a restricted use remedial action, shall be as specified below:

1. For the sum of annual external gamma radiation dose (in effective dose equivalent) and intake dose (in committed effective dose equivalent), including the groundwater pathway: 15 millirem (0.15 milliSievert) total annual effective dose equivalent (15 mrem/yr TEDE).

2. For radon-222: three picocuries per liter (pCi/L) of radon gas (111 Bq/m^3).

(b) Radioactively contaminated ground water shall be remediated to comply with the New Jersey Groundwater Quality Standards rules, N.J.A.C. 7:9C.

(c) Radioactively contaminated surface water shall be remediated to comply with the New Jersey Surface Water Quality Standards, N.J.A.C. 7:9B-1.14(c)6.

HISTORY:

Administrative correction.
See: 37 N.J.R. 4245(a).
Amended by R.2008 d.281, effective September 15, 2008 (operative September 30, 2009).
See: 40 N.J.R. 2309(a), 40 N.J.R. 5196(b), 41 N.J.R. 3415(a).
Recodified (a)3 as (b); and added (c).

§ 7:28-12.9 Minimum remediation standards for TENORM and source material contamination

(a) For radioactive contamination, the requirements of N.J.A.C. 7:28-12.8 shall be considered to be met for a specific radionuclide if:

1. Where only one radionuclide adds to the radioactive contamination of the site, the incremental concentration of the radionuclide above the natural background radionuclide concentration does not exceed the value in Table 1A, 1B (for unrestricted use), 2A, 2B (for limited restricted use), 3A, or 3B (for restricted use) below;

Table 1A Allowed Incremental Derived Concentration Guideline Level of Individual Radionuclides in Soils; Unrestricted Use Standards for Radioactive Individual Radionuclides in Soils; Unrestricted Use Standards for Radioactive Contamination (pCi/g)[1]

	Feet of Vertical Extent of Residual Radionuclides (VE)								
Radionuclide	VE1	VE2	VE3	VE4	VE5	VE6	VE7	VE8	VE9
U238[2]	54	35	26	20	17	14	12	11	10
U234[2]	62	37	26	21	17	14	12	11	10
Ra226[3]	3	2	2	2	2	2	2	2	2
U235[2]	29	22	17	14	12	10	9	8	7
Ac227	3	2	2	2	2	2	2	2	2
Th232	2	2	2	2	2	2	1	1	1

Table 1B Allowed Incremental Derived Concentration Guideline Level of Individual Radionuclides in Soils; Unrestricted Use Standards for Radioactive Contamination (Bq/g)[1]

	Feet of Vertical Extent of ResidualRadionuclides (VE)								
Radionuclide	VE1	VE2	VE3	VE4	VE5	VE6	VE7	VE8	VE9
U238[2]	2.02	1.29	0.94	0.75	0.62	0.53	0.46	0.41	0.36
U234[2]	2.29	1.36	0.98	0.76	0.62	0.53	0.46	0.41	0.36
Ra226[3]	0.10	0.08	0.08	0.08	0.07	0.07	0.07	0.06	0.06

	Feet of Vertical Extent of ResidualRadionuclides (VE)								
Radionuclide	VE1	VE2	VE3	VE4	VE5	VE6	VE7	VE8	VE9
U235[2]	1.07	0.08	0.63	0.52	0.44	0.38	0.34	0.30	0.27
Ac227	0.09	0.08	0.08	0.08	0.08	0.08	0.08	0.07	0.07
Th232	0.08	0.07	0.07	0.06	0.06	0.06	0.06	0.05	0.05

Table 2A Allowed Incremental Derived Concentration Guideline Level of Individual Radionuclides in Soils; Limited Restricted Use Standards for Radioactive Contamination (pCi/g)[1]

	Feet of Vertical Extent of Residual Radionuclides (VE)								
Radionuclide	VE1	VE2	VE3	VE4	VE5	VE6	VE7	VE8	VE9
U238[2]	64	41	30	24	20	17	15	13	12
U234[2]	69	42	30	24	19	16	14	13	11
Ra226[3]	5	4	3	3	2	2	2	2	2
U235[2]	37	27	22	18	15	13	11	10	9
Ac227	5	5	5	5	5	5	5	4	4
Th232	3	3	3	3	3	3	3	3	3

Table 2B Allowed Incremental Derived Concentration Guideline Level of Individual Radionuclides in Soils; Limited Restricted Use Standards for Radioactive Contamination (Bq/g)[1]

	Feet of Vertical Extent of Residual Radionuclides (VE)								
Radionuclide	VE1	VE2	VE3	VE4	VE5	VE6	VE7	VE8	VE9
U238[2]	2.37	1.52	1.12	0.88	0.73	0.62	0.54	0.48	0.43
U234[2]	2.56	1.56	1.12	0.88	0.72	0.61	0.53	0.47	0.42
Ra226[3]	0.19	0.13	0.11	0.10	0.09	0.09	0.08	0.08	0.08
U235[2]	1.38	1.01	0.80	0.65	0.55	0.48	0.42	0.38	0.34
Ac227	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17
Th232	0.12	0.12	0.12	0.12	0.12	0.11	0.11	0.10	0.10

Table 3A Allowed Incremental Derived Concentration Guideline Level of Individual Radionuclides in Soils; Restricted Use Standards for Radioactive Contamination (pCi/g)[1]

Feet of Uncontaminated Surface Soil (USS)		Feet of Vertical Extent of Residual Radionuclides (VE)								
		VE1	VE2	VE3	VE4	VE5	VE6	VE7	VE8	VE9
U238[2]	USS 1	82	46	32	24	20	17	15	13	12
	USS 2	83	46	32	25	20	17	15	13	12
	USS 3	83	46	33	25	20	17	15	13	12
	USS 4	83	47	33	25	20	18	15	13	12
	USS 5	85	47	33	25	21	16	14	13	12
U234[2]	USS 1	81	45	31	24	19	16	14	13	11

Feet of Uncontaminated Surface Soil (USS)		Feet of Vertical Extent of Residual Radionuclides (VE)								
		VE1	VE2	VE3	VE4	VE5	VE6	VE7	VE8	VE9
	USS 2	81	45	31	24	20	17	14	13	11
	USS 3	81	46	32	24	20	17	14	13	11
	USS 4	81	46	32	24	20	17	15	13	11
	USS 5	83	46	32	25	20	17	15	13	12
Ra226[3]	USS 1	7	4	3	3	2	2	2	2	2
	USS 2	7	4	3	3	2	2	2	2	2
	USS 3	7	4	3	3	2	2	2	2	2
	USS 4	7	4	3	3	2	2	2	2	2
	USS 5	7	4	3	3	2	2	2	2	2
U235[2]	USS 1	62	35	25	19	16	13	11	10	9
	USS 2	67	37	25	20	16	13	12	10	9
	USS 3	67	37	26	20	16	14	12	11	10
	USS 4	67	37	26	20	16	14	12	11	10
	USS 5	68	37	26	20	17	14	13	11	10
Ac227	USS 1	17	9	6	5	5	5	5	4	4
	USS 2	17	10	7	7	6	5	5	5	5
	USS 3	17	10	10	8	6	6	6	6	6
	USS 4	17	15	10	8	8	8	8	8	8
	USS 5	17	15	10	10	10	10	10	10	10
Th232	USS 1	13	9	7	5	4	2	3	3	3
	USS 2	13	10	7	5	4	3	3	3	3
	USS 3	13	10	7	5	4	4	4	4	4
	USS 4	13	10	7	5	5	5	5	5	5
	USS 5	13	10	7	6	6	6	6	6	6

Table 3B Allowed Incremental Derived Concentration Guidance Level of Individual Radionuclides in Soils; Restricted Use Standards for Radioactive Contamination (Bq/g) [1]

Feet of Uncontaminated Surface Soil (USS)		Feet of Vertical Extent of Residual Radionuclides (VE)								
U238[2]	USS 1	VE1	VE2	VE3	VE4	VE5	VE6	VE7	VE8	VE9
U238[2]	USS 1	3.03	1.70	1.18	0.90	0.74	0.63	0.54	0.48	0.43
	USS 2	3.08	1.71	1.18	0.92	0.75	0.63	0.55	0.48	0.43
	USS 3	3.09	1.71	1.21	0.92	0.75	0.63	0.55	0.49	0.44
	USS 4	3.09	1.74	1.21	0.92	0.75	0.64	0.56	0.49	0.44

Feet of Uncontaminated Surface Soil (USS)		Feet of Vertical Extent of Residual Radionuclides (VE)								
	USS 5	3.14	1.74	1.21	0.93	0.77	0.65	0.56	0.50	0.44
U234[2]	USS 1	2.98	1.66	1.15	0.88	0.72	0.61	0.53	0.47	0.42
	USS 2	2.98	1.66	1.15	0.89	0.73	0.61	0.53	0.47	0.42
	USS 3	2.98	1.66	1.17	0.90	0.73	0.62	0.54	0.47	0.42
	USS 4	2.98	1.70	1.18	0.90	0.74	0.62	0.54	0.47	0.42
	USS 5	3.05	1.70	1.18	0.91	0.74	0.63	0.54	0.48	0.43
Ra226[3]	USS 1	0.28	0.13	0.11	0.10	0.09	0.09	0.08	0.08	0.08
	USS 2	0.28	0.13	0.11	0.10	0.09	0.09	0.08	0.08	0.08
	USS 3	0.28	0.13	0.11	0.10	0.09	0.09	0.08	0.08	0.08
	USS 4	0.28	0.13	0.11	0.10	0.09	0.09	0.08	0.08	0.08
	USS 5	0.28	0.13	0.11	0.10	0.09	0.09	0.08	0.08	0.08
U235[2]	USS 1	2.30	1.30	0.91	0.70	0.59	0.49	0.42	0.38	0.34
	USS 2	2.47	1.36	0.94	0.73	0.59	0.49	0.43	0.39	0.35
	USS 3	2.48	1.36	0.95	0.73	0.59	0.50	0.44	0.40	0.36
	USS 4	2.49	1.38	0.95	0.73	0.60	0.52	0.45	0.41	0.37
	USS 5	2.51	1.38	0.95	0.74	0.62	0.53	0.47	0.42	0.37
Ac227	USS 1	0.62	0.34	0.24	0.18	0.18	0.18	0.17	0.17	0.17
	USS 2	0.63	0.36	0.24	0.24	0.23	0.20	0.19	0.19	0.19
	USS 3	0.63	0.36	0.36	0.29	0.23	0.23	0.23	0.23	0.23
	USS 4	0.63	0.54	0.37	0.29	0.28	0.28	0.28	0.28	0.28
	USS 5	0.63	0.54	0.37	0.36	0.36	0.36	0.36	0.36	0.36
Th232	USS 1	0.48	0.35	0.25	0.19	0.15	0.13	0.11	0.10	0.10
	USS 2	0.48	0.39	0.26	0.19	0.15	0.13	0.12	0.12	0.12
	USS 3	0.48	0.39	0.26	0.19	0.15	0.14	0.14	0.14	0.14
	USS 4	0.48	0.39	0.26	0.19	0.17	0.17	0.17	0.17	0.17
	USS 5	0.48	0.39	0.26	0.22	0.22	0.22	0.22	0.22	0.22

[1] The allowed Incremental Concentrations are added to the natural background radionuclide concentration to obtain the absolute value of the allowed radionuclide concentration following site remediation.

[2] These allowable concentrations may however, further be limited by the chemical toxicity of uranium. Applicants should inquire with NJDEP's Site Remediation Program for the additional applicable chemical cleanup standards for uranium.

[3] When more than one nuclide is present, use the Radium-226 Table in Appendix A, incorporated herein by reference, for applying the sum of the fractions rule. Then use whatever number is more restrictive for radium-226, the value in Tables 1A through 3B or the value derived using the sum of the fractions rule.

2. Where more than one radionuclide contaminant is present at the site, their concentrations meet the sum of the fractions as described below:

$$\text{Sum of } \frac{CA_i}{C_i} < 1$$

where:

CA_i = the incremental concentration of radionuclide i at the site, and

C_i = the incremental allowed concentration of radionuclide i from Table 1A, 1B, 2A, 2B, 3A, or 3B above, if it were the only remaining radionuclide at the site; and

3. Natural background radionuclide concentration shall be established by the methods presented in the Multi Agency Radiation Survey and Site Investigation Manual (MARSSIM), NUREG-1575, EPA 402 R-97-018, and any subsequent revisions thereto, or as discussed in Chapter 12 of the Department's Field Sampling Procedures Manual.

(b) As an alternate, the requirements of N.J.A.C. 7:28-12.8 shall be considered to be met for a specific radionuclide if:

1. Where only one radionuclide adds to the radioactive contamination of the site, the incremental concentration of the radionuclide above the natural background radionuclide concentration and the amount of uncontaminated surface soil meet the pre-mixing values in Table 4A, 4B (for unrestricted use), 5A, or 5B (for limited restricted use) below;

Table 4A Allowed Incremental Derived Concentration Guideline Level of Individual Radionuclides in Soils; Required Depth of USS; Pre-Mixing Values - Unrestricted Use (pCi/g)[1]

Feet of Uncontaminated Surface Soil		Feet of Vertical Extent of Residual Radionuclides (VE)								
		VE1	**VE2**	**VE3**	**VE4**	**VE5**	**VE6**	**VE7**	**VE8**	**VE9**
U238[2]	USS 1	70*	39	27	21	17	14	12	11	10
	USS 2	76	40	28	21	17	14	13	11	10
	USS 3	76	41	28	22	17	15	13	11	10
	USS 4	77	42	28	22	18	15	13	11	10
	USS 5	78	42	28	22	18	15	13	12	10
U234[2]	USS 1	74	40	27	21	17	14	12	11	10
	USS 2	74	40	27	21	17	14	13	11	10
	USS 3	74	40	28	21	17	15	13	11	10
	USS 4	76	42	28	22	18	15	13	11	10
	USS 5	78	42	28	22	18	15	13	11	10
Ra226[3]	USS 1	5*	3*	3	3	2	2	2	2	2
	USS 2	7	4	3	3	2	2	2	2	2
	USS 3	7	4	3	3	2	2	2	2	2
	USS 4	7	4	3	3	2	2	2	2	2
	USS 5	7	4	3	3	2	2	2	2	2
U235[2]	USS 1	43*	26*	19*	15	13	11	9	8	7
	USS 2	51*	29*	21	15*	13	11	9	8	8
	USS 3	58*	31*	21	16	13	11	10	9	8
	USS 4	62*	31*	21	16	13	11	10	9	8
	USS 5	62*	32*	21	16	14	12	10	9	8
Ac227	USS 1	5*	3*	3	2	2	2	2	2	2

Feet of Uncontaminated Surface Soil		Feet of Vertical Extent of Residual Radionuclides (VE)								
		VE1	VE2	VE3	VE4	VE5	VE6	VE7	VE8	VE9
	USS 2	6*	4	3	3	3	3	3	3	3
	USS 3	8	5	4*	3*	4	3	3*	3*	3*
	USS 4	11*	6*	5*	4*	3*	3*	3*	3*	3*
	USS 5	13*	8*	5*	5*	4*	4*	4*	3*	3*
Th232	USS 1	4*	3*	2*	2	2	2	1	1	1
	USS 2	6*	4*	3	3	2	2	2	2	2
	USS 3	8*	5	4	2*	2	2	2	2	2
	USS 4	10*	6	3*	2*	2	2	2	2	2
	USS 5	11	5*	3*	3	3	2*	2*	2*	2*

Table 4B Allowed Incremental Derived Concentration Guideline Level of Individual Radionuclides in Soils; Required Depth of USS; Pre-Mixing Values - Unrestricted Use (Bq/g)[1]

Feet of Uncontaminated Surface Soil		Feet of Vertical Extent of Residual Radionuclides (VE)								
		VE1	VE2	VE3	VE4	VE5	VE6	VE7	VE8	VE9
U238[2]	USS 1	2.06*	1.46	1.00	0.77	0.64	0.53	0.46	0.41	0.36
	USS 2	2.80	1.49	1.03	0.79	0.64	0.54	0.46	0.41	0.37
	USS 3	2.81	1.51	1.05	0.80	0.64	0.54	0.47	0.42	0.37
	USS 4	2.86	1.54	1.05	0.80	0.65	0.55	0.48	0.42	0.38
	USS 5	2.88	1.54	1.05	0.81	0.66	0.56	0.49	0.43	0.38
U234[2]	USS 1	2.75	1.46	1.00	0.76	0.62	0.53	0.46	0.41	0.36
	USS 2	2.75	1.47	1.01	0.78	0.64	0.53	0.46	0.41	0.37
	USS 3	2.75	1.48	1.04	0.80	0.64	0.54	0.47	0.41	0.37
	USS 4	2.80	1.54	1.05	0.08	0.65	0.55	0.47	0.41	0.37
	USS 5	2.88	1.54	1.05	0.81	0.64	0.55	0.47	0.42	0.37
Ra226[3]	USS 1	0.18*	0.11*	0.11	0.10	0.09	0.08	0.07	0.06	0.06
	USS 2	0.28	0.13	0.11	0.10	0.19	0.08	0.07	0.07	0.07
	USS 3	0.28	0.13	0.11	0.10	0.09	0.09	0.09	0.08	0.08
	USS 4	0.28	0.13	0.11	0.10	0.09	0.09	0.09	0.08	0.08
	USS 5	0.28	0.13	0.11	0.10	0.09	0.09	0.09	0.08	0.08
U235[2]	USS 1	1.59*	0.96*	0.70*	0.57	0.47	0.39	0.34	0.30	0.27
	USS 2	1.89*	1.07*	0.78*	0.55*	0.47	0.39	0.34	0.31	0.28
	USS 3	2.15*	1.15*	0.78	0.59	0.47	0.40	0.35	0.32	0.29
	USS 4	2.30*	1.15*	0.79	0.59	0.48	0.41	0.37	0.33	0.30
	USS 5	2.30*	1.17	0.79	0.59	0.50	0.43	0.38	0.34	0.31
Ac227	USS 1	0.18*	0.10*	0.10	0.08	0.08	0.08	0.08	0.07	0.07
	USS 2	0.21*	0.14	0.11	0.11	0.11*	0.10	0.09	0.09	0.09
	USS 3	0.28	0.18	0.14*	0.11*	0.13	0.13	0.09*	0.09*	0.09*

Feet of Uncontaminated Surface Soil		Feet of Vertical Extent of Residual Radionuclides (VE)								
		VE1	VE2	VE3	VE4	VE5	VE6	VE7	VE8	VE9
	USS 4	0.41*	0.22*	0.18*	0.14*	0.11*	0.11*	0.09*	0.09*	0.09*
	USS 5	0.48*	0.30*	0.18*	0.18*	0.14*	0.14*	0.14*	0.11*	0.11*
Th232	USS 1	0.15*	0.11*	0.09*	0.09	0.07	0.06	0.06	0.05	0.05
	USS 2	0.22*	0.15*	0.13	0.10	0.08	0.07	0.06	0.06	0.06
	USS 3	0.30*	0.20	0.14	0.08*	0.08	0.07	0.07	0.07	0.07
	USS 4	0.37*	0.21	0.11*	0.08*	0.09	0.09	0.09	0.09	0.09
	USS 5	0.42	0.20*	0.11*	0.11	0.11	0.09*	0.09*	0.09*	0.09*

Table 5A Allowed Incremental Derived Concentration Guideline Level of Individual Radionuclides in Soils; Required Depth of USS; Pre-Mixing Values – Limited Restricted Use (pCi/g)[1]

Feet of Uncontaminated Surface Soil		Feet of Vertical Extent of Residual Radionuclides (VE)								
		VE1	VE2	VE3	VE4	VE5	VE6	VE7	VE8	VE9
U238[2]	USS 1	82	45*	32	24	20	17	15	13	12
	USS 2	83	46	32	25	20	17	15	13	12
	USS 3	83	46	33	25	20	17	15	13	12
	USS 4	83	47	33	25	20	17	15	13	12
	USS 5	85	47	33	25	21	18	15	13	12
U234[2]	USS 1	81	45	31	24	19	16	14	13	11
	USS 2	81	45	31	24	20	17	14	13	11
	USS 3	81	45	32	24	20	17	14	13	11
	USS 4	81	46	32	24	20	17	15	13	11
	USS 5	83	46	32	25	20	17	15	13	11*
Ra226[3]	USS 1	7	4	3	3	2	2	2	2	2
	USS 2	7	4	3	3	2	2	2	2	2
	USS 3	7	4	3	3	2	2	2	2	2
	USS 4	7	4	3	3	2	2	2	2	2
	USS 5	7	4	3	3	2	2	2	2	2
U235[2]	USS 1	62	32*	24*	19	16	13	11	10	9
	USS 2	67	37	25	20	16	13	12	10	9
	USS 3	67	37	26	20	16	14	12	11	10
	USS 4	67	37	26	20	16	14	12	11	10
	USS 5	68	37	26	20	17	14	13	11	10
Ac227	USS 1	9*	7*	6	5	5	5	5	4	4
	USS 2	14*	10	7	7	6	5	5	5	5
	USS 3	18	10	10	8	6	6	6	6	6
	USS 4	18	15	10	8	8	7*	7*	7*	7*

Feet of Uncontaminated Surface Soil		Feet of Vertical Extent of Residual Radionuclides (VE)								
		VE1	VE2	VE3	VE4	VE5	VE6	VE7	VE8	VE9
	USS 5	26	15	10	10	9*	8*	8*	7*	7*
Th232	USS 1	7*	5*	5*	4*	4	3	3	3	3
	USS 2	10*	7*	6*	5	4	3	3	3	3
	USS 3	14*	8*	7	5	4	4	4	4	4
	USS 4	17*	10	7	5	5	5	5	5	5
	USS 5	20*	10	7	6	6	6	6	5*	5*

Table 5B Allowed Incremental Derived Concentration Guideline Level of Individual Radionuclides in Soils; Required Depth of USS; Pre-Mixing Values – Limited Restricted Use (Bq/g)[1]

Feet of Uncontaminated Surface Soil		Feet of Vertical Extent of Residual Radionuclides (VE)								
		VE1	VE2	VE3	VE4	VE5	VE6	VE7	VE8	VE9
U238[2]	USS 1	3.03	1.67	1.18	0.90	0.74	0.63	0.54	0.48	0.43
	USS 2	3.08	1.71	1.18	0.92	0.75	0.63	0.55	0.48	0.43
	USS 3	3.09	1.71	1.21	0.92	0.75	0.63	0.55	0.49	0.44
	USS 4	3.09	1.74	1.21	0.92	0.75	0.64	0.56	0.49	0.44
	USS 5	3.14	1.74	1.21	0.93	0.77	0.65	0.56	0.50	0.44
U234[2]	USS 1	2.98	1.66	1.15	0.88	0.72	0.61	0.53	0.47	0.42
	USS 2	2.98	1.66	1.15	0.89	0.73	0.61	0.53	0.47	0.42
	USS 3	2.98	1.66	1.17	0.90	0.73	0.62	0.54	0.47	0.42
	USS 4	2.98	1.70	1.18	0.90	0.74	0.62	0.54	0.47	0.42
	USS 5	3.05	1.70	1.18	0.91	0.74	0.63	0.54	0.48	0.43
Ra226[3]	USS 1	0.28	0.13	0.11	0.10	0.09	0.09	0.08	0.08	0.08
	USS 2	0.28	0.13	0.11	0.10	0.09	0.09	0.08	0.08	0.08
	USS 3	0.28	0.13	0.11	0.10	0.09	0.09	0.09	0.08	0.08
	USS 4	0.28	0.13	0.11	0.10	0.09	0.09	0.09	0.08	0.08
	USS 5	0.28	0.13	0.11	0.10	0.09	0.09	0.09	0.08	0.08
U235(2)	USS 1	2.30	1.18*	0.89*	0.70	0.59	0.49	0.42	0.38	0.34
	USS 2	2.47	1.36	0.94	0.73	0.59	0.49	0.43	0.39	0.35
	USS 3	2.48	1.36	0.95	0.73	0.59	0.50	0.44	0.40	0.36
	USS 4	2.49	1.38	0.95	0.73	0.60	0.52	0.45	0.41	0.37
	USS 5	2.51	1.38	0.95	0.74	0.62	0.53	0.47	0.42	0.37
Ac227	USS 1	0.33	0.26*	0.24	0.18	0.18	0.18	0.17	0.17	0.17
	USS 2	0.52*	0.36	0.24	0.24	0.23	0.20	0.19	0.19	0.19
	USS 3	0.66	0.36	0.36	0.29	0.23	0.23	0.23	0.23	0.23
	USS 4	0.66	0.54	0.37	0.29	0.28	0.26*	0.26*	0.26*	0.26*
	USS 5	0.97	0.54	0.37	0.36	0.33*	0.28*	0.28*	0.26*	0.26*

Feet of Uncontaminated Surface Soil		Feet of Vertical Extent of Residual Radionuclides (VE)								
		VE1	VE2	VE3	VE4	VE5	VE6	VE7	VE8	VE9
Th232	USS 1	0.26*	0.18*	0.18*	0.15*	0.15	0.13	0.11	0.10	0.10
	USS 2	0.37*	0.26*	0.22*	0.19	0.15	0.13	0.12	0.12	0.12
	USS 3	0.52	0.30	0.26	0.19	0.15	0.14	0.14	0.14	0.14
	USS 4	0.63*	0.39	0.26	0.19	0.17	0.17	0.17	0.17	0.17
	USS 5	0.74*	0.39	0.26	0.22	0.22	0.22	0.22	0.17	0.17

(1) The allowed Incremental Concentrations are added to the natural background radionuclide concentration to obtain the absolute value of the allowed radionuclide concentration before mixing.

(2) These allowable concentrations may however, further be limited by the chemical toxicity of uranium. Applicants should inquire with NJDEP's Site Remediation Program for the additional applicable chemical cleanup standards for uranium.

(3) When more than one nuclide is present, use the Radium-226 Table in Appendix B, incorporated herein by reference, for applying the sum of the fractions rule. Then use whatever number is more restrictive for radium-226, the value in Tables 4A through 5B or the value derived by using the sum of the fractions rule.

* Values were back-calculated to ensure 15 mrem/yr TEDE after mixing.

2. After it is established that the concentrations in Table 4A, 4B, 5A, or 5B above are met, the layer of residual radionuclides shall be mixed thoroughly with the layer of uncontaminated surface soil to achieve a uniform concentration, as outlined in Chapter 12 of the Department's Field Sampling Procedures Manual, throughout the soil column;

3. Where more than one radionuclide contaminant is present at the site, their concentrations meet the sum of the fractions as described below:

$$\text{Sum of } \frac{CA_i}{C_i} \leq 1$$

where:

CA_i = the incremental concentration of radionuclide i at the site, and

C_i = the incremental allowed concentration of radionuclide i from Table 4A, 4B, 5A, or 5B above, if it were the only remaining radionuclide at the site; and

4. The requirements in (a)3 above shall be met.

HISTORY:

Amended by R.2008 d.281, effective September 15, 2008 (operative September 30, 2009).
See: 40 N.J.R. 2309(a), 40 N.J.R. 5196(b), 41 N.J.R. 3415(a).
Section was "Minimum remediation standards for radionuclide contamination of soil". In the introductory paragraph of (a), deleted "in soils" following "contamination"; in (a)1 Tables 3A and 3B, updated column "VE1" entries for rows "Ac227 USS 2" through "Ac227 USS 5" and "Th232 USS 1" through "Th232 USS 5"; and in the Table 3B header, substituted "Bq/g" for "pCi".

§ 7:28-12.10 Minimum remediation standards for accelerator-produced, by-product, and certain special nuclear materials

(a) Remediation standards shall meet the requirements at N.J.A.C. 7:28-12.8.

(b) Computer models acceptable to the Department shall be used to determine the remediation standards.

(c) Modeling parameters used in developing unrestricted and restricted use standards shall be equivalent to those used in the NJDEP's model, RaSoRS, as supplemented or amended, and incorporated herein by reference, which is available on the Radiation Protection Program's website at http://www.state.nj.us/dep/rpp/index.htm.

(d) Dose calculations shall be performed out to the time of peak dose or 1,000 years, whichever is longer.

(e) Restricted use remediation standards shall meet requirements at N.J.A.C. 7:28-12.11(e) and 12.12.

HISTORY:

New Rule, R.2008 d.281, effective September 15, 2008 (operative September 30, 2009).
See: 40 N.J.R. 2309(a), 40 N.J.R. 5196(b), 41 N.J.R. 3415(a).
Former N.J.A.C. 7:28-12.10, Petition for alternative remediation standards for radioactive contamination, recodified to N.J.A.C. 7:28-12.11.

§ 7:28-12.11 Petition for alternative remediation standards for radioactive contamination

(a) In lieu of using the minimum remediation standards for radioactive contamination found at N.J.A.C. 7:28-12.9 or developed under N.J.A.C. 7:28-12.10, a person or licensee may petition the Department for an alternative remediation standard for radioactive contamination. Such an alternate remediation standard:

1. Shall not result in incremental doses, for sum of annual external radiation dose and intake dose, exceeding 15 mrem/yr (0.15 mSv/yr) total effective dose equivalent;

2. Shall not result in incremental concentrations exceeding three pCi/L (111 Bq/m3) of radon in indoor air in the lowest level of the building;

3. Shall not result in radionuclide in groundwater levels exceeding those in the New Jersey Groundwater Quality Standards in N.J.A.C. 7:9C; and

4. Shall not result in radionuclide in surface water levels exceeding those in the New Jersey Surface Quality Standards in N.J.A.C. 7:9B-1.14(c)6.

(b) The Department shall not consider a petition for an alternative remediation standard for radionuclides that is supported by increasing, in any manner, the allowed incremental dose criterion of 15 mrem/yr (0.15 mSv/yr) or the allowed incremental radon in air concentration of three pCi/L (111 Bq/m^3), or varying the parameters listed in Tables 6 or 7 below.

Table 6

Parameter	Unrestricted	Limited or Restricted
Indoor onsite breathing rate(m^3/hr)	0.63	1.4
Outdoor onsite breathing rate(m^3/hr)	1.40	1.4
Soil ingestion rate (g/yr)	70	12.5
Homegrown crop ingestion rate(g/yr)	17,136	0
Drinking water consumption rate(l/yr)	700	700
Shielding factor through basement or slab	0.20	0.20
Shielding factor through wall	0.80	0.80
Shielding factor outside	1.00	1.00

Table 7 Soil to Vegetation Transfer Factors

Element	pCi/g plant (wet) to pCi/g soil (dry)
Th	1E-3
Ra	4E-2
Pb	1E-2
Po	1E-3
U	2.5E-3
Ac	2.5E-3
Pa	1E-2

Element	pCi/g plant (wet) to pCi/g soil (dry)
Bi	1E-1

(c) The Department shall consider petitions only in cases where site-specific or waste specific factors, and/or site design features are used in performing the dose assessment, which are different than those used by the Department in establishing the remediation standards in N.J.A.C. 7:28-12.9 or 12.10. Factors which the Department shall consider in a petition for an alternate remediation standard include, but are not limited to:

1. The chemical or physical state of the radioactive material;

2. Site-specific soil characteristics, depth to groundwater and other geological and hydrogeological characteristics which may substantially change the potential dose from radionuclides, as compared to the values listed in Tables 8 and 9 below.

Table 8 Generic Site Input Parameters for Groundwater Pathway Analysis

Dimensions of contaminated zone, LxW (m)	100 x 100
Percolation rate (vertical Darcy velocity, m/yr)	0.5
Volumetric water content in contaminated zone (m^3/m^3)	0.35
Volumetric water content in unsaturated zone (m^3/m^3)	0.2
Bulk density of contaminated zone (g/m^3)	1.6
Bulk density of saturated zone (g/m^3)	1.6
Unsaturated zone thickness (distance from bottom of source to aquifer, m)	0.5
Porosity of aquifer	0.45
Longitudinal dispersivity in aquifer (m)	9
Transverse dispersivity in aquifer (m)	4
Pore velocity in aquifer (m/yr)	4
Well screen thickness (mixing depth, m)	10

Table 9 Sorption Coefficients used for Groundwater Pathway Analysis

Isotopes	Kd (mg/L)
uranium	35
thorium	3,200
radium	500
lead	270
proactinium	550
actinium	450

3. Use of caps, covers, sealants, geotextile membranes, limits on the vertical extent of radioactive contamination remaining on site and/or other engineering or institutional controls that reduce potential exposures to radioactive materials; and

4. Changes in indoor and outdoor occupancy times, which are justified by land uses other than residential or commercial.

(d) A petition for an alternate remediation standard shall include an analysis demonstrating how and why the difference in factors such as those in Tables 8 and 9 above and/or indoor and outdoor occupancy times will result in substantially different remediation standards than those in N.J.A.C. 7:28-12.9.

(e) Regardless of the factors used by the petitioner or licensee, the Department shall not approve alternative standard petitions that include institutional and engineering controls where failure of those controls, not including the failure of a radon remediation system, would result in more than 100 mrem (one mSv) total annual effective dose equivalent.

(f) In the event the Department determines that sufficient evidence exists to support consideration of an alternative remediation standard, the petitioner or licensee shall submit a written analysis which demonstrates compliance with the dose limits in N.J.A.C. 7:28-12.9 or 12.10 including:

1. The remedial action informational requirements of N.J.A.C. 7:26E-6; and

2. A dose assessment analysis, including:

i. An estimate of the radiation doses received by a post-remediation on-site resident for an unrestricted use remedial action, or by an employee (of a proposed commercial use facility) for a limited restricted use or restricted use remedial action;

ii. A presentation of all equations or other mathematical techniques used, either directly or embodied in a computer model, to predict the movement of radionuclides and/or their resulting radiation dose;

iii. Dose calculations which shall be extended for a period of 1,000 years or to the time of peak dose, whichever is longer;

iv. A presentation of all numerical input parameters to equations or computer models, the range of values for those parameters, including reference sources, the value selected for use and the basis for that selection;

v. A presentation of other relevant factors and assumptions used in the analyses, such as site-specific geology, land use, etc.;

vi. An analysis of which input parameters, when varied, would most significantly affect radiation dose results, commonly referred to as a sensitivity analysis; and

vii. An analysis of both continued use of existing structures and future use scenarios. Future use scenarios shall include, if applicable, the construction of buildings for either unrestricted use remedial actions or limited restricted use remedial actions, including excavations for basements and/or footings.

(g) Engineering controls or institutional controls may be incorporated as part of a petition for an alternative remediation standard provided that these controls will be durable and implemented for an appropriate period of time to achieve their intended purpose.

(h) Computer models acceptable to the Department may be used by the petitioner or licensee for an alternative remediation standard to confirm that the requirements of N.J.A.C. 7:28-12.9 or 12.10 have been and will continue to be met.

HISTORY:

Administrative correction.

See: 37 N.J.R. 4245(a).

Recodified from N.J.A.C. 7:28-12.10 and amended by R.2008 d.281, effective September 15, 2008 (operative September 30, 2009).

See: 40 N.J.R. 2309(a), 40 N.J.R. 5196(b), 41 N.J.R. 3415(a).

In the introductory paragraph of (a), deleted "of soil" following "contamination"; inserted "or developed under N.J.A.C. 7:28-12.10" and "or licensee", and substituted the first occurrence of "remediation" for "soil" and the second occurrence of "remediation" for "soil cleanup"; in (a)2, deleted "and" from the end; in (a)3, substituted "; and" for a period at the end; added (a)4; in (b), substituted "remediation" for "soil" and "dose criterion" for "background dose value"; in the introductory paragraph of (c), substituted "remediation standards" for "soil concentrations" and "remediation" for "soil", and inserted "or 12.10"; in (d), substituted "remediation" for "soil" preceding "standard" and "standards"; in (e), inserted "or licensee"; in the introductory paragraph of (f) and in (h), substituted "remediation" for "soil", and inserted "or licensee" and "or 12.10"; in (f)2i, deleted "a resident or" following "or by" and inserted "or restricted use"; and in (f)2iii, substituted "Dose" for "Groundwater radionuclide concentration" and inserted "or to the time of peak dose, whichever is longer". Former N.J.A.C. 7:28-12.11, Requirements pertaining to engineering or institutional controls, recodified to N.J.A.C. 7:28-12.12.

§ 7:28-12.12 Requirements pertaining to engineering or institutional controls

(a) All remediation proposals shall designate the intended use(s) of the property. Such intended use(s) shall be restricted as necessary to prevent future exposure, and shall otherwise be consistent with current and projected State and local zoning designations or land uses. For sites not remediated to the unrestricted use standards in N.J.A.C. 7:28-12.9 or 12.10, the Department shall define the nature and duration of all appropriate engineering or institutional controls necessary to meet the standards in N.J.A.C. 7:28-12.9, 12.10, or 12.11(a), based upon the particular conditions of the site.

(b) In order for any remediation under this subchapter requiring engineering controls or institutional controls to meet the standards in N.J.A.C. 7:28-12.9, 12.10, or 12.11(a), the person responsible for conducting the remediation, or licensee, shall, in addition to meeting the provisions of N.J.S.A. 58:10B-13:

1. Implement all necessary actions, as determined by the Department, to assure that such engineering or institutional controls are being implemented and maintained for an appropriate period of time; and

2. Provide sufficient financial assurance for the costs of implementing and maintaining the requisite active engineered or institutional controls for an appropriate period of time. Except as set forth in (b)2i below, acceptable financial assurance mechanisms are incorporated by reference at 10 CFR 20.1403(c) as follows:

i. At 10 CFR 20.1403(c)(1), delete ", and in which the adequacy of the trust funds is to be assessed based on an assumed annual 1 percent real rate of return on investment;" and add ". The adequacy of the trust fund shall be based upon a rate of return to be determined by the Department, based upon site-specific conditions, such that the Department can ensure that sufficient assets are available in the trust funds to maintain engineering controls for an appropriate period of time. Site-specific conditions are the engineering controls and environmental conditions at the property, and the half-lives of radionuclides of concern.

i. For radionuclides that are short-lived (have half-lives of less than 30 years), a one percent annual real rate of return shall be assumed to be acceptable. A higher real annual rate of return shall apply if the licensee demonstrates to the Department that site-specific conditions exist to justify the higher real annual rate of return.

ii. For longer-lived radionuclides, a declining annual real rate of return that begins above one percent and declines below one percent shall be assumed."

(c) A person responsible for conducting the remediation, or the licensee, shall conduct public outreach if the Department determines that outreach is needed, or when the Department determines that there is substantial public interest in activities concerning restricted release license termination.

1. The Department may determine that there is substantial public interest when it receives:

i. A petition containing the signatures of 25 or more people that live or work within 200 feet of the site, if contamination has not migrated from the site boundary;

ii. A petition containing the signatures of 25 or more people that live or work within 200 feet of the extent of contamination, if contamination has migrated from the site boundary; or

iii. A written request by a municipal official, such as a mayor or chairperson of an environmental commission, or a designated local health official.

2. When the Department determines that there is substantial public interest, the Department shall notify the person responsible for conducting the remediation or the licensee and post a summary of findings on the Department's web site at www.state.nj.us/dep; and

3. The person responsible for conducting the remediation or the licensee shall develop and implement enhanced public notice based on the expressed needs of the community and may include the following:

i. Publicizing and hosting an information session or public meeting;

ii. Publishing a notice containing basic information about the site in the local paper of record; or

iii. Establishing a local information repository.

4. The notifications required pursuant to this section are not intended to satisfy the public participation requirements applicable to sites subject to the Comprehensive Environmental Response, Compensation and Liability Act, 42 U.S.C. §§ 9601 et seq. and the National Contingency Plan, 40 CFR Part 300.

HISTORY:

Recodified from N.J.A.C. 7:28-12.11 and amended by R.2008 d.281, effective September 15, 2008 (operative September 30, 2009).

See: 40 N.J.R. 2309(a), 40 N.J.R. 5196(b), 41 N.J.R. 3415(a).

In (a), inserted "or 12.10"; in (a) and the introductory paragraph of (b), substituted ", 12.10, or 12.11(a)" for "or 12.10(a)"; in the introductory paragraph of (b), inserted ", or licensee,"; in (b)2, inserted "sufficient financial assurance" and inserted the last sentence; and added (c). Former N.J.A.C. 7:28-12.12, Requirements pertaining to a change in land use, recodified to N.J.A.C. 7:28-12.13.

Amended by R.2014 d.083, effective May 5, 2014.

See: 45 N.J.R. 806(a), 46 N.J.R. 768(a).

Rewrote (b)2.

§ 7:28-12.13 Requirements pertaining to a change in land use

(a) Any subsequent proposed use of a property that is different from the intended use (other than unrestricted use remedial actions) described in the original remediation proposal shall require a prior review and prior approval by the Department. To initiate this review, 90 calendar days prior to a proposed change in land use, the person or licensee proposing such use shall prepare and submit to the Department's Bureau of Environmental Radiation at the address listed in N.J.A.C. 7:28-1.5, and to each affected municipality, a brief written description of the new proposed use as compared to the intended use upon which the original

remediation was based including all planned soil excavations, and any additional remedial actions to be implemented.

(b) If the Department determines that the proposed new use may cause the dose limitations of N.J.A.C. 7:28-12.8 to be exceeded, the person or licensee requesting the use change shall be required to prepare and submit to the Department's Bureau of Environmental Radiation at the address listed in N.J.A.C. 7:28-1.5, a dose assessment analysis, containing the information required under N.J.A.C. 7:28-12.11(f)2, (g), and (h), to ascertain whether the dose limitation requirements of N.J.A.C. 7:28-12.8 will be met for the proposed new use.

(c) In preparing the dose assessment analysis, the person or licensee may incorporate into the new use plan new remedial measures such as different radionuclide in soil concentrations, or radioactive contamination vertical extents, and/or new engineering or institutional controls, provided that for engineering or institutional controls, the person responsible for conducting the remediation or licensee provides for the cost of implementing and maintaining them as specified in N.J.A.C. 7:28-12.12(c)3.

HISTORY:

Recodified from N.J.A.C. 7:28-12.12 and amended by R.2008 d.281, effective September 15, 2008 (operative September 30, 2009).
See: 40 N.J.R. 2309(a), 40 N.J.R. 5196(b), 41 N.J.R. 3415(a).
In (a), (b), and (c), inserted "or licensee" throughout; and in (b) and (c), updated the N.J.A.C. reference. Former N.J.A.C. 7:28-12.13, Requirements pertaining to the final status survey, recodified to N.J.A.C. 7:28-12.14.
Amended by R.2020 d.061, effective June 15, 2020.
See: 51 N.J.R. 1731(a), 52 N.J.R. 1267(a).
In (a), substituted "Department's" for "Department, at the"; and in (a) and (b), and replaced the address with "at the address listed in N.J.A.C. 7:28-1.5".

§ 7:28-12.14 Requirements pertaining to the final status survey

The final status survey is performed to demonstrate that a site meets the remediation standards. It shall be done in accordance with that version of the Department of Environmental Protection's Field Sampling Manual's section on Radiological Assessment, which is incorporated herein by reference, in effect at the time of the survey which may be obtained by calling the Bureau of Environmental Radiation at (609) 984-5400 or from the Radiation Protection Program's web site at http://www.state.nj.us/dep/rpp/index.htm. Chapter 12 of the Department's Field Sampling Procedures Manual follows the methodology provided in MARSSIM with some modifications.

HISTORY:

Recodified from N.J.A.C. 7:28-12.13 by R.2008 d.281, effective September 15, 2008 (operative September 30, 2009).
See: 40 N.J.R. 2309(a), 40 N.J.R. 5196(b), 41 N.J.R. 3415(a).

§ 7:28-12.15 Requirements pertaining to onsite burial or capping

(a) No owner or licensee shall bury or construct an engineered barrier (cap) over radioactive material onsite unless the requirements of N.J.A.C. 7:28-12.8 and 12.11 are met.

(b) Owners or licensees with sites that have been used for burial of radioactive materials or where radioactive material has been capped, shall not be allowed to convert these sites to other uses unless the requirements of N.J.A.C. 7:28-12.8 and 12.11 are met.

(c) The owner or licensee of any burial ground or capped material shall notify the Department in writing not less than 30 days in advance of any transfer of title to the property involved.

HISTORY:

New Rule, R.2008 d.281, effective September 15, 2008 (operative September 30, 2009).
See: 40 N.J.R. 2309(a), 40 N.J.R. 5196(b), 41 N.J.R. 3415(a).

APPENDIX A Allowed Incremental Derived Concentration Guideline Levels

Allowed Incremental Derived Concentration Guideline Levels (pCi/g) for the Gamma and Intake Pathways[1]

	Feet of Vertical Extent of Residual Radionuclides (VE)								
Nuclide	VE1	VE2	VE3	VE4	VE5	VE6	VE7	VE8	VE9
Ra226									

	Feet of Vertical Extent of Residual Radionuclides (VE)								
Nuclide	VE1	VE2	VE3	VE4	VE5	VE6	VE7	VE8	VE9
Unrestricted Use									
Standards	3	2	2	2	2	2	2	2	2
Ra226									
Limited Restricted									
Use Standards	5	5	5	5	5	5	5	4	4

Allowed Incremental Derived Concentration Guideline Levels (pCi/g) for the Gamma and Intake Pathways (1)

Feet of Uncontaminated Surface Soil (USS)		Feet of Vertical Extent of Residual Radionuclides (VE)								
		VE1	VE2	VE3	VE4	VE5	VE6	VE7	VE8	VE9
Ra226										
Restricted Use										
Standards	USS 1	18	15	10	8	6	5	5	4	4
	USS 2	18	15	10	8	6	5	5	5	5
	USS 3	18	15	10	8	6	6	6	6	6
	USS 4	18	15	10	8	7	7	7	7	7
	USS 5	18	15	10	9	9	9	9	9	9

Allowed Incremental Derived Concentration Guideline Levels (Bq/g) for the Gamma and Intake Pathways(1)

	Feet of Vertical Extent of Residual Radionuclides (VE)								
Nuclide	VE1	VE2	VE3	VE4	VE5	VE6	VE7	VE8	VE9
Ra226									
Unrestricted Use									
Standards	0.13	0.09	0.09	0.09	0.09	0.09	0.09	0.08	0.08
Ra226									
Limited Restricted									
Use Standards	0.18	0.18	0.18	0.18	0.18	0.18	0.18	0.15	0.15

Allowed Incremental Derived Concentration Guideline Levels (Bq/g) for the Gamma and Intake Pathways (1)

Feet of Uncontaminated Surface Soil (USS)		Feet of Vertical Extent of Residual Radionuclides (VE)								
		VE1	VE2	VE3	VE4	VE5	VE6	VE7	VE8	VE9
Ra226										
Restricted Use										
Standards	USS 1	0.67	0.55	0.37	0.30	0.22	0.18	0.18	0.15	0.15
	USS 2	0.67	0.56	0.37	0.30	0.22	0.18	0.18	0.18	0.18

Feet of Uncontaminated Surface Soil (USS)		Feet of Vertical Extent of Residual Radionuclides (VE)								
		VE1	VE2	VE3	VE4	VE5	VE6	VE7	VE8	VE9
	USS 3	0.67	0.56	0.37	0.30	0.22	0.22	0.22	0.22	0.22
	USS 4	0.67	0.56	0.37	0.30	0.23	0.23	0.26	0.26	0.26
	USS 5	0.67	0.56	0.37	0.33	0.33	0.33	0.33	0.33	0.33

(1) These Ra226 concentration numbers may be used only when more than one radionuclide is present for the sum of the fractions rule at N.J.A.C. 7:28-12.9(b).

HISTORY:

Amended by R.2008 d.281, effective September 15, 2008 (operative September 30, 2009).
See: 40 N.J.R. 2309(a), 40 N.J.R. 5196(b), 41 N.J.R. 3415(a).
In the second table "Allowed Incremental Derived Concentration Guideline Levels (pCi/g) for the Gamma and Intake Pathways", updated the column "VE1" entries for rows "Ra226 Restricted Standards USS 1" through "Ra226 Restricted Standards USS 5"; in the header of the third table "Allowed Incremental Derived Concentration Guideline Levels (pCi/g) for the Gamma and Intake Pathways", substituted "Bq/g" for "pCi/g"; in the fourth table "Allowed Incremental Derived Concentration Guideline Levels (Bq/g) for the Gamma and Intake Pathways", updated the column "VE1" entries for rows "Ra226 Restricted Standards USS 1" through "Ra226 Restricted Standards USS 5"; and in the footnote, substituted "(1)" for "(1)".

APPENDIX B Allowed Incremental Derived Concentration Guideline Levels

Allowed Incremental Derived Concentration Guideline Levels (pCi/g) for the Gamma and Intake Pathways(1)

Feet of Uncontaminated Surface Soil (USS)		Feet of Vertical Extent of Residual Radionuclides (VE)								
		VE1	VE2	VE3	VE4	VE5	VE6	VE7	VE8	VE9
Ra226										
Unrestricted	USS 1	5*	3*	3	3	3	3	2	2	2
Use	USS 2	7*	4*	4*	3*	3	3	2	2	2
Pre-mixing	USS 3	7	5*	4*	4	3	3	3	3	3
Values	USS 4	11	7*	5*	4	3	3	3	3	3
	USS 5	13*	8	6	4	4	4	4	4	4
Ra226										
Limited	USS 1	11*	8*	7*	7*	6*	6*	5*	5*	5*
Restricted	USS 2	16*	11*	9*	8*	7*	6*	6*	5*	5*
Use	USS 3	21*	13*	10*	9*	7*	6*	6*	6*	6*
Pre-mixing	USS 4	26*	16*	12*	9*	8*	7*	7*	6*	6*
Values	USS 5	31*	18*	11*	10*	9*	8*	7*	7*	7*

*Back calculated to ensure 15 mrem/yr TEDE after mixing

Allowed Incremental Derived Concentration Guideline Levels (Bq/g) for the Gamma and Intake Pathways(1)

Feet of Uncontaminated Surface Soil (USS)		Feet of Vertical Extent of Residual Radionuclides (VE)								
		VE1	VE2	VE3	VE4	VE5	VE6	VE7	VE8	VE9
Ra226										
Unrestricted	USS 1	0.18*	0.12*	0.12*	0.12*	0.12	0.10	0.09	0.08	0.08
Use	USS 2	0.25*	0.15*	0.15*	0.15*	0.12*	0.11	0.09	0.09	0.09

Feet of Uncontaminated Surface Soil (USS)		Feet of Vertical Extent of Residual Radionuclides (VE)								
		VE1	VE2	VE3	VE4	VE5	VE6	VE7	VE8	VE9
Pre-mixing	USS 3	0.25*	0.18*	0.17*	0.17	0.14	0.11	0.11	0.11	0.11
Values	USS 4	0.40*	0.25*	0.18*	0.17	0.13	0.13	0.13	0.13	0.13
	USS 5	0.48*	0.32	0.22	0.16	0.16	0.16	0.16	0.16	0.16
Ra226										
Limited	USS 1	0.40*	0.30*	0.26*	0.26*	0.22*	0.22*	0.18*	0.18*	0.18*
Restricted	USS 2	0.59*	0.40*	0.33*	0.30*	0.26*	0.22*	0.22*	0.18*	0.18*
Use	USS 3	0.77*	0.48*	0.37*	0.33*	0.26*	0.22*	0.22*	0.22*	0.22*
Pre-mixing	USS 4	0.96*	0.59*	0.44*	0.33*	0.30*	0.26*	0.26*	0.22*	0.22*
Values	USS 5	1.15*	0.67*	0.41*	0.37*	0.33*	0.30*	0.26*	0.26*	0.26*

* Back-calculated to ensure 15 mrem/yr TEDE after mixing

(1) These Ra226 concentration numbers may be used only when more than one radionuclide is present for the sum of the fractions rule at N.J.A.C. 7:28-12.9(b).

SUBCHAPTER 13. REPORTS OF THEFTS AND RADIATION INCIDENTS FOR REGISTRANTS

§ 7:28-13.1 Reports of theft or loss

A registrant shall immediately notify the Department by telephone, telefax or telegraph of any theft or loss of any ionizing radiation-producing machine under such circumstances that a substantial radiation hazard may result.

HISTORY:

Amended by R.2005 d.156, effective May 16, 2005.
See: 36 N.J.R. 2336(a), 37 N.J.R. 1826(a).
Rewrote the section.
Amended by R.2008 d.281, effective September 15, 2008 (operative September 30, 2009).
See: 40 N.J.R. 2309(a), 40 N.J.R. 5196(b), 41 N.J.R. 3415(a).
Rewrote the section.

§ 7:28-13.2 Reportable radiation incidents

(a) A registrant shall immediately notify the Department by telephone, telefax or telegraph of any radiation incident which may have caused or threatens to cause the following:

1. Exposure of the whole body of any individual to 25 rems or more of radiation; exposure of the skin of the whole body of any individual to 150 rems or more of radiation; or exposure of the feet, ankles, hands or forearms of any individual to 375 rems or more of radiation;

2. A loss of one working week or more of the operation of any facilities affected; or

3. Damage to property in excess of $ 100,000.

(b) The names of any individuals who have been exposed to radiation levels set forth in subsection (a) of this Section shall not be included in the report.

(c) A registrant shall notify the Department within 24 hours by telephone, telefax or telegraph of any radiation incident which may have caused or threatens to cause the following:

1. Exposure of the whole body of any individual to five rems or more of radiation; exposure of the skin of the whole body of any individual to 30 rems or more of radiation; or exposure of the feet, ankles, hands or forearms to 75 rems or more of radiation;

2. A loss of one day or more of the operation of any facilities affected; or

3. Damage to property in excess of $ 1,000.

(d) The names of any individuals who have been exposed to radiation levels set forth in subsection (c) of this Section shall not be included in the report.

(e) A registrant shall notify the Department in writing within 30 days of the following:

1. Each exposure of an individual to radiation in excess of any applicable limit of N.J.A.C. 7:28-6;

2. Any incident for which notification is required by subsections (a) and (c) of this Section; or

3. Levels of radiation not involving exposure of any individual in excess of any applicable limit of N.J.A.C. 7:28-6 outside a controlled area in excess of 10 times the limits of N.J.A.C. 7:28-6, Standards for Protection Against Radiation.

(f) The reports set forth in (e) above shall describe the extent of exposure of individuals to radiation, the levels of radiation, the cause of the exposure and/or levels, and corrective steps taken or planned to assure against a recurrence.

(g) In each case where (e)1 above requires a report to the Department of exposure of an individual, the owner shall:

1. Delete from the report all references to the names and addresses of individuals so exposed. The identity of such individuals shall be privileged and shall be submitted as a separate document of such report; and

2. Concurrently give written notification to the individual of the nature and extent of the exposure. Such notice shall contain the following statement: "This report is furnished to you under the provisions of N.J.A.C. 7:28-13, Reports of Thefts and Radiation Incidents for Registrants. You should preserve this report for future reference."

HISTORY:

Amended by R.2005 d.156, effective May 16, 2005.
See: 36 N.J.R. 2336(a), 37 N.J.R. 1826(a).
Rewrote (a), (c), and (e).
Amended by R.2005 d.239, effective July 18, 2005.
See: 37 N.J.R. 8(a), 37 N.J.R. 2675(a).
In (g), substituted "above" for "of this section" in the introductory paragraph, and substituted "give" for "given" in 2.
Amended by R.2008 d.281, effective September 15, 2008 (operative September 30, 2009).
See: 40 N.J.R. 2309(a), 40 N.J.R. 5196(b), 41 N.J.R. 3415(a).
In the introductory paragraphs of (a), (c) and (e), deleted "State licensee, radioactive materials registrant or"; deleted (a)2; recodified former (a)3 and (a)4 as (a)2 and (a)3; deleted (c)2; recodified former (c)3 and (c)4 as (c)2 and (c)3; in (e)1, deleted "or concentrations of radioactive material" preceding "in excess" and ", or of a State licensee's license" from the end, in (e)3, deleted "or concentrations of radioactivity" following "radiation" and "and 11 or of a State licensee's license" from the end and updated the second N.J.A.C. reference; rewrote (f); and in (g)2, substituted "N.J.A.C. 7:28-13," for "Subchapter 13(", inserted "for Registrants", and deleted ") of the New Jersey Administrative Code" preceding ". You".

SUBCHAPTER 14. THERAPEUTIC INSTALLATIONS

§ 7:28-14.1 Scope

(a) This subchapter covers therapeutic installations used in the healing arts. These therapeutic installations include x-ray, accelerator and teletherapy installations. No registrant shall operate or permit the operation of therapeutic equipment used in the healing arts unless the equipment and installation meet the applicable requirements of this subchapter.

§ 7:28-14.2. Definitions

The following words and terms, when used in this subchapter, shall have the following meanings unless the context clearly indicates otherwise.

"Applicator" means a structure which determines the extent of the treatment field at a given distance from the virtual source and which may or may not incorporate the beam limiting device.

"Beam interceptor" means a device located on the central axis of the primary beam whose purpose is to substantially attenuate the beam so that the room shielding requirements may be reduced.

"Beam limiting device" means a device which provides a means to restrict the dimensions of the radiation field and which is an integral part of the equipment.

"Beam monitoring system" means a system designed to detect and measure the radiation present in the useful beam.

"Beam scattering filter" means a filter used to scatter a beam of electrons.

"Central axis of the beam" means a line passing through the virtual source and the center of the plane figure formed by the edge of the final beam limiting device.

"Contact therapy system" means an x-ray system used for therapy not capable of operating above 60 kVp and with a source distance less than or equal to five centimeters.

"Department" means the New Jersey Department of Environmental Protection.

"Dose monitoring system" means a system of devices for the detection, measurement, and display of dose information for the useful beam.

"Dose monitor unit" means a unit response from the dose monitoring system from which the absorbed dose can be calculated.

"Field flattening filter" means a filter used to provide dose uniformity over the area of a useful beam of x-rays at a specified depth.

"Field size" means the projection on a plane perpendicular to the beam axis, of the distal end of the collimator as seen from the front center of the source.

"Full beam detector" means a radiation detector of such size that the total cross section of the maximum-size useful beam is intercepted.

"Gantry" means that part of the system supporting and allowing possible movements of the radiation head.

"Interlock" means a device arranged or connected such that the occurrence of an event or condition is required before a second event or condition can occur or continue to occur.

"Interruption of irradiation" means the stopping of irradiation with the possibility of continuing irradiation without resetting of operating conditions at the control panel.

"Isocenter" means a fixed point in space located at the center of the smallest sphere through which the central axis of the beam pass.

"Leakage radiation" means radiation emanating from the diagnostic or therapeutic source assembly except for the useful beam.

"Moving beam therapy" means radiation therapy with relative movement of the useful beam and the patient during irradiation.

"Normal treatment distance" means:

1. For electron irradiation, the nominal source to surface distance along the central axis of the useful beam, specified by the manufacturer for the applicator;

2. For x-ray irradiation, the nominal source to isocenter distance along the central axis of the useful beam; and

3. For non-isocentric equipment, this distance shall be specified by the manufacturer.

"Phantom" means a volume of material behaving in a manner similar to tissue with respect to the attenuation and scattering of radiation.

"Primary dose monitoring system" means a system which will monitor the quantity of radiation produced during irradiation and which will terminate irradiation when a pre-selected number of dose monitor units have been delivered.

"Qualified radiological physicist" means a person who holds at least a bachelor's degree in one of the physical sciences and who is certified by the American Board of Radiology either in radiological physics, x- and gamma ray physics or therapeutic radiological physics, is eligible for such certification, or has equivalent training and experience.

1. "Equivalent training and experience" means a person has:

i. A bachelor's degree in physical sciences and three years full time experience working under the direction of a physicist certified by the American Board of Radiology;

ii. A doctorate or master's degree in physical science and two years such experience; or

iii. A doctorate or master's degree in radiological or medical physics and two years of full-time, post-doctoral training with clinical experience.

"Registrant" means the person required to register with the Department pursuant to N.J.A.C. 7:28-3.

"Secondary dose monitoring system" means a system which will terminate irradiation in the event of failure of the primary system.

"Spot check" means an abbreviated calibration procedure which is performed to assure that a previous calibration continues to be valid.

"Stationary beam therapy" means radiation therapy without relative movement of the useful beam and the patient during irradiation.

"Target" means that part of a radiation-producing device used to intercept a beam of accelerated particles and cause emission of other radiation.

"Termination of irradiation" means the stopping of irradiation in a fashion which will not permit continuance of irradiation without the resetting of operating conditions at the control panel.

"Transmission detector" means a radiation detector through which the useful beam or part of the useful beam passes.

"Traceable to national standards" means a dosimetry system calibrated by the National Institute of Standards and Technology (NIST) or calibrated in a beam which has been standardized by a transfer-grade ionization chamber having an NIST calibration.

"Treatment field" means the area of the patient's skin which is to be irradiated.

"Virtual source" means a point from which radiation appears to originate.

"Wedge filter" means an added filter effecting continuous progressive attenuation on all or part of the useful beam.

HISTORY

Amended by R.2005 d.239, effective July 18, 2005.
See: 37 N.J.R. 8(a), 37 N.J.R. 2675(b).
Rewrote "Traceable to national standards".

§ 7:28-14.3. Therapeutic x-ray systems with energies less than one MeV

(a) Equipment requirements for therapeutic x-ray systems with energies less than one MeV are as follows:

1. Leakage radiation shall be measured under conditions which provide maximum leakage radiation. The leakage radiation shall not exceed the value specified at the distance specified for the classification of that x-ray system. Compliance shall be determined by measurements averaged over an area of 100 square centimeters. Measurement shall be performed at installation and whenever the tube is changed. Measurement shall be performed at least once every five years;

i. For Contact Therapy Systems, leakage radiation shall not exceed 100 milliroentgens in one hour at five centimeters from the surface of the tube housing assembly;

ii. For 0-150 kVp Systems which are installed prior to October 1, 1987, leakage radiation shall not exceed one roentgen in one hour at one meter from the target;

iii. For 0-150 kVp Systems which are installed on or after October 1, 1987, leakage radiation shall not exceed 100 milliroentgens in one hour at one meter from the target;

iv. For 151 to 500 kVp Systems the leakage radiation shall not exceed one roentgen in one hour at one meter from the target;

v. For 501 to 999 kVp Systems the leakage radiation shall not exceed 0.1 percent of the useful beam exposure rate at one meter from the target; and

vi. Records of leakage radiation shall be maintained at the facility for at least five years and shall be made available for inspection by the Department.

2. Beam limiting devices for equipment installed on or after October 1, 1987 shall transmit no more than one percent of the useful beam, for the portion of the beam which is to be attenuated by the beam limiting device, when the equipment is operating at maximum kVp and with maximum filtration. Measurements shall be made at a distance of one meter from the beam limiting device and in a plane perpendicular to the central axis of the beam. For equipment installed before October 1, 1987, transmissions shall not exceed five percent of the useful beam;

3. The filter system shall be so designed that:

i. It will minimize the possibility of error in filter selection;

ii. Filters cannot be accidentally displaced from the useful beam at any possible tube orientation;

iii. Each filter is marked as to its material of construction and its thickness or wedge angle for wedge filters;

iv. It shall be possible for the operator to determine the presence or absence of any filter in the useful beam when the operator is at the control panel, either by display at the control panel or by direct observation;

v. For equipment installed prior to October 1, 1987, the radiation at five centimeters from the filter insertion slot opening does not exceed 30 roentgens per hour under any operating conditions; and

vi. For equipment listed on or after October 1, 1987, the radiation from the filter slot shall not exceed the leakage radiation specified in (a)1 above.

4. A means shall be provided to immobilize the tube housing assembly during stationary treatments;

5. The tube housing assembly shall be so marked that it is possible to determine the location of the focal spot to within five millimeters, and such marking shall be readily accessible for use during calibration procedures;

6. Equipment employing Beryllium or other low-filtration windows shall have a removable shield of at least 0.5 millimeter lead equivalency at 100 kVp that can be positioned over the entire useful beam exit port during periods when the beam is not in use;

7. Radiotherapy systems of greater than 150 kVp installed on or after October 1, 1987 shall be provided with a beam monitor system which shall:

i. Include a radiation detector which is placed on the patient side of any fixed added filters other than a wedge filter;

ii. Have the radiation detector interlocked to prevent its incorrect positioning in the useful beam;

iii. Not allow irradiation until a pre-selected value of exposure or pre-selected number of dose monitor units has been made at the treatment control panel;

iv. Independently terminate irradiation when the pre-selected value of exposure or dose monitor units has been reached;

v. Be so designed that, in the event of a system malfunction or electrical power failure, the dose administered to a patient prior to the system malfunction or power failure can be accurately determined;

vi. Have a display at the control panel, reading in roentgens, or coulombs per kilogram from which the dose at a reference point in the treatment volume can be calculated;

(1) The reading shall be maintained in the display at the control panel until intentionally reset to zero; and

vii. Have a control panel display which does not have scale multiplying factors and utilizes a design such that an increasing dose is displayed by increasing numbers.

8. The following are the equipment requirements for timer systems:

i. A timer system shall be provided which has a display at the treatment control panel. It shall be graduated in minutes and seconds and/or fractions of minutes. It shall have a pre-set time selector. For equipment installed on or after October 1, 1987, it shall also have an elapsed time indicator;

ii. The timer shall terminate irradiation when a pre-selected time has elapsed;

iii. The timer shall permit pre-setting and determination of exposure times to an accuracy of one second or less;

iv. The timer shall not permit an exposure if set at zero;

v. When patient irradiation is controlled by a shutter mechanism the timer shall not begin to run until the shutter is opened;

vi. Equipment installed on or after October 1, 1987 shall have an elapsed-time indicator which is activated when radiation is emitted and retains its reading after irradiation is interrupted or terminated; and

vii. After irradiation is terminated and before irradiation can be reinitiated, it shall be necessary to cycle the pre-set time selector through zero time.

9. In addition to the control panel displays required in other provisions of this subsection, the control panel shall have:

i. An indication of whether electrical power is available at the control panel and if activation of the x-ray tube is possible;

ii. An indication of whether x-rays are being produced;

iii. Means for indicating kVp and x-ray tube current; and

iv. The means for terminating an exposure at any time.

10. There shall be a means of determining the source-to-patient distance to within 10 percent or one centimeter, whichever is smaller; and

11. Unless it is possible to bring the x-ray output to the prescribed exposure parameters within five seconds, the entire useful beam shall be attenuated automatically by a shutter having a lead equivalency not less than that of the tube housing assembly. In addition:

i. After the unit is at operating parameters, the shutter shall be controlled electrically from the control panel by the operator; and

ii. An indication of shutter position shall appear at the control panel.

(b) In addition to shielding adequate to meet the requirements of N.J.A.C. 7:28-5 and 6, the treatment room design and shielding requirements for systems capable of operating above 50 kVp, shall be the following:

1. There shall be warning lights in treatment rooms to which access is possible through more than one entrance. The warning lights shall be placed in readily observable positions near the outside of all access doors and shall indicate when the useful beam is "on";

2. There shall be means for two-way aural communication between the patient and the operator at the control panel at all times when the system is in operation;

3. A window, mirror, closed-circuit television, or an equivalent system shall be provided to permit continuous observation of the patient during irradiation and shall be so located that the operator can observe the patient from the control panel. When the primary viewing system is by electronic means (for example, television), a secondary viewing system shall be available for use in the event of failure of the primary viewing system;

4. Treatment rooms which contain an x-ray system capable of operating above 150 kVp shall meet the following additional requirements:

i. All required shielding, except for any beam interceptor, shall be provided by fixed barriers;

ii. The control panel shall be outside the treatment room;

iii. All entrance doors of the treatment room shall be electrically connected to the control panel in such a way that x-ray production cannot occur unless all doors are closed;

iv. When any entrance door of the treatment room is opened while the x-ray tube is activated, x-ray production shall terminate within one second; and

v. After the radiation output of the x-ray tube has been terminated by the opening of any door of the treatment room, it shall be possible to restore the x-ray system to full operation only upon closing the door, and subsequently, reinitiating the exposure at the control panel.

(c) The following are the calibration requirements for therapeutic x-ray systems with energies less than one MeV:

1. System calibrations shall be performed before the system is first used for irradiation of a patient and thereafter at time intervals which do not exceed 12 months and after any change which might significantly alter the calibration or other characteristic of the therapy beam;

2. The calibration of the radiation output of the x-ray system shall be performed by a qualified radiological physicist;

3. Calibration of the radiation output of an x-ray system shall be performed with an instrument whose calibration shall be directly traceable to a national standard and which shall have been calibrated within the preceding three years;

4. The calibration shall be such that the dose at a reference point in soft tissue can be calculated to within +/- 5 percent;

5. The calibration of the x-ray system shall include, but not be limited to, the following determinations;

i. Verification that the x-ray system is operating in compliance with the radiological design specifications;

ii. The exposure rates for each combination of field size, technique factors, filter, and treatment distance used;

iii. The congruence between the radiation field and the field indicated by the localizing device if such device is present; and

iv. The uniformity of the radiation field symmetry for representative field sizes used.

6. Records of calibration performed pursuant to 1 above shall be maintained by the registrant and made available for inspection by the Department for five years after completion of the calibration.

(d) Spot checks shall be performed on therapeutic x-ray systems with energies greater than 0.018 MeV and less than one MeV and shall meet the following requirements:

1. The qualified radiological physicist will determine those parameters to be spot-checked and the procedure to be used when performing those spot checks. The spot check procedure shall be in writing and specify the frequency at which tests or measurements are to be performed, not to exceed one month, and the acceptable tolerance for each parameter measured in the spot-check. A qualified radiological physicist need not actually perform the spot-check measurement. If a qualified radiological physicist does not perform the spot-check measurement, the results of the spot-check measurement shall be reviewed by a qualified radiological physicist within 15 days;

2. The measurements taken during spot checks shall demonstrate the degree of consistency of the operating characteristics which can affect the radiation output of the system or the radiation delivered to a patient during a therapy procedure;

3. Whenever a spot check indicates a significant change in the operating characteristics of a system, as specified in the spot check procedures, the system shall be recalibrated;

4. The cause for a parameter exceeding tolerances set by the qualified radiological physicist shall be promptly investigated and corrected before the system is used for patient irradiation; and

5. Records of spot-check measurements shall be maintained by the registrant and made available for inspection by the Department for a period of five years following such measurement.

(e) The following procedures shall be followed when operating therapeutic x-ray systems with energies less than one MeV:

1. A therapeutic x-ray system shall not be left unattended unless the system is secured against unauthorized use;

2. No individual other than the patient shall be in the treatment room unless such individual is protected by a barrier meeting the requirements of N.J.A.C. 7:28-6. No individual other than the patient shall be in the treatment room during exposure when the kVp exceeds 50;

3. When a patient must be held in position for radiation therapy, mechanical supporting or restraining devices shall be used; and

4. Except for contact therapy devices, the tube housing assembly shall not be held by an individual during exposure.

(f) The x-ray system shall not be used in the administration of radiation therapy unless the requirements of this section have been met.

HISTORY

Correction: Therapeutic x-ray systems with energies less than one MeV for 0-150 kVp systems which are installed prior to October instead of January.

See: 19 N.J.R. 1917(c).

Amended by R.2005 d.239, effective July 18, 2005.

See: 37 N.J.R. 8(a), 37 N.J.R. 2675(b).

In (a)1v, deleted "at a distance of one meter from the target" following "the leakage radiation".

§ 7:28-14.4 Therapeutic x-ray and therapeutic accelerator installations with energies of one MeV and above

(a) The following are the equipment requirements related to leakage radiation to the patient area:

1. Leakage radiation shall be measured under conditions producing maximum leakage radiation and shall be reported as absorbed dose in rads or grays in water. For equipment installed on or after October 1, 1987, measurements shall include x-rays, electrons and neutrons. For equipment incapable of operating at energies greater than 10 MeV, measurements shall exclude neutrons. For equipment installed before October 1, 1987, measurements shall exclude neutrons. The leakage radiation shall be measured in a plane perpendicular to the central axis of the beam located at the normal treatment distance or passing through the isocenter. The leakage radiation at any point on this plane outside the useful beam but within two meters of the central axis of the beam shall not exceed 0.1 percent of the maximum radiation of the useful beam, measured at the point of intersection of the central axis and the plane;

2. Measurements for leakage radiation shall be averaged over an area up to, but not exceeding, 100 square centimeters at the positions specified. For equipment installed on or after October 1, 1987, measurements of the portion of the leakage radiation dose contributed by neutrons shall be averaged over an area up to, but not exceeding, 400 square centimeters. For equipment incapable of operating at energies greater than 10 MeV, measurements shall exclude neutrons. For equipment installed before October 1, 1987, measurements shall exclude neutrons;

3. For each system the registrant shall determine, or obtain from the manufacturer, the amount of leakage radiation at the positions specified in 1 above. Records of leakage radiation shall be maintained at the facility for inspection by the Department.

(b) The following are the equipment requirements for leakage radiation outside the patient area:

1. Except in the area specified in (a) above as the patient area, the x-ray leakage measured as absorbed dose in rads or grays in water, at any location averaged over 100 square centimeters one meter from the path of the charged particles before they strike the target or the window, shall not exceed 0.1 percent of the maximum absorbed dose in the circular plane specified in (a) above;

2. Except in the area specified in (a) above as the patient area, neutron leakage measured as absorbed dose in rads or grays in water, at any point one meter from the path of the charged particles before they strike the target or the window, shall not exceed 0.05 percent of the maximum absorbed dose in the circular plane specified in (a) above;

3. The registrant shall determine, or obtain from the manufacturer, the actual leakage radiation existing at the positions specified in 1 and 2 above for specified operating conditions. Radiation measurements excluding neutrons shall be averaged over an area up to, but not exceeding, 100 square centimeters at the

positions specified. For equipment installed on or after October 1, 1987, neutron measurement shall be averaged over an area up to, but not exceeding, 400 square centimeters. For equipment incapable of operating at energies greater than 10 MeV, measurements shall include neutrons. For equipment installed prior to October 1, 1987, measurement of neutrons shall be excluded.

(c) The following are the equipment requirements for beam limiting devices;

1. For equipment installed on or after October 1, 1987, adjustable or interchangeable beam limiting devices shall be provided and such devices shall transmit no more than one percent of the useful beam at the normal treatment distance for the portion of the useful beam which is to be attenuated by the beam limiting device. The neutron component of the useful beam shall not be included in this requirement; and

2. For equipment installed prior to October 1, 1987, the beam limiting device shall meet the requirements of (a)1 above except that such device shall transmit no more than two percent of the useful beam.

(d) The following are the equipment requirements for filters:

1. If the absorbed dose rate information required by (p) below relates exclusively to operation with a field flattening or beam scattering filter in place, such filter shall be removable only by the use of tools;

2. In systems installed on or after October 1, 1987, which utilize a system of wedge filters, interchangeable field flattening filters or interchangeable beam scattering filters:

i. Irradiation shall not be possible until a selection of a filter has been made at the treatment control panel;

ii. An interlock system shall be provided to prevent irradiation if the filter selected is not in the correct position;

iii. A display shall be provided at the treatment control panel showing the filter in use;

iv. Each filter which is removable from the system without the use of tools shall be clearly marked with an identification number and accompanying documents shall contain a corresponding drawing or other description of the filter, showing dimensions and materials. The identification number shall appear on the wedge filter as well as on its tray. The identification number shall be referable to wedge angle and wedge factor; and

v. An interlock shall be provided to prevent irradiation if any filter selection operation carried out in the treatment room does not agree with the filter selection operation carried out at the treatment control panel.

3. The only filter requirement for equipment installed prior to October 1, 1987 shall be that required by (d)2iv above.

(e) Beam quality data sufficient to assure that the following beam quality requirements are met shall be determined or obtained from the manufacturer by the registrant:

1. For radiotherapy systems capable of electron beam therapy the absorbed dose in water resulting from x-rays in a useful electron beam shall be determined at a point on the central axis of the beam 10 centimeters greater than the practical range of the electrons. This shall not exceed the values stated in the following table. Linear interpolation shall be used for values not stated;

Table

Maximum Energy of Electron Beam in MeV	X-Ray absorbed Dose as a Fraction of Maximum Absorbed Dose
1	0.03
15	0.05
35	0.10
50	0.20

2. Compliance with 1 above shall be determined using:

i. A measurement within a phantom with the incident surface of the phantom at the normal treatment distance and normal to the central axis of the beam;

ii. The largest field size available which does not exceed 15 centimeters by 15 centimeters; and

iii. A phantom whose cross-sectional dimensions exceed the measurement radiation field by at least five centimeters and whose depth is sufficient to perform the required measurement.

3. The absorbed dose at a surface located at the normal treatment distance, at the point of intersection of that surface with the central axis of the useful beam during x-ray irradiation, shall be measured at inter-

vals not to exceed 12 months and the results of such measurements shall be maintained with the records of calibration;

4. The measurements required by (e)3 above shall conform to the following requirements:

i. Measurements shall be made within a phantom using an instrument which will allow extrapolation to the surface absorbed dose;

ii. Measurements shall be made using a phantom whose size and placement meet the requirements of 2iii above;

iii. Measurements shall be made after removal of all beam modifying devices which can be removed without the use of tools, except for beam scattering or beam flattening filters; and

iv. Measurements shall be made over the range of field sizes clinically used.

5. The registrant shall determine, or obtain from the manufacturer, the maximum percentage absorbed dose due to stray neutrons in the useful beam for specified operating conditions.

(f) All therapy systems shall be provided with radiation detectors in the radiation head.

1. Equipment installed on or after October 1, 1987 shall be provided with at least two radiation detectors. The detectors shall be incorporated into two monitoring systems arranged either as a primary/primary combination or as a primary/secondary combination;

2. Equipment installed prior to October 1, 1987 shall be provided with at least one radiation detector. This detector shall be incorporated into a primary system. Failure of this detector shall automatically cause the beam to be terminated; and

3. Each detector and system into which the detector is incorporated shall meet the following requirements:

i. Each detector shall be removable only with tools and shall be interlocked to prevent incorrect positioning;

ii. Each detector shall be capable of independently monitoring and controlling the useful beam;

iii. Each detector shall form part of a dose monitoring system from whose readings in dose monitor units the absorbed dose at a reference point in the treatment volume can be calculated;

iv. For equipment installed on or after October 1, 1987, the primary dose monitoring system shall have a full beam transmission detector which is placed on the patient side of any fixed added filters other than a wedge filter;

v. For equipment installed on or after October 1, 1987, the design of the dose monitoring system of (f)3iii above shall assure that:

(1) The malfunctioning of one system shall not affect the correct functioning of the second system; and

(2) The failure of any element which may be common to both systems shall terminate the useful beam.

vi. Each dose monitoring system shall have a legible display at the treatment control panel. Each display shall:

(1) Maintain a reading until intentionally reset to zero;

(2) Utilize a design such that increasing dose is displayed by increasing numbers and shall be so designed that, in the event of an overdosage of radiation, the absorbed dose may be accurately determined under all normal conditions of use or foreseeable failures; and

(3) In equipment installed on or after October 1, 1987 have only one scale and no scale multiplying factors when employed for routine therapy. A scale multiplying factor may be applied to the regularly used accumulated dose indicator when used in conjunction with special treatment modes which use higher than normal dose rates and require specially safeguarded operating procedures to initiate.

vii. In the event of power failure, the dose monitoring information required in 3vi above displayed at the control panel at the time of failure shall be retrievable in at least one system.

(g) Beam symmetry requirements are the following:

1. For equipment installed on or after October 1, 1987 and which is inherently capable of producing useful beams with asymmetry exceeding five percent, at least four different parts of the radiation beam shall be monitored before the beam passes through the beam limiting device. If the difference in dose rates between any two of these different parts exceeds five percent an indication of this condition is to be made at the control panel and the irradiation shall automatically terminate; and

2. The beam symmetry requirements of 1 above shall be met if the user can demonstrate to the satisfaction of the Department that adequate fail-safe protection against the beam asymmetry is incorporated into the inherent design of the accelerator.

(h) Equipment requirements for the selection and display of dose monitor units are the following:

1. Irradiation shall not be possible until a selection of a number of dose monitor units has been made at the treatment control panel;

2. The pre-selected number of dose monitor units shall be displayed at the treatment control panel until reset manually for the next irradiation; and

3. After termination of irradiation, it shall be necessary to manually cycle the pre-selected dose monitor units through zero or manually change at least one digit on the dose monitor units selector before treatment can be initiated.

(i) Equipment requirements for termination of irradiation by the dose monitoring system are the following:

1. Each of the required monitoring systems shall be capable of terminating irradiation independently;

2. Each primary dose monitoring system shall terminate irradiation when the pre-selected number of dose monitor units has been detected by the system;

3. Each secondary dose monitoring system shall terminate irradiation when 10 percent or 30 monitor units above the pre-selected number of dose monitor units has been detected by the system;

4. For equipment installed on or after October 1, 1987, the indicator on the control panel shall show which monitoring system has terminated the beam.

(j) Interruption switches shall be provided which make it possible to interrupt irradiation and equipment movements at any time from the operator's position at the treatment control panel. Following an interruption, it shall be possible to restart irradiation by operator action without any reselection of operating conditions. If any change is made of a pre-selected value during an interruption the equipment shall go to termination condition.

(k) Termination switches shall be provided at the operator's position at the treatment control panel, which make it possible to terminate irradiation and equipment movements, or to go from an interruption condition to termination condition.

(l) The following are the equipment requirements for timer systems:

1. A timer system shall be provided which has a display at the treatment control panel. It shall be graduated in minutes and seconds and/or fractions of minutes. It shall have a pre-set time selector and an elapsed time indicator;

2. The timer shall terminate irradiation when a pre-selected time has elapsed if the dose monitoring systems fail to do so;

3. The timer shall not permit an exposure if set at zero;

4. There shall be an elapsed-time indicator which is activated when radiation is emitted and which retains its reading after irradiation is interrupted or terminated; and

5. After termination of irradiation on delivery of the present dose, it shall be necessary to manually change at least one digit on the pre-set time control before treatment can be re-initiated.

(m) Equipment capable of both x-ray therapy and electron therapy shall have the following equipment requirements for selection of radiation type:

1. Irradiation shall not be possible until a selection of radiation type has been made at the treatment control panel;

2. An interlock system shall be provided to insure that the equipment can emit only the radiation type which has been selected, except as noted in 4 below;

3. An interlock system shall be provided to prevent irradiation if any operations selected in the treatment room do not agree with the operations selected at the treatment control panel;

4. An interlock system shall be provided to prevent irradiation with x-rays when electron applicators are fitted except to obtain a port film and to prevent irradiation with electrons when accessories specific for x-ray therapy are fitted; and

5. The radiation type selected shall be displayed at the treatment control panel before and during irradiation.

(n) The following are the equipment requirements for the selection of energy for equipment capable of generating radiation beams of different energies:

1. Irradiation shall not be possible until a selection of energy has been made at the treatment control panel;

2. An interlock system shall be provided to prevent irradiation if any selected operations carried out in the treatment room do not agree with the selected operations carried out at the treatment control panel;

3. The nominal energy selected shall be displayed at the treatment control panel before and during irradiation; and

4. For equipment installed on or after October 1, 1987, an interlock system shall be provided to terminate irradiation if the energy of the electrons striking the x-ray target or electron window deviates by more than plus or minus five percent or plus or minus 2 MeV, whichever is smaller, from the selected nominal energy.

(o) The following are the equipment requirements for selection of mode of therapy for equipment capable of both stationary beam therapy and moving beam therapy:

1. Irradiation shall not be possible until a selection of stationary beam therapy or moving beam therapy has been made at the treatment control panel;

2. An interlock system shall be provided to insure that the equipment can operate only in the mode which has been selected;

3. An interlock system shall be provided to prevent irradiation if any selected operations carried out in the treatment room do not agree with the selected operations carried out at the treatment control panel;

4. An interlock system shall be provided to interrupt irradiation if the movement stops during moving beam therapy;

5. Moving beam therapy shall be so controlled that the required relationship between the number of dose monitor units and movement is obtained; and

6. The mode of operation shall be displayed at the treatment control panel.

(p) Equipment installed on or after October 1, 1987, shall be provided with a system from whose readings the absorbed dose rate at a reference point in the treatment volume can be calculated. The radiation detectors specified in (f) above may form part of this system. In addition, the quotient of the number of dose monitor units by time shall be displayed at the treatment control panel.

(q) The registrant shall determine, or obtain from the manufacturer, the location of the following with reference to an accessible point on the radiation head and under all possible orientations of the useful beam:

1. The x-ray target or the virtual source of x-rays; and

2. The electron window, the scattering foil, or the virtual source of electrons.

(r) When pre-selection of any of the operating conditions requires action in the treatment room and at the treatment control panel, selection at one location shall not give a display at the other location until the requisite selected operations in both locations have been completed.

(s) Shadow trays shall be designed to minimize patient entrance skin dose consistent with achieving their primary purpose of safely supporting beam-modifying accessories while transmitting the light field.

(t) The following are the facility and shielding requirements for therapeutic x-ray and therapeutic accelerator installations with energies of one MeV and above:

1. The systems shall have shielding adequate to meet the requirements of N.J.A.C. 7:28-5 and 6;

2. Except for entrance doors or beam interceptors, all the required barriers shall be fixed barriers;

3. The treatment control panel shall be located outside the treatment room;

4. Windows, mirrors, closed-circuit television, or other equivalent viewing systems shall be provided to permit continuous observation of the patient during irradiation and shall be so located that the operator may observe the patient from the treatment control panel. When the primary viewing system is by electronic means (for example, television), a secondary viewing system shall be provided for use in the event of failure of the primary system;

5. Provision shall be made for two-way aural communication between the patient and the operator at the treatment control panel;

6. Treatment room entrances shall be provided with warning lights in readily observable positions near the outside of all access doors which will indicate when the useful beam is "on";

7. Interlocks shall be provided such that all entrance doors shall be closed before treatment can be initiated or continued. If the radiation beam is interrupted by any door opening, it shall only be possible to restore the machine to operation by closing the door and reinitiating exposure by manual action at the control panel; and

8. At least one "Panic" emergency shut-off button shall be located in the treatment room and one by the control panel. The "Panic" button shall be clearly visible, easily accessible and be capable of immediately terminating machine operation.

(u) The following are the calibration requirements for therapeutic x-ray and therapeutic accelerator installations with energies of one MeV and above:

1. The calibration of systems shall be performed before the system is first used for irradiation of a patient, and thereafter at time intervals which do not exceed 12 months and after any change which might, in the opinion of the qualified radiological physicist, significantly alter the calibration, spatial distribution, or other characteristics of the therapy beam;

2. The calibration shall be performed with an established calibration protocol which meets or exceeds the requirements set by the American Association of Physicists in Medicine;

3. The calibration shall be performed by a qualified radiological physicist;

4. The calibration shall be performed with a dosimetry system whose calibration shall be directly traceable to a national standard and which shall have been calibrated within the preceding three years;

5. The calibration shall be such that the dose at a reference point in soft tissue may be calculated within plus or minus 5 percent;

6. The full calibration of the therapy beam shall include, but not be limited to, the following determinations:

i. Verification that the equipment is operating in compliance with the design specifications for accuracy of the light localizer, the side light and backpointer alignment with the isocenter;

ii. Verification that the equipment is operating in compliance with the design specifications for acceptable variation in the axis of rotation for the table, gantry and jaw system, and beam flatness and symmetry at specified depths;

iii. The absorbed dose rate at representative depths in a phantom for the range of field sizes used for each effective energy, and for representative distances used for radiation therapy;

iv. The congruence between the radiation field and the field indicated by the localizing device;

v. The uniformity of the radiation field and its dependency upon the direction of the useful beam;

vi. Verification of depth-dose data and isodose curves applicable to the specific machine; and

vii. Verification of the applicability and transmission factors of all accessories such as wedges, shadow trays, compensators, etc.

7. Records of the calibration performed pursuant to 1 above shall be maintained by the registrant and made available for inspection by the Department for five years after completion of the calibration; and

8. A copy of the latest full calibration shall be available for calculating patient treatment parameters.

(v) Spot checks meeting the following requirements shall be performed on all therapeutic x-ray and therapeutic accelerator installations with energies of one MeV and above:

1. The qualified radiological physicist will determine those parameters to be spot-checked and the procedure to be used when performing those spot checks. The spot-check procedure shall be in writing and shall specify the frequency at which tests or measurements are to be performed, not to exceed one month, and the acceptable tolerance for each parameter measured in the spot-check. A qualified radiological physicist need not actually perform the spot-check measurement. If a qualified radiological physicist does not perform the spot-check measurement, the results of the spot-check measurement shall be reviewed by a qualified radiological physicist within 15 days;

2. The measurements taken during spot-checks shall demonstrate the degree of consistency of the operating characteristics which can affect the radiation output of the system or the radiation delivered to a patient during a therapy procedure;

3. The cause for a parameter exceeding tolerances set by the qualified radiological physicist shall be promptly investigated and corrected before the system is used for patient irradiation;

4. Whenever a spot-check indicates a significant change in the operating characteristics of a system, as specified in the spot-check procedures, the system shall be recalibrated as required in (u) above; and

5. Records of spot-check measurements performed shall be maintained by the registrant for a period of five years and made available for inspection by the Department.

(w) Operating procedures for therapeutic x-ray and therapeutic accelerator installations with energies of one MeV and above are as follows:

1. Therapeutic systems shall not be left unattended unless the system is secured against unauthorized use;

2. No individual other than the patient shall be in the treatment room during treatment of a patient;

3. If a patient must be held in position during treatment, mechanical supporting or restraining devices shall be used; and

4. The system shall not be used in the administration of radiation therapy unless the requirements of (u) and (v) above have been met.

SUBCHAPTER 15. MEDICAL DIAGNOSTIC X-RAY INSTALLATIONS

§ 7:28-15.1 Scope

(a) This subchapter establishes the requirements for medical radiographic and fluoroscopic installations of certified and uncertified ionizing-radiation-producing machines used in all the healing arts, except where exempted by the rules in N.J.A.C. 7:28-16, Dental Radiographic Installations.

(b) No person shall operate or permit the operation of x-ray equipment used in the healing arts unless the equipment and installation meet the applicable requirements of this subchapter.

(c) Provisions of this subchapter are in addition to and not in substitution for the applicable provisions of N.J.A.C. 7:28.

(d) The registrant shall ensure that all ionizing-radiation-producing machines under his or her jurisdiction are operated only by persons authorized pursuant to the Radiologic Technologist Act, N.J.S.A. 26:2D-24 through 36, and applicable provisions of N.J.A.C. 7:28-19.

§ 7:28-15.2 Definitions

The words and terms listed below, when used in this subchapter, shall have the following meanings, unless the context indicates otherwise.

"Accessible surface" means the external surface of the enclosure or housing provided by the manufacturer.

"Acquired date" means the date the unit has been installed and is capable of use on patients.

"Aluminum equivalent" means the thickness of aluminum (type 1100 alloy) affording the same attenuation, under specified conditions, as the material in question.

"Anti-collision device" means either an electronic position sensor combined with a microprocessor or a mechanical touch bar microswitch which will stop all equipment movement and radiation exposures to prevent collision of any part of the radiation therapy simulator system with the patient, or damage to other components of the simulator system.

"Assembler" means any person engaged in the business of assembling, replacing, or installing one or more components into a diagnostic x-ray system or subsystem. The term includes the owner of an x-ray system or his or her employee or agent who assembles components into an x-ray system that is subsequently used to provide professional or commercial services.

"Automatic exposure control" means a device which automatically controls one or more technique factors in order to obtain a required quantity of radiation at a preselected location(s) (for example, phototimer).

"Beam axis" means a line from the source through the center of the x-ray field.

"Beam-limiting device" means a mechanism which provides a means to restrict the dimensions of the x-ray field.

"C-arm x-ray system" means an x-ray system in which the image receptor and x-ray tube housing assembly are connected by a common mechanical support system in order to maintain a desired spatial relationship. This system is designed to allow a change in the projection of the beam through the patient without a change in the position of the patient.

"Cassette holder" means a device, other than a spot-film device, that supports and/or fixes the position of an image receptor during an x-ray exposure.

"Certified components" means components of x-ray systems which are subject to the regulations promulgated under Public Law 90-602, the Radiation Control for Health and Safety Act of 1968, 21 Code of Federal Regulations, Chapter 1, Subchapter J, Radiological Health (21 C.F.R. Part 1020 et seq., Performance Standards for Ionizing Radiation Emitting Products).

"Certified system" means any x-ray system which has all certified components. Also known as a certified unit or a certified diagnostic x-ray system.

"Coefficient of variation" means the ratio of the standard deviation to the mean value of a population of observations. It is estimated using the following equation:

$$C = \frac{s}{\bar{X}} = \frac{1}{\bar{X}}\left[\sum_{i=1}^{n} \frac{(X_i - \bar{X})^2}{n-1}\right]^{1/2}$$

where:

s = estimated standard deviation of population
$\bar{X}$ = mean value of observations in sample
X_i = ith observation in sample
n = number of observations in sample

"Computed tomography" (CT) means the production of a tomogram by the acquisition and computer processing of x-ray transmission data.

"Computed tomography dose index" (CTDI) means the integral of the dose measured along a line perpendicular to and centered at the tomographic plane divided by the product of the nominal tomographic section thickness and the number of tomograms produced in a single scan, that is:

$$CTDI = \frac{1}{nT}\int_{-7T}^{+7T} D(z)\, dz$$

where:

z = position along a line perpendicular to the tomographic plane
$D(z)$ = Dose at position z
T = nominal tomographic section thickness
n = number of tomograms produced in a single scan

This definition assumes that the dose profile is centered around z=0 and that, for a multiple tomogram system, the scan increment between adjacent scans is nT.

"Contrast scale" (CS) for computed tomography means the change in the linear attenuation coefficient per CT number relative to water, that is:

$$CS = \frac{\mu_x - \mu_w}{(CT)_x - (CT)_w}$$

where:

μ_x = linear attenuation coefficient of material of interest
μ_w = linear attenuation coefficient of water
$(CT)_x$ = CT number of the material of interest
$(CT)_w$ = CT number of water

"Contrast ratio" for a light field is the ratio of the illumination three millimeters from the edge of the field towards the center of the field to the illumination three millimeters from the edge of the field away from the center of the field.

"Control panel" means the part of the x-ray control upon which are mounted the switches, knobs, pushbuttons, and other hardware necessary for manually setting the technique factors.

"CT conditions of operation" means all selectable parameters governing the operation of a CT x-ray system, including nominal tomographic section thickness, filtration, and the technique factors.

"CT number" means the number used to represent the x-ray attenuation associated with each elemental area of the CT image.

"Dedicated mammography unit" means an x-ray system specifically designed for mammographic procedures.

"Diagnostic source assembly" means the tube housing assembly with a beam-limiting device attached.

"Diagnostic type protective tube housing" means an x-ray tube housing so constructed that the leakage radiation at a distance of one meter from the target cannot exceed 100 milliroentgens in one hour when the tube is operated at its maximum continuous rated current for the maximum continuous rated tube potential.

"Diagnostic x-ray system" means an x-ray system designed for irradiation of any part of the human body for the purpose of diagnostic imaging or measurement.

"Emergency off switch" means a switch located near the table or near the console which, when operated, turns off all power to the system.

"Entrance exposure rate" means the exposure per unit time at the point where the center of the useful beam enters the patient.

"Equipment" means x-ray equipment.

"Exposure" means a measure of the quantity of x or gamma radiation based upon its ability to ionize air through which it passes.

"Field emission equipment" means equipment which uses an x-ray tube in which electron emission from the cathode is due solely to the action of an electric field.

"Fluoroscopic imaging assembly" means a subsystem in which x-ray photons produce a fluoroscopic image. The subsystem includes the image intensifier, spot-film device, electrical interlocks, if any, and structural material providing linkage between the image receptor and diagnostic source assembly.

"General purpose radiographic x-ray system" means any radiographic x-ray system which is not limited by its design to the radiographic examination of a specific anatomical region.

"Half-value layer" (HVL) means the thickness of specified material which attenuates the x-ray beam so that the exposure is reduced to one-half of its original value.

"Image intensifier" means a device, installed in its housing, which instantaneously converts an x-ray pattern into a corresponding light image.

"Image receptor" means any device, such as a fluorescent screen or radiographic film, which transforms incident x-ray photons either into a visible image or into another form which can be made into a visible image by further transformations. In those cases where means are provided to preselect a portion of the image receptor, the term "image receptor" shall mean the preselected portion of the device.

"Image receptor support" means that part of the system designed to support the image receptor during a radiographic examination.

"kV" means kilovolts.

"kVp" (see "peak tube potential").

"Leakage radiation" means radiation emanating from the diagnostic source assembly except for the useful beam and radiation produced when the exposure switch or timer is not activated.

"Leakage technique factors" means the technique factors associated with the diagnostic source assembly which are used in measuring leakage radiation. They are defined as follows:

1. For diagnostic source assemblies intended for capacitor energy storage equipment, the maximum-rated number of exposures in an hour for operation at the maximum-rated peak tube potential with the quantity of charge per exposure being 10 millicoulombs that is 10 milliampere seconds (mAs) or the minimum obtainable from the unit, whichever is larger.

2. For diagnostic source assemblies intended for field emission equipment rated for pulsed operations, the maximum-rated peak tube potential and the maximum-rated number of x-ray pulses in an hour for operation at the maximum-rated peak tube potential.

3. For all other diagnostic source assemblies, the maximum-rated peak tube potential and the maximum-rated continuous tube current for the maximum-rated peak tube potential.

"Light field" means the area of the intersection of the light beam from the beam-lighting device and one of the set of planes parallel to the plane of the image receptor as well as at the plane of the image receptor, whose perimeter is the locus of points at which the illumination is one-fourth of the maximum in the intersection.

"mA" means milliampere.

"mAs" means milliampere second.

"Mobile x-ray equipment" means completely assembled x-ray equipment, which is mounted on a permanent base with wheels and/or casters and is used in multiple locations.

"Motor vehicle mounted" means an x-ray system permanently mounted and operated in a motor vehicle.

"Multiple-tube installation" means a radiographic installation in which one control panel may energize more than one radiographic x-ray tube.

"Noise" for computed tomography means the standard deviation of the fluctuations in CT number expressed as a percent of the attenuation coefficient of water. Its estimate (S_n) is calculated using the following expression:

$$S_n = \frac{100 \times CS \times s}{\mu_w}$$

where: CS = contrast scale
μ_w = linear attenuation coefficient of water
s = estimated standard deviation of the CT numbers of picture elements in a specified area of the CT image

"Nominal tomographic section thickness" means the full width at half-maximum of the sensitivity profile taken at the center of the cross-sectional volume over which x-ray transmission data are collected.

"Peak tube potential" means the maximum value of the potential difference across the x-ray tube during an exposure.

"Phantom" means a volume of material behaving in a manner similar to tissue with respect to the attenuation and scattering of radiation.

"Positive beam-limiting device" (PBL) means a device which automatically restricts the x-ray field to the size of the image receptor.

"Portable x-ray equipment" means x-ray equipment designed to be hand-carried.

"Primary protective barrier" see "protective barrier".

"Protective barrier" means a barrier of radiation-absorbing material used to reduce radiation exposure. The types of protective barriers are as follows:

1. "Primary protective barrier" means the material, excluding filters, intercepting the useful beam for protection purposes to reduce the radiation exposure so that it does not exceed two millirems in any one hour; and

2. "Secondary protective barrier" means a barrier sufficient to attenuate the stray radiation to reduce radiation exposure so that it does not exceed two millirems in any one hour.

"Qualified individual for the performance of radiation surveys for diagnostic x-ray equipment and therapy simulator systems" as required in this subchapter means an individual who meets at least one of the following criteria:

1. Certification by one of the following agencies in the specialty listed:

i. The American Board of Radiology in Diagnostic Radiological Physics or Radiological Physics;

ii. The American Board of Health Physics in Comprehensive Health Physics;

iii. The American Board of Medical Physics in Diagnostic Imaging Physics or Medical Health Physics;

iv. Certification issued by the Fellowship in the Canadian College of Physicists in Medicine which is equivalent to 1i or iii above; or

v. Certification by other national certifying boards which may be recognized by the Commission on Radiation Protection (Commission) where the person seeking recognition as a qualified individual for the performance of radiation surveys for diagnostic x-ray equipment and therapy simulator systems has petitioned the Commission in writing and where the Commission has issued a written determination that the certification in question meets the criteria of a qualified individual pursuant to this definition;

2. A bachelor's degree from an accredited college in biology, chemistry, radiation sciences, physics, engineering, or mathematics and at least five years of professional technical experience in the field of radiological physics or in the use of medical ionizing-radiation-producing equipment;

3. A master's or doctorate degree from an accredited college in radiological health, radiation sciences, physics, chemistry, environmental sciences, engineering or a related field and at least two years of professional technical experience in the field of radiological physics or in the use of medical ionizing-radiation-producing equipment;

4. Ten years of professional technical experience in the field of radiological physics or in a radiation protection activity. At least five years of the required health physics experience shall have been with medical ionizing-radiation-producing equipment; or

5. Any individual who does not meet at least one of the foregoing criteria may petition the Commission for recognition as a "qualified individual for the performance of radiation surveys for diagnostic x-ray equipment and therapy simulator systems". The individual shall submit a written petition to the Commission which contains sufficient information on his or her educational, professional, clinical, technical, employment and/or any other relevant experience. The Commission may approve any such petition based on its determination that the individual demonstrates competence to act as a qualified individual for the performance of radiation surveys for diagnostic x-ray equipment and therapy simulator systems.

"Qualified medical physicist for the supervision of quality assurance programs for diagnostic x-ray equipment" as required in this subchapter means an individual who meets at least one of the following criteria:

1. Certification by one of the following agencies in the specialty listed:

i. The American Board of Radiology in Diagnostic Radiological Physics or Radiological Physics;

ii. The American Board of Medical Physics in Diagnostic Imaging Physics;

iii. Certification issued by the Fellowship in the Canadian College of Physicists in Medicine which is equivalent to 1i or ii above; or

iv. Certification by other national certifying boards which may be recognized by the Commission where the person seeking recognition as a qualified medical physicist for the supervision of quality assurance programs for diagnostic x-ray equipment has petitioned the Commission in writing and where the Commission has issued a written determination that the certification in question meets the criteria of a qualified medical physicist pursuant to this definition;

2. A master's or doctorate degree from an accredited college in radiological health, radiation sciences, physics, chemistry, environmental sciences, engineering or a related field and at least three years of professional, clinical and technical experience in the field of radiological physics obtained under the supervision of a qualified medical physicist for the supervision of quality assurance programs for diagnostic x-ray equipment; or

3. Any individual who does not meet at least one of the foregoing criteria may petition the Commission for recognition as a qualified medical physicist for the supervision of quality assurance programs for diagnostic x-ray equipment. The individual shall submit a written petition to the Commission which contains sufficient information on his or her educational, professional, clinical, technical, employment and/or any other relevant experience. The Commission may approve any such petition based on its determination that the individual demonstrates competence to act as a qualified medical physicist for the supervision of quality assurance programs for diagnostic x-ray equipment.

"Qualified medical physicist for the supervision of quality assurance programs for therapy simulator systems" means an individual who meets at least one of the criteria listed below:

1. Is certified by the American Board of Radiology in therapeutic radiological physics or by the American Board of Medical Physics with special competency in radiation oncology physics;

2. Is certified by the American Board of Radiology in Radiological Physics which includes all three subspecialties of diagnostic radiological physics, therapeutic radiological physics, and medical nuclear physics.

3. Is certified by the American Board of Radiology or the American Board of Medical Physics in a specialty other than therapeutic radiological physics or radiation oncology physics and has at least three years of professional, clinical and technical experience obtained under the supervision of a qualified medical physicist for the supervision of quality assurance programs for therapy simulator systems;

4. Certification issued by the Fellowship in the Canadian College of Physicists in Medicine which is equivalent to 1, 2, or 3 above;

5. Certification by other national certifying boards which may be recognized by the Commission where the person seeking recognition as a qualified medical physicist for the supervision of quality assurance programs for therapy simulator systems has petitioned the Commission in writing and where the Commission has issued a written determination that the certification in question meets the criteria of a qualified medical physicist pursuant to this definition;

6. A master's or doctorate degree from an accredited college in radiological health, radiation sciences, physics, chemistry, environmental sciences, engineering or a related field and at least three years of professional, clinical and technical experience in the field of radiological physics obtained under the supervision of a qualified medical physicist for the supervision of quality assurance programs for therapy simulator systems; or

7. Any individual who does not meet at least one of the foregoing criteria may petition the Commission for recognition as a qualified medical physicist for the supervision of quality assurance programs for therapy simulator systems. The individual shall submit a written petition to the Commission which contains suf-

ficient information on his or her educational, professional, clinical, technical, employment and/or any other relevant experience. The Commission may approve any such petition based on its determination that the individual demonstrates competence to act as a qualified medical physicist for the supervision of quality assurance programs for therapy simulator systems.

"Quality assurance" means an organized effort by the registrant to maintain a level of equipment performance to assure consistent production of diagnostic images without unnecessary radiation exposure. It includes quality control procedures and administrative procedures.

"Quality control" is the routine measurement of image quality and the performance of the diagnostic x-ray imaging system, from x-ray beam output to the viewing of radiographs, and the continual adjustment of that performance to an optimal and consistent level.

"Radiation therapy simulation system" means a radiographic, fluoroscopic or computed tomographic x-ray system intended for localizing the volume to be exposed during radiation therapy and confirming the position and size of the therapeutic irradiation field.

"Radiograph" means an image receptor on which the image is created directly or indirectly by an x-ray pattern and results in a permanent record.

"Radiographic imaging system" means any system whereby a permanent or temporary image is recorded on an image receptor by the action of ionizing radiation.

"Reference plane" for computed tomography means a plane which is displaced from and parallel to the tomographic plane.

"Registrant" means a person who is required to register a source of radiation with the Department pursuant to this chapter.

"Scan" for computed tomography means the complete process of collecting x-ray transmission data for the production of a tomogram. Data can be collected simultaneously during a single scan for the production of one or more tomograms.

"Scan increment" for computed tomography means the amount of relative displacement of the patient with respect to the CT x-ray system between successive scans measured along the direction of such displacement.

"Scan time" means the period of time between the beginning and end of photon transmission data accumulation for a single scan.

"Scan sequence" for computed tomography means a preselected set of two or more scans performed consecutively under preselected CT conditions of operation.

"Scattered radiation" means radiation that, during passage through matter, has changed in direction or in energy.

"Sensitivity profile" means the relative response of the CT x-ray system as a function of position along a line perpendicular to the tomographic plane.

"Single-purpose x-ray system" means an x-ray system which is limited by its design to the radiological examination of a specific anatomical region.

"Source" means the focal spot of the x-ray tube.

"Source-to-image receptor distance" (SID) means the distance from the source to the center of the input surface of the image receptor.

"Source-to-skin distance" (SSD) means the distance from the source of radiation to the patient's skin.

"Spot-film device" means a device intended to transport and/or position a radiographic image receptor between the x-ray source and fluoroscopic image receptor. It includes a device intended to hold a cassette over the input end of an image intensifier for the purpose of making a radiograph.

"Stationary equipment" means equipment which is installed in a fixed location.

"Technique factors" means the conditions of operation of a diagnostic x-ray system. They are specified as follows:

1. For capacitor energy storage equipment, peak tube potential in kV and quantity of charge in mAs.

2. For field emission equipment rated for pulsed operation, peak tube potential in kV and number of x-ray pulses.

3. For computed tomography x-ray systems designed for pulsed operation, peak tube potential in kV, scan time in seconds, and either tube current in mA, x-ray pulse width in seconds, and the number of x-ray pulses per scan, or the product of tube current, x-ray pulse width, and the number of x-ray pulses in mAs.

4. For computed tomography x-ray systems not designed for pulsed operation, peak tube potential in kV, and either tube current in mA and scan time in seconds, or the product of tube current and exposure time in mAs and the scan time in seconds when the scan time in seconds and the exposure time are equivalent.

5. For all other equipment, peak tube potential in kV, and either tube current in mA and exposure time in seconds, or the product of tube current and exposure time in mAs.

"Tomogram" means an image of a planar section of a body part or object.

"Tomographic plane" for computed tomography means that geometric plane which is identified as corresponding to the tomographic image.

"Tomographic section" for computed tomography means the volume of an object whose x-ray attenuation properties are imaged in a tomogram.

"Tube housing assembly" means the x-ray tube housing with the x-ray tube insert installed. It includes high-voltage and/or filament transformers and other components that are contained within the tube housing.

"Tube rating chart" means the set of curves which specify the rated limits of operation of the tube in terms of the technique factors.

"Uncertified unit" means an x-ray system comprised of components that are not subject to the regulations promulgated under Public Law 90-602, the Radiation Control for Health and Safety Act of 1968, 21 Code of Federal Regulations, Chapter 1, Subchapter J, Radiological Health (21 C.F.R. Part 1020 et seq., Performance Standards for Ionizing Radiation Emitting Products). An "uncertified unit" is also known as a noncertified unit or a noncertified diagnostic x-ray system.

"Useful beam" means the radiation which passes through the tube housing port and the aperture of the beam-limiting device when the exposure switch or timer is activated.

"Visible area" means that portion of the input surface of the image receptor over which incident x-ray photons are producing a visible image.

"Xeromammography" means the recording of an x-ray image of the breast using a uniformly charged photoconductive (selenium alloy) plate held in a light-proof cassette instead of using conventional x-ray film.

"X-ray control" means a device which controls input power to the x-ray high-voltage generator and/or the x-ray tube. It includes equipment such as timers, phototimers, automatic brightness control systems (stabilizers), and similar devices or means, which control the technique factors of an x-ray exposure.

"X-ray equipment" means an x-ray system, subsystem or component thereof.

"X-ray field" means that area of the intersection of the useful beam and any one of the set of planes parallel to the plane of the image receptor, whose perimeter is the locus of points at which the exposure rate is one-fourth of the maximum in the intersection.

"X-ray high-voltage generator" means a device which transforms electrical energy from the potential supplied by the x-ray control to the x-ray tube operating potential. The device may also include means for transforming alternating current to direct current, filament transformers for the x-ray tube(s), high-voltage switches, electrical protective devices, and other appropriate elements.

"X-ray system" means an assembly of components for the controlled production of x-rays. The system includes an x-ray high-voltage generator, an x-ray control, a tube housing assembly, a beam-limiting device, and the necessary supporting structures. Additional components which function with the system are considered integral parts of the system.

"X-ray subsystem" means any combination of two or more components of an x-ray system.

"X-ray tube" means any electron tube which is designed for the conversion of electrical energy into x-ray energy.

HISTORY:

Amended by R.2001 d.37, effective January 16, 2001.
See: 32 New Jersey Register 1459(a), 33 New Jersey Register 292(b).
In "Radiation therapy simulation system", added "or computed tomographic".

§ 7:28-15.3 General requirements for radiographic installations

(a) The provisions of this section are in addition to and not in substitution for the applicable provisions of N.J.A.C. 7:28.

(b) No person shall operate or permit the operation of any certified or uncertified radiographic x-ray equipment used in the healing arts unless a diagnostic type protective tube housing is provided.

(c) No person shall operate or permit the operation of any certified or uncertified radiographic x-ray equipment used in the healing arts unless a device is used to collimate the useful beam, and this device provides the same degree of protection as required of the diagnostic type protective tube housing.

1. Any new or used x-ray machine sold or otherwise transferred after July 1, 1969 shall be equipped with an adjustable, rectangular collimator fitted with a light field or laser system for delineating the edges of the collimated x-ray beam. The light field and/or laser system shall be operational. There shall be provided a means for stepless adjustment of the size of the x-ray field. The minimum field size at an SID of 100 centimeters (39.4 inches) shall be equal to or less than five centimeters by five centimeters (two inches by two inches). For equipment that employs a light field to define the x-ray field, the following criteria shall apply:

i. The light field shall have an average illumination of not less than 160 lux (15 foot candles) at 100 centimeters (39.4 inches) or at the maximum SID, whichever is less. The average illumination shall be based upon measurements made in the approximate center of each quadrant of the light field. Radiation therapy simulation systems are exempt from this requirement.

ii. The edge of the light field at 100 centimeters (39.4 inches) or at the maximum SID, whichever is less, shall have a contrast ratio, corrected for ambient lighting, of not less than four for beam-limiting devices designed for use on stationary equipment, and a contrast ratio of not less than three for beam-limiting devices designed for use on mobile and portable equipment.

iii. The total misalignment of the edges of the visually defined field with the respective edges of the x-ray field along either the length or width of the visually defined field shall not exceed two percent of the distance from the source to the center of the visually defined field when the surface upon which it appears is perpendicular to the axis of the x-ray beam.

iv. If a laser system is used to delineate the edges of the collimated x-ray beam, this source shall provide illumination levels sufficient to determine the collimated edges under ambient light conditions.

2. A system not requiring a light-beam collimator shall have an assortment of removable, fixed-aperture, beam-limiting devices (diaphragms) sufficient to meet each combination of image receptor size and SID used. Each fixed-aperture beam-limiting device shall be clearly and permanently marked to indicate the image receptor size and SID for which it is designed. Each fixed-aperture beam-limiting device shall limit the size of the x-ray field to the size of the image receptor. It shall be the responsibility of the operator to ensure that the correct combination of diaphragm and image receptor size is used during the radiographic procedure.

3. A single-purpose x-ray system, such as chest x-ray equipment, may use a fixed collimator provided the x-ray field does not exceed the size of the image receptor and the beam is fully intercepted by the image receptor. If such an x-ray system is equipped with a light field system, it shall be exempt from (c)1 above.

(d) No person shall operate or permit the operation of any certified or uncertified radiographic x-ray equipment used in the healing arts unless the beam alignment and distance measurements meet the following requirements:

1. Certified x-ray systems shall be provided with a means or device to indicate when the axis of the x-ray beam is perpendicular to the plane of the image receptor;

2. The center of the x-ray field shall be aligned with respect to the center of the image receptor to within two percent of the SID when the x-ray beam is perpendicular to the plane of the image receptor; and

3. A means shall be provided to indicate the SID to within two percent. If it is a fixed SID, the distance shall be indicated on the unit with a permanent marking.

(e) No person shall operate or permit the operation of any certified or uncertified radiographic x-ray equipment used in the healing arts unless the x-ray filtration and beam quality meet the following requirements:

1. The amount of total filtration permanently in the useful beam shall provide the minimum half-value layer specified in the following table:

TABLE 1
TABLE OF HALF VALUE LAYERS

Designed OperatingRange (kVp)	Measured operating potential (kVp)	Minimum half-value layer (HVL) (mm of Al)
Below 51	30	0.3
	40	0.4
	50	0.5
51 to 70	51	1.2
	60	1.3
	70	1.5

Designed OperatingRange (kVp)	Measured operating potential (kVp)	Minimum half-value layer (HVL) (mm of Al)
Above 70	71	2.1
	80	2.3
	90	2.5
	100	2.7
	110	3.0
	120	3.2
	130	3.5
	140	3.8
	150	4.1

(f) No person shall operate or permit the operation of any certified or uncertified radiographic x-ray equipment used in the healing arts unless the exposure control and exposure timer meet the following requirements:

1. A device shall be provided to terminate the exposure at a preset time interval, preset product of current and time, preset number of pulses, or preset radiation exposure.

i. Except during serial radiography, the operator shall be able to terminate the exposure at any time during an exposure greater than one-half second.

ii. Except during serial radiography, termination of the exposure shall cause automatic resetting of the timer to its initial setting or to zero.

iii. Except during serial radiography, it shall not be possible to make an exposure when the timer is set to a zero or off position, if either position is provided.

iv. During serial radiography, the operator shall be able to terminate the x-ray exposure(s) at any time, but means may be provided to permit completion of any single exposure of the series in process;

2. The x-ray control panel shall include a means for indicating x-ray tube voltage (kVp), tube current (mA), and time setting or the product of the tube current and time setting in milliampere-seconds (mAs);

3. The x-ray control panel shall provide visual indication to the operator whenever x-rays are produced. Certified equipment shall also provide audible indication to the operator while x-rays are produced or on termination of the exposure;

4. The technique factors to be used during an exposure shall be indicated on the control panel before the exposure begins. If automatic exposure controls are used, the technique factors which are set prior to the exposure shall be indicated. For equipment having fixed technique factors, this requirement shall be met by permanent markings;

5. The exposure control switch when depressed shall not energize the x-ray tube when the timer is in the "off" or "zero" position;

6. The exposure control switch shall be arranged so that it can only be operated when the operator is within a shielded area; and

7. For equipment that provides an automatic exposure control, the following requirements shall be met:

i. There shall be a device on the control panel that indicates when this mode of operation is selected;

ii. For certified equipment only, a signal audible and visible to the operator shall indicate when an exposure has been terminated; and

iii. For uncertified equipment only, a signal visible to the operator shall indicate when the exposure has terminated.

(g) No person shall operate or permit the operation of any certified or uncertified radiographic x-ray equipment used in the healing arts unless the accuracy, reproducibility and linearity meet the following requirements:

1. The timer accuracy shall not exceed the limits specified by the manufacturer. In the absence of manufacturer's specifications, the deviation shall not exceed 10 percent of the indicated value;

2. The following timer reproducibility requirements shall apply:

i. For certified equipment only, the coefficient of variation of the timer reproducibility shall not exceed 0.05 for any specific combination of selected technique factors.

ii. For uncertified equipment only, the coefficient of variation of the timer reproducibility shall not exceed 0.07 for any specific combination of selected technique factors;

3. The following exposure reproducibility requirements shall apply:

i. For certified equipment only, the coefficient of variation of radiation exposure reproducibility shall not exceed 0.05 for any specific combination of selected technique factors;

ii. For uncertified equipment only, the coefficient of variation of radiation exposure reproducibility shall not exceed 0.07 for any specific combination of selected technique factors;

4. The kVp accuracy shall not exceed the limits specified by the manufacturer. In the absence of manufacturer's specifications, the deviation shall not exceed 10 percent of the indicated value;

5. The kVp reproducibility shall not exceed a coefficient of variation of 0.05; and

6. The following linearity requirements apply to x-ray equipment which allows a choice of x-ray tube current settings and is operated on a power supply as specified by the manufacturer for any fixed x-ray tube potential within the range of 40 percent to 100 percent of the maximum rating.

i. For x-ray equipment having independent selection of x-ray tube current (mA), the average ratios of exposure to the indicated milliampere-seconds product (mR/mAs) or (C/kg/mAs) obtained at any two consecutive tube current settings shall not differ by more than 0.10 times their sum.

ii. For equipment manufactured after May 3, 1994, x-ray equipment having a combined x-ray tube current-exposure time product (mAs) selector, the average ratios of exposure to the indicated milliampere-seconds product (mR/mAs) or (C/kg/mAs) values obtained at any two consecutive mAs selector settings shall not differ by more than 0.10 times their sum.

iii. The average exposure ratio for (g)6i and ii above shall be expressed as follows:

$$|\overline{X}_1 - \overline{X}_2| \leq 0.10\ (\overline{X}_1 + \overline{X}_2)$$

where X_1 and X_2 are the average mR/mAs or C/kg/mAs values obtained at each of two consecutive tube mA or mAs settings.

(h) No person shall operate or permit the operation of a certified or uncertified multiple-tube installation where a control panel can energize more than one x-ray tube unless the following additional requirements are met: (Interventional biplane radiographic systems shall be exempted from these additional requirements.)

1. Only one radiographic tube shall be capable of activation at any time;

2. Where two or more radiographic tubes are controlled by one exposure switch, the radiographic tube which has been selected shall be clearly indicated to the operator prior to initiation of the exposure. Certified units only shall be provided with such an indicator on both the x-ray control panel and at or near the radiographic tube housing assembly which has been selected; and

3. A radiographic tube shall be energized only when that specific radiographic tube is selected.

(i) No person shall operate or permit the operation of any certified radiographic x-ray equipment that has been provided with positive beam limitation (PBL) unless the following requirements are met:

1. When provided, positive beam limitation (PBL) shall function as described in (i)2 below whenever all the following conditions are met:

i. The image receptor is inserted into a permanently mounted cassette holder;

ii. The image receptor length and width are each less than 50 centimeters (20 inches);

iii. The x-ray beam axis is within plus or minus three degrees of vertical and the SID is 90 centimeters (35.5 inches) to 130 centimeters (51 inches) inclusive; or the x-ray beam axis is within plus or minus three degrees of horizontal and the SID is 90 centimeters (35.5 inches) to 205 centimeters (81 inches) inclusive;

iv. The x-ray beam is perpendicular to the plane of the image receptor to within plus or minus three degrees; and

v. Neither tomographic nor stereoscopic radiography is being performed;

2. When positive beam limitation (PBL) is provided it shall prevent the production of x-rays whenever:

i. Either the length or width of the x-ray field in the plane of the image receptor differs from the corresponding image receptor dimensions by more than three percent of the SID;

ii. The sum of the differences, without regard to sign, between the length and width of the x-ray field in the plane of the image receptor and the corresponding dimensions of the image receptor exceeds four percent of the SID; or

iii. The beam-limiting device is at an SID for which PBL is not designed for sizing.

3. Compliance with (i)2 above shall be determined when the equipment indicates that the beam axis is perpendicular to the plane of the image receptor and the provisions of (i)1 above are met. Determination of compliance shall be no sooner than five seconds after insertion of the image receptor;

4. If a capability for overriding PBL in case of system failure and for servicing the system is provided, it shall comply with the following:

i. This override shall be for all SID and image receptor sizes;

ii. A key shall be required to defeat the PBL;

iii. The key shall remain in place during the entire time the PBL system is overridden; and

iv. Each key switch or key shall be clearly and durably labeled as follows:

For X-ray Field Limitation System Failure

The override capability is considered accessible to the operator if it is referenced in the operator's manual or in other material intended for the operator if its location is such that the operator would consider it part of the operational controls.

5. When provided, the positive beam limitation system shall be capable of operation, at the discretion of the operator, in such a manner that the size of the field may be made smaller than the size of the image receptor through stepless adjustment of the field size. The minimum field size at an SID of 100 centimeters (39.4 inches) shall be equal to or less than five centimeters by five centimeters (two inches by two inches); and

6. When provided, the positive beam limitation system shall be so designed that if a change in image receptor does not cause an automatic return to the positive beam limitation function as described in (i)2 above, then any change of image receptor size or SID must cause the automatic return.

(j) No person shall operate or permit the operation of certified or uncertified mobile or portable radiographic x-ray equipment unless the following requirements are met:

1. These requirements are in addition to and not in substitution for the applicable requirements of this subchapter;

2. The equipment shall be provided with a collimator and a spacer device to limit the source-to-skin distance to not less than 30 centimeters (12 inches);

3. If the equipment was manufactured with a device to measure the SID, the device shall be present to measure the SID and the device shall indicate the SID to within two percent;

4. The exposure control switch shall be of the dead-man type and shall be so arranged that the operator can stand at least six feet from the patient for all exposures. The exposure control switch when depressed shall not energize the x-ray tube when the timer is in the "off" or "0" position;

5. A mobile or portable radiographic unit used routinely in one location shall be considered a permanent installation and shall comply with the requirements of N.J.A.C. 7:28-15.10; and

6. No person shall operate or permit the operation of certified or uncertified mobile or portable equipment unless the person operating the equipment is protected with a lead apron of at least 0.25 mm lead equivalent.

(k) No person shall operate or permit the operation of certified or uncertified ionizing-radiation-producing podiatric x-ray equipment unless the following requirements are met:

1. These requirements are in addition to and not in substitution for the applicable requirements of this subchapter; and

2. Certified and uncertified podiatric x-ray equipment shall be provided with an exposure control switch which will allow the operator to stand at least six feet (1.8 meters) from the patient or behind a protective barrier. The requirement set forth in this paragraph shall supersede the requirement in (f)6 above.

(l) No person shall operate or permit the operation of medical radiographic x-ray equipment used in the healing arts unless the registrant has developed and continuously implements a quality assurance program that meets the applicable requirements of N.J.A.C. 7:28-22, Quality Assurance Programs for Medical Diagnostic X-ray Installations.

HISTORY:

Amended by R.2001 d.37, effective January 16, 2001.
See: 32 New Jersey Register 1459(a), 33 New Jersey Register 292(b).
Added (l).

§ 7:28-15.4 Mammography radiographic installations

(a) This section establishes the requirements for medical diagnostic and screening radiographic mammography procedures. Hereafter, all references to mammography shall mean mammography performed with ionizing-radiation-producing equipment.

(b) The provisions of this section are in addition to and not in substitution for the applicable provisions of N.J.A.C. 7:28.

(c) No person shall operate or permit the operation of x-ray equipment used for mammography unless the equipment and installation meet the applicable requirements of this subchapter.

(d) The registrant shall ensure that each mammography unit under the registrant's jurisdiction is operated only by a licensed diagnostic x-ray technologist or a licensed practitioner as prescribed in N.J.A.C. 7:28-19.

(e) By October 18, 1995 or within two years of the installation of a mammography unit, whichever shall be later, the registrant shall not operate or permit the operation of each mammography unit under the registrant's jurisdiction unless the mammography unit is accredited by the American College of Radiology (ACR) or meets an equivalent standard acceptable to the Commission. Current accreditation by the ACR or its equivalent acceptable to the Commission shall be maintained for each mammography unit under the registrant's jurisdiction.

1. If a mammography unit is accredited or certified by an agency or organization other than ACR, a registrant may petition the Commission in writing for recognition of this agency's or organization's accreditation or certification as equivalent to ACR accreditation. The registrant shall submit sufficient documentation to the Commission related to machine performance standards, quality assurance, operating safety standards, and any additional information that the Commission may request in order to demonstrate equivalence to ACR accreditation.

2. The Commission may approve the registrant's petition based on the information contained in the petition and the Commission's determination that the alternative agency's or organization's accreditation or certification is equivalent to ACR accreditation.

3. A mammography unit that is used exclusively for stereotactic biopsies is exempt from the requirements of (e)1 and 2 above but shall meet the other requirements of this subchapter.

(f) No person shall operate or permit the operation of any radiographic equipment for mammography unless the equipment meets the following requirements:

1. It shall be a dedicated mammography unit;

2. The tube housing assembly shall be provided with a beam-limiting device. When a light localizer used to define the x-ray field is provided on the mammography unit, the light localizer shall provide an average illuminance of not less than 160 lux (15 foot candles) at 100 centimeters or at the maximum SID, whichever is less. The average illuminance shall be based upon measurements made in the approximate center of each quadrant of the light field;

3. The tube housing assembly shall be so constructed that the leakage radiation measured at a distance of one meter (39 inches) from the source does not exceed 26 microcoulombs per kilogram (0.1 Roentgen) in any one hour when the source is operated at its leakage technique factors;

4. A mark shall be provided on the visible exterior of the source assembly which indicates the location of the focal spot;

5. An x-ray beam-limiting device shall be used to restrict the size of the x-ray beam to the size of the image receptor. Types of beam-limiting devices include, but are not limited to, diaphragms, cones, and adjustable colimators. The beam-limiting device shall provide the same primary beam attenuation as the tube housing.

i. The misalignment between the edges of the light field and the x-ray field shall be less than two percent of the SID.

ii. The x-ray beam shall be totally intercepted by the image-receptor support, except for the edge of the image-receptor support designed to be adjacent to the chest wall. The x-ray field at the edge of the image-receptor support designed to be adjacent to the chest wall shall not extend beyond the edge of the image-receptor support by more than two percent of the SID;

6. The image-receptor support shall transmit less than 0.026 microcoulombs (0.1 milliroentgens) per exposure at 5 centimeters (2 inches) beyond the support with no breast present for maximum kV and mAs values clinically used;

7. The requirements for the control panel on the mammography system are as follows:

i. The mammography system shall have the capability of automatic exposure control;

ii. The control panel shall provide visual display of the x-ray tube voltage (kVp) and either the tube current (mA) and time setting (sec) or the product of the tube current and time setting in milliampere-seconds (mAs); and

iii. The control panel shall have a device or means for emitting a signal audible to the operator which indicates when the exposure has terminated and a device such as a light or milliammeter to give a visual indication when the beam is on;

8. The radiation exposure reproducibility shall not exceed a coefficient of variation of 0.05. For manual mode this shall be for any selected technique factors. For automatic exposure control this shall be for any selected absorber or phantom;

9. The timer shall meet the following requirements:

i. The timer reproducibility shall not exceed a coefficient of variation of 0.05 for any specific combination of selected technique factors; and

ii. The timer accuracy shall not exceed the limits specified by the manufacturer. In the absence of manufacturer's specifications, the deviation shall not exceed 10 percent of the indicated value;

10. The kVp shall meet the following requirements:

i. The kVp accuracy shall not exceed the limits specified by the manufacturer. In the absence of manufacturer's specifications, the deviation shall not exceed five percent from the nominal kVp setting;

ii. The kVp reproducibility shall not exceed a coefficient of variation of 0.02;

iii. The kVp shall be capable of being selected in increments of no greater than three kVp whether kVp is selected manually or automatically; and

iv. The kVp shall be selected either manually or automatically;

11. The following linearity requirements apply to mammography x-ray equipment which allows a choice of x-ray tube current settings and is operated on a power supply as specified by the manufacturer for any fixed x-ray tube potential within the range of 40 percent to 100 percent of the maximum rating:

i. For x-ray equipment having independent selection of x-ray tube current (mA), the average ratios of exposure to the indicated milliampere-seconds product (mR/mAs) or (C/kg/mAs) obtained at any two consecutive tube current settings shall not differ by more than 0.10 times their sum.

ii. For equipment manufactured after May 3, 1994, x-ray equipment having a combined x-ray tube current-exposure time product (mAs) selector, the average ratios of exposure to the indicated milliampere-seconds product (mR/mAs) or (C/kg/mAs) values obtained at any two consecutive mAs selector settings shall not differ by more than 0.10 times their sum.

iii. The average exposure ratio for (f)11i and 11ii above shall be expressed as follows:

$$\left|\overline{X}_1 - \overline{X}_2\right| \leq 0.10\ (\overline{X}_1 + \overline{X}_2)$$

where X_1 and X_2 are the average mR/mAs or C/kg/mAs values obtained at each of two consecutive tube mA or mAs settings

12. The measured HVL shall be equal to or greater than the value:

$$\text{HVL} \geq \frac{\text{kVp}}{100}\ \text{(in units of mm of aluminum)}$$

For film-screen mammography units only, the maximum measured HVL shall be equal to or less than the value:

13. There shall be a device to maintain parallel breast compression. The degree of compression shall be adjustable and shall remain at the set level during the exposure. A device, scale or other means shall indicate the thickness of the compressed breast. The compression plate shall attenuate the beam by no more than the attenuation provided by two mm of polymethylacrylate;

14. There shall be a means or a device on the mammography unit to indicate the SID, if this is variable. The actual SID shall be posted on the mammography unit if this distance is fixed. Accuracy of the SID indicator shall be within +/- two percent of the indicated value;

15. There shall be a means of determining the angulation on the mammography unit. This determination shall be displayed on the unit.

i. There shall be a means to lock the position and angulation of the source assembly;

ii. Such lock shall be deemed to have been provided if the position or angulation can only be changed by activation of a motor; and

16. The exposure switch shall be a dead-man type and shall be arranged so that it can only be operated when the operator is within a shielded area. The exposure control when depressed shall not energize the x-ray tube when the timer is in the "off" or "zero" position.

(g) A radiation-protection barrier for the operator shall be provided in the room for a mammography unit that requires the operator to remain in the room during the exposure. The operator shall stand behind the protective barrier provided and shall observe the patient during each mammographic exposure.

(h) No person shall operate or permit the operation of a mammography unit unless the registrant has developed and maintains a quality assurance program that meets the requirements listed in (j) below.

(i) The registrant shall ensure that no person operates the mammography unit until he or she has reviewed the quality assurance manual and has documented that such review has been completed.

(j) The requirements for the quality assurance program shall be as follows:

1. The registrant shall develop and maintain a quality assurance manual that identifies and assigns over-all quality control responsibilities. The following items shall be in the quality assurance manual:

i. A list of the individuals responsible for testing, supervising, repairing or servicing the equipment. This list shall include the specific responsibilities for the radiologist, the qualified medical physicist for the supervision of quality assurance programs for diagnostic x-ray equipment (the medical physicist), the diagnostic x-ray technologist (radiologic technologist), and repair or service personnel;

ii. A list of the equipment to be tested;

iii. A list of the tests to be performed. For each test, the following items shall be included:

(1) The frequency of performance of each test in accordance with (j)4, 6, 7, 8, 9, 10, and 11 below;

(2) The acceptability limits for each test; and

(3) A brief description of the procedures to be used for each test;

iv. The protocol for corrective action which shall be taken if the test results do not lie within the acceptability limits;

v. Sample forms to be used for each test; and

vi. Reference materials and their location;

2. The registrant shall present the quality assurance manual, records of all testing, test data, equipment maintenance and other required procedures to the department for review during any inspection;

3. For each mammography unit, the registrant shall ensure that tests are performed and records are maintained as listed below:

i. The initial test results shall be maintained for as long as the mammography unit is registered plus one year; and

ii. A record of each service to the mammography unit shall be kept for 36 months from the date of such service;

4. For each mammography unit, the registrant shall perform or have performed at least annually the test procedures listed below and shall maintain the records for as long as the mammography unit remains registered plus one year.

i. Measurement of breast entrance exposure and average glandular dose;

ii. Measurement of half-value layer;

iii. Measurement of accuracy and reproducibility of kVp settings;

iv. Measurement of linearity of exposure at various mA stations or mAs settings;

v. Measurement of accuracy and reproducibility of timer settings where these are adjustable;

vi. Measurement of exposure reproducibility at techniques representative of clinical use;

vii. Measurement of focal spot size;

viii. Assessment of performance of automatic exposure control system, including short-term reproducibility, kilovoltage and thickness compensation, density control selector function and back-up timer function;

ix. Assessment of mammography unit assembly, including accuracy of source-to-film distance indicator, physical integrity of breast thickness indicator, functioning of all locks, detents, angulation indicators and mechanical support for the x-ray tube and image-receptor-holder assembly; and

x. Assessment of collimation, including alignment of light field and x-ray field;

5. For each processor used for mammography, the registrant shall ensure that the records of maintenance and quality control tests are maintained in a processor maintenance log. Processor maintenance logs shall include preventive maintenance, cleaning performed and corrective actions taken. A record of each such measure taken shall be maintained in the log for at least 36 months;

6. For each processor used for film-screen mammography, the registrant shall perform or have performed quality control tests for each processor on each day the processor is used for mammography. For motor vehicle and mobile mammographic units with processing capability, quality control tests for each processor shall be performed at each new location.

i. Quality control tests shall include measurement of developer temperature, film sensitometry to indicate film speed, film contrast and base-plus-fog density;

ii. Logs, charts, or graphs of these measurements shall be maintained for 36 months from the dates of such measurements. The registrant may discard such records after 36 months, except that at least one representative set of quality control records from each year shall be maintained for an additional five years;

7. For each darkroom used for loading, storing or processing film used for mammography, the registrant shall ensure that:

i. Measurement of film fog is performed at least semiannually and test results are maintained for the current year and the preceding year; and

ii. Darkroom cleanliness is maintained and checked daily;

8. For each radiographic cassette used for film-screen mammography, the registrant shall ensure that:

i. The intensifying screen is cleaned and inspected at least weekly;

ii. The film-screen contact is tested at least semiannually and the record of each test is maintained for at least 36 months from the date of the test; and

iii. Uniformity of screen speed is assessed annually and the record of each test is maintained for at least 36 months from the date of the test;

9. For each component used for xeromammography, the registrant shall perform or have performed the quality control tests listed below:

i. For the conditioner, tests for light leaks, temperature of relaxation oven, charging of the plate, and optimization for the kVp used shall be performed on each day the conditioner is used for mammography;

ii. For the processor, tests for light leaks, toner supply, back bias setting, and optimization for the kVp used shall be performed on each day the processor is used for mammography;

iii. Each cassette shall be cleaned and checked for dust particles and pressure artifacts every week; and

iv. Each selenium plate shall be examined for powder deficiency spots, powder efficiency spots, dark dusting, scratches, and artifacts on a monthly basis;

10. For each mammography unit, the registrant shall ensure that the following image quality assessments are performed:

i. A phantom is used whose image can be quantitatively scored;

ii. For fixed units, mammographic phantom image quality is tested monthly;

iii. For mobile units and motor vehicle mounted units, mammographic phantom image quality is tested after each relocation and at least monthly. Equipment must be recalibrated prior to use to maintain quality of the phantom image; and

iv. At least one test phantom image for each mammography unit is maintained for each month of the current calendar year and for the preceding year. The registrant shall also maintain at least one phantom image a year for each mammography unit beginning from the year of installation;

11. Repeat analysis shall be performed at least quarterly for film-screen mammography and xeromammography; and

12. Technique charts or standard settings of factors such as density, kVp, focal spot selection, listing of all factors appropriate to the design of the mammography unit shall be posted either next to or on each mammography unit.

§ 7:28-15.5 Medical fluoroscopic x-ray systems

(a) The provisions of this section are in addition to and not in substitution for the applicable provisions of N.J.A.C. 7:28.

(b) No person shall operate or permit the operation of certified or uncertified fluoroscopic x-ray equipment used in the healing arts unless the equipment meets the following requirements:

1. The fluoroscopic imaging assembly shall be provided with a primary protective barrier which intercepts the entire cross section of the useful beam at any source-to-image receptor distance.

i. The x-ray tube used for fluoroscopy shall not produce x-rays unless the primary protective barrier is in position to intercept the entire useful beam. Radiation therapy simulator systems shall be exempt from this requirement provided the systems are intended only for remote control operation and the manufacturer sets forth instructions for assemblers with respect to control location as part of the information required to be in the manufacturer's specifications manual and provides the registrant with precautions concerning the importance of remote control operation.

ii. The exposure rate due to transmission through the primary protective barrier with an attenuation block in the useful beam combined with the radiation from the image intensifier, if provided, shall not

exceed 5.2 E-6 Coulombs per kilogram (two milliroentgens per hour) at 10 centimeters (four inches) from any accessible surface of the fluoroscopic imaging assembly beyond the plane of the image receptor for each Roentgen per minute of entrance exposure rate. The attenuation block shall be a block or stack, having dimensions 20 centimeters by 20 centimeters by 3.8 centimeters (eight inches by eight inches by 1.5 inches), of type 1100 aluminum alloy or aluminum alloy having equivalent attenuation. Radiation therapy simulator systems shall be exempt from this requirement provided the systems are intended only for remote control operation and the manufacturer sets forth instructions for assemblers with respect to control location as part of the information required to be in the manufacturer's specifications manual and provides the registrant with precautions concerning the importance of remote control operation.

iii. The exposure rate due to transmission through the primary barrier combined with radiation from the image intensifier, if provided, shall be determined by measurements averaged over an area of 100 square centimeters (15.5 square inches) with no linear dimension greater than 20 centimeters (eight inches). If the source is below the tabletop, the measurement shall be made with the input surface of the fluoroscopic imaging assembly positioned 30 centimeters (12 inches) above the tabletop. If the source is above the tabletop and the SID is variable, the measurement shall be made with the end of the beam-limiting device or spacer as close to the tabletop as it can be placed, provided that it shall not be closer than 30 centimeters (12 inches). Movable grids and compression devices shall be removed from the useful beam during the measurement. For all measurements, the attenuation block shall be positioned in the useful beam 10 centimeters (four inches) from the point of measurement of entrance exposure rate and between this point and the input surface of the fluoroscopic imaging assembly. For C-arm fluoroscopy equipment, the measurement shall be made with the end of the beam-limiting device at the minimum SID and the attenuation block not closer than 30 centimeters (12 inches) from the imaging assembly.

iv. For uncertified fluoroscopic equipment only, the fluoroscopic screen shall be covered with a transparent protective material such that under normal operating conditions the dose rate measured five centimeters from the viewer's side of the screen shall not be more than 20 milliroentgens per hour (5.2 E-6 Coulombs per kilogram) without a patient and with the screen 20 centimeters (eight inches) from the tabletop or panel);

2. For fluoroscopic equipment that does not have image intensification, the following field limitation requirements shall be met:

i. The x-ray field shall not extend beyond the visible area of the image receptor;

ii. Means shall be provided for stepless adjustment of the field size;

iii. The minimum field size at the greatest SID shall be equal to or less than five centimeters by five centimeters (two inches by two inches); and

iv. Equipment manufactured after February 25, 1978, which permits a variable angle between the image receptor and the axis of the x-ray beam shall be provided with a means to indicate when the axis of the x-ray beam is perpendicular to the plane of the image receptor;

3. Except for fluoroscopic systems used for radiation therapy simulation, image-intensified fluoroscopic equipment shall meet the following field limitation requirements:

i. Neither the length nor the width of the x-ray field in the plane of the image receptor shall exceed that of the visible area of the image receptor by more than three percent of the SID;

ii. The sum of the excess length and the excess width shall be no greater than four percent of the SID. Compliance shall be determined with the beam axis indicated to be perpendicular to the plane of the image receptor;

iii. For rectangular x-ray fields used with circular image receptors, the error in alignment shall be determined by comparison of the length and width of the x-ray field with the diameter of the visible area of the image receptor which parallels each;

iv. Equipment manufactured after February 25, 1978, in which the angle between the image receptor and beam axis is variable, shall be provided with a means to indicate when the axis of the x-ray beam is perpendicular to the plane of the image receptor;

v. Beam-limiting devices manufactured after May 22, 1979, and incorporated in equipment with a variable SID and/or a visible area of greater than 300 square centimeters (46.5 square inches) shall be provided with a means for stepless adjustment of the x-ray field;

vi. Equipment with a fixed SID and a visible area of 300 square centimeters (46.5 square inches) or less shall be provided with either stepless adjustment of the x-ray field or with some other means to further limit the x-ray field size at the plane of the image receptor to 125 square centimeters (19.4 square inches) or less;

vii. Stepless adjustment shall, at the greatest SID, provide continuous field sizes from the maximum obtainable to a field size of five centimeters by five centimeters (two inches by two inches) or less; and

viii. Fluoroscopic x-ray equipment that automatically adjusts the field size as the SID is changed may be provided with a capability for overriding the automatic adjustment in case of system failure. If it is so provided, a signal visible at the fluoroscopist's position shall indicate whenever the automatic field adjustment is overridden. Each such system failure override switch shall be clearly labeled "FOR X-RAY FIELD LIMITATION SYSTEM FAILURE";

4. X-ray production in the fluoroscopic mode shall be controlled by a device which requires continuous pressure by the operator for the entire time of any exposure. When recording serial fluoroscopic images, the operator shall be able to terminate the x-ray exposure(s) at any time, but means may be provided to permit completion of any single exposure of the series in progress;

5. Fluoroscopic equipment which is provided with automatic exposure rate control or with both automatic exposure rate control and manual mode (dual mode units) shall not be operable at any combination of tube potential and current which will result in an entrance exposure rate in excess of 10 Roentgens per minute (2.6 E-3 Coulombs per kilogram per minute) at the point where the center of the useful beam enters the patient except:

i. During the recording of fluoroscopic images; or

ii. When an optional high-level control is provided. When so provided, the equipment shall not be operable at any combination of tube potential and current which will result in an entrance exposure rate in excess of 5 Roentgens (1.3 E-4 Coulombs/kilogram/minute) at the point where the center of the useful beam enters the patient unless the high-level control is activated;

6. Fluoroscopic equipment which is not provided with automatic exposure rate control (manual mode) shall not be operable at any combination of tube potential and current which will result in an entrance exposure rate in excess of five Roentgens per minute (1.3 E-4 Coulombs/kilogram/minute) at the point where the center of the useful beam enters the patient, except:

i. During recording of fluoroscopic images; or

ii. When an optional high-level control is activated;

7. For equipment provided with high-level control, the following requirements shall be met:

i. Special means of activation of high-level controls shall be required (for example, two-step foot pedal);

ii. Continuous manual activation of the high-level control shall be provided by the operator; and

iii. A continuous signal audible to the fluoroscopist shall indicate that the high-level control is being employed;

8. Measuring compliance of entrance exposure rates shall be determined as follows:

i. When the source is below the table, the entrance exposure rate shall be measured one centimeter (0.4 inch) above the tabletop or cradle;

ii. When the source is above the table, the entrance exposure rate shall be measured at 30 centimeters (12 inches) above the tabletop with the end of the beam-limiting device or spacer positioned as close as possible to the point of measurement;

iii. For stationary and mobile c-arm types of fluoroscopes, the entrance exposure rate shall be measured 30 centimeters (12 inches) from the input surface of the fluoroscopic imaging assembly.

iv. In a lateral type of fluoroscope, the entrance exposure rate shall be measured 15 centimeters (5.9 inches) from the centerline of the x-ray table and in the direction of the x-ray source with the end of the beam-limiting device or spacer positioned as closely as possible to the point of measurement. If the tabletop is movable, it shall be positioned as closely as possible to the lateral x-ray source, with the end of the beam-limiting device or spacer no closer than 15 centimeters (5.9 inches) to the centerline of the x-ray table;

9. Fluoroscopic radiation therapy simulation systems are exempt from the entrance exposure rate requirements of (b)5 and (b)6 above;

10. The x-ray tube potential and current shall be continuously indicated to the operator and/or at the control panel during fluoroscopy and cinefluorography. Deviation of x-ray tube potential and current from the indicated values shall not exceed the maximum deviation as stated by the manufacturer;

11. A means shall be provided to limit the source-to-skin distance to not less than 38 centimeters (15 inches) on stationary fluoroscopes and to not less than 30 centimeters (12 inches) on mobile and portable fluoroscopes.

i. Image-intensified fluoroscopes intended for specific surgical applications that would be impossible to perform at the source-to-skin distances specified above, may be operated at shorter source-to-skin distances but in no case less than 20 centimeters (eight inches);

12. The following requirements shall apply to a fluoroscopic timer:

i. A means shall be provided to preset the cumulative on-time of the fluoroscopic tube. The maximum cumulative time of the timer shall not exceed five minutes without resetting;

ii. The timer shall either terminate the exposure or emit a signal audible to the fluoroscopist when the exposure time reaches five minutes. Such signal shall continue to sound while x-rays are produced until the timer is reset; and

iii. As an alternative to the requirements of (b)12ii above, radiation therapy simulation systems may be provided with a means to indicate the total cumulative exposure time during which x-rays were produced, and which is capable of being reset between x-ray examinations;

13. Mobile and portable fluoroscopes shall be provided with image intensification;

14. The fluoroscopy table that is provided with an undertable tube and a bucky shall have a bucky slot cover that provides protection equivalent to at least 0.5 millimeters of lead. Radiation therapy simulation systems are exempt from the requirements of this paragraph;

15. Protective shielding, such as a drape, shall be in place between the patient and fluoroscopist and shall provide protection equivalent to at least 0.5 millimeters of lead;

16. When a sterile field will not permit the use of the normal protective barriers, the requirements of (b)15 above may be omitted;

17. A mobile fluoroscopic unit used routinely in one location shall be considered a permanent installation and shall comply with the shielding and survey requirements in N.J.A.C. 7:28-15.10; and

18. The following requirements shall apply to spot-film devices except when the spot-film device is provided for use with a radiation therapy simulator system:

i. A means shall be provided between the source and the patient which will automatically limit the x-ray field at the time the exposure is initiated to no more than that portion of the image receptor chosen by the operator on the spot-film selector. If the x-ray field size is less than the size of the selected portion of the image receptor, the field size shall not open automatically to the size of the selected portion of the image receptor unless the operator has selected such a mode of operation;

ii. Neither the length nor the width of the x-ray field in the plane of the image receptor shall differ from the corresponding dimensions of the selected portion of the image receptor by more than three percent of the SID when adjusted for full coverage of the selected portion of the image receptor. The sum of the differences in length and width, without regard to the sign, shall not exceed four percent of the SID. Spot-film devices manufactured after February 25, 1978, which permit a variable angle between the plane of the image receptor and beam axis, shall be provided with a means to indicate when the axis of the x-ray beam is perpendicular to the plane of the image receptor;

iii. The center of the x-ray field in the plane of the image receptor shall be aligned with the center of the selected portion of the image receptor to within two percent of the SID;

iv. Means shall be provided to reduce the x-ray field size in the plane of the image receptor to a size smaller than the selected portion of the image receptor such that:

(1) For spot-film devices used on fixed-SID fluoroscopic systems which are not required to provide, and do not provide stepless adjustment of the x-ray field, the minimum field size, at the greatest SID, shall not exceed five by five centimeters (two by two inches); or

(2) For spot-film devices used on fluoroscopic systems that have a variable SID and/or stepless adjustment of the field size, each dimension of the minimum field size, and the greatest SID, shall not exceed five centimeters (two inches); and

v. A capability may be provided for overriding the automatic x-ray field size adjustment in case of system failure. If it is so provided, a signal visible at the fluoroscopist's position shall indicate whenever the automatic x-ray field size adjustment override is engaged. Each such system failure override switch shall be clearly labeled as follows: FOR X-RAY FIELD LIMITATION SYSTEM FAILURE.

(c) No person shall operate or permit the operation of fluoroscopic x-ray equipment used in the healing arts unless the registrant has developed and continuously implements a quality assurance program that meets the applicable requirements of N.J.A.C. 7:28-22, Quality Assurance Programs for Medical Diagnostic X-ray Installations.

HISTORY:

Amended by R.2001 d.37, effective January 16, 2001.
See: 32 New Jersey Register 1459(a), 33 New Jersey Register 292(b).
Added (c).

§ 7:28-15.6 Radiation therapy simulators

(a) No person shall operate or permit the operation of a radiation therapy simulator system unless it meets the requirements of this section and complies with all applicable requirements of this subchapter, unless otherwise exempted.

(b) Operation of a radiation therapy simulator system on a patient shall be performed only by a licensed practitioner, a licensed radiation therapy technologist, or a licensed diagnostic x-ray technologist, as prescribed in N.J.A.C. 7:28-19.

(c) No person shall operate or permit the operation of a radiation therapy simulator system unless it meets the following requirements:

1. A quality assurance program has been established in collaboration with a qualified medical physicist for the supervision of quality assurance programs for therapy simulator systems, and implemented by the registrant to ensure congruence of the position and size of the simulated field with the position and size of the irradiation field.

i. The quality assurance program is consistent with, but not limited to, the guidelines established by the American Association of Physicists in Medicine, (AAPM) Report Number 13;

ii. The quality assurance program is documented by the registrant; and

iii. The quality assurance program records are maintained by the registrant for at least 36 months, and are available for review at the facility by the department during any inspection;

2. Any radiation therapy simulator system, which uses a gantry rotation system when performing radiographic examinations, shall be equipped with a sensor mechanism that shall stop the gantry motion if necessary to prevent collision. This requirement shall take effect October 18, 1994.

i. Restarting the unit shall only be possible when the cause of the termination has been determined and corrected and the sensor mechanism is satisfied that a collision reoccurrence is not possible.

ii. Tests of the operation of the anti-collision sensor mechanism are performed and results are documented by those individuals listed in (b) above or by a qualified medical physicist for the supervision of quality assurance programs for therapy simulator systems at intervals not to exceed 12 months. The records shall be maintained for at least 36 months, and shall be available at the facility for review by the department during any inspection. A true copy of these records shall be sent to the department upon request;

3. A dead-man switch and/or an emergency "off" control shall be located on the remote control console and also at all places in the simulator room from which motions are controlled;

4. A radiation therapy simulator system attached to a megavoltage radiation therapy x-ray system shall meet the following requirements:

i. Exposure controls shall be located outside the therapy room;

ii. The operator shall be able to view the patient from the control panel at all times during the procedure. The viewing system may consist of, but is not limited to, a window, mirror, or closed circuit television; and

iii. A method for two-way aural communication between the patient and the operator shall be provided at the control panel and shall be operable at all times when the system is in operation;

5. A superficial or orthovoltage therapy x-ray system shall not be used for radiation therapy simulation except for treatments given on this system; and

6. Protective aprons of at least 0.25 millimeters lead equivalent shall be worn by the operator or therapy physician during every instance in which entry into the simulator room is necessary while the patient exposure is in progress. Protective gloves of at least 0.25 millimeters lead equivalent shall be worn by the operator or therapy physician during every instance when the hands must be in the primary beam while the patient exposure is in progress. The exposure of such individuals shall be controlled by the use of shielding and protective clothing as necessary to ensure that they are not exposed to radiation doses in excess of those permitted by N.J.A.C. 7:28-6.

§ 7:28-15.7 Computed tomography equipment

(a) The provisions of this section are in addition to and not in substitution for the applicable sections of this subchapter.

(b) No person shall operate or permit the operation of computed tomography equipment used in the healing arts unless the equipment meets the following requirements:

1. The registrant shall maintain the technical and safety information supplied by the manufacturer as required by the Code of Federal Regulations at 21 C.F.R. 1020.33(c) near the control panel and produce it to the department during any inspection;

2. A visual indication of the conditions of operation to be used during a scan or scan sequence shall be indicated prior to initiation of a scan or scan sequence. On equipment having all or some of these conditions of operation at fixed values, this requirement may be met by permanent markings. Indication of CT conditions shall be visible from any position from which the scan can be initiated;

3. A means shall be provided to terminate the exposure automatically by either de-energizing the x-ray source or shuttering the x-ray beam in the event of equipment failure affecting data collection. A visible signal shall indicate when the x-ray exposure has been terminated by this means. Such termination shall occur within an interval that limits the total scan time to no more than 110 percent of the preset value through the use of either a backup timer or devices which monitor equipment function. Means shall be provided such that the exposure from the system does not exceed 100 mR/scan except when x-ray transmission data are being collected for use in image production or technique factor selection;

4. The operator shall be able to terminate the x-ray exposure at any time during a scan or during a series of scans under the x-ray system control of greater than one-half second exposure. Termination of the x-ray exposure shall necessitate resetting of the CT conditions of operation prior to the initiation of another scan;

5. A means shall be provided to permit visual determination of the location of the tomographic plane or a reference plane offset from the tomographic plane;

6. If a device using a light source, including a laser source, is used to determine the location of the tomographic plane, this source shall provide illumination levels sufficient to permit visual determination of the location of the tomographic plane or reference plane under ambient light conditions of up to 500 lux;

7. The x-ray control and gantry shall provide visual indication whenever x-rays are produced and, if applicable, whether the shutter is open or closed. If the x-ray production period is less than one-half second, the indication of x-ray production shall be actuated for one-half second. Indicators at or near the housing of the scanning mechanism shall be discernible from any point external to the patient opening where insertion of any part of the human body into the primary beam is possible;

8. For systems that allow high voltage to be applied to the x-ray tube continuously and that control the emission of x-rays with a shutter, the radiation emitted shall not exceed 100 milliroentgens (2.6 E-2 Coulombs per kilogram) in one hour at any point five centimeters (two inches) outside the external surface of the housing of the scanning mechanism when the shutter is closed. Compliance shall be determined by measurements averaged over an area of 100 square centimeters (15.5 square inches) with no linear dimensions greater than 20 centimeters (eight inches);

9. The deviation of indicated scan increment from actual scan increment shall not exceed 1 millimeter. Compliance shall be measured as follows: The determination of the deviation of indicated versus actual scan increment shall be based on measurements taken with a mass of 100 kilograms or less on the patient support. The patient support shall be incremented from a typical starting position to the maximum incremented distance or 30 centimeters (12 inches), whichever is less, and then returned to the starting position;

10. The distance between the indicated location of the tomograhic plane or reference plane and its actual location may not exceed five millimeters; and

11. An emergency off switch shall be available at the control panel and in the CT room.

(c) No person shall operate or permit the operation of computed tomographic equipment unless the facility meets the following:

1. Provision shall be made for two-way aural communication between the patient and the operator at the control panel; and

2. Windows, mirrors, closed-circuit television, or an equivalent shall be provided to permit continuous observation of the patient during irradiation and shall be so located that the operator can observe the patient from the control panel. When the primary viewing system is by electronic means, such as a closed-circuit television, an alternate viewing system, which may also be electronic, shall be provided to permit continuous observation of the patient during irradiation in the event of failure of the primary viewing system.

(d) No person shall operate or permit the operation of computed tomography equipment used in the healing arts unless the following operating conditions are met:

1. The CT system shall not be operated except by a licensed individual who has been specifically trained in its operation;

2. Information shall be available near the control panel regarding the operation and calibration of the system. That information shall contain:

i. Dates of the latest calibration and spot checks and the location within the facility where the results of these tests may be obtained;

ii. Instructions on the use of the phantom(s), including a schedule of testing appropriate for the system, allowable variations for the indicated parameters, and the results of at least the most recent tests conducted on the system; and

iii. A technique chart for each predetermined scan protocol shall be available at the control panel; and

iv. No person shall operate or permit the operation of computed tomography equipment used in the healing arts unless the registrant has developed and continuously implements a quality assurance program that meets the applicable requirements of N.J.A.C. 7:28-22, Quality Assurance Programs for Medical Diagnostic X-ray Installations.

HISTORY:

Amended by R.2001 d.37, effective January 16, 2001.
See: 32 New Jersey Register 1459(a), 33 New Jersey Register 292(b).
Rewrote the section.

§ 7:28-15.8 Medical cabinet x-ray systems

(a) The requirements of this section are in addition to and not in substitution for the applicable requirements in N.J.A.C. 7:28.

(b) No person shall operate or permit the operation of a medical cabinet x-ray system used in the healing arts unless it meets the following requirements:

1. The registrant shall ensure and document that the operator has received a copy of the operator's manual, has been trained in the operating procedures for the system, and has demonstrated competence in operating the system to the registrant. This documentation shall be available to the department for review during any inspection. The registrant shall maintain a copy of the operator's manual in the proximity of the system;

2. Radiation emitted from the medical cabinet x-ray system shall not exceed an exposure of 0.5 milliroentgens in one hour at any point five centimeters outside the external surface;

3. No medical cabinet x-ray system shall be placed into operation until the registrant demonstrates that a qualified individual for the performance of radiation surveys for diagnostic x-ray equipment has determined that the exposure level in (b)2 above is not exceeded. Where an operating system is subsequently modified, repaired, or moved to a new location, the unit shall not be used until a qualified individual for the performance of radiation surveys for diagnostic x-ray equipment has determined compliance with this limit. The registrant shall maintain the original report(s) at the facility, and make the report(s) available to the Department during any inspection. The registrant shall submit a copy of the report(s) to the Department within 30 days of the date the determination has been completed;

4. Safety interlocks shall be provided on medical cabinet x-ray systems as follows:

i. Each door of a cabinet x-ray system shall have a minimum of two safety interlocks installed in such a manner that the opening of any door would disconnect the energy supply circuit to the high-voltage generator;

ii. Each access panel on a cabinet x-ray system shall have at least one safety interlock;

iii. Following interruption of the energy supply circuit by the functioning of any safety interlock, a manually reset control switch shall be activated before x-ray production can resume;

iv. Failure of any single component of the medical cabinet x-ray system shall not cause failure of more than one required safety interlock;

v. Safety interlocks shall be tested for operation at intervals not to exceed six months. A record of these tests shall be maintained for review by the Department during any inspection;

5. A medical cabinet x-ray system shall have a permanent floor, which means the underside external surface of the cabinet;

6. There shall be permanently affixed or inscribed on the medical cabinet x-ray system at the location of any controls which can be used to initiate x-ray production a clearly legible and visible label bearing the statement or words having a similar meaning: "CAUTION: X-RAYS PRODUCED WHEN ENERGIZED"; and

7. All medical cabinet systems shall be provided with the following controls and indicators:

i. A key-activated control to insure that x-ray production is not possible with the key removed;

ii. A control button or control switch to initiate and terminate the production of x-rays other than by the functioning of a safety interlock or the main power control;

iii. A warning light at the control button or control switch that indicates when and only when x-rays are being produced. This light shall be clearly labeled with the words: "X-RAY ON";

iv. A warning light which indicates when and only when x-rays are being produced. This warning light shall be visible from each door, access panel, and port, and shall be clearly labeled with the words: "X-RAY ON"; and

v. A means to indicate the kilovoltage, current and time during the production of x-rays at each x-ray control button or control switch unless the x-ray tube current is preset.

§ 7:28-15.9 Individual radiation safety

(a) No person shall operate or permit the operation of certified or uncertified medical radiographic and fluoroscopic equipment or therapy simulation systems unless the following conditions are met:

1. Only individuals required for the medical procedure, for training, or for equipment maintenance shall be in the radiographic or fluoroscopic or therapy simulator room during an exposure.

i. Individuals who are present in a radiographic or fluoroscopic or therapy simulator room during any exposure shall wear protective aprons of at least 0.25 mm lead equivalent during every exposure.

ii. Protective gloves of at least 0.25 mm lead equivalent shall be worn by the fluoroscopist and assistant(s) during every examination when it is required that their hands be placed in the useful beam;

2. When a patient must be provided with auxiliary support during a radiation exposure and mechanical holding devices are insufficient, the following procedures shall be followed:

i. The person holding the patient shall be protected with a lead apron of at least 0.25 mm lead equivalent;

ii. The person holding the patient shall be protected with lead gloves of at least 0.25 mm lead equivalent if the hands must be placed in the useful beam;

iii. No licensed practitioner shall order or otherwise cause an individual who is licensed pursuant to N.J.S.A. 26:2D and this chapter to hold a patient during a radiation exposure, except in a life-threatening situation;

iv. No person shall be employed, routinely assigned, or required to hold a patient during radiographic and fluoroscopic procedures;

v. If a patient must be held during the x-ray exposure, non-radiation workers such as aides, orderlies, nurses, or members of the patient's family may be asked to perform this duty; and

vi. No person other than the patient shall hold the film during the exposure;

3. Gonadal shielding of not less than 0.5 mm lead equivalent shall be used on a patient during radiographic and fluoroscopic procedures, except for cases in which this would interfere with the diagnostic procedure. If the patient is sterile, the use of gonadal shielding may be omitted;

4. The operator shall collimate x-ray units that do not have positive beam limitation to ensure that the x-ray field does not extend beyond the image receptor;

5. The radiographic field shall be restricted to the area of clinical interest as far as practical;

6. A method to observe the patient during the x-ray exposure shall be provided for all units. Observation of the patient shall be made from the shielded area;

7. During radiographic exposures, the operator shall stand behind the protective barrier;

8. The registrant shall provide written safety rules to each individual operating x-ray equipment including any restrictions as to the operating technique required for the safe operation of the particular x-ray apparatus, and require that the operator sign a form acknowledging that the safety manual was read. These safety rules and restrictions shall be made available for review by the Department during any inspection;

9. No person shall permit or arrange for the intentional irradiation of a human being except for the purpose of medical diagnosis or treatment;

10. No person shall deliberately expose an individual to the useful beam for the sole purpose of training or demonstration; and

11. No person shall operate an ionizing-radiation-producing machine unless that person understands and uses the principles of radiation safety to keep radiation exposure as low as reasonably achievable.

§ 7:28-15.10 Structural shielding and radiation safety surveys

(a) No person shall operate or permit the operation of x-ray equipment used in the healing arts unless permanent structural shielding and/or protective barriers are used as necessary to ensure that no person other than the patient being examined receives a dose in excess of the limits specified in N.J.A.C. 7:28-6.

(b) No person shall operate or permit the operation of x-ray equipment used in the healing arts unless the survey requirements listed below are met. To the extent that this section imposes more stringent re-

quirements than the survey requirements in N.J.A.C. 7:28-7 and recordkeeping requirements in N.J.A.C. 7:28-8, the requirements of this section shall be followed.

1. The registrant of a medical ionizing-radiation-producing machine shall ensure that a qualified individual for the performance of radiation surveys for diagnostic x-ray equipment and therapy simulators performs or supervises the performance of a radiation safety survey of the environs and submits a copy of the radiation safety survey report to the Department within 60 days of the date the machine is acquired. The registrant shall maintain the original survey report for as long as the machine is registered plus one year and shall make the original survey report available to the Department during any inspection.

2. The registrant of a medical ionizing-radiation-producing machine shall ensure that a qualified individual for the performance of surveys for diagnostic x-ray equipment and therapy simulator systems performs or supervises the performance of a radiation safety survey of the environs when changes have been made to shielding, equipment, or equipment location which affect the radiation levels of the environs. A copy of the survey report shall be submitted to the Department within 60 days of the date of such change. The registrant shall maintain the original survey report for as long as the machine is registered plus one year and shall make the original survey report available to the Department during any inspection.

3. The minimum requirements for the information to be included in the radiation safety survey report are as follows:

i. The name of the registrant of the installation as listed on form VRH-001, address, telephone number, and room location of the unit;

ii. The New Jersey Registration Number, if available;

iii. The manufacturer, model number, generator serial number, control panel serial number, tube manufacturer, tube serial number, and tube housing number;

iv. The name and address of the qualified individual performing the survey;

v. The date of survey;

vi. The survey instrument manufacturer, model number, and date calibrated;

vii. A diagram or floor plan of the area indicating the x-ray tube location, exposure switch location, normal operator position, lead shielding if present, wall, floor, and ceiling construction, labeling all areas adjacent to the exposure room including those above and below, and labeling of all areas as to occupancy and use;

viii. Records of the measurement of radiation exposure with a suitable phantom in the average patient position. Measurements shall be taken at the operator's position and at all nearby locations which are normally occupied. For each measurement, the kVp, and mA, exposure time, instrument reading, and correction made to the instrument reading (such as energy response, calibration, etc.) shall be recorded; and

ix. Exposure rates at each measured location shall be converted into Coulombs/kilogram/week or mR/week. Records shall include all assumptions of workload, use and occupancy factors used in the calculations.

§ 7:28-15.11 Prohibited installations

(a) No person shall operate, permit to be operated, maintain or display in working condition any of the following:

1. Shoe-fitting fluoroscopic devices;

2. Chest photofluorographic machine after October 18, 1994;

3. Fixed vertical systems designed for non-image intensified fluoroscopy used for radiography after October 18, 1994;

4. Uncertified fluoroscopic equipment that does not have image intensification after October 18, 1994; or

5. Hand-held fluoroscopic screens.

§ 7:28-15.12 X-ray bone densitometer equipment

(a) The provisions of this section are in addition to and not in substitution for the applicable provisions of N.J.A.C. 7:28.

(b) No person shall operate or permit the operation of any x-ray bone densitometer equipment used in the healing arts unless the registrant ensures that the equipment is operated in such a manner as to meet the manufacturer's specifications.

(c) The registrant shall maintain a copy of the manufacturer's specifications and the operator's manual at the facility.

(d) The registrant shall ensure that the operator is trained in the operating procedures for the x-ray bone densitometer equipment.

(e) No person shall operate or permit the operation of any x-ray bone densitometer equipment unless the registrant has developed and has implemented a quality assurance program that meets the applicable requirements in N.J.A.C. 7:28-22.11, Quality assurance program for x-ray bone densitometer equipment.

HISTORY:

New Rule, R.2001 d.37, effective January 16, 2001.
See: 32 New Jersey Register 1459(a), 33 New Jersey Register 292(b).
Former N.J.A.C. 7:28-15.12, Severability, recodified to N.J.A.C. 7:28-15.13.

§ 7:28-15.13 Severability

If any provision of this subchapter or the application thereof to any person or circumstance is held invalid, such invalidity shall not effect other provisions or applications of the subchapter, which can be given effect without the invalid provision or application, and to this end, the provisions of this subchapter are declared to be severable.

HISTORY:

Recodified from N.J.A.C. 7:28-15.12 by R.2001 d.37, effective January 16, 2001.
See: 32 New Jersey Register 1459(a), 33 New Jersey Register 292(b).

SUBCHAPTER 16. DENTAL RADIOGRAPHIC INSTALLATIONS

§ 7:28-16.1 Scope

(a) This subchapter establishes the requirements for dental radiographic installations.

(b) No person shall operate or permit the operation of x-ray equipment used in the practice of dentistry unless the equipment and installation meet the applicable requirements of this subchapter.

(c) The provisions of this subchapter are in addition to and not in substitution for the applicable provisions of N.J.A.C. 7:28-1 through 3, 5 through 8, 13 and 19.

§ 7:28-16.2 Definitions

The following words and terms, when used in this subchapter, shall have the following meanings, unless the context clearly indicates otherwise.

"Cephalometric device" means a device intended for the radiographic visualization and measurement of the dimensions of the human head.

"Certified components" means components of x-ray systems which are subject to the regulations promulgated under Public Law 90-602, the Radiation Control for Health and Safety Act of 1968, 21 Code of Federal Regulations, Chapter 1, Subchapter J—Radiological Health.

"Certified unit" means any x-ray system which has only certified components.

"Coefficient of variation" or "C" means the ratio of the standard deviation to the mean value of a population of observations. It is estimated using the following equation:

$$C = \frac{s}{\overline{X}} = \frac{1}{\overline{X}} \left[\sum_{i=1}^{n} \frac{(X_i - \overline{X})^2}{n-1} \right] ½$$

where:
s = estimated standard deviation of population
$\overline{X}$ = mean value of observations in sample
X_i = i^{th} observation in sample
n = number of observations in sample

"Control panel" means the x-ray system component and operational controls that include the indicators for x-ray tube voltage (kVp), tube current (mA), timer setting and beam-on.

"Diagnostic type protective tube housing" means an x-ray tube housing so constructed that the leakage radiation measured at a distance of one meter (39.37 inches) from the source does not exceed 100 milliroentgens in one hour when the tube is operated at its maximum continuous rated current for the maximum continuous rated tube potential.

"Kilovolts peak" (see "peak tube potential").

"kV" means kilovolts.

"kVp" (see "peak tube potential").

"Image receptor" means any device such as, but not limited to, a fluorescent screen or radiographic film, which transforms incident x-ray photons either into a visible image or into another form which can be made into a visible image by further transformations. In those cases where a device is provided to preselect portions of the image receptor, the term "image receptor" shall mean the preselected portion of the device.

"Leakage radiation" means all radiation emanating from the diagnostic source assembly except the useful beam. Leakage radiation also means radiation produced when the exposure switch or timer is not activated.

"mA" means milliampere.

"mAs" means milliampere second.

"Multiple dental radiographic tube installation" means an installation in which one control panel may energize more than one x-ray tube.

"Peak tube potential" means the maximum value of the potential difference across the x-ray tube during an exposure.

"Primary protective barrier" (see "protective barrier").

"Protective barrier" means a barrier of radiation absorbing material used to reduce radiation exposure. The types of protective barriers are as follows:

1. "Primary protective barrier" means the material, excluding filters, intercepting the useful beam for protection purposes to reduce the radiation exposure so that it does not exceed two millirems in any one hour.

2. "Secondary protective barrier" means a barrier sufficient to attenuate the stray radiation to reduce radiation exposure so that it does not exceed two millirems in any one hour.

"Qualified individual" means an individual who meets at least one of the following criteria for diagnostic x-ray equipment:

1. Certification by one of the following agencies in the specialty listed:

i. The American Board of Radiology in Diagnostic Radiological Physics or Radiological Physics;

ii. The American Board of Health Physics in Comprehensive Health Physics;

iii. The American Board of Medical Physics in Diagnostic Imaging Physics or Medical Health Physics;

iv. Certification issued by the Fellowship in the Canadian College of Physicists in Medicine which is equivalent to 1i or iii above; or

v. Certification by other national certifying boards which may be recognized by the Commission on Radiation Protection where the person seeking recognition as a qualified individual has petitioned the CORP in writing and where the CORP has issued a written determination that the certification in question meets the criteria of a qualified individual pursuant to this subchapter;

2. A bachelor's degree from an accredited college in biology, chemistry, radiation sciences, physics, engineering, or mathematics and at least five years of professional technical experience in the field of radiological physics or in the use of medical or dental ionizing-radiation-producing equipment;

3. A master's or doctorate degree in radiological health, radiation sciences, physics, chemistry, environmental sciences, engineering or a related field and at least two years of professional technical experience in the field of radiological physics or in the use of medical or dental ionizing-radiation-producing equipment; or

4. Ten years of professional technical experience in the field of radiological physics or in a radiation protection activity. At least five years of the required health physics experience shall have been with medical or dental ionizing radiation-producing equipment.

"Radiation (ionizing)" means any electromagnetic or particulate radiation capable of producing ions, directly or indirectly, by interaction with matter.

"Scattered radiation" means radiation that, during passage through matter, has changed in direction or in energy.

"Secondary protective barrier" (see "protective barrier").

"Source-to-image distance" or "SID" means the distance from the radiation source to the center of the input surface of the image receptor.

"Source-to-skin distance" or "SSD" means the distance between the radiation source and the skin of the patient. It is also known as the target-to-skin distance.

"Stray radiation" means the sum of leakage and scattered radiation.

"Technique factors" means the following conditions of operation:

1. For capacitor energy storage equipment, the technique factors are peak tube potential in kV and quantity of charge in mAs;

2. For field emission equipment rated for pulsed operation, the technique factors are peak tube potential in kV and number of x-ray pulses;

3. For CT x-ray systems designed for pulsed operation, the technique factors are peak tube potential in kV, scan time in seconds, and either tube current in mA, x-ray pulse width in seconds, and the number of x-ray pulses per scan, or the product of tube current, x-ray pulse width, and the number of x-ray pulses in mAs;

4. For CT x-ray systems not designed for pulsed operation, the technique factors are potential in kV, scan time in seconds, and either tube current in mA and scan time in seconds, or the product of tube current and exposure time in mAs and the scan time when the scan time and exposure time are equivalent; and

5. For all other equipment, the technique factors are peak tube potential in kV, and either tube current in mA and exposure time in seconds, or the product of tube current and exposure time in mAs.

"Uncertified unit" means an x-ray system comprised of components that are not subject to the regulations promulgated under Public Law 90-602, the Radiation Control Act of 1968, 21 Code of Federal Regulations, Chapter 1, Subchapter J—Radiological Health.

HISTORY:

Amended by R.1991 d.305, effective June 17, 1991.
See: 22 New Jersey Register 3303(a), 23 New Jersey Register 1937(a).
Added definition of "Qualified individual."
Amended by R.1993 d.510, effective October 18, 1993.
See: 25 New Jersey Register 7(a), 25 New Jersey Register 1039(a), 25 New Jersey Register 4770(a).

§ 7:28-16.3 Dental radiographic equipment

(a) A person shall not operate or permit the operation of ionizing radiation-producing equipment used in the practice of dentistry unless the equipment meets the requirements listed below:

1. A diagnostic type protective tube housing shall be provided on the x-ray equipment.

2. Diaphragms or cones shall be used to collimate the useful beam and shall provide the same degree of protection as the diagnostic type protective tube housing.

3. For intraoral radiography, the diameter of the useful beam at the end of the cone in contact with the patient shall be no greater than seven centimeters (cm) (2.75 inches) when the source-to-skin distance is 18 cm (seven inches) or more. At SSD's less than 18 cm (seven inches), the diameter of the useful beam at the minimum SSD shall be no greater than six cm (2.36 inches).

4. A cone or spacer frame shall provide a source-to-skin distance of not less than 18 cm (seven inches) when the x-ray unit operates above 50 kVp or not less than 10 cm (four inches) when the x-ray unit operates at or below 50 kVp.

5. All machines purchased, donated, or otherwise obtained after July 1, 1969, shall be equipped with open end cones.

6. The amount of total filtration permanently in the useful beam shall meet the minimum half-value layer (HVL) specified in the following table:

TABLE 1
TABLE OF HALF-VALUE LAYERS FOR DENTAL UNITS
X-ray tube voltage (kilovoltage peak)

Designed operating range (kVp)	Measured operating potential (kVp)	Minimum HVL (mm of A1)
Below 50	30	1.5
	40	1.5
50 to 70	50	1.5
	60	1.5
	70	1.5
Above 70	71	2.1
	80	2.3

Designed operating range (kVp)	Measured operating potential (kVp)	Minimum HVL (mm of A1)
	90	2.5
	100	2.7
	110	3.0
	120	3.2
	130	3.5
	140	3.8
	150	4.1

7. For certified units, the x-ray tube voltage (kilovoltage peak) measured operating potential shall meet the manufacturer's specifications.

8. The exposure control switch shall be of the dead-man type.

9. The exposure control switch shall be provided with a timer that terminates the exposure after a preset time or preset exposure.

10. The exposure control switch button when depressed shall not energize the x-ray tube when the timer is in the "zero" or "off" position.

11. The exposure control switch shall be arranged to allow the operator to stand at least 1.83 meters (six feet) from the patient and well out of the path of the useful beam or to stand behind a protective barrier.

12. The x-ray control panel shall provide visual indication whenever x-rays are produced.

13. For certified units, a signal audible to the operator shall be provided to indicate that the exposure has terminated.

14. For certified units, the coefficient of variation of the timer reproducibility shall not exceed 0.05 measured at any specific combination of technique factors.

15. For uncertified units, the coefficient of variation of the timer reproducibility shall not exceed 0.07 measured at any specific combination of technique factors.

16. For certified units, the timer accuracy shall meet or exceed the manufacturer's specifications. In the absence of manufacturer's specifications, the deviation shall not exceed 10 percent of the indicated value.

17. For certified units, the coefficient of variation of the radiation exposure reproducibility shall not exceed 0.05 measured at any specific combination of technique factors.

18. For uncertified units, the coefficient of variation of the radiation exposure reproducibility shall not exceed 0.07 measured at any combination of technique factors.

19. For uncertified units, the following requirements for radiation exposure linearity shall be met when the equipment is operated on a power supply as specified by the manufacturer for any fixed x-ray tube potential within the range of 40 percent to 100 percent of the maximum rated:

i. For equipment having independent selection of x-ray tube current (mA), the average ratios of exposure to the indicated milliampereseconds product [(C/kg/mAs) or mR/mAs)] obtained at any tube current settings shall not differ by more than 0.10 times their sum. This is: $[X_1 - X_2]$ 0.10 $(X_1 + X_2)$ where X_1 and X_2 are the average C/kg/mAs (or mR/mAs) values obtained at any two tube settings.

ii. For equipment having a combined x-ray tube current-exposure time product (mAs) selector, the average ratios of exposure to the indicated milliampereseconds product [(C/kg/mAs) or (mR/mAs)] obtained at any two mAs selector settings shall not differ by more than 0.10 times their sum. This is: $[X_1 - X_2]$ 0.10 $(X_1 + X_2)$; where X_1 and X_2 are the average C/kg/mAs (or mR/mAs) values obtained at any two mAs selector settings.

20. For certified units, the requirement for linearity is as follows:

i. For equipment that allows a choice of x-ray tube current settings, the average ratios of exposure to the indicated milliampereseconds product obtained at any two consecutive tube current settings shall not differ by more than 0.10 times their sum: $[X_1 - X_2]$ 0.10 $(X_1 + X_2)$; where X_1 and X_2 are the average C/kg/mAs (or mR/mAs) values obtained at each of two consecutive tube current settings or at two tube current settings differing by no more than a factor of two where the tube current selection is continuous.

ii. For equipment having selection of x-ray tube current-exposure time product (mAs), the average ratios of exposure to the indicated milliampereseconds product [C/kg/mAs (or mR/mAs)] obtained at any two consecutive mAs selector settings shall not differ by more than 0.10 times their sum: $[X_1 - X_2]$ 0.10 $(X_1 + X_2)$; where X_1 and X_2 are the average C/kg/mAs (or mR/mAs) values obtained at each of two consecutive mAs selector settings or at two mAs settings differing by no more than a factor of two where the mAs selector provides continuous selection.

21. The mechanical support of the tube head and the cone shall maintain the exposure position without movement, unless the diagnostic type protective tube housing movement is a designed function of the x-ray system (for example, as in panoramic units).

§ 7:28-16.4 Multiple dental radiographic tube installations

(a) No person shall use x-ray equipment in a multiple dental radiographic tube installation set-up or cause it to be used unless the following requirements are met:

1. It shall be possible to activate only one dental radiographic tube at any one time.

2. Where two or more radiographic tubes are controlled by one exposure switch, the dental radiographic tube which has been selected shall be clearly indicated prior to initiation of the exposure. For certified units only, there shall be an indicator on both the x-ray control and at or near the dental radiographic tube housing assembly which has been selected.

3. It shall be possible to energize a dental radiographic tube from an exposure switch located at a specific dental radiographic tube's remote station only when that specific dental radiographic tube is selected.

4. It shall be possible to energize a dental radiographic tube from the main control panel exposure switch only when that specific dental radiographic tube is selected.

§ 7:28-16.5 Cephalometric radiographic installations

(a) No person shall use x-ray equipment or cause it to be used to perform cephalometric radiographic procedures unless the following requirements are met:

1. The x-ray field in the plane of the image receptor shall not exceed each dimension of the image receptor by more than two percent of the source-to-image distance, when the axis of the x-ray beam is perpendicular to the plane of the image receptor. In addition, the center of the x-ray field shall be aligned with the center of the image receptor to within two percent of the SID, or there shall be a device provided to both size and align the x-ray field such that the x-ray field at the plane of the image receptor does not extend beyond any edge of the image receptor.

2. The x-ray unit used for cephalometric radiographs shall meet all the requirements of this subchapter with the exception of N.J.A.C. 7:28-16.3(a) 3 and 7:28-16.6.

§ 7:28-16.6 Panoramic radiographic installations

(a) No person shall use any panoramic radiographic unit or cause it to be used unless the following requirements are met:

1. The x-ray field in the plane of the image receptor shall not exceed each dimension of the image receptor by more than two percent of the SID, when the axis of the x-ray beam is perpendicular to the plane of the image receptor. In addition, the center of the x-ray field shall be aligned with the center of the image receptor to within two percent of the SID or there shall be a device provided to both size and align the x-ray field such that the x-ray field at the plane of the image receptor does not extend beyond any edge of the image receptor.

2. These units shall meet all the requirements of this subchapter with the exception of N.J.A.C. 7:28-16.3(a)3 and 7:28-16.5.

§ 7:28-16.7 Structural shielding

(a) No person shall operate or permit the operation of x-ray equipment used in the practice of dentistry unless the following requirements are met:

1. Permanent structural shielding and protective barriers shall be used to ensure that no person other than the patient being x-rayed receives a radiation dose in excess of two milliroentgens in any one hour.

2. When dental x-ray units are installed in adjacent areas of the same room, such units shall not be used simultaneously unless protective barriers are provided and used in the area between the units when necessary to comply with the radiation exposure limits in N.J.A.C. 7:28-6.

§ 7:28-16.8 Radiation safety surveys

(a) No person shall operate or permit the operation of x-ray equipment used for dental radiography unless the installation meets the following requirements:

1. The registrant of a dental ionizing radiation-producing machine shall ensure that a qualified individual performs or supervises the performance of a radiation safety survey of the environs and submits a copy of the radiation safety survey report to the Department within 60 days of the date the machine is acquired. The registrant shall maintain the original survey report for as long as the machine is registered plus one year and shall make the original survey report available for review by the Department during any inspection;

2. The registrant of a dental ionizing radiation-producing machine shall ensure that a qualified individual performs or supervises the performance of a radiation safety survey of the environs when changes have been made to shielding, equipment, or equipment location which affect the radiation levels of the environs. A copy of the survey report shall be submitted to the Department within 60 days of the date of such change. The registrant shall maintain the original survey report for as long as the machine is registered plus one year and shall make the original survey report available for review by the Department during any inspection; and

3. The minimum requirements for the information to be included in the radiation safety survey report are as follows:

i. The name of the registrant of the installation as it appears on form VRH-001, address, telephone number, and room location of the unit;

ii. The New Jersey Registration Number, if available;

iii. The manufacturer, model number, generator serial number, control panel serial number, tube manufacturer, tube serial number, and tube housing number;

iv. The name and address of the qualified individual performing the survey;

v. The date of survey;

vi. The survey instrument manufacturer, model number, and date calibrated;

vii. A diagram or floor plan of the area indicating the x-ray tube location, exposure switch location, normal operator position, lead shielding if present, wall, floor, and ceiling construction, labeling of all areas adjacent to the exposure room including those above and below, and labeling of all areas as to occupancy and use;

viii. Records of the measurement of radiation exposure with a suitable phantom in the average patient position. Measurements shall be taken at the operator's position and at all nearby locations which are normally occupied. For each measurement, the kVp, mA, exposure time, instrument reading, and correction made to the instrument reading (such as energy response, calibration, etc.) shall be recorded; and

ix. Exposure rates at each measured location shall be converted into Coulombs/kilogram/week or mR/week. Records shall include all assumptions of workload, use and occupancy factors used in the calculations.

HISTORY:

Repeal and New Rule, R.1993 d.510, effective October 18, 1993.
See: 25 New Jersey Register 7(a), 25 New Jersey Register 1039(a), 25 New Jersey Register 4770(a).

§ 7:28-16.9 Operating criteria

(a) No person shall operate a dental ionizing radiation-producing machine in such a manner as to expose human beings unless such person is a licensed practitioner or holds a valid license issued by the Department pursuant to N.J.A.C. 7:28-19 and the Radiologic Technologist Act, N.J.S.A. 26:2D-24 through 36.

(b) A person shall operate a dental ionizing radiation-producing machine in a manner consistent with the scope of practice defined on that person's license issued by the Department pursuant to N.J.A.C. 7:28-19.

§ 7:28-16.10 Operating procedures

(a) All persons who operate or permit the operation of dental radiographic equipment shall comply with following operating procedures:

1. No individual other than the patient being x-rayed shall be in the path of the useful beam;

2. During each exposure the operator shall stand at least 1.83 meters (six feet) from the patient or behind a protective barrier;

3. The film shall not be held by the dentist, the operator, or the assistant during any radiographic exposure;

4. The diagnostic type protective tube housing and the cone shall not be hand held during exposures;

5. Fluoroscopy shall not be used in dental examinations; and

6. The registrant shall provide personnel monitoring equipment to and require that it be worn by each individual who enters a controlled area and receives or is likely to receive a dose in excess of 25 millirems in any period of seven consecutive days.

i. Each personnel monitoring device shall be assigned to and worn by only one person.

ii. Records of radiation exposure derived from the personnel monitoring device shall be kept in accordance with the requirements of N.J.A.C. 7:28-8.

iii. The registrant shall keep the personnel monitoring records at the facility. These records shall be kept in accordance with the requirements of N.J.A.C. 7:28-8. These records or true copy of same shall be produced for review by the Department during an inspection, and shall be submitted to the Department upon request.

iv. The personnel monitoring records shall be available to the employees.

SUBCHAPTER 17. INDUSTRIAL AND NONMEDICAL X-RAY RADIOGRAPHY

§ 7:28-17.1 Scope

(a) This subchapter establishes radiation-safety requirements for persons utilizing ionizing radiation-producing machines for industrial and nonmedical radiography.

(b) The requirements of this subchapter are in addition to the requirements of N.J.A.C. 7:28-1 through 7:28-13.

(c) This Subchapter does not apply to radiography in any of the healing arts.

(d) The provisions of N.J.A.C. 7:28-17.4(e), 17.6(c) and 17.6(d)1 do not apply to the use of portable x-ray bomb detection equipment.

HISTORY:

Amended by R.1985 d.502, effective October 7, 1985.
See: 17 N.J.R. 1626(a), 17 N.J.R. 2389(a).
Language change.
Amended by R.2004 d.44, effective January 20, 2004.
See: 35 N.J.R. 2008(a), 36 N.J.R. 445(a).
Added (d).
Amended by R.2008 d.281, effective September 15, 2008 (operative September 30, 2009).
See: 40 N.J.R. 2309(a), 40 N.J.R. 5196(b), 41 N.J.R. 3415(a).
In (a), deleted "sealed sources, radiographic-exposure devices or" following "utilizing".

§ 7:28-17.2 Definitions

The following words and terms, when used in this subchapter, shall have the following meanings, unless the context clearly indicates otherwise:

"Cabinet x-ray system" means an ionizing radiation-producing machine with the x-ray tube installed in an enclosure which, independent of existing architectural structures except the floor on which it may be placed, is intended to contain at least that portion of a material being irradiated, provide radiation attenuation, and exclude personnel from its interior during generation of x-radiation, including but not limited to all x-ray systems designed primarily for the inspection of carry-on baggage at air, railroad, and bus terminals, and similar facilities, and all x-ray systems designed primarily for the inspection of letters, periodicals, and packages in mailrooms. An x-ray tube used within a shielded part of a building or x-ray equipment which may temporarily or occasionally incorporate portable shielding, is not considered a cabinet x-ray system.

"External surface" means the outside surface of the cabinet x-ray system, including the high-voltage generator, doors, access panels, latches, control knobs, and other permanently mounted hardware and including the plane across any aperture or port.

"Industrial radiography" means the examination of the macroscopic structure of materials by nondestructive methods using sources of radiation.

"Portable x-ray bomb detection equipment" means a portable x-ray system used exclusively for examining packages or devices suspected to contain explosive or incendiary materials or weapons of mass destruction.

"Shielded room radiography" means industrial radiography which is conducted in an enclosed room, the interior of which is not occupied during radiographic operations.

"Temporary job site" means any location where industrial radiography is performed other than the location(s) listed in a registration issued by the Department pursuant to N.J.A.C. 7:28-3.

HISTORY:

New Rule, R.1985 d.502, effective October 7, 1985.
See: 17 N.J.R. 1626(a), 17 N.J.R. 2389(a).
"Registration and licensing requirements" recodified to 17.3.
Amended by R.2004 d.44, effective January 20, 2004.
See: 35 N.J.R. 2008(a), 36 N.J.R. 445(a).
Added "Portable x-ray bomb detection equipment".
Amended by R.2008 d.281, effective September 15, 2008 (operative September 30, 2009).
See: 40 N.J.R. 2309(a), 40 N.J.R. 5196(b), 41 N.J.R. 3415(a).
Substituted a colon for the period at the end of the introductory paragraph; and in the definition "Temporary job site", deleted "license or" preceding "registration" and "or 7:28-4" from the end.

§ 7:28-17.3 Registration requirements

All owners of ionizing radiation-producing machines shall comply with N.J.A.C. 7:28-3.

HISTORY:

Amended by R.1985 d.502, effective October 7, 1985.
See: 17 N.J.R. 1626(a), 17 N.J.R. 2389(a).
Recodified from 17.2; "Equipment control" recodified to 17.4.
Amended by R.2008 d.281, effective September 15, 2008 (operative September 30, 2009).
See: 40 N.J.R. 2309(a), 40 N.J.R. 5196(b), 41 N.J.R. 3415(a).
Section was "Registration and licensing requirements". Deleted designation (a);and deleted (b).

§ 7:28-17.4 Equipment control

(a) (Reserved.)

(b) Each radiation-producing machine shall be provided with a lock designed to prevent unauthorized use of the equipment.

(c) All ionizing radiation-producing machines shall be kept locked at all times except when under the direct surveillance of a radiographer or of a radiographer's assistant or as provided in N.J.A.C. 7:28-17.6(a).

(d) (Reserved.)

(e) The owner shall maintain calibrated and operable radiation-survey instruments to make radiation surveys as required by N.J.A.C. 7:28-17.6(d) and by N.J.A.C. 7:28-7. The requirements for the radiation-survey instruments are as follows:

1. Each radiation-survey instrument shall be calibrated at intervals not to exceed three months and the instrument shall be recalibrated after each servicing involving other than battery replacement. An operational check source test shall be performed on each radiation-survey instrument prior to its use.

2. Records shall be maintained of each date of calibration and the operational check source test results.

3. The instrumentation shall have a range such that two milliroentgens per hour through one roentgen per hour can be measured to a precision of plus or minus 20 per cent.

(f)-(j) (Reserved)

(k) Each owner shall maintain current logs, which shall be kept available for inspection by the Department at the address specified in the registration, showing for each radiation source the following information.

1. A description, or make and model number of the ionizing radiation-producing machine;

2. The identity of the radiographer to whom assigned; and

3. The plant or site where used and dates of use.

(l) Each owner conducting industrial radiography at a temporary job site shall make the following records available at the site for inspection by the Department:

1. (Reserved.)

2. A copy of the owner's current registration of a ionizing radiation-producing machine issued by the Department pursuant to N.J.A.C. 7:28-3;

3. (Reserved.)

4. A copy of the owner's operating and emergency procedures prepared pursuant to N.J.A.C. 7:28-17.5(d);

5. A copy of N.J.A.C. 7:28;

6. Survey records required pursuant to N.J.A.C. 7:28-17.6(d) for the period of the operation at the site;

7. Daily pocket dosimeter records for the period of operation at the site required to be made pursuant to N.J.A.C. 7:28-17.5; and

8. A copy of the latest instrument calibration and the original log of daily instrument operational check source test results for the specific devices in use at the site required to be made pursuant to (e)1 and 2 above.

HISTORY:

Amended by R.1985 d.502, effective October 7, 1985.
See: 17 N.J.R. 1626(a), 17 N.J.R. 2389(a).
Recodified from 17.3 with substantive changes.
Amended by R.2004 d.44, effective January 20, 2004.
See: 35 N.J.R. 2008(a), 36 N.J.R. 445(a).
Amended the N.J.A.C. references throughout.
Amended by R.2008 d.281, effective September 15, 2008 (operative September 30, 2009).
See: 40 N.J.R. 2309(a), 40 N.J.R. 5196(b), 41 N.J.R. 3415(a).

Reserved (a), (d) and (f) through (j); in (c), deleted the former first sentence and ", radiographic-exposure devices and storage containers" following "machines"; in the introductory paragraph of (k), substituted "registration" for "license", in (k)1, deleted ", or of the radiographic-exposure device or storage container in which the sealed source is located" from the end; reserved (*l*)1 and (*l*)3; in (*l*)2, deleted "radioactive materials or" preceding "ionizing"; in (*l*)7, inserted "and" at the end; in (*l*)8, deleted "; and" from the end; and deleted (*l*)9.

§ 7:28-17.5 Personal radiation safety requirements for radiographers

(a) The owner shall not permit any person to act as a radiographer until such person:

1. Has been instructed by a qualified individual in the subjects outlined in (b) below and has demonstrated an understanding of those subjects by passing a written examination given by a qualified individual;

2. Has received copies of and instruction in the applicable sections of this Chapter and the owner's operating and emergency procedures required pursuant to (d) below, and demonstrated an understanding of this Chapter and the procedures specified therein; and

3. Has demonstrated competence to use the ionizing radiation-producing machines and survey instruments which will be employed in his or her assignment.

(b) The outline of the course for radiographer's training is as follows:

1. Fundamentals of radiation safety:

i. Characteristics of gamma and x-radiation;

ii. Units of radiation dose and quantity of radioactivity;

iii. Hazards of excessive exposure to radiation;

iv. Levels of radiation from ionizing radiation-producing machines;

v. Methods of controlling radiation dose:

(1) Working time;

(2) Working distances;

(3) Shielding.

2. Radiation detection instrumentation to be used:

i. Use of ionizing radiation survey instruments:

(1) Operation;

(2) Calibration;

(3) Limitations.

ii. Survey techniques;

iii. Use of personnel-monitoring equipment:

(1) Film badges;

(2) Pocket dosimeters;

(3) Pocket chambers;

3. Radiographic equipment to be used:

i. Ionizing radiation-producing machines;

ii. (Reserved)

iii. Storage containers;

iv. Remote handling equipment.

4. The requirements of pertinent Federal and State regulations;

5. The owner's written operating and emergency procedures.

(c) The owner shall not permit any person to act as a radiographer's assistant until such person:

1. Has received copies of and instruction in the owner's operating and emergency procedures, required pursuant to (d) below, and has demonstrated an understanding of the procedures; and

2. Has demonstrated competence to use under the personal supervision of the radiographer the ionizing radiation-producing machines and radiation-survey instruments which will be employed in his or her assignment; and

3. Has been instructed by a qualified individual in the subjects outlined in (b) above, and has demonstrated an understanding of those subjects by written examination given by a qualified individual.

(d) The owner shall prepare written operating and emergency procedures which shall include instructions in at least the following:

1. The handling and the use of ionizing radiation-producing machines to be employed such that no person is likely to be exposed to radiation doses in excess of the limits established in N.J.A.C. 7:28-6;

2. Methods and occasions for conducting radiation surveys;

3. Methods for controlling access to radiographic areas;

4. Methods and occasions for locking and securing ionizing radiation-producing machines;

5. Personnel monitoring and the use of personnel-monitoring equipment;

6. (Reserved.)

7. Minimizing exposure of persons in the event of an accident;

8. The procedure for notifying proper persons in the event of an accident; and

9. Maintenance of records.

(e) The owner shall not permit any person to act as a radiographer or as a radiographer's assistant unless the owner has supplied to each such person and requires that each such person shall wear a film badge and either a pocket dosimeter or pocket chamber. The requirement for use of film badges, pocket dosimeters, and pocket chambers are as follows:

1. Pocket dosimeters and pocket chambers shall be capable of measuring doses from zero to at least 200 milliroentgens.

2. Pocket dosimeters and pocket chambers shall be read and doses recorded daily.

3. A film badge will be assigned to and worn by only one person.

4. A film badge shall be immediately processed if a pocket chamber or pocket dosimeter is discharged beyond its range.

5. The film badge reports received from the film badge processor and records of pocket dosimeter and pocket chamber readings shall be maintained for inspection by the Department.

HISTORY:

Amended by R.1985 d.502, effective October 7, 1985.
See: 17 N.J.R. 1626(a), 17 N.J.R. 2389(a).
Recodified from 17.4 with substantive changes.
Amended by R.2008 d.281, effective September 15, 2008 (operative September 30, 2009).
See: 40 N.J.R. 2309(a), 40 N.J.R. 5196(b), 41 N.J.R. 3415(a).
In (a)3 and (c)2, deleted ", radiographic-exposure devices, sealed sources, related handling tools" following "machines" and inserted "or her"; in (b)1iv, deleted "and radioactive materials" from the end; reserved (b)3ii; in (d)1, substituted "ionizing" for "ionzing"; in (d)4, deleted ", radiographic-exposure devices, storage containers and sealed sources" from the end; and reserved (d)6.

§ 7:28-17.6 Precautionary procedures in radiographic operations

(a) During each radiographic operation the radiographer or radiographer's assistant shall maintain a direct surveillance of the operation to protect against unauthorized entry into a high radiation area, except as follows:

1. Where the high radiation area is equipped with a control device which shall either cause the level of radiation to be reduced below that at which an individual might receive a dose of 100 millirems in one hour upon entry into the area, or shall energize a conspicuous visible and audible alarm signal in such a manner that the individual entering and the owner or the supervisor of the activity are made aware of the entry; or

2. Where the high radiation area is locked to protect against unauthorized or accidental entry.

(b) Notwithstanding any provisions in N.J.A.C. 7:28-10.8, areas in which radiography is being performed shall be conspicuously posted as required by N.J.A.C. 7:28-10.2 and 7:28-10.3.

(c) No radiographic operation shall be conducted unless calibrated and operable ionizing radiation-survey instrumentation as described in N.J.A.C. 7:28-17.4(e) is available and used at each site where radiographic exposures are made.

(d) In addition to the requirements of N.J.A.C. 7:28-7, no radiographic operation shall be conducted unless the owner ensures that radiation surveys are made and recorded as follows:

1. Physical radiation surveys shall be made as necessary during radiographic exposures to determine compliance with N.J.A.C. 7:28-6.

2. (Reserved.)

3. (Reserved.)

4. Clear and legible records shall be kept of the surveys that are required by (d)1 above and maintained for inspection by the Department.

HISTORY:

Amended by R.1985 d.502, effective October 7, 1985.
See: 17 N.J.R. 1626(a), 17 N.J.R. 2389(a).
Recodified from 17.5 with substantive changes.
Amended by R.2004 d.44, effective January 20, 2004.
See: 35 N.J.R. 2008(a), 36 N.J.R. 445(a).
Inserted new (d).
Amended by R.2008 d.281, effective September 15, 2008 (operative September 30, 2009).
See: 40 N.J.R. 2309(a), 40 N.J.R. 5196(b), 41 N.J.R. 3415(a).
Reserved (d)2 and (d)3; and in (d)4, deleted "and 3" following "(d)1".

§ 7:28-17.7. Cabinet x-rays systems

(a) No person shall operate or permit the operation of a cabinet x-ray system unless such system meets the requirement of N.J.A.C. 7:28-17.1, 7:28-17.2, 7:28-17.3, and 7:28-17.7.

(b) No person shall operate or permit any other person to operate a cabinet x-ray system until the operator has received a copy of the operator's manual, has been trained in the operating procedures for the system, and has demonstrated competence in operating the system. The owner shall maintain a copy of the operator's manual in the proximity of the system.

(c) Each owner shall supply appropriate personnel monitoring equipment to and shall require that it be used by every individual who operates, makes "set-ups", or performs maintenance on a cabinet radiography unit.

(d) Radiation emitted from the cabinet x-ray system shall not exceed an exposure of 0.5 milliroentgen in one hour at any point five centimeters outside the external surface.

(e) No cabinet x-ray system shall be placed into operation until a radiation survey is made by a qualified individual demonstrating that the exposure level in (d) above is not exceeded. Where an operating system is subsequently modified, repaired or moved to a new location, an additional survey shall be performed and operation shall not resume until a survey demonstrates compliance with this limit. The owner shall perform such additional surveys as required by the Department or as determined by a qualified individual. The owner shall maintain a record of all surveys performed and shall make such records available to the Department for inspection.

(f) Safety interlocks shall be provided on cabinet x-ray systems as follows:

1. Each door of a cabinet x-ray system shall have a minimum of two safety interlocks installed in such a manner that the opening of any door would disconnect the energy supply circuit to the high-voltage generator.

2. Each access panel on a cabinet x-ray system shall have at least one safety interlock.

3. Following interruption of x-ray generation by the functioning of any safety interlock, a manually reset control button shall be activated before x-ray generation can resume.

4. Failure of any single component of the cabinet x-ray system shall not cause failure of more than one required safety interlock.

5. Safety interlocks shall be tested for operation at intervals not to exceed six months. A record of these tests shall be maintained for inspection by the Department.

(g) A cabinet x-ray system shall have a permanent floor. Any support surface to which a cabinet x-ray system is permanently affixed may be deemed the floor of the system.

(h) Warning labels shall be provided on cabinet x-ray systems and shall meet the following requirements:

1. There shall be permanently affixed or inscribed on the cabinet x-ray system at the location of any controls which can be used to initiate x-ray generation a clearly legible and visible label bearing the statement or words having a similar meaning: "CAUTION: X-RAYS PRODUCED WHEN ENERGIZED"; and

2. There shall be permanently affixed or inscribed on the cabinet x-ray system adjacent to each port a clearly legible and visible label bearing the statement or words having a similar meaning: "CAUTION: DO NOT INSERT ANY PART OF THE BODY WHEN SYSTEM IS ENERGIZED: X-RAY HAZARD".

(i) All cabinet x-ray systems shall be provided with the following controls and indicators:

1. A key-actuated control to insure that x-ray generation is not possible with the key removed;

2. A control button or control switch to initiate and terminate the generation of x-rays other than by the functioning of a safety interlock or the main power control;

3. A warning light at the control button or control switch that indicates when and only when x-rays are being generated. This light shall be clearly labeled with the words: "X-RAY ON";

4. A warning light which indicates when and only when x-rays are being generated. This warning light shall be visible from each door, access panel, and port and shall be clearly labeled with words: "X-RAY ON".

5. A meter which indicates the kilovoltage and current during the generation of x-rays at each x-ray control button or control switch unless the x-ray tube current is preset.

(j) Cabinet x-ray systems designed primarily for the inspection of carry-on baggage at airline, railroad, and bus terminals, and similar facilities, shall be provided with means to insure that an operator is present at the control area in a position which permits surveillance of the ports and doors during the generation of x-radiation as follows:

1. During an exposure or preset succession of exposures of one-half second or greater duration, the system shall contain a mechanism to enable the operator to terminate the exposure or preset succession of exposures at any time.

2. During an exposure or preset succession of exposures of less than one-half second duration, there shall be a mechanism provided to allow completion of the exposure in progress but shall enable the operator to prevent additional exposures.

HISTORY:

New Rule, R.1985 d.502, effective October 7, 1985.
See: 17 New Jersey Register 1626(a), 17 New Jersey Register 2389(a).
Amended by R.2005 d.239, effective July 18, 2005.
See: 37 New Jersey Register 8(a), 37 New Jersey Register 2675(b).

§ 7:28-17.8 Shielded room radiography

(a) No person shall operate or permit the operation of any ionizing radiation-producing machine used in shielded room radiography unless the equipment, installation, and personnel meet the requirements of N.J.A.C. 7:28-17.1 through 17.6 and this section.

(b) No person shall operate or permit any person to operate an ionizing radiation-producing machine used in shielded room radiography until such operator has completed the following requirements:

1. The operator has met the requirements of N.J.A.C. 7:28-17.5;

2. The operator has received a copy of and instruction in N.J.A.C. 7:28-1 through 7:28-13 and 7:28-17 and a copy of the owner's operating and emergency procedures as required by N.J.A.C. 7:28-17.5(d) and has demonstrated an understanding of the procedures and regulations by written examination given by a qualified individual; and

3. The operator has demonstrated competence to operate appropriate safety systems.

(c) Each owner shall supply appropriate personnel monitoring equipment and shall require that it be used by every individual who operates, makes "set-ups," or performs maintenance on an ionizing radiation-producing machine used in shielded room radiography.

(d) The enclosed room in which shielded room radiography is conducted shall be shielded so that no location on the exterior exceeds the radiation levels and limits established in N.J.A.C. 7:28-6. No industrial radiography shall be conducted in a shielded room until a radiation survey is first made to insure compliance with these radiation levels and limits. A record of this survey shall be maintained and a copy shall be available for inspection by the Department.

(e) No person shall enter an enclosed room in which shielded room radiography is performed until after a physical radiation survey is conducted to determine whether the ionizing radiation producing machine is off. A record shall be maintained of the date and exposure rate measured for each physical radiation survey and shall be made available for inspection by the Department.

(f) The radiation surveys required in (d) and (e) above shall be made with a radiation survey instrument measuring radiation at the energies and at the exposure rates to be encountered. This instrument shall have an operational check source test conducted prior to each use and shall be calibrated at intervals not to exceed one year and shall be recalibrated after each servicing other than a battery replacement. Records shall be maintained of each date of calibration and the daily operational check and shall be made available for inspection by the Department.

(g) Adequate methods shall be provided to restrict the access of personnel and the public to any and all shielded room radiography areas to prevent the exposure of any person to radiation in excess of the level limits of N.J.A.C. 7:28-5, 7:28-6 and 7:28-17. No person is permitted to remain within the enclosed room where shielded room radiography is being performed.

(h) All ionizing radiation-producing machines used in shielded room radiography and all objects exposed thereto shall be confined within an installation or structure designed or intended for radiography and in which radiography is regularly performed in accordance with the following requirements:

1. A reliable interlock or other mechanism shall be installed at each means of access to the shielded room which will turn off the source(s) of radiation if a person tries to enter or open the door to the shielded room.

2. A door-fastening mechanism shall be installed so that the door to the shielded room can be opened from the inside at all times in case of emergency.

3. A visible and audible signal alarm system shall be installed within the shielded room which will be actuated at a reasonable length of time before the power to the radiation source can be activated which enables persons in the vicinity of the shielded room to take appropriate protective actions.

4. One or more scram or emergency buttons shall be installed at a highly visible and easily accessible location or locations within the shielded room that will terminate the power to the source of radiation. This scram or emergency button shall be installed so that it shall require manual resetting before the power to the source of radiation can be reactivated.

5. Each source of radiation used in shielded room radiography shall be provided with a lock at the control panel to prevent unauthorized use of the source.

6. If more than one source of radiation is used in the same shielded room, all such sources of radiation shall meet the requirements of 1-5 above.

HISTORY:

New Rule, R.1985 d.502, effective October 7, 1985.
See: 17 N.J.R. 1626(a), 17 N.J.R. 2389(a).
Amended by R.2008 d.281, effective September 15, 2008 (operative September 30, 2009).
See: 40 N.J.R. 2309(a), 40 N.J.R. 5196(b), 41 N.J.R. 3415(a).
In (a), in the introductory paragraph of (b) and in (c), deleted ", radiographic-exposure device, or sealed source" following "machine"; in (a), deleted "7:28-" preceding "17.6" and substituted "this section" for "7:28-17.8; in (e), deleted "or the radiographic-exposure device or the sealed source is in the shielded or "off" position"; and in (h), deleted ", radiographic-exposure devices, or sealed sources".

SUBCHAPTER 18. MAJOR NUCLEAR FACILITIES

§ 7:28-18.1 Scope

(a) The special requirements of this Subchapter shall apply to major nuclear facilities including nuclear reactors, nuclear fuel fabrication plants, nuclear fuel reprocessing plants, and nuclear waste handling or disposal facilities.

(b) These requirements are in addition to the requirements of other applicable Sections of this Chapter.

(c) The intent of this subchapter is to insure that individuals outside of these facilities receive no radiation exposures from environmental or direct radiation that are in excess of the limits of N.J.A.C. 7:28-6, Standards for Protection against Radiation.

HISTORY:

Amended by R.2008 d.281, effective September 15, 2008 (operative September 30, 2009).
See: 40 N.J.R. 2309(a), 40 N.J.R. 5196(b), 41 N.J.R. 3415(a).
In (c), substituted "section" for "Section" and "N.J.A.C. 7:28-6" for "Sections 6.1 (Exposure of individuals in controlled areas) and 6.2 (Radiation levels outside controlled areas) of this Chapter".
Amended by R.2014 d.083, effective May 5, 2014.
See: 45 N.J.R. 806(a), 46 N.J.R. 768(a).
In (c), substituted "subchapter" for "section", and inserted ", Standards for Protection against Radiation".

§ 7:28-18.2 Facility description and required monitoring program

(a) Any person desiring to construct a major nuclear facility within this State shall submit a general description of the proposed facility with a discussion of probable and maximum potential radioactive discharges. This description shall be submitted to the Department for evaluation, as early as possible, but not less than six months prior to the start of construction, and shall include the following:

1. A general description of the proposed facility;

2. The nature of and the proposed rates of discharge of radioactive contaminants to the environment and/or the nature of and amounts of radioactive materials subject to temporary or permanent storage;

3. The proposed methods of limiting the discharge of radioactive contaminants to the atmosphere;

4. The proposed methods of limiting the discharge of radioactive contaminants to ground or surface waters;

5. The proposed methods of disposal of radioactive or radioactively contaminated materials; and

6. Preliminary description of the proposed radiological monitoring program.

(b) As used in this section, the term "construction" includes pouring the foundation for, or the installation of, any portion of the permanent facility on the site, but does not include the following:

1. Site exploration, site excavation, preparation of the site for construction of the facility, including the driving of piles, and construction of roadways, railroad spurs, and transmission lines;

2. Procurement or manufacture of components of the facility; or

3. Construction of non-nuclear facilities (such as construction equipment storage sheds) for use in connection with the construction of the facility.

(c) Any person desiring to operate a major nuclear facility within this State shall develop an adequate program of radiological monitoring consistent with the hazard from actual or potential discharges. The proposed program shall be submitted to the Department for evaluation as to its adequacy as early as possible but at least six months prior to the start of operation. The proposed radiological monitoring program shall include revised statements of the information required in (a) and (b) above, and it shall also include:

1. An analysis of the ability of the in-facility effluent monitoring system to measure the quantities and kinds of radioactive materials discharged under normal and under accident conditions;

2. An analysis of the ability to predict the effect of such releases on environmental contamination and radiation levels; and

3. A description of the off-site environmental monitoring system, if any, with the kinds of instruments, their sensitivity, and use.

§ 7:28-18.3 Operation

(a) The owner of an existing major nuclear facility shall submit the information required in N.J.A.C. 7:28-18.2(c) (Facility description and required monitoring program) within one month of March 1, 1969, if he has not already done the effective equivalent of this.

(b) Operation of a major nuclear facility and its monitoring program shall be consistent with all provisions of this Chapter.

§ 7:28-18.4 Emergency plans

The owner of every major nuclear facility shall make emergency operational plans in accordance with N.J.A.C. 7:28-1.5 (Emergency precautions). These plans shall be submitted to the Department prior to the start of operation.

§ 7:28-18.5 Radiation incidents

The owner of every major nuclear facility shall report any radiation incident in accordance with N.J.A.C. 7:28-13 (Reports of Theft and Radiation Incidents).

SUBCHAPTER 19. RADIOLOGIC TECHNOLOGIST AND RADIOLOGIST ASSISTANT

§ 7:28-19.1 Purpose, scope, and applicability

(a) The purpose of this subchapter is to prohibit unnecessary ionizing radiation exposure and to prevent improper exposure of humans to ionizing radiation from radiologic technology, as set forth in the Radiologic Technologist Act.

(b) This subchapter:

1. Requires that all ionizing radiation-producing equipment be used in such a manner as to prevent unnecessary ionizing radiation exposure to humans;

2. Establishes educational and licensure requirements and delineates the scope of practice for persons engaged in the practice of radiologic technology;

3. Establishes responsibilities of licensed practitioners as related to radiologic technology, as well as owners and registrants of ionizing radiation-producing equipment used on humans;

4. Establishes standards for the approval and operation of schools of radiologic technology;

5. Establishes the educational and licensure requirements of radiologist assistant and defines the practice of a radiologist assistant as it pertains to fluoroscopic procedures as authorized by the New Jersey State Board of Medical Examiners; and

6. Establishes the standards for the recognition of a radiologist assistant school.

(c) The following persons are not required to possess a radiologic technology license under this subchapter in order to perform the activities of a radiologic technologist, but are otherwise subject to the requirements of this subchapter unless specifically exempted:

1. A licensed practitioner as defined in N.J.A.C. 7:28-19.2, provided that the licensed practitioner is practicing within the scope of his or her license;

2. A dental hygienist registered by the New Jersey State Board of Dentistry, provided that the hygienist is practicing within the scope of his or her registration;

3. A person enrolled in and attending a school or college of medicine, osteopathy, podiatric medicine, chiropractic, dentistry or dental hygiene, who is acting within the school's curriculum, when the person is performing tasks within the scope of practice of a radiologic technologist and is under the direct supervision of either a licensed practitioner or a licensed radiologic technologist; and

4. A person who is:

i. Enrolled in and attending a Board-approved school of radiologic technology;

ii. Acting within the school's curriculum as approved in accordance with this subchapter and with the school's permission;

iii. Identified on the student list filed by the school with the Department;

iv. Acting in a clinical education center approved by the Board; and

v. Acting under the appropriate level of supervision as required by N.J.A.C. 7:28-19.12(b) and (c).

(d) The following persons are not required to possess a radiologist assistant license under this subchapter in order to perform the activities of a radiologist assistant, but are otherwise subject to the requirements of this subchapter, unless specifically exempted:

1. Students enrolled in a Board-recognized radiologist assistant school in accordance with N.J.A.C. 7:28-19.17 ;

2. A licensed practitioner as defined at N.J.A.C. 7:28-19.2, provided that the licensed practitioner is practicing within the scope of his or her license; and

3. A person enrolled in, and attending, a school or college of medicine or osteopathy, who is acting within the school's curriculum, when the person is performing tasks within the scope of practice of a radiologist assistant and is under the direct supervision of a licensed practitioner who is practicing within the scope of his or her license.

(e) This subchapter does not apply to the use of ionizing radiation in veterinary medicine or in radiological examinations of deceased humans.

(f) This subchapter does not establish educational and licensure requirements for nuclear medicine technologists, which are set forth at N.J.A.C. 7:28-24.

(g) This subchapter does not apply to the use of ionizing radiation-producing equipment, identified at N.J.A.C. 7:28-17, 20 and 21.

HISTORY:

Amended by R.2020 d.061, effective June 15, 2020.
See: 51 N.J.R. 1731(a), 52 N.J.R. 1267(a).
Section was "Purpose, scope and applicability". In (b)4, deleted "and" from the end; rewrote (b)5; added (b)6; added new (d); and recodified former (d) through (f) as (e) through (g).

§ 7:28-19.2 Definitions

In addition to the terms defined at N.J.A.C. 7:28-1 and N.J.S.A. 26:2D-1 et seq., the following words and terms, when used in this subchapter, shall have the following meanings, unless the context clearly indicates otherwise.

"Board" means the Radiologic Technology Board of Examiners created pursuant to N.J.S.A. 26:2D-24 et seq.

"Board of Medical Examiners" or "BME" means the State Board of Medical Examiners created pursuant to N.J.S.A. 45:9-1 et seq.

"Chest radiologic technologist (LRT(C))" means a person licensed in accordance with N.J.A.C. 7:28-19.7 whose scope of practice of radiologic technology is limited to the chest area for diagnostic purposes, as set forth at N.J.A.C. 7:28-19.4(a) and (d).

"Clinical education center" means a medical or dental facility (such as an office, hospital, or imaging center) where students engage in the practice of radiologic technology or practice as radiologist assistants for clinical education purposes.

"Commission" means the Commission on Radiation Protection as established by the Radiation Protection Act, N.J.S.A. 26:2D-1 et seq.

"Commissioner" means the Commissioner of the New Jersey Department of Environmental Protection.

"Crime" means any crime as defined by the New Jersey Code of Criminal Justice (N.J.S.A. 2C:1-4(a)) or the equivalent under Federal law or the laws of any state.

"Delegated fluoroscopic procedures" are those procedures that have been authorized by the Board of Medical Examiners for the radiologist assistant to perform under the level of radiologist supervision specified by the BME.

"Dental radiologic technologist (LRT(D))" means a person licensed in accordance with N.J.A.C. 7:28-19.7 whose scope of practice of radiologic technology is limited to dental radiography for diagnostic purposes, as set forth at N.J.A.C. 7:28-19.4(a) and (e).

"Department" means the New Jersey Department of Environmental Protection.

"Diagnostic radiologic technologist (LRT(R))" means a person licensed in accordance with N.J.A.C. 7:28-19.7 whose scope of practice of radiologic technology includes all types of radiographic procedures for diagnostic purposes, as set forth at N.J.A.C. 7:28-19.4(a) and (b).

"Direct supervision" means being present in the room with the student to observe and supervise the radiological examination.

"Engage" means to perform or assist in the performance of an activity.

"Indirect supervision" means being immediately available in the room or adjacent to the room where the student is performing the radiographic procedure.

"Ionizing radiation" means any form of radiation that has the capability of ionizing the medium through which it is passes.

"Ionizing radiation-producing equipment" means a machine or device that produces ionizing radiation.

"JRCERT" means Joint Review Committee in Education for Radiologic Technology.

"License" means a written authorization applied for in accordance with this subchapter and issued by the Board authorizing the licensee to engage in a specific scope of practice of radiologic technology or radiologist assistant as set forth at N.J.A.C. 7:28-19.4.

"Licensed practitioner" means a person licensed by the State of New Jersey to practice medicine, dentistry, podiatric medicine, osteopathy or chiropractic. Licensed practitioners do not include dental hygienists, nurses, nurse practitioners, physician assistants or radiologist assistants.

"Limited license" means a license with a scope of practice that is limited pursuant to N.J.A.C. 7:28-19.4.

"Operate ionizing radiation-producing equipment" or "operating ionizing radiation-producing equipment" means the use or manipulation of ionizing radiation-producing equipment in any way that leads to or causes the application of radiation to humans or affects the amount or quality of radiation that is received by a human. The term "operate" or "operating" includes activating or terminating the radiation exposure, setting or adjusting technical factors, setting the mode of imaging, setting the camera rate, and setting or adjusting the size of the exposure field.

"Orthopedic radiologic technologist (LRT(O))" means a person licensed in accordance with N.J.A.C. 7:28-19.7 whose scope of practice of radiologic technology is limited to the spine and extremities for diagnostic purposes, as set forth at N.J.A.C. 7:28-19.4(a) and (f).

"Podiatric radiologic technologist (LRT(P))" means a person licensed in accordance with N.J.A.C. 7:28-19.7 whose scope of practice of radiologic technology is limited to the operation of x-ray machines on the foot, ankle and the distal third of the lower leg for diagnostic purposes, as set forth at N.J.A.C. 7:28-19.4(a) and (g).

"Position patients" or "positioning patients" means the movement or placement of the x-ray tube, patient, or image receptor (to include cassette, film, digital detector, image intensifier) to achieve a radiographic or fluoroscopic image of human anatomy. For radiation therapy treatment procedures, "position patients" or "positioning patients" means the movement or placement of the ionizing radiation source or the patient to deliver the prescribed radiation treatment.

"Probationary approval" means a reduction in approval status awarded by the Board to an existing school of radiologic technology that is not in full compliance with the requirements of this subchapter and N.J.S.A. 26:2D-24 et seq.

"Provisional approval" means approval awarded by the Board to a new school of radiologic technology which, upon review of the application, is found to not be in full compliance with the requirements of this subchapter and N.J.S.A. 26:2D-24 et seq., but has submitted a plan for future compliance acceptable to the Board.

"Radiation Protection Act" means N.J.S.A. 26:2D-1 et seq., as supplemented or amended.

"Radiation Technologist Act" means N.J.S.A. 26:2D-24 et seq., as supplemented or amended.

"Radiation therapist (LRT(T))" means a person licensed in accordance with N.J.A.C. 7:28-19.7 whose scope of practice of radiologic technology is limited to the use of ionizing radiation-producing equipment for therapy simulation and therapeutic purposes, as set forth at N.J.A.C. 7:28-19.4(a) and (c).

"Radiologic technologist" means a person who is licensed pursuant to this subchapter, which shall include chest radiologic technologist (LRT(C)), dental radiologic technologist (LRT(D)), diagnostic radiologic technologist (LRT(R)), radiation therapist (LRT(T)), podiatric radiologic technologist (LRT(P)), orthopedic radiologic technologist (LRT(O)), and urologic radiologic technologist (LRT(U)).

"Radiologic technology" means the application of ionizing radiation to humans for diagnostic, therapy simulation, or therapeutic purposes.

"Radiological examination" means a procedure that uses ionizing radiation on humans for diagnostic, therapy simulation, or therapeutic purposes.

"Radiologist" means a physician who is licensed by the New Jersey Board of Medical Examiners and is either board-certified by the American Board of Radiology or the American Osteopathic Board of Radiology or another national radiologic certifying body approved by the Board.

"Radiologist assistant (LRT(RA))" means a person who is licensed in accordance with N.J.A.C. 7:28-19.16 and who provides primary advanced-level radiologic care as set forth at N.J.A.C. 7:28-19.4(a) and (i).

"Student" means any person who is currently enrolled in, and attending, a school of radiologic technology approved by the Board or a radiologist assistant school recognized by the Board.

"Unnecessary ionizing radiation" means ionizing radiation that does not confer a diagnostic or therapeutic benefit or is excessive to achieve the medical or dental purpose.

"Urologic radiologic technologist (LRT(U))" means a person licensed in accordance with N.J.A.C. 7:28-19.7 whose scope of practice of radiologic technology is limited to the abdomen and pelvic area for urologic diagnostic purposes, as set forth at N.J.A.C. 7:28-19.4(a) and (h).

HISTORY:

Amended by R.2014 d.083, effective May 5, 2014.
See: 45 N.J.R. 806(a), 46 N.J.R. 768(a).
Rewrote definition " 'Position patients' or 'positioning patients' "; and in definition "Temporary license", updated the N.J.A.C. reference.
Amended by R.2020 d.061, effective June 15, 2020.
See: 51 N.J.R. 1731(a), 52 N.J.R. 1267(a).
Substituted " N.J.A.C. 7:28-19.7 " for "this subchapter" throughout the section; added definition " 'Board of Medical Examiners' or 'BME' "; substituted definition "Radiologist assistant (LRT(RA))" for "Radiologist assistant"; in definition "Clinical education", inserted a comma following "hospital" and inserted "or practice as radiologist assistants"; rewrote definitions "Delegated fluoroscopic procedures" and "Radiology"; in definition "License", inserted "or radiologist assistant"; in definition "Student", inserted a comma following "in" and "attending", and inserted "or a radiologist assistant school recognized by the Board"; and deleted definition "Temporary license".

§ 7:28-19.3 General provisions

(a) Except as provided at N.J.A.C. 7:28-19.1(c) through (g):

1. No person shall engage in any activity within a scope of practice of radiologic technology as defined at N.J.A.C. 7:28-19.4, unless that person possesses a valid license authorizing the person to engage in that scope of radiologic technology;

2. No person shall operate ionizing radiation-producing equipment or position patients for mammographic procedures, unless that person possesses a valid license in diagnostic radiologic technology and is in compliance with the radiologic technologist personnel requirements of the Mammography Quality Standards Act (42 U.S.C. § 263b) and 21 CFR Part 900, incorporated herein by reference, as supplemented or amended; and

3. No person shall engage in any activity within the scope of practice of a radiologist assistant as defined at N.J.A.C. 7:28-19.4, unless that person possesses a valid license as a radiologist assistant, a valid license in diagnostic radiologic technology, and an active radiologist assistant certification from the American Registry of Radiologic Technologists or another national certification body approved by the Board.

(b) No person shall operate ionizing radiation-producing equipment or cause, allow or permit the use of such equipment in such a manner as to expose humans to ionizing radiation, except as provided in this subchapter.

(c) No owner, licensed practitioner, or registrant of ionizing radiation-producing equipment shall cause, allow, or permit any person to engage in any activity within a scope of practice of radiologic technology or radiologic assistant as defined at N.J.A.C. 7:28-19.4, unless:

1. That person possesses a valid license authorizing the person to engage in that scope of radiologic technology or radiologist assistant; and

2. If the person is a radiologist assistant, the person possesses a valid license as a diagnostic radiologic technologist and an active radiologist assistant certification from the American Registry of Radiologic Technologists or another national certification body approved by the Board.

(d) No person shall cause, allow, or permit a radiologic technologist or radiologist assistant to be in the primary beam, unless it is deemed essential for the specific examination by the licensed practitioner and the radiologic technologist or radiologist assistant is wearing protective garments over all body areas in the primary beam as required by N.J.A.C. 7:28-15.9.

(e) No owner, licensed practitioner, or registrant of ionizing radiation-producing equipment shall cause, allow, or permit any person to perform mammographic procedures unless that person complies with the requirements of this subchapter.

(f) No school of radiologic technology subject to this subchapter shall enroll students unless the school is approved by the Board.

(g) No school subject to this subchapter shall hold itself out to be an approved school of radiologic technology or claim in any way that completion of the school's curriculum will enable students to be eligible for New Jersey examination and/or New Jersey licensure, unless the school is approved by the Board.

(h) No person shall use or permit the use of ionizing radiation-producing equipment in such a manner as to expose humans to unnecessary ionizing radiation.

(i) A radiologic technologist or radiologist assistant shall carry his or her current radiologic technology or radiologist assistant license on his or her person at work and display his or her license, upon request of the Department, employer, or any patient.

(j) A radiologic technologist or radiologist assistant shall notify the Department of any conviction of a crime under Federal law or the law of any state within 30 calendar days of such conviction.

(k) Any conviction of a crime committed while not engaged in the practice of radiologic technology or radiologist assistant does not, in itself, constitute a lack of good moral character for the purposes of N.J.A.C. 7:28-19.6(a) 2, 19.9(e), 19.11(a)1, and 19.16(a)1.

(l) No person or organization shall provide training in the operation of ionizing radiation-producing equipment or patient positioning to persons other than those authorized to use such equipment as specified in this subchapter.

(m) No person licensed pursuant to this subchapter shall use ionizing radiation-producing equipment on humans for any purpose other than for medical diagnosis, dental diagnosis, therapy simulation, therapy or monitoring of dental treatment. All such use must be at the direction of a licensed practitioner who is practicing within the scope of his or her license.

(n) No radiologic technologist or radiologist assistant licensed pursuant to this subchapter shall prescribe a radiological examination.

(o) No radiologic technologist or radiologist assistant licensed pursuant to this subchapter shall render an interpretation of a radiological examination, but may report his or her observations relating to the outcome of a radiological examination to a radiologist.

(p) The license of a radiologic technologist or radiologist assistant may be suspended for a fixed period, or may be revoked, or the technologist may be censured, reprimanded, or otherwise disciplined in accordance with the provisions and procedures set forth in the Radiologic Technologist Act, if after due process, the Board finds that the radiologic technologist or radiologist assistant has committed an act of unethical conduct, as defined at N.J.A.C. 7:28-19.5, or has violated any provision of this chapter, the Radiation Protection Act, or the Radiologic Technologist Act. A radiologic technologist or radiologist assistant may request a hearing in accordance with N.J.A.C. 7:28-19.18(b), if aggrieved by the Board's actions.

HISTORY:

Amended by R.2020 d.061, effective June 15, 2020.
See: 51 N.J.R. 1731(a), 52 N.J.R. 1267(a).

Rewrote (a) and (c); inserted "or radiologist assistant" throughout (d), (i) through (k), and (n) through (p); in (i), deleted a comma following "work", inserted a comma following "employer", and deleted "radiologic technology" preceding the second occurrence of "license"; in (k), substituted "19.9(e), 19.11(a)1, and 19.16(a)1" for "19.9(e) and 19.11(a)1"; in (*o*), inserted "examination, but may report his or her observations relating to the outcome of a radiological examination to a radiologist"; and in (p), inserted a comma following "reprimanded" and the second occurrence of "Act", inserted the second occurrence of "radiologic", substituted "at" for "in", and updated the second N.J.A.C. reference.

§ 7:28-19.4 Scopes of practice

(a) Any person who possesses a valid license in radiologic technology or as a radiologist assistant shall exercise proper principles of radiation protection with regard to radiological examinations.

(b) Any person who possesses a valid license to practice diagnostic radiologic technology issued in accordance with this subchapter may engage in the following activities, which constitute the scope of practice of diagnostic radiologic technology:

1. Operate ionizing radiation-producing equipment for radiographic procedures;

2. Measure patients for radiographic procedures;

3. Position patients for radiographic procedures;

4. Set technique factors for radiographic procedures;

5. Set the source-to-image receptor distance for radiographic procedures;

6. Assist in fluoroscopic procedures using ionizing radiation-producing equipment provided that a licensed physician is physically in the room and directing the procedure; and

7. Administer contrast media and pharmaceuticals provided that the material and its administration comply with New Jersey State Board of Medical Examiners (BME) rule, N.J.A.C. 13:35-6.20.

(c) Any person who possesses a valid license to practice radiation therapy technology issued in accordance with this subchapter may engage in the following activities, which constitute the scope of practice of radiation therapy technology:

1. Operate ionizing radiation-producing equipment for therapy simulation and therapeutic procedures only;

2. Position patients and equipment for therapy simulation and treatment procedures;

3. Deliver the treatment dose prescribed by a licensed physician;

4. Record and certify the parameters of each treatment delivered in the patient record;

5. Select and position any required immobilization devices and beam modification devices;

6. Perform fluoroscopic procedures for therapy simulation while under the direction of a licensed physician who is on-site during the procedure; and

7. Assist in treatment planning procedures while under the supervision of a licensed physician or therapy physicist or medical dosimetrist.

(d) Any person who possesses a valid license to practice chest radiologic technology issued in accordance with this subchapter may engage in the following activities, which constitute the scope of practice of chest radiologic technology; however, the scope of practice does not include radiographic procedures of the ribs or sternum or any type of fluoroscopy, tomography or computed tomography procedure:

1. Operate fixed (not portable) ionizing radiation-producing equipment for chest radiographic procedures only;

2. Measure patients for chest radiographic procedures only;

3. Position patients for posterior-anterior, anterior-posterior, oblique, lateral, decubitus and apical lordotic views for chest radiographic procedures only;

4. Set the technique factors for chest radiographic procedures only; and

5. Set the source-to-image receptor distance for chest radiographic procedures only.

(e) Any person who possesses a valid license to practice dental radiologic technology issued in accordance with this subchapter may engage in the following activities, which constitute the scope of practice of dental radiologic technology; however, the scope of practice does not include any type of fluoroscopy, tomography or computed tomography procedure:

1. Operate ionizing radiation-producing equipment for dental radiographic procedures only;

2. Position patients for intra-oral and extra-oral dental radiographic procedures only;

3. Set the correct technique factors for dental radiographic procedures only; and

4. Set the source-to-image receptor distance for dental radiographic procedures only.

(f) Any person who possesses a valid license to practice orthopedic radiologic technology issued in accordance with this subchapter may engage in the following activities, which constitute the scope of practice of orthopedic radiologic technology; however, the scope of practice does not include radiographic procedures of the sterno-claviclar joints, sternum and ribs or any type of fluoroscopy, tomography, computed tomography or bone densitometry procedures:

1. Operate fixed (not portable) ionizing radiation-producing equipment for orthopedic radiographic procedures only;

2. Measure patients for orthopedic radiographic procedures only;

3. Position patients for radiographic procedures limited to the spine and extremities;

4. Set the technique factors for orthopedic radiographic procedures only; and

5. Set the source-to-image receptor distance for orthopedic radiographic procedures only.

(g) Any person who possesses a valid license to practice podiatric radiologic technology issued in accordance with this subchapter may engage in the following activities, which constitute the scope of practice of podiatric radiologic technology; however, the scope of practice does not include bone densitometry or procedures involving the injection of contrast media or fluoroscopy:

1. Operate ionizing radiation-producing equipment for podiatric radiographic procedures only;

2. Position patients for radiographic procedures limited to the foot, ankle and distal third of the lower leg (tibia/fibula);

3. Set technique factors for podiatric radiographic procedures only; and

4. Set the source-to-image receptor distance for podiatric radiographic procedures only.

(h) Any person who possesses a valid license to practice urologic radiologic technology issued in accordance with this subchapter may engage in the following activities, which constitute the scope of practice of urologic radiologic technology; however, the scope of practice does not include fluoroscopy, computed tomography or bone densitometry procedures:

1. Operate ionizing radiation-producing equipment for urologic radiographic procedures only;

2. Position patients for radiographic procedures limited to the abdomen and pelvic area for urologic radiographic procedures only;

3. Measure patients for urologic radiographic procedures only;

4. Set technique factors for urologic radiographic procedures only; and

5. Set the source to image receptor distance for urologic radiographic procedures only.

(i) Any person who possesses a valid radiologist assistant license issued in accordance with N.J.A.C. 7:28-19.16 may perform delegated fluoroscopic procedures and other activities as authorized by the BME while under the supervision of a licensed radiologist, at a level of supervision that the BME specifies. See the BME rules at N.J.A.C. 13:35.

HISTORY:

Amended by R.2020 d.061, effective June 15, 2020.
See: 51 N.J.R. 1731(a), 52 N.J.R. 1267(a).
In (a), inserted "or as a radiologist assistant"; and added (i).

§ 7:28-19.5 Unethical conduct

(a) The Board may, in its discretion, consider the acts listed at (a)1 through 13 below as acts of unethical conduct by a person subject to this subchapter. Such acts are subject to sanction pursuant to N.J.S.A. 26:2D-34.a and 36:

1. Conviction of any crime that reasonably relates to any field of radiologic technology or radiologist assistant. For the purpose of this section, a plea of guilty, non vult, no contest, or other such disposition of alleged criminal activity shall be deemed a conviction;

2. Revocation or suspension of a certification, registration, or license to practice radiologic technology or radiologist assistant or censure or reprimand by any other state or certifying agency for reasons consistent with this subchapter;

3. Dishonesty, fraud, deception, misrepresentation, or falsification in:

i. Any field relating to radiologic technology or radiologist assistant or the education of students or in documenting compliance with the Radiation Protection Act, the Radiologic Technologist Act, or this chapter as amended or supplemented;

ii. Obtaining a radiologic technology or radiologist assistant license, including taking the examination and completing the required education and training;

iii. Statements on any application for examination or license;

iv. Statements or documentation regarding the status of any national certification relating to the field of radiologic technology or radiologist assistant;

v. Statements made to a representative of the Department or Board; or

vi. Any records relating to the practice of radiologic technology or radiologist assistant or to the education of students;

4. Altering any license or examination results;

5. Practicing or reporting to work as a radiologic technologist or radiologist assistant while under the influence of alcohol or a controlled dangerous substance, as defined in the New Jersey Code of Criminal Justice;

6. Acting in a negligent or incompetent manner relating to radiologic technology or radiologist assistant or the education of students, as determined by the Board;

7. Maliciously destroying or stealing property or records relating to the practice of radiologic technology or radiologist assistant or to the education of students;

8. Failing to exercise due regard for safety, life, or health while engaged in the practice of radiologic technology or radiologist assistant or the education of students;

9. Violating any term limitation, condition, or restriction that the Board has placed on his or her radiologic technology or radiologist assistant license;

10. Failing to comply with any State or Federal law or regulation regarding the confidentiality of a patient's medical or dental information;

11. Impersonating a licensed radiologic technologist or radiologist assistant;

12. Discriminating in the practice of radiologic technology or radiologist assistant or in the education of students, as defined in Section 3 of New Jersey Law Against Discrimination at N.J.S.A. 10:5-3 ; or

13. Acting in an unprofessional manner, or a manner unbecoming of a radiologic technologist or radiologist assistant or an educator of students, as determined by the Board.

(b) There is a rebuttable presumption that a person who has been determined by the Board to have committed an act of unethical conduct or has been convicted of a crime involving moral turpitude does not meet the standard of good moral character as required for purposes of N.J.A.C. 7:28-19.6(a) 2, 19.9(e), 19.11(a)1, and 19.16(a)1.

HISTORY:

Amended by R.2020 d.061, effective June 15, 2020.
See: 51 N.J.R. 1731(a), 52 N.J.R. 1267(a).
Rewrote the section.

§ 7:28-19.6 Requirements of applicants for the radiologic technology licensing examination

(a) Subject to (c) below, the Board shall admit to a licensing examination any applicant who has paid to the Department a fee as specified in N.J.A.C. 7:28-19.10(a) 1 and has submitted satisfactory evidence to the Board, verified by oath or affirmation, that the applicant:

1. At the time of application is at least 18 years of age;

2. Is of good moral character;

3. Has successfully completed a four year course of study in a secondary school (high school) approved or recognized by the State Board of Education, or passed an approved equivalency test; and

4. Has complied with the applicable requirements of (b) below.

(b) In addition to the requirements of (a) above, any person seeking admission to a licensing examination in a specific scope of practice of radiologic technology (see N.J.A.C. 7:28-19.4) shall comply with the following:

1. Each applicant for examination in diagnostic radiologic technology shall have satisfactorily completed a 24-month course of study in diagnostic radiologic technology approved by the Board or its equivalent as determined by the Board.

2. Each applicant for examination in radiation therapy technology shall have satisfactorily completed a 24-month course of study in radiation therapy technology approved by the Board or its equivalent as determined by the Board. A 12-month radiation therapy technology course of study that requires applicants to

have satisfactorily completed a 24-month course of study in diagnostic radiologic technology or its equivalent as determined by the Board is the equivalent of a 24-month course of study in radiation therapy technology.

3. Each applicant for examination in chest radiologic technology shall have satisfactorily completed the curriculum for chest radiography as approved by the Board or its equivalent as determined by the Board.

4. Each applicant for examination in dental radiologic technology shall have satisfactorily completed the curriculum for dental radiography as approved by the Board or its equivalent as determined by the Board.

5. Each applicant for examination in podiatric radiologic technology shall have satisfactorily completed the curriculum for podiatric radiography as approved by the Board or its equivalent as determined by the Board.

6. Each applicant for examination in orthopedic radiologic technology shall have satisfactorily completed the curriculum for orthopedic radiography as approved by the Board or its equivalent as determined by the Board.

7. Each applicant for examination in urologic radiologic technology shall have satisfactorily completed the curriculum for urologic radiography as approved by the Board or its equivalent as determined by the Board.

(c) The Board may determine that an applicant is ineligible for examination if the applicant does not fulfill the requirements of (a) and (b) above or has violated any provision of this chapter, the Radiation Protection Act, or the Radiologic Technologist Act. The applicant may request a hearing in accordance with N.J.A.C. 7:28-19.18(a), if aggrieved by the Board's actions.

(d) An applicant who fails to pass the examination may reapply for the examination provided the applicant meets the requirements of this section.

(e) Any person who has failed a particular examination three times shall not be permitted to take that examination a fourth time until that person has submitted proof of completion of a remedial course that includes a full review of course material in areas of low performance as identified by the examination.

(f) After the fourth failure, the person may not retake a particular examination until that person has submitted proof that he or she has re-enrolled and successfully completed a remedial course of study in a Board-approved school of radiologic technology, or an equivalent school as determined by the Board, in an appropriate time frame determined by the school.

HISTORY:

Amended by R.2020 d.061, effective June 15, 2020.
See: 51 N.J.R. 1731(a), 52 N.J.R. 1267(a).
Section was "Requirements of applicants for the licensing examination". In (c), inserted a comma following "Act" and updated the N.J.A.C. reference.

§ 7:28-19.7 Requirements of applicants for radiologic technology licensure

(a) Subject to (d) below, the Board shall issue a license to any applicant who has paid to the Department a fee as specified in N.J.A.C. 7:28-19.10(a) 2 and has submitted satisfactory evidence to the Board, verified by oath or affirmation, that the applicant:

1. Has met the requirements in N.J.A.C. 7:28-19.6(a) and (b), and

2. Has passed the Board's examination in the license category for which the applicant has applied.

(b) In lieu of its own examination required by (a)2 above, the Board may accept a valid active certificate issued by the American Registry of Radiologic Technologists (ARRT) or a valid active certificate or license as a radiologic technologist issued by another state, provided the Board determines that the ARRT's or the other state's standards are equivalent to those established by the Board.

(c) In lieu of its own examination for a dental radiologic technologist LRT(D), required by (a)2 above, the Board may accept:

1. A valid registration as a dental assistant issued by the New Jersey Board of Dentistry, provided the applicant passed the certification examination including the "Radiation Health and Safety" examination given by the Dental Assisting National Board and any education requirements as may be prescribed by the New Jersey Board of Dentistry, and provided the Board determines that the above standards are equivalent to those established by the Board; or

2. A valid active certificate issued by the Dental Assisting National Board demonstrating that the applicant has successfully passed the "Radiation Health and Safety" examination, provided the Board determines that the above standards are equivalent to those established by the Board.

(d) The Board may determine that an applicant is ineligible for licensure if the applicant does not fulfill the requirements of (a), (b), and (c) above or has violated any provision of this chapter, the Radiation

Protection Act, or the Radiologic Technologist Act. The applicant may request a hearing in accordance with N.J.A.C. 7:28-19.18(a), if aggrieved by the Board's actions.

HISTORY:

Amended by R.2020 d.061, effective June 15, 2020.
See: 51 N.J.R. 1731(a), 52 N.J.R. 1267(a).
Section was "Requirements of applicants for licensure". In (d), inserted a comma following "(b)" and "Act", and updated the N.J.A.C. reference.

§ 7:28-19.8 Conditional and restricted licenses

(a) The Board, at its discretion, may place conditions or restrictions on any license including, but not limited to, a condition or restriction limiting the scope of practice of a licensed radiologic technologist or radiologist assistant.

(b) No person who has been issued a conditional or restricted license shall practice outside of the conditions or restrictions as placed on the license by the Board.

HISTORY:

Amended by R.2020 d.061, effective June 15, 2020.
See: 51 N.J.R. 1731(a), 52 N.J.R. 1267(a).
Section was "Temporary, conditional and restricted licenses". Deleted former (a) and recodified former (b) and (c) as (a) and (b); in (a), inserted "or radiologist assistant".

§ 7:28-19.9 License expiration, reissuance, and renewal

(a) Except as provided at N.J.A.C. 7:28-19.1(c) or (d), no person, radiologic technologist, or radiologist assistant shall engage in any scope of practice of radiologic technology or radiologist assistant without a valid and effective radiologic technology or radiologist assistant license issued under this subchapter authorizing the licensee to engage in that scope of practice.

(b) A license issued in accordance with this subchapter is effective as of the date of issuance, or January 1st of an odd numbered year, whichever is later, and expires on the immediately following December 31st of an even numbered year. No license is valid longer than two years. It is the Board's practice, but not its obligation, to mail license renewal applications to all licensees at least 60 calendar days prior to the license expiration date.

(c) A radiologic technologist or radiologist assistant shall inform the Department of any change in his or her name and/or address no later than 30 calendar days after the change.

(d) To maintain a valid license, a radiologic technologist or radiologist assistant shall renew his or her license any time prior to its expiration by submitting a renewal application for a radiologic technology or radiologist assistant license and the required renewal fee specified at N.J.A.C. 7:28-19.10(a) 3.

(e) The Board may deny an application for renewal if the Board has determined that the radiologic technologist or radiologist assistant is not of good moral character or has violated any provision of this subchapter, the Radiation Protection Act, or the Radiologic Technologist Act. The applicant may request a hearing as provided by N.J.A.C. 7:28-19.18(b), if aggrieved by the Board's action.

(f) A radiologic technologist or radiologist assistant who possesses an expired license may apply to have the license reissued, provided that the license has not been expired for five years or more. An individual who wishes to have a license reissued that has been expired less than five years shall submit an application for reissuance and the fee specified at N.J.A.C. 7:28-19.10(a) 3. If such individual has not engaged in the practice of radiologic technology or radiologist assistant at any time in New Jersey during the period the license was expired, the individual is required only to pay the reissuance fee for the current license period. If such individual has engaged in the practice of radiologic technology or radiologist assistant at any time in New Jersey during the period the license was expired, in addition to the reissuance fee for the current license period, the individual shall pay the reissuance fee for each previous renewal period, in addition to other sanctions that may be imposed under the Radiation Protection Act or the Radiologic Technologist Act for practicing radiologic technology or radiologist assistant without a license.

(g) A radiologic technologist or radiologist assistant who possesses a license that has been expired for five or more years may not have that license renewed, but may apply for a license in accordance with N.J.A.C. 7:28-19.7 or 19.16.

HISTORY:

Amended by R.2020 d.061, effective June 15, 2020.

See: 51 N.J.R. 1731(a), 52 N.J.R. 1267(a).
Section was "License expiration, reissuance and renewal". Inserted "or radiologist assistant" throughout the section; in (a), substituted "or (d), no person, radiologic technologist," for "no person or radiologic technologist"; in (d) and (f), substituted "at" for "in"; in (e), inserted a comma following "Act" and updated the N.J.A.C. reference; and in (g) inserted "or 19.16".

§ 7:28-19.10 Fees

(a) Any person who submits an application for examination, license or license reissuance or renewal to the Department shall include as an integral part of said application a service fee as follows:

1. Examination Fee: $ 160.00;
2. License Application Fee: $ 60.00;
3. License Reissuance or Renewal Fee: $ 90.00;
4. License Reprint Fee: $ 20.00.

(b) Any new school that submits an application for Board approval in any of the categories of radiologic technology shall include, as an integral part of said application, a service fee as follows:

1. Diagnostic Radiography School Fee: $ 2,500;
2. Radiation Therapy Technology School Fee: $ 2,500;
3. Dental Radiography School Fee: $ 1,650;
4. Limited Radiography School Fee: $ 1,650.

(c) A Board-approved school of radiologic technology shall submit the appropriate annual fee as follows:

1. Diagnostic Radiography School Fee: $ 1,000;
2. Radiation Therapy Technology School Fee: $ 1,000;
3. Dental Radiography School Fee: $ 400.00;
4. Limited Radiography School Fee: $ 200.00.

(d) All fees shall be in the form of a check or money order or any other manner acceptable to the Department made payable to the Treasurer, State of New Jersey. Fees submitted to the Department are not refundable.

(e) All license renewal or reissuance applications and the associated fees specified in (a)3 above, and the approved school annual fees as specified in (c) above, shall be submitted to:

Department of Treasury
Division of Revenue
PO Box 417
Trenton, New Jersey 08646-0417

(f) All other applications and associated fees specified in (a)1, 2, and 4 and (b) above shall be submitted to:

Department of Environmental Protection
Bureau of X-ray Compliance
Mail Code 25-01
25 Arctic Parkway
PO Box 420
Trenton, New Jersey 08625-0420

HISTORY:

Amended by R.2014 d.083, effective May 5, 2014.
See: 45 N.J.R. 806(a), 46 N.J.R. 768(a).
In the introductory paragraph of (f), inserted a comma following "2"; in the address in (f), substituted "X-ray Compliance" for "Radiological Health", "420" for "415", and "0420" for "0415", and inserted "Mail Code 25-01".

§ 7:28-19.11 Minimum requirements for admission to a school of radiologic technology

(a) A school of radiologic technology approved by the Board pursuant to this subchapter shall only enroll a candidate who at the time of admission meets or exceeds the following minimum requirements:

1. Is of good moral character;

2. Has successfully completed a four-year course of study in a secondary school (high school) approved by the State Board of Education or passed an approved equivalency test; and

3. Meets the admission criteria of that school of radiologic technology.

(b) The school of radiologic technology shall ensure that each candidate for admission submits a formal application.

(c) Each school of radiologic technology shall keep on file for at least two years after a student graduates, withdraws or is dismissed the student's application and any document used to determine eligibility for admission to the school.

§ 7:28-19.12 Requirements for students engaging in the scope of practice of radiologic technology

(a) Only students who meet the requirements of N.J.A.C. 7:28-19.1(c) 4 are permitted to engage in the practice of radiologic technology.

(b) Any licensed practitioner, registered dental hygienist, or licensed radiologic technologist, who is acting within the scope of that license or registration, shall provide direct or indirect supervision to student technologists that includes:

1. The evaluation of the request for the radiological examination in relation to the student's knowledge and competency;

2. The evaluation of the condition of the patient in relation to the student's knowledge and competency; and

3. The evaluation and approval of all resultant radiological images and/or data.

(c) The school of radiologic technology and the clinical education center shall:

1. For students in schools of diagnostic radiologic technology, ensure that students are supervised in accordance with the following:

i. Prior to a Board-approved faculty member determining that a student is clinically competent in a given radiographic procedure, the student shall perform that procedure only under the direct supervision of a licensed diagnostic radiologic technologist.

ii. After clinical competency in a radiographic procedure has been determined by a Board-approved faculty member, the student may perform that procedure under indirect supervision of a licensed diagnostic radiologic technologist; and

iii. Any exposure that needs to be repeated shall be repeated under the direct supervision of a licensed diagnostic radiologic technologist;

2. For students in schools of radiation therapy technology, ensure that all therapy simulation and therapeutic procedures are performed under direct supervision of a licensed radiation therapist;

3. For students in schools of chest, orthopedic, podiatric, and urologic radiologic technology, ensure that all radiographic procedures are performed under direct supervision of a licensed practitioner, a licensed diagnostic radiologic technologist, or a person licensed in that specific category of radiologic technology;

4. For students in schools of dental radiologic technology, ensure that all procedures are performed under direct supervision of a licensed dentist, registered dental hygienist, a licensed diagnostic radiologic technologist, or a licensed dental radiologic technologist;

5. Ensure that students in schools of diagnostic radiologic technology do not initiate x-ray exposure during fluoroscopic procedures;

6. Ensure that students are not assigned to clinical education rotations in such a manner as to substitute for radiologic technologists;

7. Ensure that during clinical education activities the number of students assigned to a clinical education center and on site at any time does not exceed the Board-approved student capacity for that clinical education center;

8. Ensure that during clinical education activities students wear visible identification name badges that identify them as student radiologic technologists;

9. Ensure that during clinical education activities each student wears a personnel radiation-monitoring device;

10. Ensure that all activities involving clinical education are performed in accordance with the school's published policies and procedures, and the agreement between the school of radiologic technology and the clinical education center; and

11. Ensure that students are not:

i. In the primary beam;

ii. Permitted to remain in the x-ray room outside the control booth during an x-ray exposure unless the student is provided with a protective apron or shield that is at least 0.5 mm of lead equivalent; or

iii. Permitted to engage in any other practices likely to result in unnecessary exposure to ionizing radiation.

§ 7:28-19.13 Requirements for schools of radiologic technology

(a) A school in diagnostic radiologic technology shall provide a course of study that is at least 24 months in length or its equivalent as determined by the Board. The educational curriculum shall include ethics and law in radiologic technology; medical terminology; patient care management; human anatomy and physiology; radiographic procedures; imaging and processing; imaging equipment; image analysis; radiation production and characteristics; radiation physics; radiation protection; radiation biology; radiologic pathology; computers in radiologic technology; pharmacology and drug administration; quality assurance; and shall provide for competency-based clinical education in accordance with the Board's accreditation standards. The curriculum shall be a JRCERT-recognized curriculum, provided that it does not conflict with this subchapter.

(b) A school of radiation therapy technology shall provide a course of study that is at least 24 months in length or its equivalent as determined by the Board. This course of study can be 12 months in length if the applicant has successfully completed a Board-approved or equivalent diagnostic radiologic technology program. The educational curriculum shall include ethics and law in radiation therapy; medical terminology; patient care management in radiation therapy; radiation protection; pathology; radiation physics; radiation therapy physics; medical imaging and processing; sectional anatomy; operational issues in radiation therapy; treatment planning, beam modification devices and dosimetry; simulation and therapy procedures and technique; quality management; and shall provide for competency-based clinical education. The curriculum shall be a JRCERT-recognized curriculum, provided that it does not conflict with this subchapter.

(c) A school of dental radiologic technology shall follow the Board's approved curriculum in dental radiologic technology, which is available from the Department by written request to the address listed at N.J.A.C. 7:28-19.10(f). In the alternative, the curriculum shall be the American Dental Association's or any nationally recognized published curriculum, provided that it does not conflict with this subchapter or the Board's approved curriculum.

(d) A school of podiatric radiologic technology shall follow the Board's approved curriculum in podiatric radiologic technology, which is available from the Department by written request to the address listed at N.J.A.C. 7:28-19.10(f). In the alternative, the curriculum shall be the American Podiatric Medical Assistants Association's or any nationally recognized published curriculum, provided that it does not conflict with this subchapter or the Board's approved curriculum.

(e) A school of chest, orthopedic, or urologic radiologic technology shall follow the Board's approved curriculum in that category of radiologic technology, which is available from the Department by written request to the address listed at N.J.A.C. 7:28-19.10(f). In the alternative, the curriculum shall be any nationally recognized published curriculum, provided that it does not conflict with this subchapter or the Board's approved curriculum.

(f) Each school of radiologic technology shall:

1. Comply with N.J.A.C. 7:28-19.11 and 19.12 and the Board's accreditation standards, which are available from the Department's Bureau of X-ray Compliance;

2. Prepare and maintain a current and accurate written course syllabus and other educational documents for each content area delineated in the program's Board approved curriculum. These documents shall include, but are not limited to, lesson plans, learning objectives, classroom schedules, and student evaluation instruments. These documents shall be on file at the school and shall be produced for review by the Department or its representative during an inspection, and shall be submitted to the Department upon request;

3. Employ and/or appoint only Board-approved program directors, clinical coordinators, clinical instructors and clinical supervisors;

4. Issue to each candidate prior to admission a current and dated course catalog, bulletin, or other written statement, which shall include, but not be limited to, a description of the curriculum as a whole, the requirements for admission, requirements for graduation, and information concerning amounts and terms of payment of any tuition and fees or expenses to be incurred. The information contained in these documents shall accurately reflect the program offered;

5. Issue to each enrolled student a current and dated catalog, handbook, or policy manual that includes all program and school policies, which shall include, but not be limited to, policies regarding conduct, dis-

missal, grading, and pregnancy as it relates to radiation protection. All policies and procedures shall accurately reflect the program offered;

6. Enroll only students who meet the school's requirements for admission;

7. Report in writing to the Department, within 30 calendar days of any student's matriculation date, the name and address of each new student enrolled and, within 30 calendar days of the date the student completes the course of study (as set forth on the certificate issued in accordance with (f)15 below), the name and address of each student graduated;

8. Have and comply with an educational plan for didactic and laboratory instruction and clinical assignments, with objectives relating to the specific practice of radiologic technology;

9. Maintain current student records that accurately reflect the student's didactic and clinical progress;

10. Permanently maintain an official course transcript for each graduate;

11. Maintain all academic and clinical records for at least six months for each student who has left, withdrawn, or was dismissed from the program;

12. Ensure that it has adequate administrative, clerical, clinical, faculty, financial and physical resources to support all enrolled students;

13. Ensure that each student is provided with a personnel radiation-monitoring device during his or her period of attendance. Student exposure to radiation shall not exceed any of the occupational limits prescribed in N.J.A.C. 7:28-6.1. Within 30 calendar days of the school's receipt of any radiation dosimetry report, the school shall inform all students of their most recent exposure readings. In the event that a student receives an exposure of 50 millirem (mrem) (0.5 millisievert (mSv)) or greater on any monthly radiation dosimetry report, or 100 mrem (1.0 mSv) or greater on any bimonthly radiation dosimetry report, or 150 mrem (1.5 mSv) or greater on any quarterly report, or an exposure that exceeds any of the occupational limits in N.J.A.C. 7:28-6.1, the school shall begin an investigation to find the cause and prevent recurrence of the exposure. The investigation report shall be completed within 30 calendar days of the school's receipt of notification of the exposure. This investigation report shall include any action to be taken to reduce unnecessary radiation exposure. The investigation report shall be given to the student and shall be maintained in the student's file. If any of the occupational limits in N.J.A.C. 7:28-6.1 is exceeded, a copy of the investigation report must be submitted to the Department. Within 90 calendar days of departure from the school, the school shall provide each student with a complete record of his or her radiation exposure history;

14. For each student who has declared her pregnancy in writing, with an approximate date of conception, a school shall:

i. Provide instruction regarding radiation exposure and risks as they relate to the embryo-fetus and pregnancy;

ii. Provide program enrollment options to accommodate pregnancy while allowing the student to complete the curriculum. If the student elects to continue with her education within the radiologic technology program, the school shall ensure that a personnel radiation-monitoring device is worn at the waist level during the term of her pregnancy;

iii. If the student has the potential of engaging in fluoroscopic or portable radiographic procedures, provide to the student with and require her to wear two personnel radiation-monitoring devices. One device shall be worn at the neck level outside the protective apron and the other under the protective apron at the waist level;

iv. Limit the student's exposure, as registered on the personnel radiation-monitoring devices, in order that the exposure of the embryo-fetus does not exceed the most recent recommended limit published by the National Council on Radiation Protection and Measurements (NCRP), incorporated herein by reference. As of August 18, 2008, the recommended limit is contained in NCRP Report #116 entitled Limitation of Exposure to Ionizing Radiation, published in 1993. The publication can be obtained from NCRP by contacting them at 7910 Woodmont Ave., Suite 400, Bethesda, MD 20814 or at: www.ncrponline.org. This report recommends a monthly equivalent dose limit of 50 mrem (0.5 mSv) to the embryo-fetus (excluding medical and natural background radiation) once the pregnancy is known. The Deep Dose Equivalent value reported for the device worn at the student's waist will be considered the initial estimated dose received by the embryo-fetus;

v. Within seven calendar days of the school's receipt of a radiation dosimetry report, the school shall inform the pregnant student of her most recent exposure readings. If the Deep Dose Equivalent in any month is 50 mrem (0.5 mSv) or higher, the school and student shall consult with a medical physicist or health physicist, who is certified by the American Board of Radiology, American Board of Medical Physics, American Board of Health Physics or the equivalent as determined by the Commission; and

vi. Submit to the Department, with a copy to the student, a report of the consultation provided in (f)14v above, if required, including any recommendation(s), assignment modifications and the student's exposure history, within 21 calendar days of the school's receipt of the radiation dosimetry report;

15. Issue to each student who satisfactorily completes a course of study a dated certificate that specifies the particular course of study completed;

16. Inform the Department within 15 calendar days of any change that could adversely affect the school's ability to fulfill its ability to provide students with appropriate didactic and laboratory instruction and clinical assignments, or has altered how the school operates since its last review and approval by the Board. Such changes include, but are not limited to, a change in status or loss of any official or faculty member, change of curriculum, loss of a clinical affiliate, the sequencing of courses, length of the program or sponsorship of the program;

17. If the school's curriculum is in diagnostic radiologic technology or radiation therapy technology, have no more than two consecutive years in which the pass rate for students taking the American Registry of Radiologic Technologists (ARRT) examination for the first time is below 75 percent;

18. If the school's curriculum is in chest, dental, orthopedic, podiatric, or urologic radiologic technology, have no more than two consecutive years in which both the first-time mean score and pass rate are below the Board's published minimum standards. Such standards are published on the Bureau of X-ray Compliance website, www.xray.nj.gov, and are available in hard copy upon request; and

19. Ensure that a student's total academic and clinical instruction does not exceed 40 hours per week.

(g) In addition to (f) above, schools of diagnostic radiologic technology and radiation therapy technology shall comply with the JRCERT Standards for an Accredited Educational Program in Radiologic Sciences (JRCERT Standards), incorporated herein by reference, as amended and supplemented. The Board, if it determines that a national accrediting agency's standards are equivalent to the JRCERT Standards, may recognize the national agency's standards. In case of conflict with this subchapter or the Board's accreditation standards, this subchapter and the Board's accreditation standards shall supersede the JRCERT Standards. Copies of the JRCERT Standards and the Board's accreditation standards may be obtained by contacting the Department's Bureau of X-ray Compliance at Mail Code 25-01, PO Box 420, Trenton, NJ 08625-0420 or the JRCERT at 20 N. Wacker Dr., Suite 2850, Chicago, Il, 60606 or www.jrcert.org.

HISTORY:

Amended by R.2014 d.083, effective May 5, 2014.
See: 45 N.J.R. 806(a), 46 N.J.R. 768(a).
In (f)1, updated the second N.J.A.C. reference, and substituted "X-ray Compliance" for "Radiological Health"; and rewrote (f)18 and (g).

§ 7:28-19.14 School of radiologic technology: process for approval; provisional approval; probationary approval; termination of approval and other general provisions

(a) In order to be Board-approved, a school of radiologic technology shall submit to the Department a complete application, along with the appropriate fee as set forth in N.J.A.C. 7:28-19.10(b). The Department will forward all complete applications to the Board for its consideration. If the application is incomplete, the Department shall notify the school. The school will be provided an opportunity to complete the application within 90 calendar days of receipt of such notice. If after 90 days the application is still incomplete, it will be forwarded as an incomplete application for the Board's consideration. A complete application shall include:

1. The name, address and contact information of the school;

2. The name and credentials of the program director or directors;

3. The name and credentials of each instructor and the courses he or she teaches; and

4. A report or reports describing the school's policies and procedures in place to ensure that:

i. Only qualified applicants are admitted into the program, in accordance with N.J.A.C. 7:28-19.11 ;

ii. Clinical education is performed properly and under appropriate supervision, in accordance with N.J.A.C. 7:28-19.12 ; and

iii. The educational curriculum includes all Board required elements, in accordance with N.J.A.C. 7:28-19.13.

(b) After review of the school's application, the Board may either award approval or provisional approval to the school or deny the application.

1. The Board shall notify a school that has been awarded provisional approval each requirement that must be satisfied in order for the school to be awarded approval. Provisional approval shall be awarded only

if the school agrees in writing to satisfy each requirement within a time period specified by the Board, and shall satisfy each requirement before non-provisional approval is awarded. The Board shall terminate the provisional approval of a school that fails to satisfy the requirements within the specified time period.

(c) A school whose application has been denied for any reason may submit a new application and fee in accordance with (a) above.

(d) A school of radiologic technology, including its clinical education centers, shall:

1. Permit one or more Board representatives or Department employees to conduct a site inspection. The Board may accept the findings from a site inspection performed by a national accreditation agency recognized by the Board, in lieu of an inspection by the Board or the Department;

2. Make available to the Board representative or Department employee such information, records, or persons that may be needed to determine compliance with the requirements of this subchapter; and

3. Demonstrate, to the satisfaction of the Board, that it complies with the requirements of this subchapter.

(e) In order to maintain approval, the school shall comply with the requirements of this subchapter and pay the appropriate annual fee as specified in N.J.A.C. 7:28-19.10(c). The annual fee is due by January 1st of each year or 30 calendar days after the date that the Board awards approval under (b) above.

(f) The Board may reduce the approval status of a school of radiologic technology to probationary approval for failure to comply with this subchapter, provided that the school agrees in writing to correct all items of noncompliance within a time period specified by the Board. The Board shall notify a school of radiologic technology of the reduction to probationary approval status and of the items of noncompliance resulting in such status.

(g) A school on probationary approval shall:

1. Correct, within a period of time as determined by the Board, all specified deficiencies;

2. Notify each enrolled student and applicant, within 15 calendar days of receipt of notification from the Board of probationary approval status, by certified mail of the school's probationary approval status; and

3. Submit to the Department, within 20 calendar days of receipt of notification of probationary approval status, a copy of the notice required in (g)2 above.

(h) A school of radiologic technology may have its approval, provisional approval, or probationary approval terminated by the Board, upon the approval of the Commission, for failure to comply with this subchapter. The Department shall issue an administrative order to a school of radiologic technology terminating the approval, which administrative order shall contain the findings that led to the termination and specify the effective date of the termination.

(i) The approval of a school of radiologic technology may be terminated by the Board if the school does not enroll students for a period of two consecutive years.

(j) A school of radiologic technology whose approval has been terminated may apply for approval as a school of radiologic technology in accordance with this section.

(k) Any Board-approved school that makes a substantial change to its approved program, including, but not limited to, a change in the level of terminal award (such as a certificate to an associate degree, or associate degree to bachelor degree), or a change in the owner or operator of the program, will be considered a new school and will be subject to the application procedure of this section and fee specified in N.J.A.C. 7:28-19.10(b). The school must notify the Board of any change, in accordance with N.J.A.C. 7:28-19.13(f) 16.

(l) A school whose application for approval is denied may request a hearing as provided at N.J.A.C. 7:28-19.18(a) if aggrieved by the Board's actions.

(m) A Board-approved school whose approval is terminated or reduced to probationary may request a hearing as provided at N.J.A.C. 7:28-19.18(b), if aggrieved by the Board's actions.

HISTORY:

Amended by R.2014 d.083, effective May 5, 2014.
See: 45 N.J.R. 806(a), 46 N.J.R. 768(a).
In (a)4iii, updated the N.J.A.C. reference; and in (k), updated the second N.J.A.C. reference.
Amended by R.2020 d.061, effective June 15, 2020.
See: 51 N.J.R. 1731(a), 52 N.J.R. 1267(a).
In (*l*) and (m), substituted "at" for "by" and updated the N.J.A.C. reference.

§ 7:28-19.15 List of approved schools

A list of approved schools of radiologic technology may be obtained from the Bureau of X-ray Compliance website at www.xray.nj.gov.

HISTORY:

Amended by R.2014 d.083, effective May 5, 2014.
See: 45 N.J.R. 806(a), 46 N.J.R. 768(a).
Rewrote the section.

§ 7:28-19.16 Requirements of applicants for radiologist assistant licensure

(a) Subject to (b) below, the Board shall issue a license to any applicant who has paid to the Department a fee as specified at N.J.A.C. 7:28-19.10(a) 2 and has submitted satisfactory evidence to the Board, verified by oath or affirmation, that the applicant:

1. Is of good moral character;

2. Holds at least a bachelor's degree, or the equivalent, from an accredited college or university in the United States;

3. Holds a valid license in diagnostic radiologic technology;

4. Satisfactorily completed a radiologist assistant school approved by the American Registry of Radiologic Technologists or another national certifying body approved by the Board; and

5. Holds a valid active radiologist assistant certification from the American Registry of Radiologic Technologists or another national certifying body approved by the Board.

(b) The Board may determine that an applicant is ineligible for licensure if the applicant does not fulfill the requirements of (a)1 through 5 above or has violated any provision of this chapter, the Radiation Protection Act, or the Radiologic Technologist Act. The applicant may request a hearing in accordance with N.J.A.C. 7:28-19.18(a), if aggrieved by the Board's actions.

HISTORY:

Repeal and New Rule, R.2020 d.061, effective June 15, 2020.
See: 51 N.J.R. 1731(a), 52 N.J.R. 1267(a).
Section was "Radiologist assistants—schools and practice".

§ 7:28-19.17 Radiologist assistant schools and clinical education centers

(a) No school shall assign a radiologist assistant student to a New Jersey clinical education center for training as a radiologist assistant, unless the school is recognized by the Board.

(b) In order to be Board-recognized, a radiologist assistant school shall submit a complete application to the Department. The Department will forward all complete applications to the Board for its consideration. If the application is incomplete, the Department shall notify the school. The school shall be provided an opportunity to complete the application within 90 calendar days of receipt of such notice. If after 90 days the application is still incomplete, the Department will forward the incomplete application to the Board for consideration. A complete application shall include:

1. The name, address, and contact information of the school;

2. The name and credentials of the program director or directors;

3. Proof that the school is approved by the American Registry of Radiologic Technologist or another accreditation agency recognized by the Board;

4. A demonstration that the school complies with (c) and (e)2 through 7 below; and

5. The last three annual examination reports of the school's radiologist assistant graduates' first-time examination performance on the American Registry of Radiologic Technologists or another certifying board recognized by the Board. A school that has graduated students for less than three years shall submit the most recent annual examination reports, if any.

(c) The Board will recognize a radiologist assistant school in which the educational curriculum contains, at a minimum, the following content: patient assessment, management and education; pharmacology and clinical decision making in radiology; contrast media; pathophysiology; radiographic and fluoroscopic procedures; fluoroscopic unit operation and safety; radiation safety; radiation biology; health physics; image correlation to anatomy, physiology, and pathology; clinical pathways related to radiology; quality of care review and audit; directed readings and research; medico-legal and professional standards and governmental standards; and clinical education, which includes testing to determine clinical competency. The curriculum may follow the American Society of Radiologic Technologists curriculum or any nationally recognized curriculum, provided that it does not conflict with this section.

(d) A radiologist assistant student who is enrolled in, and attending, a Board-recognized school, who is acting within the school's curriculum and possesses a valid diagnostic radiologic technology license issued

by the Board, is permitted to perform delegated fluoroscopic procedures in New Jersey under the appropriate supervision as prescribed at (e)6 below.

(e) Any radiologist assistant school that assigns radiologist assistant students to a clinical education center in New Jersey shall:

1. Be recognized by the Board;

2. Ensure that each student assigned to New Jersey clinical education centers possesses and maintains a valid diagnostic radiologic technology license issued by the Board;

3. Develop and implement a log to track fluoroscopic procedures that are performed by each radiologist assistant student assigned to a New Jersey clinical education center. This log shall include, but not be limited to, the name of the student, the procedure performed, the name of the supervisor responsible for the procedure, the type of supervision provided, and the fluoroscopic time used. The school shall ensure that the log is reviewed at least weekly by the supervising radiologist. If a trend of unexplained high use of fluoroscopic time is identified, the school shall ensure that corrective action by the supervising radiologist is implemented and recorded in the student's file;

4. Develop and implement for each student assigned to a clinical education center in New Jersey an educational plan for competency-based clinical education, which shall include, but not be limited to, didactic and laboratory instruction, clinical practice, clinical competency testing, and remediation for failed competency evaluations. The school shall ensure that no person other than a radiologist determines clinical competency;

5. Prior to the start of the assignment at a clinical education center in New Jersey, inform the Department of the location where the radiologist assistant student will be assigned for clinical education, the name of each supervising radiologist, and the length of the assignment;

6. Ensure that each radiologist assistant student assigned to a clinical education center in New Jersey perform delegated fluoroscopic procedures, as prescribed below, under the appropriate level of supervision of a radiologist or a radiologist assistant:

i. Only a radiologist can determine whether a student is clinically competent to perform a delegated fluoroscopic procedure.

ii. Subject to (e)6iii below, a student shall perform each delegated fluoroscopic procedure under direct supervision as defined at N.J.A.C. 7:28-19.2 by a supervising radiologist or a radiologist assistant who is under the supervision of a radiologist, in accordance with the requirements of the Board of Medical Examiners at N.J.A.C. 13:35.

iii. If expressly allowed by the rules of the Board of Medical Examiners, N.J.A.C. 13:35, a student who is determined to be clinically competent in a given delegated fluoroscopic procedure may perform that procedure without direct supervision, provided that a supervising radiologist or a radiologist assistant under the supervision of a radiologist is on site and immediately available to furnish assistance and direction throughout the performance of the procedure; and

7. Provide remedial instruction to a radiologist assistant student assigned to a New Jersey clinical education center for any procedure that is performed by a radiologist assistant student and found to be unacceptable by the supervising radiologist or radiologist assistant. If the student's performance of the procedure is determined to be unacceptable after a student has been determined to be clinically competent, the school shall ensure that the student's performance of the procedure is directly supervised as required pursuant to (e)6ii above until a radiologist determines that the student is clinically competent to perform that procedure. All remedial instruction shall be documented in the student's file.

(f) A clinical education center in New Jersey that provides clinical education to radiologist assistant students shall comply with (e)2 through 7 above. An out-of-State clinical education center that provides clinical education to radiologist assistant students from a New Jersey radiologist assistant school shall comply with the requirements of the state in which it is located.

(g) In order to maintain Board recognition, a school shall:

1. Comply with this section;

2. Maintain approval by the American Registry of Radiologic Technologist or another accreditation agency recognized by the Board;

3. Inform the Department within 15 calendar days of any change that could adversely affect the school's ability to fulfill its ability to provide students with appropriate didactic and laboratory instruction and clinical assignments, or has altered how the school operates, since its recognition by the Board. Such changes include, but are not limited to, a change in approval status as required in (g)2 above or change of curriculum;

4. Permit one or more Board representatives or Department employees to conduct a site inspection and make available such information, records, or persons that may be needed to determine compliance with the requirements of this section; and

5. Not have more than two consecutive years in which the first-time pass rate is below 75 percent for students taking the American Registry of Radiologic Technologists examination or another certifying board recognized by the Board.

(h) A school that is found not in compliance with (g) above may have its recognition terminated.

(i) A school whose application for recognition is denied, or a Board-recognized school whose recognition has been terminated, may request a hearing as provided at N.J.A.C. 7:28-19.18.

(j) A list of Board-recognized radiologist assistant schools may be obtained from the Bureau of X-ray Compliance website at www.xray.nj.gov.

HISTORY:

New Rule, R.2020 d.061, effective June 15, 2020.
See: 51 N.J.R. 1731(a), 52 N.J.R. 1267(a).
Former N.J.A.C. 7:28-19.17, Procedures for requesting and conducting adjudicatory hearings, recodified as N.J.A.C. 7:28-19.18.

§ 7:28-19.18 Procedures for requesting and conducting adjudicatory hearings

(a) Subject to the limitation on third-party hearing rights specified at (f) below, an applicant for examination, license, or Board approval for a radiologic technology school or Board recognition for a radiologist assistant school, or any person who believes that he or she is aggrieved by any Board finding as it relates to such an application, may contest the decision and request a contested case hearing. The request shall be made in writing to the Department at the address listed at (e) below within 20 calendar days from receipt of the Board's findings. The person requesting the hearing shall include the following information in each hearing request:

1. The name, address, and telephone number of the applicant and its authorized representative;

2. The date the applicant received the Board finding;

3. A copy of the finding and a list of all issues being appealed;

4. The defenses to each of the Board's findings of fact stated in short and plain terms;

5. An admission or denial of each of the Board's findings. If the person is without knowledge or information sufficient to form a belief as to the truth of a finding, the applicant shall so state and this shall have the effect of a denial. A denial shall fairly meet the substance of the findings denied. When the applicant intends in good faith to deny only a part or a qualification of a finding, the applicant shall specify so much of it as is true and material and deny only the remainder. The person may not generally deny all of the findings, but shall make all denials as specific denials of designated findings. For each finding the person denies, the person shall state the fact or facts as the applicant believes it or them to be;

6. Information supporting the request and specific reference to or copies of other written documents relied upon to support the request;

7. An estimate of the time required for the hearing (in days and/or hours); and

8. A request, if necessary, for a barrier-free hearing location for physically disable persons.

(b) Subject to the limitation on third-party hearing rights specified at (f) below, a licensed radiologic technologist or radiologist assistant, applicant for license renewal, or Board-approved school for radiologic technology or Board-recognized radiologist assistant school, or any person who believes that he or she is aggrieved by any Board finding or an administrative order issued pursuant to this subchapter, may contest the finding or administrative order and request a contested case hearing. The person requesting the hearing shall submit an original request in writing to the Department at the address at (e) below within 20 calendar days after the violator's receipt of the administrative order. The person requesting the hearing shall include the following information in each hearing request:

1. The name, address, and telephone number of the person requesting the hearing and any authorized representative;

2. The date the person requesting the hearing received the Board's finding or administrative order being contested;

3. A copy of the Board's finding or administrative order and a list of all issues being appealed;

4. The person's defenses to each of the findings of fact, stated in short and plain terms;

5. An admission or denial of each of the findings of fact. If the person requesting the hearing is without knowledge or information sufficient to form a belief as to the truth of a finding, the person shall so state and

this shall have the effect of a denial. A denial shall fairly meet the substance of the findings denied. When the person intends in good faith to deny only a part or a qualification of a finding, the person shall specify so much of it as is true and material and deny only the remainder. The person may not generally deny all of the findings of fact, but shall make all denials as specific denials of designated findings. For each finding of fact the person requesting the hearing denies, the person shall state the fact or facts as the violator believes it or them to be;

6. Information supporting the request and specific reference to or copies of other written documents relied upon to support the request;

7. An estimate of the time required for the hearing (in days and/or hours); and

8. A request, if necessary, for a barrier-free hearing location for physically disabled persons.

(c) The Department shall deny the hearing request if:

1. The applicant or person requesting the hearing fails to include all the information required by (a) or (b) above; or

2. The Department does not receive the request within 20 calendar days after the applicant or person requesting the hearing received the Board's finding or administrative order being contested.

(d) The Department shall conduct all adjudicatory hearings in accordance with the Administrative Procedure Act, N.J.S.A. 52:14B-1 et seq., and the Uniform Administrative Procedure Rules, N.J.A.C. 1:1.

(e) The applicant or violator shall send the request for an adjudicatory hearing to:

New Jersey Department of Environmental Protection
Office of Administrative Hearings and Dispute Resolution
ATTENTION: Adjudicatory Hearing Requests
401 E. State Street
Mail Code 401-07A
PO Box 420
Trenton, NJ 08625-0420; and
New Jersey Department of Environmental Protection
Bureau of X-ray Compliance
Mail Code 25-01
25 Arctic Parkway
PO Box 420
Trenton, New Jersey 08625-0420
Attention: Hearing Request

(f) Nothing in this section shall be construed to provide a right to an adjudicatory hearing in contravention of N.J.S.A. 52:14B-3.1 through 3.3.

HISTORY:

Amended by R.2014 d.083, effective May 5, 2014.
See: 45 N.J.R. 806(a), 46 N.J.R. 768(a).
In the first address in (e), inserted "Mail Code 401-04L", and substituted "Seventh" for "Fourth", and in the second address in (e), substituted "X-ray Compliance" for "Radiological Health", "420" for "415", and "0420" for "0415", and inserted "Mail Code 25-01".
Recodified from N.J.A.C. 7:28-19.17 and amended by R.2020 d.061, effective June 15, 2020.
See: 51 N.J.R. 1731(a), 52 N.J.R. 1267(a).
In the introductory paragraph of (a), substituted "at" for "in" twice, inserted a comma following "license" and "application", substituted "Board approval" for "Board-approval", and inserted "or Board recognition for a radiologist assistant school"; and in the introductory paragraph of (b), substituted "at" for "in", inserted the first occurrence of "radiologic", "or radiologist assistant", "for radiologic technology or Board-recognized radiologist assistant school" and a comma following "subchapter". Former N.J.A.C. 7:28-19.18, Severability, recodified as N.J.A.C. 7:28-19.19.
Administrative change, effective February 23, 2023.
See: 55 N.J.R. 528(a).

§ 7:28-19.19 Severability

Each section of this subchapter is severable. In the event that any section, subsection or division, or application thereof, is held invalid in a court of law, the remainder of this subchapter shall continue in full force and effect.

HISTORY:

Recodified from N.J.A.C. 7:28-19.18 by R.2020 d.061, effective June 15, 2020.

See: 51 N.J.R. 1731(a), 52 N.J.R. 1267(a).

SUBCHAPTER 20. PARTICLE ACCELERATORS FOR INDUSTRIAL AND RESEARCH USE

§ 7:28-20.1 Scope

(a) This subchapter establishes requirements and procedures for the registration and use of all particle accelerators, with the exception of those regulated by N.J.A.C. 7:28-14 and 15.

(b) A person shall not operate or permit the operation of a particle accelerator unless the equipment and installation meet the applicable requirements of this subchapter.

(c) In addition to the requirements of this subchapter, all registrants of particle accelerators are subject to all other applicable requirements of N.J.A.C. 7:28-1 through 8, 10, and 13.

HISTORY:

Amended by R.2014 d.083, effective May 5, 2014.
See: 45 N.J.R. 806(a), 46 N.J.R. 768(a).
In (c), updated the N.J.A.C. references.

§ 7:28-20.2 Definitions

The following words and terms, when used in this subchapter, shall have the following meanings, unless the context clearly indicates otherwise:

"Direct supervision" means guidance and instruction by the qualified machine operator who is physically present, is watching the operation of the particle accelerator, and is available for immediate assistance.

"Electron microscope" means a machine that accelerates electrons for the purpose of producing highly magnified images of materials and material surfaces.

"kVp" means kilovolt peak.

"Particle accelerator" means any machine that accelerates charged particles (electrons, protons, deuterons, or other charged particles, etc.) in a vacuum and discharges the resulting particulate or other radiation but which does not meet the specifications of machines currently regulated under N.J.A.C. 7:28-14 through 16; particle accelerators include, but are not limited to, machines used for research, irradiation, or other purposes; such machines include, but are not limited to, potential-drop accelerators, electron linear accelerators, cyclotrons, betatrons, microtrons, ion implant accelerators, and electron microscopes; particle accelerators do not include high voltage generators, televisions, video display terminals, cathode ray tubes or other similar devices whose primary purpose is not the production of a useful charged particle beam.

"Particle accelerator facility" means the location at which one or more particle accelerators are installed and are operated under the same administrative control.

"Particle accelerator safety officer" or "PASO" means the person who is appointed and authorized by the registrant to act on the registrant's behalf to implement and maintain the particle accelerator radiation protection program for the registrant's facility.

"Performance test" means a procedure which is performed to assure that an instrument continues to perform its intended function.

"Qualified machine operator" means a person who meets the requirements of N.J.A.C. 7:28-20.6(a).

"Radiation protection committee" means a group consisting of at least three individuals appointed by the registrant who identify radiation safety problems, initiate, recommend, or provide corrective action plans, and verify the implementation of corrective actions. One member of this committee shall be the particle accelerator safety officer and one member shall be a representative of management. The remaining members shall be appointed at the discretion of the registrant.

"Scattered radiation" means radiation that, during passage through matter, has changed in direction or in energy.

"Stray radiation" means the sum of leakage and scattered radiation.

§ 7:28-20.3 Registration requirements

A person shall not possess, control, use or cause a particle accelerator or an electron microscope to be used unless it has been registered with the Department pursuant to N.J.A.C. 7:28-3, unless the particle accelerator or electron microscope is incapable of operating at more than five kVp and does not produce radiation greater than 0.5 millirem per hour at any readily accessible point five centimeters from its surface.

§ 7:28-20.4 General requirements for a particle accelerator facility

(a) Particle accelerators not capable of operating at more than 30 kVp shall be exempt from the requirements of (b) through (f) below and N.J.A.C. 7:28-20.5 through 20.12 provided that the initial or repeat radiation protection survey does not yield radiation levels greater than 0.5 millirem per hour using maximum operating conditions of operation as measured five centimeters from any accessible surface.

(b) A registrant shall not permit a particle accelerator to be operated unless the person operating the particle accelerator has met the requirements of N.J.A.C. 7:28-20.6(a).

(c) A registrant shall not use a particle accelerator or cause it to be used unless the equipment, facilities, operating procedures and emergency procedures are adequate to minimize danger to property and to public health and safety.

(d) The registrant of a particle accelerator facility shall appoint a Particle Accelerator Safety Officer (PASO) who is authorized to act on behalf of the registrant to implement and maintain a radiation safety program for the particle accelerator facility. The PASO may be either a full-time employee of the registrant or a consultant hired by the registrant. The registrant shall hold the final responsibility for the safe operation of the facility in accordance with all pertinent provisions of this chapter.

(e) A particle accelerator safety officer shall meet at least one of the following five criteria:

1. Certification in health physics by the American Board of Health Physics or certification in therapy physics and/or radiological physics by the American Board of Radiology;

2. A bachelor's degree from an accredited college in biology, chemistry, radiation sciences, physics, engineering or mathematics and six years of professional technical experience in the field of radiological health or in a radiation protection activity. At least one year of the required health physics experience shall have been with a particle accelerator of a type similar to that with which the PASO will be working;

3. A master's degree in radiological health, radiation sciences, physics, chemistry, environmental sciences, engineering or a related field and at least five years of professional technical experience in the field of radiological health or in a radiation protection activity. At least one year of the required health physics experience shall have been with a particle accelerator of a type similar to that with which the PASO will be working;

4. A doctorate degree in radiological health, radiation sciences, physics, chemistry, environmental sciences, engineering or a related field plus four years of professional technical experience in the field of radiological health or in a radiation protection activity. At least one year of the required health physics experience shall have been with a particle accelerator of a type similar to that with which the PASO will be working; or

5. Ten years of professional technical experience in the field of radiological health or in a radiation protection activity. At least five years of the required health physics experience shall have been with a particle accelerator of a type similar to that with which the PASO will be working.

(f) A particle accelerator safety officer in a facility where the particle accelerators are only electron microscopes shall comply with the requirements set forth in (e) above or shall have received a bachelor's degree from an accredited college in a biological or physical science and shall have passed at least one course in radiation safety offered by an accredited college.

(g) The registrant of a particle accelerator shall appoint a radiation protection committee whose approval shall be required for implementation of procedures for the use of each particle accelerator. The PASO shall be a member of this committee.

§ 7:28-20.5 Use of particle accelerators on humans

(a) A registrant shall not use a particle accelerator or cause it to be used for the intentional irradiation of humans without first sending to the Department a written request stating the registrant's reasons for this use of the particle accelerator and the manner in which it will be used, and obtaining written approval from the Department.

(b) A registrant shall not use a particle accelerator or cause it to be used for the intentional irradiation of humans unless the equipment meets the requirements of this subchapter and N.J.A.C. 7:28-14.

§ 7:28-20.6 Training program on the safe use of each particle accelerator

(a) The registrant shall establish and maintain a training program on the safe use of each particle accelerator. The registrant shall not permit any person to operate the particle accelerator until that person has successfully completed the training program consisting of the 10 items set out below. The registrant shall ensure that the training program is conducted under the direction of the PASO or an individual with

equivalent qualifications in conjunction with the qualified machine operator and that the program shall include all of the following:

1. Instruction in the types, characteristics, location, and levels of radiation produced by the particle accelerator;

2. Instruction in the units of radiation exposure, dose, dose equivalent, and quantity of radioactivity associated with the particle accelerator;

3. Instruction in the biological effects of ionizing radiation;

4. Instruction in the methods used to prevent radiation exposure at the particle accelerator facility, including, but not limited to, time, distance, shielding, interlock system, safety procedures and radiation monitoring equipment;

5. Instruction in the use and care of personnel monitoring equipment employed at the particle accelerator facility;

6. Instruction on the location and use of all operating controls for the particle accelerator;

7. Instruction on the requirements of this subchapter and N.J.A.C. 7:28-1 through 8, 10, and 13;

8. Instruction in the facility's written operating and emergency procedures;

9. An examination testing the operator's knowledge of the requirements of (a)1 through 8 above. The examination shall be of sufficient depth to demonstrate that the operator has received instruction in each of the items listed above and has an understanding of the items at a level which permits the operator to use the particle accelerator in a manner consistent with the overriding goal of minimizing danger to public health and safety; and

10. At least 100 documented hours of on-the-job training under the direct supervision of a qualified machine operator and certified in writing by the PASO. The registrant shall maintain this documentation and certification for five years at the particle accelerator facility. These records shall be produced for review by the Department during an inspection and shall be submitted to the Department upon request. If, in the opinion of the PASO, the requirement of 100 hours of on-the-job training is too stringent for a particular particle accelerator, then the PASO shall submit a report documenting the number of hours of on-the-job training needed to become a qualified operator to the Department for approval.

(b) The registrant shall require each operator to become requalified not less than once every three years by completing a refresher training course covering the requirements of (a)1 through 9 above. The registrant shall maintain a record of each individual's completion of the refresher training course for five years at the particle accelerator facility. These records shall be produced for review by the Department during an inspection and shall be submitted to the Department upon request.

(c) A registrant may permit a person to function as an operator's assistant under the direct supervision of a qualified machine operator until that person has completed a training course covering the requirements of (a)1 through 10 above.

(d) The registrant shall maintain records of the operator's training program, including a copy of the examination, for at least five years at the particle accelerator facility. These records shall be produced for review by the Department during an inspection and shall be submitted to the Department upon request.

(e) Prior to operation of any particle accelerator after February 3, 1992, the registrant shall document in writing the name of each individual who operated a particle accelerator prior to February 3, 1992 and whom the PASO and the Radiation Protection Committee have certified as the first qualified machine operator for each particle accelerator. The registrant shall maintain this documentation for five years at the particle accelerator facility and shall produce it for review by the Department during an inspection. After February 3, 1992, an individual is required to complete all items in (a) above in order to become a qualified machine operator.

(f) When a new particle accelerator facility commences operation or places into operation a newly invented particle accelerator, the PASO and the Radiation Protection Committee shall document in writing the name and qualifications of the individual whom they have certified as the first qualified machine operator. Any subsequent machine operator shall be subject to the provisions of (a) above.

HISTORY:

Amended by R.2014 d.083, effective May 5, 2014.
See: 45 N.J.R. 806(a), 46 N.J.R. 768(a).
In (a)7, updated the N.J.A.C. references.

§ 7:28-20.7. Shielding design and radiation area survey requirements for a particle accelerator

(a) A person shall consult with an individual with qualifications equivalent to those specified in N.J.A.C. 7:28-20.4(e) with respect to the health physics considerations in the design of a particle accelerator installation. The original record of this consultation, including the shielding design, shall be maintained at the particle accelerator facility for the life of the unit and shall be produced for review by the Department during an inspection and a copy submitted to the Department along with the registration form. This section shall apply to those particle accelerators planned for installation after February 3, 1992.

(b) A registrant shall not install a particle accelerator unless such unit is designed and constructed with primary and/or secondary protective barriers as are necessary to comply with the permissible dose rates, radiation levels and concentrations specified in N.J.A.C. 7:28-6.

(c) A registrant shall ensure that a radiation survey of controlled areas and of adjacent areas is performed by the PASO or by a qualified individual under the supervision of the PASO to ensure that radiation exposure of individuals conforms to the requirements of N.J.A.C. 7:28-6, and an inspection is performed of the health physics aspects of the facility when the particle accelerator is first capable of producing radiation, but before the particle accelerator is used for any purpose other than installation or assembly of the particle accelerator, or the conducting of radiation surveys and health physics inspections.

(d) The registrant shall ensure that a written report of the radiation survey and health physics inspection is prepared by the PASO or by a qualified individual under the supervision of the PASO for review by the registrant. The registrant shall maintain these reports for the duration of the life of the machine at the particle accelerator facility.

(e) Prior to operation of the particle accelerator, the registrant shall implement or cause to be implemented the recommendations listed in the radiation survey and health physics report, including any special limitations which are necessary to comply with the requirements of this chapter. The registrant shall ensure that a follow-up radiation area survey of controlled areas and of adjacent areas is performed by the PASO or by a qualified individual under the supervision of the PASO and a follow-up health physics inspection is conducted to ensure that the recommendations as implemented meet the requirements of this chapter. The registrant shall ensure that a written report of the follow-up radiation survey and the follow-up health physics inspection is prepared by the PASO or under the supervision of the PASO for review by the registrant.

(f) The registrant shall submit a copy of the radiation survey and health physics inspection report required by (d) and (e) above to the Department within 30 days of the date of the survey and health physics inspection report, and shall maintain the original radiation survey and health physics inspection report for the duration of the life of the machine at the particle accelerator facility. The radiation survey and health physics inspection reports shall be produced for review by the Department upon request.

(g) The requirements of (c) above shall be followed when changes have been made in shielding, operation, equipment, or occupancy of adjacent areas which could affect radiation exposure of any individual and at intervals not to exceed one year.

(h) The registrant shall maintain at least two radiation survey instruments suitable for measuring all levels and energies of radiation capable of being produced by the particle accelerator. At least one of these radiation survey instruments shall be calibrated, operable, and easily accessible at the facility for use at all times.

(i) A registrant shall not use or cause a radiation survey instrument to be used unless:

1. A performance test is conducted on the survey instrument prior to each day's use;

2. The survey instrument is calibrated at intervals not exceeding one year using a nationally recognized calibration criteria;

3. The survey instrument is recalibrated each time it is serviced or repaired. If the service involved only a battery replacement, the survey instrument does not have to be recalibrated; and

4. The calibration procedure has been performed by a qualified individual using nationally recognized calibration procedures which conform to those of the National Institute of Standards and Technology. These procedures shall identify the calibration source used. Results of each calibration of the survey instrument shall be maintained at the particle accelerator facility for five years. The record of these results shall be produced for review by the Department during an inspection and shall be submitted to the Department upon request.

HISTORY

Amended by R.2005 d.239, effective July 18, 2005.

See: 37 N.J.R. 8(a), 37 N.J.R. 2675(b).

In (h), substituted "least" for "last" in the second sentence.

§ 7:28-20.8 Particle accelerator controls and interlock systems

(a) A registrant shall not operate or cause a particle accelerator to be operated unless each personnel entrance into a particle accelerator's high radiation area or exclusion area has been provided with the safety features listed below:

1. Clearly identified and easily discernible instrumentation, readouts and controls pertinent to the production of radiation;

2. A clearly identifiable switch on the accelerator control console which requires a positive, intentional action on the part of the operator for routine use in turning the particle accelerator beam on and off;

3. A personnel safety interlock system designed with a personnel safety interlock circuit. The personnel safety interlock system shall include a visual search procedure to clear personnel from the controlled area and high radiation areas prior to the production of radiation;

4. Personnel safety interlocks on all entrances into a controlled area and other high radiation areas that automatically terminate the production of radiation upon entry;

5. Circuitry such that when a safety interlock has been tripped, it shall only be possible to resume operation of the particle accelerator by manually resetting the controls, first at the position where the interlock has been tripped, and thereafter at the main control console;

6. Circuitry such that each personnel safety interlock shall allow its individual operation independent of all other interlocks;

7. Safety interlocks designed with fail-safe characteristics so that any defect or component failure in the interlock system prevents the production of radiation; and

8. A clearly identifiable emergency radiation cut-off switch shall be located in all high radiation areas and at the control console. Each cut-off switch shall include a manual reset switch so that the particle accelerator cannot be restarted from the accelerator control console without resetting the cut-off switch.

(b) A registrant shall not cause or allow a person to bypass intentionally an interlock which permits the production of radiation, unless such bypass fulfills all of the following conditions:

1. It is authorized for and limited to a specified time period by the radiation protection committee or PASO in writing prior to the by-pass;

2. It is recorded in a permanent log;

3. It is accompanied by the posting of a prominent notice at the particle accelerator control console and at each personnel entrance being bypassed; and

4. It is terminated as soon as the need for the by-pass no longer exists as determined by the PASO.

§ 7:28-20.9 Warning devices

(a) A particle accelerator shall not be operated unless the registrant has equipped all locations designated as high radiation areas and all entrances to such locations with clearly observable warning lights that operate when, and only when, radiation is being produced, and which shall be labeled to indicate that, when lit, radiation is being produced. The warning lights shall be included in the electrical circuitry of the particle accelerator such that when a warning light is not lit radiation cannot be produced in any area where personnel may be present.

(b) A particle accelerator shall not be operated unless the registrant has provided in each high radiation area audible and visual warning devices which shall be interlocked and activated for at least 30 seconds prior to production of radiation by the particle accelerator. Such warning devices shall be clearly discernible and labeled as to their function. The audible warning device alarm may be terminated once the high radiation area has been secured. Particle accelerator facilities designed and approved for human exposure are excluded from this requirement.

(c) A particle accelerator shall not be operated unless the registrant has identified barriers, temporary or otherwise, and pathways leading to high radiation areas in accordance with the labeling, posting and control requirements of N.J.A.C. 7:28-10.

§ 7:28-20.10 Operating procedures

(a) A registrant shall not operate or permit the operation of a particle accelerator unless all of the following requirements have been met:

1. The particle accelerator is equipped with a means (such as, but not limited to, a locked console or a locked room) to prevent its unauthorized use;

2. The safety interlock system is not used to turn off the particle accelerator beam except in an emergency or for testing the operation of the interlock;

3. The operation of all safety and warning devices, including interlocks, is tested by the qualified machine operator and the test results recorded at intervals not to exceed 30 days and such testing is verified in writing by the PASO at intervals not to exceed 90 days; each safety and warning device shall be listed separately in a log in which the test results are recorded, and the log shall be maintained for five years at the particle accelerator facility and shall be produced for review by the Department during an inspection;

4. Electrical circuit diagrams accurately reflecting the current status of the particle accelerator and the associated interlock systems are available to the operator and for inspection by the Department. The electrical circuit diagrams shall be reviewed and/or revised at intervals not to exceed one year by the qualified machine operator and the PASO shall verify in writing at intervals not to exceed one year that the review and/or revision was performed; the registrant shall maintain a record of such review for five years at the particle accelerator facility, and the record shall be produced for review by the Department during an inspection;

5. A copy of the current operating and emergency procedures is prepared under the direction of the PASO and maintained at the particle accelerator control panel. These operating and emergency procedures shall be reviewed and/or revised under the direction of the PASO at intervals not to exceed one year. The registrant shall maintain a record of such review with the current operating and emergency procedures at the accelerator facility for the life of the particle accelerator. This record shall be produced for review by the Department during an inspection; and

6. The written operating and emergency procedures address the methods used to prevent radiation exposure at the particle accelerator facility. The procedures shall include, but not be limited to, the following topics:

i. The location and operation of the interlock systems;

ii. The safety procedures that apply to each particle accelerator;

iii. The types and use of personnel monitoring equipment;

iv. The procedures and personnel requirements for changing the target;

v. The handling and disposal procedures for disposing of a target;

vi. The procedures for surveys and wipe tests; and

vii. The emergency procedures regarding personnel and machine operations applicable to each particle accelerator.

§ 7:28-20.11 Radiation area and personnel monitoring requirements

(a) The registrant shall identify in writing all types of radiation that will be produced, both primary and secondary, by the particle accelerator and the monitoring equipment selected to measure all the corresponding types and energies of radiation levels. The registrant shall maintain these records at the particle accelerator facility for five years. These records shall be produced for review by the Department during an inspection and shall be submitted to the Department upon request.

(b) The registrant shall continuously monitor the radiation levels in or at the entrance to all high radiation areas. The area monitoring devices shall have fail-safe characteristics and shall be capable of providing a remote and local readout with visual and/or audible alarms at the accelerator control panel, any entrance to high radiation areas, as well as at other appropriate locations determined by the PASO so that a person entering the high radiation area or present therein becomes aware of the existence of the hazard.

(c) The registrant shall have all area monitors calibrated at intervals not to exceed 12 months and after each servicing and repair according to written procedures established by the PASO. The calibration procedures and records shall be maintained for five years at the particle accelerator facility. These procedures and records shall be produced for review by the Department during an inspection and shall be submitted to the Department upon request.

(d) If the PASO has identified airborne particulate radiation as a primary or secondary product of a particle accelerator as required pursuant to (a) above, then surveys shall be performed by the PASO or other qualified individual under the supervision of the PASO at least once in each quarter of the calendar year to determine that the amount of airborne particulate radioactivity present in controlled areas is in compliance with N.J.A.C. 7:28-6. Where survey results indicate noncompliance with N.J.A.C. 7:28-6, use of the particle accelerator shall be immediately discontinued and remedial measures to bring the particle accelerator into compliance with N.J.A.C. 7:28-6 shall be taken. Use of the particle accelerator is prohibited until such time as new surveys show that compliance with N.J.A.C. 7:28-6 has been achieved. The results of the surveys shall be maintained for five years at the particle accelerator facility. Survey results shall be produced for review by the Department during an inspection and shall be submitted to the Department upon request.

(e) If the PASO has identified removable contamination as a primary or secondary product of a particular accelerator as required pursuant to (a) above, then wipe tests shall be performed by the PASO or other qualified individual under the supervision of the PASO upon initial use of the particle accelerator and, thereafter, at least every six months to determine the degree of removable contamination in the target area and other pertinent areas to ensure compliance with N.J.A.C. 7:28-6. Where wipe test results indicate noncompliance with N.J.A.C. 7:28-6, use of the particle accelerator shall be immediately discontinued and remedial measures to bring the particle accelerator into compliance with N.J.A.C. 7:28-6 shall be taken. Use of the particle accelerator is prohibited until such time as new wipe tests show that compliance with N.J.A.C. 7:28-6 has been achieved. The results of the wipe tests shall be maintained for five years at the particle accelerator facility. Wipe test results shall be produced for review by the Department during an inspection and shall be submitted to the Department upon request.

(f) Surveys shall be made by the PASO or other qualified individual under the supervision of the PASO upon initial use of the particle accelerator and, thereafter, not less than once annually, to determine the levels of radiation resulting from activation of the target and other pertinent areas to determine compliance with N.J.A.C. 7:28-6. Where test results indicate noncompliance with N.J.A.C. 7:28-6, use of the particle accelerator shall be immediately discontinued and remedial measures to bring the particle accelerator into compliance with N.J.A.C. 7:28-6 shall be taken. Use of the particle accelerator is prohibited until such time as test results show that compliance with N.J.A.C. 7:28-6 has been achieved. The results of the surveys shall be maintained for five years at the particle accelerator facility. Surveys shall be produced for review by the Department during an inspection and shall be submitted to the Department upon request.

(g) The PASO shall develop procedures for performing surveys and wipe tests required by (d), (e) and (f) above. These procedures shall be in writing and shall be kept at the particle accelerator facility. These procedures shall be produced for review by the Department during an inspection and shall be submitted to the Department upon request. The survey and wipe test procedures shall contain, but shall not be limited to, the instrumentation to be used in conducting surveys and wipe tests, the method of performing the survey and wipe test (for example, points on the equipment from where wipe samples will be taken and method of obtaining the wipe sample), and method of calculation of survey and wipe test results.

(h) The registrant shall supply all individuals with and shall require these individuals to use and wear appropriate personnel monitoring equipment as listed below when entering the area which has been defined as a high radiation area while the particle accelerator is in operation:

1. Direct reading dosimeters capable of measuring doses from zero to one roentgen measured in milliroentgen increments and provided with an audible indicator discernible above the ambient noise level; the direct reading dosimeter shall be read daily and doses shall be recorded in a log book; and

2. Portable radiation survey instruments capable of measuring the maximum radiation levels anticipated to be present at the facility and provided with an audible indicator discernible above the ambient noise level.

(i) The registrant shall ensure that the PASO assigns appropriate personnel monitoring equipment to each individual who works with the particle accelerator and that the use of such personnel monitoring equipment meets the requirements of N.J.A.C. 7:28-7.

(j) The registrant shall immediately confirm the radiation level measured by a personnel monitoring device if a direct reading dosimeter indicates exposure greater than 200 milliroentgens.

(k) The registrant shall maintain the personnel monitoring reports and the daily log records of the direct reading dosimeter values at the particle accelerator facility to insure compliance with N.J.A.C. 7:28-8. These records and logs shall be produced for review by the Department during an inspection and shall be submitted to the Department upon request.

HISTORY:

Amended by R.2014 d.083, effective May 5, 2014.
See: 45 N.J.R. 806(a), 46 N.J.R. 768(a).
In (e) and (f), updated the N.J.A.C. references.

§ 7:28-20.12 Ventilation systems

The registrant of a particle accelerator shall ensure that the maximum permissible average concentration of radioactive materials in air and water and the concentration of radioactive materials in effluents from the controlled areas shall meet the requirements of N.J.A.C. 7:28-6.

HISTORY:

Amended by R.2014 d.083, effective May 5, 2014.

See: 45 N.J.R. 806(a), 46 N.J.R. 768(a).
Deleted "shall be as specified in N.J.A.C. 7:28-6" following "water", and updated the N.J.A.C. reference.

§ 7:28-20.13 Electron microscopes

(a) Electron microscopes shall be exempt from the requirements of N.J.A.C. 7:28-20.4 through 7:28-20.12 except for the following requirements:

1. The registrant shall not use or cause an electron microscope to be used unless a radiation protection survey has been performed by an individual under the supervision of the PASO as defined in N.J.A.C. 7:28-20.4 to ensure compliance with N.J.A.C. 7:28-5 and 7 before the electron microscope is put into operation; the registrant shall submit a copy of the survey report to the Department within 30 days of the date of the survey and shall maintain the original survey report at the electron microscope facility; the survey report shall be produced for review by the Department during an inspection;

2. The electron microscope shall be be resurveyed after every repair, modification, or relocation that would affect radiation exposure; the registrant shall submit a copy of the survey report to the Department within 30 days of the date of the resurvey and shall maintain the resurvey report at the electron microscope facility; the resurvey shall be produced for review by the Department during an inspection;

3. The registrant shall ensure that the electron microscope operating parameter indicators and controls pertinent to the production of radiation are clearly identified and easily discernible; the electron microscope shall be provided with a clearly visible label bearing the conventional radiation symbol and the words CAUTION: THIS EQUIPMENT PRODUCES X-RAYS WHEN ENERGIZED or other words having equivalent meaning affixed on the column;

4. The registrant shall provide each electron microscope operator with appropriate personnel monitoring equipment as required by N.J.A.C. 7:28-7 and require that the device be worn by each individual during operation of the electron microscope.

i. The registrant shall ensure that the personnel monitoring reports received from the personnel monitoring device processor contain the information required in N.J.A.C. 7:28-8; and

ii. The personnel monitoring reports received from the personnel monitoring device processor shall be maintained for inspection by the employee and the Department pursuant to the requirements of N.J.A.C. 7:28-8.

(b) Electron microscopes incapable of operating at 30 kVp or above shall be exempt from the requirements of (a)4 above provided the initial or repeat radiation protection survey does not yield radiation levels using maximum conditions of operation as measured at five centimeters from any accessible surface greater than 0.5 millirem per hour.

(c) The registrant shall provide a means to secure the electron microscope to prevent unauthorized use when not in operation. Such means may include, but are not limited to, a locked console or locked room.

SUBCHAPTER 21. ANALYTICAL X-RAY INSTALLATIONS

§ 7:28-21.1 Scope

(a) This subchapter applies to installations using analytical x-ray equipment and establishes requirements for their use.

(b) The provisions of this subchapter are in addition to, and not in substitution for, the other applicable provisions of this chapter.

§ 7:28-21.2 Definitions

The following words and terms, when used in this subchapter, shall have the following meanings, unless the context clearly indicates otherwise.

"Analytical x-ray equipment" means any device or combination of devices used to determine the microscopic structure or composition of material utilizing x-rays, including but not limited to x-ray diffraction, x-ray spectroscopy, x-ray fluorescence, or fluorescence x-ray spectroscopy equipment.

"Enclosed beam x-ray system" means analytical x-ray equipment in which all possible x-ray paths are fully enclosed according to the requirements of N.J.A.C. 7:28-21.5, so that any part of the body cannot enter the enclosure.

"Fail-safe characteristics" means that all failures of warning and safety systems that can reasonably be anticipated will cause the equipment to fail in a mode such that personnel are safe from exposure to radiation.

"Open beam x-ray system" means analytical x-ray equipment other than enclosed beam x-ray system.

"Safety interlock" means a device or system of devices intended to prevent either the generation of x-rays or the emergence of the primary beam from the tube housing.

"X-ray accessory apparatus" means any portion of an analytical x-ray installation which is external to the x-ray tube housing and into which an x-ray beam is directed for making x-ray measurements or for other uses.

§ 7:28-21.3. General equipment requirements

(a) No person shall cause, suffer, allow or permit the possession or use of any analytical x-ray equipment unless it is equipped with the following:

1. A clearly visible label bearing the conventional radiation symbol and the words: "CAUTION: THIS EQUIPMENT PRODUCES X-RAYS WHEN ENERGIZED—TO BE OPERATED ONLY BY AUTHORIZED PERSONNEL" or other words having similar meaning which shall be attached near any switch which energizes an x-ray tube.

2. A clearly visible label bearing the conventional radiation symbol and the words: "CAUTION: HIGH INTENSITY X-RAY BEAM" or other words having similar meaning which shall be located in a conspicuous location near the x-ray tube housing.

3. A clearly visible warning light with fail-safe characteristics labeled with the words: "X-RAY ON" or other words having similar meaning which shall be located near any switch that energizes an x-ray tube and shall be illuminated only when the tube is energized. The provisions of this paragraph shall be effective February 1, 1980.

4. A clearly visible warning light or indicator with fail-safe characteristics which shall indicate when the x-ray tube is producing x-rays or the port of the radioactive source is open. The warning light or indicator shall be located in a conspicuous position near the x-ray tube, and shall be clearly visible to any person aligning or adjusting the x-ray accessory equipment. The provisions of this paragraph shall be effective February 1, 1980.

5. A clearly visible label bearing the conventional radiation symbol and the words: "CAUTION: THIS EQUIPMENT CONTAINS RADIOACTIVE MATERIAL—TO BE OPERATED ONLY BY QUALIFIED PERSONNEL" or other words having similar meaning which shall be attached to any switch which energizes analytical x-ray equipment which contains a radioactive source.

6. A clearly visible label which shall be attached to each radiation source housing that contains a radioactive source. The label shall include the following information:

i. The conventional radiation symbol; and

ii. The type of radioactive material; and

iii. The activity in curies or millicuries; and

iv. The date of measurement of activity.

(b) No person shall cause, suffer, allow or permit the possession or use of any analytical x-ray equipment unless such operation is in accordance with the following procedures and within the following dose rates:

1. Written operating and alignment procedures provided by the manufacturer of the x-ray system, or by the person in charge of use of the system if the radiation source housing and x-ray accessory apparatus are not compatible components supplied by the same manufacturer.

2. Written operating procedures shall be such that a qualified operator following instructions will not receive in any one hour a dose equivalent in excess of 37.5 mrem to the hands and forearms or 2.5 mrem to the whole body, gonads, blood-forming organs or lens of the eye.

3. Alignment procedures shall be such that a qualified worker aware of the radiation hazards will not receive in any one hour a dose equivalent in excess of 37.5 mrem to the hands and forearms or 2.5 mrem to the whole body, gonads, blood-forming organs, or lens of the eye while following these instructions. If either of these dose rates is likely to be exceeded, a definite warning shall be included in the alignment instructions.

4. The dose due to unwanted radiation from components such as high voltage rectifiers shall not exceed 10 mrem in a week in any accessible region 5 cm from the outside surface of the generator cabinet. Where an individual may be in the vicinity of the equipment while it is operating for as long as 40 hours per week, the dose rate shall not exceed 0.25 mrem/hr.

5. The x-ray accessory apparatus shall include a beam trap or other barrier with sufficient shielding so that the dose rate due to the transmitted primary beam does not exceed 0.25 mrem/hr under normal operating conditions. In the presence of scattered radiation this requirement shall be considered met for x-ray tube sources if the inherent shielding of the trap or barrier is at least equivalent to the thickness of lead specified

in the following table for the maximum rated anode current and potential. In the case of isotope sources, the required barrier thickness shall be determined by a qualified expert.

Thickness of lead Required for a Primary Beam Barrier Located 5 cm from the Focal Spot

Anode Current (ma)	Thickness of lead (mm)		
	50kVp	70kVp	100kVp
20	1.5	5.6	7.7
40	1.6	5.8	7.9
80	1.6	5.9	
160	1.7		

HISTORY:

Amended by R.2005 d.239, effective July 18, 2005.
See: 37 N.J.R. 8(a), 37 N.J.R. 2675(b).
In (b), substituted "the" for "that" in the third sentence of 5.

§ 7:28-21.4 Additional equipment requirements for open beam x-ray systems

(a) No person shall cause, suffer, allow or permit the possession or use of any open beam analytical x-ray equipment unless it is equipped with the following in addition to the requirements of section 3 of this subchapter:

1. A clearly visible warning light or indicator which shall be located near each individual x-ray tube shutter and shall indicate when the shutter is open.

2. A suitable barrier to clearly delineate the boundary between the radiation area and the controlled area.

3. A system barrier surrounding each radiation area with sufficient inherent shielding so that the dose equivalent received by individuals in the surrounding controlled area does not exceed five mrem in any one hour or 100 mrem in any five consecutive days.

4. A beam shutter for each port of the radiation source housing. Such beam shutter shall be interlocked with the x-ray accessory apparatus coupling, or collimator, in such a way that the port will be open only when the collimator or coupling is in place. Shutters at unused ports shall be secured to prevent casual opening.

5. A guard or interlock which prevents entry of any part of the body into the primary beam path.

6. The provisions of paragraphs 3, 4 and 5 of this subsection shall apply to new open beam analytical x-ray equipment after February 1, 1980. Open beam analytical x-ray equipment in use prior to February 1, 1980 shall be exempt from the provisions of paragraphs 3, 4 and 5 unless such equipment is sold, leased, loaned or otherwise transferred from one user to another whether gratuitously or for consideration.

(b) No person shall cause, suffer, allow or permit the possession or use of any open beam analytical x-ray equipment unless it is operated in accordance with the following procedures and within the following dose rates:

1. The x-ray generator, the control panel and all other parts of the analytical x-ray system, except the x-ray tube housing, shall be so constructed that with all the shutters closed, the stray radiation measured at a distance of five centimeters from its surface is not capable of producing a dose in excess of 0.25 millirem in one hour at any specified tube rating.

2. The x-ray tube housing shall be so constructed that with all shutters closed, the leakage radiation measured at a distance of 5 centimeters from its surface is not capable of producing a dose in excess of 2.5 millirem in one hour at any specified tube rating.

3. Radiation exposure levels in the vicinity of controls and adjustments of the x-ray accessory apparatus used during routine operation shall not exceed 37.5 mrem/hr to the hands or 2.5 mrem/hr to the whole body, gonads, blood-forming organs, or lens of the eye.

§ 7:28-21.5 Additional equipment requirements for enclosed beam X-ray systems

(a) No person shall cause, suffer, allow or permit the possession or use of any enclosed beam analytical x-ray equipment unless it is equipped with the following:

1. A sufficient number of safety interlocks so that the opening of any section of the enclosure during normal operation, or routine alignment, or routine maintenance will prevent either the generation of x-rays or the emergence of the primary beam from any x-ray tube housing port.

2. A chamber or coupled chambers to enclose the radiation source, sample, detector and analyzing crystal. Any such chamber shall be constructed so that it can not be entered by any part of the body during normal operation. The provisions of this paragraph shall be effective February 1, 1980.

3. A sample chamber closure which shall be interlocked with either the x-ray tube high voltage supply or with a shutter in the primary beam so that no x-ray beam can enter the sample chamber while it is open. Such interlock shall be of fail-safe design. The provisions of this paragraph shall be effective February 1, 1980.

(b) No person shall cause, suffer, allow or permit the possession or use of any enclosed beam analytical x-ray equipment unless it is constructed in such manner as to limit the leakage x-rays at a distance of 5 centimeters from any accessible surface during normal operation to less than 0.25 millirem in one hour at any specified tube rating.

§ 7:28-21.6 Operating procedures

(a) No person shall cause, suffer, allow or permit the possession or use of any analytical x-ray equipment unless it is operated in accordance with the following procedures:

1. All safety devices, including but not limited to, warning lights, warning indicators, and safety interlocks as required by this subchapter shall be maintained in a fully functional operating condition. These safety devices shall be tested for proper functioning as recommended by the manufacturer or once every six months and records kept of all such testing.

2. All safety devices, including but not limited to, warning lights, warning indicators, and safety interlocks originally provided at the time of the installation of the analytical x-ray equipment, but not otherwise specified by this subchapter, shall be maintained in a fully functional operating condition. An exemption may be made, subject to the approval by the Department, when the operational procedures prohibit the normal functioning of these safety devices. Records of these exemptions shall be kept.

3. In addition to and not in substitution for the applicable requirements of subchapter 7 (Radiation Surveys and Personnel Monitoring) of this chapter, all personnel operating, repairing and aligning analytical x-ray equipment shall be provided with appropriate finger or wrist personnel monitoring equipment. The reported dose equivalent shall be recorded on Form BRP-26, "Current Occupational External Radiation Exposure," or on a clear and legible form containing all the information required on BRP-26. This reported dose equivalent shall be clearly identified as resulting from exposure to analytical x-rays.

4. A radiation survey shall be made before a new installation is placed in routine operation and whenever changes are made that could adversely affect radiation protection, as required by subchapter 7 (Radiation Surveys and Personnel Monitoring). Records shall be maintained showing the results of such surveys as required by subchapter 8 (Records) of this chapter.

§ 7:28-21.7 Analytical x-ray equipment with a high voltage supply that cannot operate at potentials above 16 kilovolts

(a) No person shall use an analytical x-ray unit with a high voltage supply that cannot operate at potentials above 16 kilovolts or cause it to be used unless the following requirements are met:

1. The analytical x-ray unit is registered with the Department pursuant to N.J.A.C. 7:28-3.1;

2. The registrant has had a qualified individual perform a radiation safety survey of the analytical x-ray unit and has had the qualified individual prepare and submit a report of the results of the survey to the registrant. The survey shall be performed when the analytical x-ray unit is first capable of producing radiation and before the analytical x-ray unit is used for any purpose other than installation, assembly, or the conducting of radiation surveys; and

3. The registrant shall submit a copy of the radiation survey report to the Department within 30 days after the date of the survey, and shall maintain the radiation survey report at the analytical x-ray facility for review by the Department during an inspection. The registrant shall retain the radiation survey report in compliance with N.J.A.C. 7:28-8.

(b) The registrant shall not use an analytical x-ray unit with a high voltage supply that cannot operate at potentials above 16 kilovolts or cause it to be used when the unit has been moved to a location different from that identified in the initial radiation survey report or after any modifications have been made in the equipment that may compromise radiation shielding integrity, unless the following conditions are met:

1. The registrant has had a qualified individual perform a radiation safety survey of the analytical x-ray unit and has had the qualified individual prepare and submit a report of the results of the survey to the registrant. The survey shall be performed when the analytical x-ray unit is first capable of producing radiation and before the analytical x-ray unit is used for any purpose other than installation, assembly, or the conducting of radiation surveys; and

2. The registrant shall submit a copy of the radiation survey report to the Department within 30 days after the date of the survey, and shall maintain the radiation survey report at the analytical x-ray facility for review by the Department during an inspection. The registrant shall retain the radiation survey report in compliance with N.J.A.C. 7:28-8.

(c) If the results of the radiation survey required by (a)2 and (b)1 above reveal that there are no radiation levels above 0.1 mR/hr when measured at all locations five centimeters from any accessible surface of the specific analytical x-ray unit, then this analytical x-ray unit is exempt from the requirements of N.J.A.C. 7:28-21.3, 21.4, 21.5 and 21.6(a)3.

HISTORY:

New Rule, R.1990 d.427, effective August 20, 1990.
See: 22 New Jersey Register 890(a), 22 New Jersey Register 2570(a).

SUBCHAPTER 22. QUALITY ASSURANCE PROGRAMS FOR MEDICAL DIAGNOSTIC X-RAY INSTALLATIONS

§ 7:28-22.1 Purpose, scope and applicability

(a) The purpose of this subchapter is to increase protection to the public and radiation workers from unnecessary exposure to radiation and to reduce the occurrence of misdiagnosis caused by faulty equipment and operator error.

(b) This subchapter establishes requirements for the development and implementation of quality assurance programs to ensure that registrants of diagnostic x-ray equipment who perform diagnostic x-ray procedures in the healing arts achieve consistent high quality imaging and improve diagnosis while reducing unnecessary radiation to the patients and workers. This subchapter further establishes certain responsibilities of registrants of radiation sources used in the practice of diagnostic radiology. This subchapter also establishes the qualifications and training requirements for medical physicists, medical physicist assistants and qualified individuals designing or implementing quality assurance programs in accordance with this subchapter. Certification requirements and associated fees are also established for medical physicists and medical physicist assistants.

(c) All registrants of medical diagnostic x-ray imaging equipment and computed tomography equipment, which is used for performing diagnostic radiography, fluoroscopy, x-ray bone densitometry, or computed tomography in the healing arts, are required to develop and continually implement quality assurance programs. Such equipment includes, but is not limited to, equipment used in performing diagnostic radiology procedures in hospital, medical, podiatric, chiropractic, industrial, school, and government facilities.

(d) The provisions of this subchapter are not applicable to diagnostic radiographic mammography equipment that must comply with the Federal Mammography Quality Standards Act, 42 U.S.C.A. § 263(b), or N.J.A.C. 7:28-15.4.

§ 7:28-22.2 Definitions

The words and terms listed below, when used in this subchapter, shall have the following meanings, unless the context clearly indicates otherwise.

"CT" means computed tomography.

"Dedicated interventional special procedure suite" means a room dedicated to the performance of fluoroscopic interventional special procedures. These procedures include, but are not limited to, angioplasty, angiography, cardiac catheterization, etc.

"Immediate supervision" means in-room supervision.

"Initially" means within 60 days of the date the x-ray machine is acquired.

"QA" means quality assurance.

"QC" means quality control.

"Qualified medical physicist for the supervision of quality assurance programs for computed tomography equipment" means an individual who meets the qualifications for a "qualified medical physicist for the supervision of quality assurance programs for computed tomography equipment" in N.J.A.C. 7:28-22.12(b).

"Qualified medical physicist for the supervision of quality assurance programs for diagnostic x-ray imaging" means an individual who meets the qualifications for a "qualified medical physicist for the supervision of quality assurance programs for diagnostic x-ray imaging" in N.J.A.C. 7:28-22.12(a).

"Qualified medical physicist assistant in fluoroscopy" means an individual who meets the qualifications for a "qualified medical physicist assistant in fluoroscopy" in N.J.A.C. 7:28-22.12(d).

"Qualified medical physicist assistant in radiography" means an individual who meets the qualifications for a "qualified medical physicist assistant in radiography" in N.J.A.C. 7:28-22.12(c).

"Registrant" means a person who is required to register a source of radiation with the Department pursuant to this chapter.

HISTORY:

Amended by R.2014 d.083, effective May 5, 2014.
See: 45 N.J.R. 806(a), 46 N.J.R. 768(a).
Rewrote definition "Initially".

§ 7:28-22.3 General provisions

(a) No person shall perform or permit the performance of a diagnostic x-ray procedure in the healing arts using radiographic, fluoroscopic, x-ray bone densitometry, or computed tomography (CT) equipment unless the registrant has developed and continues to implement a quality assurance program that satisfies the requirements of this subchapter.

(b) Subject to (c) below, the quality assurance program shall contain the following elements:

1. A quality assurance program manual as specified in N.J.A.C. 7:28-22.4;

2. Quality control tests as specified in N.J.A.C. 7:28-22.5, 22.6 or 22.7 (as appropriate for the diagnostic x-ray equipment);

3. An initial and annual (not to exceed 14 months) Medical Physicist's QC Survey as specified in N.J.A.C. 7:28-22.8, 22.9, or 22.10; and

4. A corrective action plan as required by N.J.A.C. 7:28-22.4(a)4.

(c) Registrants of x-ray bone densitometer equipment are required only to implement and continue to carry out the quality assurance programs for such equipment which are required by N.J.A.C. 7:28-22.11.

(d) The Department has prepared compliance guidance documents, listed below, which may be used by the registrants in developing and implementing quality assurance programs required by this subchapter. The compliance guidance documents are listed below:

1. Compliance Guidance for a Medical Diagnostic X-ray Quality Assurance Program Manual;

2. Compliance Guidance for Radiographic Quality Control;

3. Compliance Guidance for Fluoroscopic Quality Control; and

4. Compliance Guidance for Computed Tomography Quality Control.

(e) The compliance guidance documents listed in (d) above are available from the Department, and may be obtained by contacting the Department at the Bureau of X-ray Compliance, Mail Code 25-01, PO Box 420, Trenton, NJ 08625-0420 and can be obtained from the Bureau's web page at www.xray.nj.gov.

(f) A registrant or an organization representing a group of registrants may request approval from the Department of an alternative quality assurance program to be used by that specific registrant or a specified list of registrants. The application must fully document the provisions of the alternative quality assurance program and identify how the alternative program differs from the requirements in this subchapter. The applicant must demonstrate that the alternative program will be equally effective in achieving consistent high quality imaging and improving diagnosis while reducing unnecessary radiation to the patients and workers as the quality assurance program required by this subchapter. The applicant may request that a specific quality control test or other quality assurance provision be excluded from the applicant's quality assurance program if performing the test or provision is not possible or is inappropriate because of the nature of the applicant's equipment or practice.

(g) The Department, with approval of the Commission on Radiation Protection, may approve, or approve with conditions, a request for an alternative quality assurance program. To be approved, the alternative

program must be equally effective in achieving consistent high quality imaging while reducing unnecessary radiation to the patients and the workers as the quality assurance program required by this subchapter.

(h) The Department may deny a request for an alternative quality assurance program should it determine that the alternative program would not be equally effective in achieving consistent high quality imaging and improving diagnosis while reducing unnecessary radiation to the patients and the workers as the quality assurance program required by this subchapter.

(i) Any registrant who receives approval from the Department for an alternative quality assurance program shall comply with the terms of approval.

(j) Any registrant may use forms that differ from any forms contained in the compliance guidance documents referenced in (d) above without approval, provided the form or procedure is sufficient to demonstrate compliance with the regulatory provision.

(k) Any registrant who submits an application for an alternative quality assurance program shall comply with the quality assurance program requirements of this subchapter until such time as the application for an alternative quality assurance program is approved by the Department.

(l) No person shall engage in the use or employment of dishonesty, fraud, deception, misrepresentation, false promise or false pretense while engaged in activities relating to this subchapter.

(m) No person shall falsify or make misleading statements on any record or report required by this subchapter.

(n) No person shall make misleading or false statements to a representative of the Department or Commission.

(o) No person shall falsify any records, nor destroy nor steal any property or records, relating to quality assurance as required by this subchapter.

HISTORY:

Amended by R.2014 d.083, effective May 5, 2014.
See: 45 N.J.R. 806(a), 46 N.J.R. 768(a).
In (a), deleted "in accordance with the compliance schedule in N.J.A.C. 7:28-22.14 and" following "program"; and rewrote (e).

§ 7:28-22.4 Quality assurance program manual

(a) The registrant of any diagnostic medical x-ray equipment used in the healing arts shall develop and continuously implement a quality assurance program that includes a quality assurance program manual that contains the following elements:

1. A list of clearly identified individuals and assigned responsibilities for maintaining the quality assurance program and for performing the quality control tests;

2. Quality control (QC) measures which shall include:

i. QC tests to be performed and the frequency of each test;

ii. A list of equipment to be tested;

iii. Acceptability limits for each test performed;

iv. A description of each QC test procedure;

v. Sample forms for each QC test performed;

vi. Processor and solutions maintenance; and

vii. An Annual Medical Physicist's QC Survey;

3. Policies and procedures which shall include:

i. A policy for holding patients and for presence of individuals in room during radiation exposure;

ii. A policy for pregnant patients and employees;

iii. A policy for gonadal shielding;

iv. A description of the orientation program for operators of radiographic, fluoroscopic and CT equipment including the duration and content of that program;

v. Procedures for proper use and maintenance of equipment;

vi. Policies and employee responsibilities concerning personnel radiation monitoring;

vii. A policy for releasing films;

viii. A policy for labeling films (that is, patient's statistics, facility information);

ix. A commitment to perform a Radiation Safety Survey of the Environs in accordance with N.J.A.C. 7:28-15.10 on newly installed x-ray equipment within 60 days of installation and an initial Medical Physicist's QC Survey as required by N.J.A.C. 7:28-22.8(a), 22.9(a), or 22.10(a) as appropriate for the type of x-ray equipment;

x. A policy for using technique charts; and

xi. A policy and rules on radiation safety as required by N.J.A.C. 7:28-15.9(a)8;

4. A plan for taking corrective actions which shall include:

i. Measures to be taken when the x-ray equipment is determined to need repair, service or calibration; and

ii. Measures to be taken when the processor is determined to need repair or service.

5. Recordkeeping which shall include:

i. Records for the most recent one year of the QC tests performed by the registrant;

ii. Records of the initial Medical Physicist's QC Survey plus the two most recent QC Surveys;

iii. Records of corrective actions for the most recent two years; and

iv. Personnel monitoring records;

6. Reference manuals (if any) and their location; and

7. A provision describing how the registrant and the qualified medical physicist will review the QA program annually (not to exceed 14 months).

(b) The Department has prepared a Compliance Guidance for a Medical Diagnostic X-ray Quality Assurance Program Manual, referenced at N.J.A.C. 7:28-22.3(d)1, which may be used by the registrants in developing and implementing the quality assurance program required by this subchapter. The compliance guidance document listed in N.J.A.C. 7:28-22.3(d)1 is available from the Department, and may be obtained by contacting the Department at the Bureau of X-ray Compliance, Mail Code 25-01, PO Box 420, Trenton, NJ 08625-0420 and can be obtained from the Bureau's web page at www.xray.nj.gov.

HISTORY:

Amended by R.2014 d.083, effective May 5, 2014.

See: 45 N.J.R. 806(a), 46 N.J.R. 768(a).

In (a)7, inserted "(not to exceed 14 months)"; and in (b), substituted "X-ray Compliance" for "Radiological Health", "420" for "415", "0420" for "0415", "Bureau's" for "Radiation Protection Program", and "www.xray.nj.gov." for " 'http://www.state.nj.us/dep/rpp.' ", and inserted "Mail Code 25-01".

§ 7:28-22.5 Quality assurance program for medical diagnostic radiographic equipment

(a) The registrant of any medical diagnostic radiographic equipment used in the healing arts shall develop and continuously implement a quality assurance program that includes the following elements:

1. A quality assurance program manual that satisfies the requirements of N.J.A.C. 7:28-22.4;

2. Quality control tests, procedures, frequencies and standards, including, but not limited to, those identified in Table 1, Radiographic Quality Control Requirements below;

3. An initial and annual thereafter (not to exceed 14 months) Medical Physicist's QC Survey as specified in N.J.A.C. 7:28-22.8(a); and

4. A corrective action plan required by N.J.A.C. 7:28-22.4(a)4.

TABLE 1
Radiographic Quality Control Requirements
(To be performed by appropriately trained facility personnel)

Item	Required Test or Procedure	Frequency	Standard
1.	Equipment Warm-up Procedure	Daily, each day x-rays are taken	Warm up tube; ensure equipment is working properly
2.	Processor Quality Control (Sensitometry/Densitometry)	Daily, each day x-rays are taken	Medium Density +/-0.15 Optical Density (OD), Density Difference +/-0.15 OD, Base + Fog + 0.03 OD of operating levels
3.	Laser Film Printer Quality Control	Weekly	As specified in N.J.A.C. 7:28-22.6 Table 2, Fluoroscopic Quality Control Requirements
4.	Darkroom Cleanliness	Weekly	Free from dust and dirt
5.	Processor Maintenance and Chemical Solutions	Initially and every 2 months (more frequently if needed)	Manufacturers' specifications

Item	Required Test or Procedure	Frequency	Standard
6.	Equipment Visual Checklist	Initially and quarterly	All tests passed
7.	Film and Chemical Shelf Life	Initially and quarterly	Use film and chemicals with earliest expiration date first
8.	Light Field/X-ray Field Alignment	Initially, quarterly and after service	Not to exceed 2% of Source to Image Distance (SID)
9.	Repeat Analysis	Semiannually (review rejected films immediately for corrective action)	No standard, but goal should be <5%
10.	Artifact Evaluation	Examine every film for artifacts, in-depth evaluation semiannually	No significant artifacts
11.	Analysis of Fixer Retention	Initially and semiannually	≤5 micrograms/sq. centimeter or ≤0.05 grams/sq. meter
12.	Darkroom Fog	Initially, semiannually	≤0.05 Optical Density Difference
13.	Screen-Film Contact/Cassette Integrity/ Screen Cleanliness	Initially and annually or as needed	No areas of poor contact 2 cm. in diameter
14.	Lead Aprons, Gloves, Gonadal and Thyroid Shield Integrity Check	Initially and annually	No breaks in protective garments
15.	Medical Physicist's QC Survey	Initially and annually	As required in N.J.A.C. 7:28-22.8
16.	Quality Assurance Program Review	Initially and annually	As required in N.J.A.C. 7:28-22.4(a)7

(b) The Department has prepared compliance guidance documents, listed in N.J.A.C. 7:28-22.3(d)1 and 2, which may be used by the registrants in developing and implementing the quality assurance programs required by this subchapter. The compliance guidance documents are available from the Department, and may be obtained by contacting the Department at the Bureau of X-ray Compliance, Mail Code 25-01, PO Box 420, Trenton, NJ 08625-0420 and can be obtained from the Bureau's web page at www.xray.nj.gov.

(c) The registrant shall ensure that individuals performing manual processing of films in medical diagnostic radiography shall use the time/temperature method. An example of the time/ temperature method is described in the compliance guidance documents listed in N.J.A.C. 7:28-22.3(d)2.

(d) The registrant shall ensure that individuals performing quality control tests described in Table 1, Radiographic Quality Control Requirements, above have an appropriate level of training to perform the tests competently.

(e) If any of the test results from item 2 in Table 1, Radiographic Quality Control Requirements, above indicate that the x-ray processing does not meet the standards in Table 1, the registrant shall immediately initiate steps to bring the processing into compliance. Films shall not be processed until the processing meets the standards required in Table 1.

(f) If any of the test results from item 3 in Table 1, Radiographic Quality Control Requirements, above indicate that the laser film printer does not meet the standards in Table 1, the registrant shall immediately

initiate steps to repair the laser film printer to meet the standards. Films shall not be processed until the processing meets the standards.

(g) If any of the test results from items 6, 8, 10, 11, 12, 13, 14, and 15 in Table 1, Radiographic Quality Control Requirements, above indicate that the x-ray equipment does not meet the standards in Table 1, the registrant shall immediately initiate corrective actions to meet the standards. All corrective actions shall be completed within 30 days.

(h) No person shall use or permit the use of film or processing chemicals beyond the expiration dates on the containers.

(i) The registrant shall ensure that records of each corrective action, repair and service are maintained for at least two years.

(j) The registrant shall ensure that:

1. All results of QC tests performed for items 2, 3, 5, 6, and 8 through 14 in Table 1, Radiographic Quality Control Requirements, are recorded on forms available from the Department at www.xray.nj.gov, or a comparable form containing the same information, and maintained for at least one year;

2. All images (film or digital) produced and relied upon in the performance of QC tests for items 2 and 3 in Table 1, Radiographic Quality Control Requirements, are maintained for at least 30 days; and

3. All images (film or digital) produced and relied upon in the performance of QC tests for items 8, 11, 12, and 13 in Table 1, Radiographic Quality Control Requirements, are maintained for at least one year.

(k) The registrant shall ensure that the initial Medical Physicist's QC Survey is permanently maintained, and that the records of the annual Medical Physicist's QC Survey are maintained for at least two years.

(l) The registrant shall ensure that the records of the quality assurance program review are maintained for at least two years.

HISTORY:

Amended by R.2014 d.083, effective May 5, 2014.

See: 45 N.J.R. 806(a), 46 N.J.R. 768(a).

In (b), substituted "X-ray Compliance" for "Radiological Health", "420" for "415", "0420" for "0415", "Bureau's" for "Radiation Protection Program", and "www.xray.nj.gov." for " 'http://www.state.nj.us/dep/rpp.' ", and inserted "Mail Code 25-01"; rewrote the introductory paragraph of (j); and added (j)1 through (j)3.

§ 7:28-22.6 Quality assurance program for medical diagnostic fluoroscopic equipment

(a) The registrant of any medical diagnostic fluoroscopic equipment used in the healing arts shall develop and continuously implement a quality assurance program that includes the following elements:

1. A quality assurance program manual that satisfies the requirements of N.J.A.C. 7:28-22.4;

2. Quality control tests, procedures, frequencies and standards, including but not limited to, those identified in Table 2, Fluoroscopic Quality Control Requirements, below;

3. An initial and annual thereafter (not to exceed 14 months) Medical Physicist's QC Survey as specified in N.J.A.C. 7:28-22.9(a); and

4. A corrective action plan required by N.J.A.C. 7:28-22.4(a)4.

TABLE 2

Fluoroscopic Quality Control Requirements

(To be performed by appropriately trained facility personnel)

Item	Required Test or Procedure	Frequency	Standard	
1.	Equipment Warm-up Procedure	Daily, each day fluoroscopy is performed	Tube warm-up and ensure equipment is working properly Fluoro phantom image is comparable to facility standard	
2.	Laser Film Printer Quality Control	Weekly	Recommended control limits	*OD = Optical Density
			SMPTE Test Pattern	Inverted gray scale
			0% patch 2.45 +/- 0.15 OD*	0% patch 2.50 + 0.15 OD
			10% patch 2.10 +/- 0.15 OD	10% patch 2.25 +/- 0.15 OD

Item	Required Test or Procedure	Frequency	Standard
			40% patch 1.15 +/- 0.15 OD 40% patch 1.35 +/- 0.15 OD 90% patch 0.30 +/- 0.08 OD 90% patch 0.30 +/- 0.08 OD *The 5% patch should just be visible inside of the 0% patch. The 95% patch should be visible inside the 100% patch.
3.	For spot film and radiography, items 2, 4, 5, 7, 9 and 11 QC tests as specified in Table 1, Radiographic Quality Control Requirements	As specified in Table 1, Radiographic Quality Control Requirements	As specified in N.J.A.C. 7:28-22. 5 Table 1, Radiographic Quality Control Requirements
4.	Phantom Images (Fluoro Video Monitor)	Monthly	kVp +/- 5%, MA +/- 10% high & low contrast depends on phantom used
5.	Equipment Visual Checklist	Initially and quarterly	All tests passed
6.	Lead Aprons, Gloves, Gonadal and Thyroid Shield Integrity Check	Initially and annually	No breaks in protective garments
7.	Medical Physicist's QC Survey	Initially and annually	As required in N.J.A.C. 7:28-22.9
8.	Quality Assurance Program Review	Initially and annually	As required in N.J.A.C. 7:28-22.4(a)7

(b) The Department has prepared compliance guidance documents, listed in N.J.A.C. 7:28-22.3(d)1 and 3, which may be used by the registrants in developing and implementing the quality assurance programs required by this subchapter. The compliance guidance documents are available from the Department, and may be obtained by contacting the Department at the Bureau of X-ray Compliance, Mail Code 25-01, PO Box 420, Trenton, NJ 08625-0420 and can be obtained from the Bureau's web page at www.xray.nj.gov.

(c) The registrant shall ensure that individuals performing quality control tests described in Table 2, Fluoroscopic Quality Control Requirements, above have an appropriate level of training to perform the tests competently.

(d) If any of the test results from item 2 in Table 2, Fluoroscopic Quality Control Requirements, above indicate that the laser film printer does not meet the standards in Table 2, the registrant shall immediately initiate steps to repair the laser film printer to meet the standards. Films shall not be processed until the processing meets the standards.

(e) If any of the test results from item 3 in Table 2, Fluoroscopic Quality Control Requirements, above indicate that the x-ray equipment or processing does not meet the standards in Table 2, the registrant shall immediately initiate steps to bring the fluoroscopic equipment and processing into compliance. If processor sensitometry/densitometry does not meet the standards, films shall not be processed until the processing meets the sensitometry/ densitometry standards.

(f) If any of the test results from items 4 through 6 in Table 2, Fluoroscopic Quality Control Requirements, above indicate that the fluoroscopic equipment does not meet the standards in Table 2, the registrant shall immediately initiate steps to repair the fluoroscopic equipment to meet the standards. All such repairs shall be completed within 30 days.(g) No person shall use or permit the use of film or processing chemicals beyond the expiration dates on the containers.

(h) The registrant shall ensure that records of each corrective action, repair and service are maintained for at least two years.

(i) The registrant shall ensure that:

1. All results of QC tests performed for items 2 through 6 in Table 2, Fluoroscopic Quality Control Requirements, are recorded on forms available from the Department at www.xray.nj.gov, or a comparable form containing the same information, and maintained for at least one year; and

2. All images (film or digital) produced and relied upon in the performance of QC tests for items 2, 3, and 5 are maintained for at least 30 days.

(j) The registrant shall ensure that the initial Medical Physicist's Fluoroscopic QC Survey is permanently maintained and the records of the annual Medical Physicist's Fluoroscopic QC Survey are maintained for at least two years.

(k) The registrant shall ensure that the records of the quality assurance program review are maintained for at least two years.

HISTORY:

Amended by R.2014 d.083, effective May 5, 2014.
See: 45 N.J.R. 806(a), 46 N.J.R. 768(a).
In (b), substituted "X-ray Compliance" for "Radiological Health", "420" for "415", "0420" for "0415", "Bureau's" for "Radiation Protection Program", and "www.xray.nj.gov." for " 'http://www.state.nj.us/dep/rpp.' ", and inserted "Mail Code 25-01"; rewrote the introductory paragraph of (i); and added (i)1 through (i)2.

§ 7:28-22.7 Quality assurance program for diagnostic computed tomography equipment

(a) The registrant of any diagnostic computed tomography (CT) equipment used in the healing arts shall develop and continuously implement a quality assurance program that includes the following elements:

1. A quality assurance program manual that satisfies the requirements of N.J.A.C. 7:28-22.4;

2. Quality control tests, procedures, frequencies and standards including, but not limited to, those identified in Table 3, Computed Tomography Quality Control Requirements, below;

3. An initial and annual thereafter (not to exceed 14 months) Medical Physicist's Computed Tomography QC Survey as specified in N.J.A.C. 7:28-22.10(a); and

4. A corrective action plan required by N.J.A.C. 7:28-22.4(a)4.

TABLE 3
Computed Tomography Quality Control Requirements
(To be performed by a licensed radiologic technologist, a qualified medical physicist, or a trained service technician)

Item	Required Test or Procedure	Frequency	Standard
1.	Equipment Function: Indicators, Mechanical, and other Safety Checks. Warm-up	Daily, each day x-rays are taken	Must work properly
2.	For film processing, items 2, 5, 7, and 11 QC tests as specified in Table 1, Radiographic Quality Control Requirements	As specified in Table 1, Radiographic Quality Control Requirements	As specified in N.J.A.C. 7:28-22.5 Table 1, Radiographic Quality Control Requirements
3.	CT Number for Water	Daily	CT equipment or phantom manufacturers' specifications
4.	Field Uniformity	Daily	CT equipment or phantom manufacturers' specifications

Item	Required Test or Procedure	Frequency	Standard	
5.	Laser Film Printer Quality Control	Weekly	Recommended control limits	*OD = Optical Density
			SMPTE Test Pattern	Inverted gray scale
			0% patch 2.45 +/- 0.15 OD*	0% patch 2.50 + 0.15 OD
			10% patch 2.10 +/- 0.15 OD	10% patch 2.25 +/- 0.15 OD
			40% patch 1.15 +/- 0.15 OD	40% patch 1.35 +/- 0.15 OD
			90% patch 0.30 +/- 0.08 OD	90% patch 0.30 +/- 0.08 OD
			*The 5% patch should just be visible inside of the 0% patch. The 95% patch should be visible inside the 100% patch.	
6.	Low Contrast Resolution	Initially and Monthly	CT equipment or phantom manufacturers' specifications	
7.	High Contrast Spatial Resolution	Initially and Monthly	CT equipment or phantom manufacturers' specifications	
8.	Noise	Initially and Monthly	CT equipment or phantom manufacturers' specifications	
9.	Table Position Indicator Accuracy	Initially and Monthly	+/- 2 mm	
10.	Scan Increment Accuracy	Initially and Monthly	+/- 1 mm	
11.	Scan Localization Light Accuracy	Initially and Monthly	+/- 5 mm	
12.	Medical Physicist's QC Survey	Initially and annually	As required in N.J.A.C. 7:28-22.10	
13.	Quality Assurance Program Review	Initially and annually	As required in N.J.A.C. 7:28-22.4(a)7	

(b) The Department has prepared compliance guidance documents, listed in N.J.A.C. 7:28-22.3(c)1 and 4, which may be used by the registrants in developing and implementing the quality assurance programs required by this subchapter. The compliance guidance documents are available from the Department, and may be obtained by contacting the Department at the Bureau of X-ray Compliance, Mail Code 25-01, PO Box 420, Trenton, NJ 08625-0420 and can be obtained from the Bureau's web page at www.xray.nj.gov.

(c) The registrant shall ensure that individual performing quality control tests described in Table 3, Computed Tomography Quality Control Requirements, above is either a licensed radiologic technologist, a qualified medical physicist for the supervision of quality assurance programs for computed tomography equipment, or a trained service technician.

(d) If any of the test results from item 2 in Table 3, Computed Tomography Quality Control Requirements, above indicate that the x-ray processing does not meet the standards in Table 3, the registrant shall immediately initiate steps to bring the processing into compliance. Films shall not be processed until the processing meets these standards.

(e) If any of the test results from items 3, 4, 6, 7, and 8 in Table 3, Computed Tomography Quality Control Requirements, above indicate that the computed tomography equipment does not meet the standards in Table 3, the registrant shall immediately initiate steps to repair the computed tomography equipment to meet the standards. All corrective actions shall be completed within 30 days.

(f) If any of the test results from item 5 in Table 3, Computed Tomography Quality Control Requirements, above indicate that the laser film printer does not meet the standards in Table 3, the registrant shall immediately initiate steps to repair the laser film printer to meet the standards. Films shall not be processed until the processing meets the standards.

(g) If any of the test results from items 9, 10, and 11 in Table 3, Computed Tomography Quality Control Requirements, above indicate that the computed tomography equipment does not meet the standards in Table 3, the registrant shall immediately initiate steps to repair the computed tomography equipment to meet the standards. All corrective actions shall be completed within 15 days.

(h) No person shall use or permit the use of film or processing chemicals beyond the expiration dates on the containers.

(i) The registrant shall ensure that records of each corrective action, repair and service are maintained for at least two years.

(j) The registrant shall ensure that:

1. All results of QC tests performed for items 2 through 11 in Table 3, Computed Tomography Quality Control Requirements, are recorded on forms available from the Department at www.xray.nj.gov, or a comparable form containing the same information, and maintained for at least one year;

2. All images (film or digital) produced and relied upon in the performance of QC tests for items 2, 3, 4, and 5 are maintained for at least 30 days; and

3. All images (film or digital) produced and relied upon in the performance of QC tests for items 6, 7, and 8 are maintained for at least one year.

(k) The registrant shall ensure that the initial Medical Physicist's Computed Tomography QC Survey is permanently maintained and the records of the annual Medical Physicist's Computed Tomography QC Survey are maintained for at least two years.

(l) The registrant shall ensure that the records of the quality assurance program review are maintained for at least two years.

HISTORY:

Amended by R.2014 d.083, effective May 5, 2014.

See: 45 N.J.R. 806(a), 46 N.J.R. 768(a).

In (b), substituted "X-ray Compliance" for "Radiological Health", "420" for "415", "0420" for "0415", "Bureau's" for "Radiation Protection Program", and "www.xray.nj.gov." for " 'http://www.state.nj.us/dep/rpp.' ", and inserted "Mail Code 25-01"; rewrote the introductory paragraph of (j); and added (j)1 through (j)3.

§ 7:28-22.8 Medical Physicist›s Radiographic QC Survey

(a) The registrant of any medical diagnostic radiographic equipment used in the healing arts shall develop and continuously implement a quality assurance program. Such a program shall include an initial and thereafter an annual (not to exceed 14 months) Medical Physicist's Radiographic QC Survey performed by a qualified medical physicist for the supervision of quality assurance programs for diagnostic x-ray imaging. The Medical Physicist's Radiographic QC Survey shall include the elements identified in the Table 4, Medical Physicist's Radiographic QC Survey, below.

TABLE 4
Medical Physicist's Radiographic QC Survey

Item	Test	Standard
1.	Radiographic Unit Assembly Evaluation	As required at N.J.A.C. 7:28-15.3
2.	Collimation Assessment	As required at N.J.A.C. 7:28-15.3
3.	Collimator Illumination	As required at N.J.A.C. 7:28-15.3
4.	Half Value Layer	As required at N.J.A.C. 7:28-15.3
5.	mA Exposure Linearity	As required at N.J.A.C. 7:28-15.3
6.	kVp Accuracy/Reproducibility	As required at N.J.A.C. 7:28-15.3
7.	Timer Accuracy/Reproducibility	As required at N.J.A.C. 7:28-15.3
8.	Automatic Exposure Control, Reproducibility, Tracking, Density Control	As required at N.J.A.C. 7:28-15.3

Item	Test	Standard
9.	Entrance Skin Exposure (ESE) Measurement	Determine ESE for common exam and compare with National Evaluation of X-ray Trends (NEXT) data available in the Compliance Guidance Documents referenced at N.J.A.C. 7:28-22.3(c)2
10.	Image Quality Evaluation (Recommendation)	Established standard for phantom test tool used
11.	Review Facility/Technologist QC Test Records	Review QC tests for proper procedure and corrective action
12.	Physicist Report and Recommendations	Communicate results and recommendations to registrant

(b) A qualified medical physicist for the supervision of quality assurance programs for diagnostic x-ray imaging may delegate the performance testing required for the Medical Physicist's Radiographic QC Survey in (a) above to a qualified medical physicist assistant in radiography who holds a valid certificate issued by the Department, except that the qualified medical physicist for the supervision of a quality assurance programs for diagnostic x-ray imaging may not delegate items 10 through 12 in Table 4, Medical Physicist's Radiographic QC Survey, below.

(c) The qualified medical physicist for the supervision of quality assurance programs for diagnostic x-ray imaging shall be fully responsible for the Medical Physicist's Radiographic QC Survey and all of its measurements, conclusions and recommendations.

(d) Prior to delegating any performance testing permitted in (b) above, the qualified medical physicist shall provide adequate training and instruction to the qualified medical physicist assistant in the specific test procedures to be delegated. This training and instruction shall be in addition to the minimum level of training and instruction required for the qualified medical physicist assistant in radiography to obtain the certificate from the Department in accordance with N.J.A.C. 7:28-22.13(c).

(e) All Medical Physicist's Radiographic QC Survey reports shall be signed by the qualified medical physicist for the supervision of quality assurance programs for medical diagnostic imaging, and also by the qualified medical physicist assistant in radiography. The Medical Physicist's Radiographic QC Survey report shall identify which tests, if any, were performed by the qualified medical physicist assistant in radiography.

(f) For the Radiographic QC Survey:

1. If any of the Radiographic QC Survey test results from items 1 through 8 in Table 4, Medical Physicist's Radiographic QC Survey, above indicate that the x-ray equipment does not meet the standards in Table 4, the registrant shall immediately initiate corrective actions to meet the standards. All corrective actions shall be completed within 30 days.

2. For item 9 in Table 4, Medical Physicist's Radiographic QC Survey, above the medical physicist shall determine the entrance skin exposure (ESE) for the common examination performed using the equipment and compare the test results for the ESE with the most recent relevant National Evaluation of X-ray Trends (NEXT) data available in the compliance guidance documents referenced in N.J.A.C. 7:28-22.3(d)2.

3. For item 10 in Table 4, Medical Physicist's Radiographic QC Survey, above the medical physicist should compare the phantom test tool image with the manufacturer's specifications.

4. For item 11 in Table 4, Medical Physicist's Radiographic QC Survey, above, the medical physicist shall review the completed QC test records that have been performed by the registrant for the previous year to ensure the tests were performed properly and corrective actions taken.

5. For item 12 in Table 4, Medical Physicist's Radiographic QC Survey, above, the medical physicist shall prepare a report that reviews the overall quality assurance program being carried out by the registrant and contains:

i. Raw data and results of the medical physicist's equipment tests performed in accordance with items 1 through 10 in Table 4, Medical Physicist's Radiographic QC Survey, above and recommendations based on these tests; and

ii. Results and recommendations based on the medical physicist's review performed in accordance with item 11 in Table 4, Medical Physicist's Radiographic QC Survey, above.

HISTORY:

Amended by R.2014 d.083, effective May 5, 2014.
See: 45 N.J.R. 806(a), 46 N.J.R. 768(a).
In (f)4, inserted a comma following "above", deleted "properly" following the first occurrence of "performed", and inserted "properly" following the second occurrence of "performance"; in the introductory paragraph of (f)5, inserted a comma following "above"; rewrote (f)5i; and in (f)5ii, substituted "based on" for "of".

§ 7:28-22.9 Medical Physicist›s Fluoroscopic QC Survey

(a) The registrant of any medical diagnostic fluoroscopic equipment used in the healing arts shall develop and continuously implement a quality assurance program. Such a program shall include an initial and thereafter an annual (not to exceed 14 months) Medical Physicist's Fluoroscopic QC Survey performed by a qualified medical physicist for the supervision of quality assurance programs for diagnostic x-ray imaging. The Medical Physicist's Fluoroscopic QC Survey shall include the elements identified in Table 5, Medical Physicist's Fluoroscopic QC Survey, below. If the standard for any test in Table 5 refers to a manufacturer's specification and no such specification exists, then that standard does not apply.

TABLE 5
Medical Physicist's Fluoroscopic QC Survey

Item	Test	Standard
1.	Fluoroscopic Unit Assembly Evaluation	As required at N.J.A.C. 7:28-15.5
2.	Entrance Exposure Rate to Image Intensifier	Fluoroscopic equipment manufacturers' specifications
3.	Patient Entrance Exposure Rate	Fluoroscopic equipment manufacturers' specifications
4.	Maximum Exposure Rate	As required at N.J.A.C. 7:28-15.5
5.	High Contract Resolution/Low Contrast for Fluoroscopy Video Monitor	Fluoroscopic equipment manufacturers' specifications
6.	Spot Film Automatic Exposure Control (AEC) System Performance	Fluoroscopic equipment manufacturers' specifications
7.	High Contrast Resolution/Low Contrast for Fluoroscopy Image Recording System (that is, spot film device, cine system, videotape system, etc.)	Fluoroscopic equipment manufacturers' specifications
8.	Half-Value Layer	Fluoroscopic equipment manufacturers' specifications
9.	Kilovoltage	Fluoroscopic equipment manufacturers' specifications
10.	Fluoroscopic and Spot Film Collimation Assessment	As required at N.J.A.C. 7:28-15.5
11.	Review of Facility and Technologist QC Test	Review QC tests for proper procedure and corrective action
12.	Physicist Report and Recommendations	Communicate results and recommendations to registrant

(b) A qualified medical physicist for the supervision of quality assurance programs for diagnostic x-ray imaging may delegate the performance testing required for the Medical Physicist's Fluoroscopic QC Survey in (a) above to a qualified medical physicist assistant in fluoroscopy who holds a valid certificate issued by the Department except as provided below:

1. The qualified medical physicist for the supervision of quality assurance programs for diagnostic x-ray imaging may not delegate items 11 and 12 in Table 5, Medical Physicist's Fluoroscopic QC Survey, above; and

2. The qualified medical physicist for the supervision of quality assurance program for diagnostic x-ray imaging may not delegate any items in Table 5, Medical Physicist's Fluoroscopic QC Survey, above if the fluoroscopic equipment is located in a dedicated interventional special procedure suite.

(c) Not withstanding (b) above, the qualified medical physicist for the supervision of quality assurance programs for diagnostic x-ray imaging shall be fully responsible for the Medical Physicist's Fluoroscopic QC Survey and all of its measurements, conclusions and recommendations.

(d) Prior to delegating any performance testing permitted in (b) above, the qualified medical physicist shall provide adequate training and instruction to the qualified medical physicist assistant in fluoroscopy in the type of equipment and the specific test procedures to be delegated. This training and instruction shall be in addition to the minimum level of training and instruction required for the qualified medical physicist assistant in fluoroscopy to obtain the certificate from the Department in accordance with N.J.A.C. 7:28-22.13(d).

(e) All Medical Physicist's Fluoroscopic QC Survey reports shall be signed by the qualified medical physicist for the supervision of quality assurance programs for medical diagnostic imaging, and also by the qualified medical physicist assistant in fluoroscopy. The Medical Physicist's Fluoroscopic QC Survey report shall identify which tests, if any, were performed by the qualified medical physicist assistant.

(f) For the Fluoroscopic QC Survey:

1. If any of the Fluoroscopic QC survey test results from items 1 through 10 in Table 5, Medical Physicist's Fluoroscopic QC Survey, above indicate that the x-ray equipment does not meet the standards established in Table 5, the registrant shall immediately initiate corrective actions to meet the standards. All corrective actions shall be completed within 30 days.

2. For item 11 in Table 5, Medical Physicist's Fluoroscopic QC Survey, above, the medical physicist shall review the completed QC test records that have been performed by the registrant for the previous year to ensure the tests were performed properly and corrective actions taken.

3. For item 12 in Table 5, Medical Physicist's Fluoroscopic QC Survey, above, the medical physicist shall prepare a report that reviews the overall quality assurance program being carried out by the registrant and contains:

i. Raw data and results of the medical physicist's equipment tests performed in accordance with items 1 through 10 in Table 5, Medical Physicist's Fluoroscopic QC Survey, above and recommendations based on these tests; and

ii. Results and recommendations based on the medical physicist's review performed in accordance with item 11 in Table 5, Medical Physicist's Fluoroscopic QC Survey, above.

HISTORY:

Amended by R.2014 d.083, effective May 5, 2014.

See: 45 N.J.R. 806(a), 46 N.J.R. 768(a).

In (b)1, deleted "a" preceding "quality", and deleted "8," preceding "11" and a comma following "11"; in (b)2, deleted "digital or" preceding "located"; in (f)3i, substituted "and results" for ", results and recommendations", and "10" for "11", and inserted "and recommendations based on these tests"; and in (f)3ii, substituted "based on" for "of" and "11" for "12".

§ 7:28-22.10 Medical Physicist›s Computed Tomography QC Survey

(a) The registrant of any medical diagnostic computed tomography equipment used in the healing arts shall develop and continuously implement a quality assurance program. Such a program shall include an initial and thereafter an annual (not to exceed 14 months) Medical Physicist's Computed Tomography QC Survey performed by a qualified medical physicist for the supervision of quality assurance programs for computed tomography equipment. The Medical Physicist's Computed Tomography QC Survey shall include the elements identified in the Table 6, Medical Physicist's Computed Tomography QC Survey, below. If the standard for any test in Table 6 refers to a manufacturer's specification and no such specification exists, then that standard does not apply.

TABLE 6
Medical Physicist's Computed Tomography QC Survey

Item	Test	Standard
1.	Scan Increment Accuracy	+/-1 mm
2.	Scan Localization Light Accuracy	+/-5 mm
3.	Patient Dose (Multiple Scan Average Dose—MSAD or Computed Tomography Dose Index—CTDI)	CT equipment manufacturers' specifications and scan protocol or phantom manufacturers' specifications
4.	Pre-Patient Collimation Accuracy	Manufacturers' specifications
5.	Contrast Scale	CT equipment or phantom manufacturers' specifications
6.	CT Number for Water	CT equipment or phantom manufacturers' specifications

Item	Test	Standard
7.	Slice Thickness	CT equipment or phantom manufacturers' specifications
8.	Field Uniformity	CT equipment or phantom manufacturers' specifications
9.	Low Contrast Resolution	CT equipment or phantom manufacturers' specifications
10.	High Contrast Resolution	CT equipment or phantom manufacturers' specifications
11.	Noise	CT equipment or phantom manufacturers' specifications
12.	Scan Protocol Review	Ensure that both the adult and pediatric scan protocols are separate and unique
13.	Review of Facility and Technologist QC Tests	Review QC tests for proper procedure and corrective action
14.	Physicist Report and Recommendations	Communicate results and recommendations to registrant

(b) A qualified medical physicist for the supervision of quality assurance programs for computed tomography equipment may not delegate any items in Table 6, Medical Physicist's Computed Tomography QC Survey, above.

(c) The qualified medical physicist for the supervision of quality assurance programs for computed tomography equipment shall be fully responsible for the Medical Physicist's Computed Tomography QC Survey and all of its measurements, conclusions and recommendations.

(d) All Medical Physicist's Computed Tomography QC Survey reports shall be signed by the qualified medical physicist for the supervision of quality assurance programs for computed tomography equipment.

(e) For the Computed Tomographic QC Survey

1. If any of the Computed Tomographic QC Survey test results from items 1 through 4 in Table 6, Medical Physicist's Computed Tomography QC Survey, above indicate that the CT equipment does not meet the standards established in Table 6, the registrant shall immediately initiate corrective actions to meet the standards. All corrective actions shall be completed within 15 days.

2. If any of the Computed Tomographic QC Survey test results from items 5 through 11 in Table 6, Medical Physicist's Computed Tomography QC Survey, above indicate that the CT equipment does not meet the standards established in Table 6, the registrant shall immediately initiate corrective actions to meet the standards. All corrective actions shall be completed within 30 days.

3. For item 12 in Table 6, Medical Physicist's Computed Tomography QC Survey, above, the medical physicist shall ensure that both the adult and pediatric scan protocols are separate and unique.

4. For item 13 in Table 6, Medical Physicist's Computed Tomography QC Survey, above, the medical physicist shall review the completed QC test records that have been performed by the registrant for the previous year to ensure the tests were performed properly and corrective actions taken.

5. For item 14 in Table 6, Medical Physicist's Computed Tomography QC Survey, above, the medical physicist shall prepare a report that reviews the overall quality assurance program being carried out by the registrant and contains:

i. Raw data and results of the medical physicist's equipment tests performed in accordance with items 1 through 12 in Table 6, Medical Physicist's Computed Tomography QC Survey, above and recommendations based on these tests; and

ii. Results and recommendations based on the medical physicist's review performed in accordance with item 13 in Table 6, Medical Physicist's Computed Tomography QC Survey, above.

HISTORY:

Amended by R.2014 d.083, effective May 5, 2014.
See: 45 N.J.R. 806(a), 46 N.J.R. 768(a).
In the introductory paragraph of (e), inserted a colon at the end; in the introductory paragraph of (e)5, substituted "above" for "below"; in (e)5i, substituted "and results" for ", results and recommendations", and inserted "and recommendations based on these tests"; and in (e)5ii, substituted "based on" for "of" and "13" for "14".

§ 7:28-22.11 Quality assurance for x-ray bone densitometer equipment

(a) The registrant of any x-ray bone densitometer shall continuously carry out a quality assurance program consistent with the equipment manufacturer's recommendations.

(b) The registrant shall ensure that the items listed below describing the operation and calibration of the equipment are maintained at the facility:

1. A copy of the manufacturer's specific quality assurance program recommendations and the operating manual;

2. Documentation of the quality assurance program and quality control tests for the x-ray bone densitometer;

3. Instructions on the use of the phantom(s), or testing appropriate for the system and allowable variations for the indicated parameters; and

4. A radiation safety manual as required in N.J.A.C. 7:28-15.9(a)8.

(c) The registrant shall ensure that the manufacturer's recommended test procedures and frequencies for the x-ray bone densitometer are followed and the test results are recorded.

(d) The registrant shall ensure that the records of tests required by (c) above are maintained for at least one year.

§ 7:28-22.12 Qualifications of medical physicists and medical physicist assistants

(a) Only a person who holds a valid certificate issued by the Department in accordance with N.J.A.C. 7:28-22.13(a) and meets at least one of the following criteria may perform the duties of a "qualified medical physicist for the supervision of quality assurance programs for diagnostic x-ray imaging" as required in this subchapter:

1. Certification by one of the following agencies in the specialty listed:

i. The American Board of Radiology in Diagnostic Radiological Physics or Radiological Physics;

ii. The American Board of Medical Physics in Diagnostic Imaging Physics;

iii. Certification issued by the Fellowship in the Canadian College of Physicists in Medicine that is equivalent to (a)1i or ii above; or

iv. Certification by other national certifying boards, which may be recognized by the Commission, where the person seeking recognition as a qualified medical physicist for the supervision of quality assurance programs for diagnostic x-ray imaging has petitioned the Commission in writing and where the Commission has issued a written determination that the certification in question meets the criteria of a qualified medical physicist pursuant to this section;

2. A master's or doctorate degree from an accredited college in radiological health, radiation sciences, physics, chemistry, environmental sciences, engineering or a related field and at least three years of professional, clinical and technical experience in the field of radiological physics, including the performance of quality control tests of diagnostic x-ray imaging, that was obtained under the supervision of an individual who meets the requirements of this section, except the requirement to hold a certificate issued by the Department; or

3. Any individual who does not meet at least one of the foregoing criteria may petition the Commission for recognition as a qualified medical physicist for the supervision of quality assurance programs for diagnostic x-ray imaging. The individual shall submit a written petition to the Commission that contains sufficient information on his or her educational, professional, clinical, technical, employment and/or any other relevant experience. The Commission may approve any such petition based on its determination that the individual demonstrates competence to act as a qualified medical physicist for the supervision of quality assurance programs for diagnostic x-ray imaging.

(b) Only a person who holds a valid certificate issued by the Department in accordance with N.J.A.C. 7:28-22.13(a) and meets at least one of the following criteria may perform the duties of a "qualified medical physicist for the supervision of quality assurance programs for computed tomography equipment" as required in this subchapter:

1. Certification by one of the following agencies in the specialty listed:

i. The American Board of Radiology in Diagnostic Radiological Physics or Radiological Physics;

ii. The American Board of Medical Physics in Diagnostic Imaging Physics;

iii. Certification issued by the Fellowship in the Canadian College of Physicists in Medicine that is equivalent to (b)1i or ii above; or

iv. Certification by other national certifying boards, which may be recognized by the Commission, where the person seeking recognition as a qualified medical physicist for the supervision of quality assurance

programs for computed tomography x-ray equipment has petitioned the Commission in writing and where the Commission has issued a written determination that the certification in question meets the criteria of a qualified medical physicist pursuant to this section;

2. A master's or doctorate degree from an accredited college in radiological health, radiation sciences, physics, chemistry, environmental sciences, engineering or a related field and at least three years of professional, clinical and technical experience in the field of radiological physics, including the performance testing of computed tomography equipment that was obtained under the supervision of an individual who meets the requirements of this section, except the requirement to hold a certificate issued by the Department; or

3. Any individual who does not meet at least one of the foregoing criteria may petition the Commission for recognition as a qualified medical physicist for the supervision of quality assurance programs for computed tomography equipment. The individual shall submit a written petition to the Commission that contains sufficient information on his or her educational, professional, clinical, technical, employment and/or any other relevant experience. The Commission may approve any such petition based on its determination that the individual demonstrates competence to act as a qualified medical physicist for the supervision of quality assurance programs for computed tomography equipment.

(c) Only a person who holds a valid certificate issued by the Department in accordance with N.J.A.C. 7:28-22.13(a), meets one of the criteria contained in (c)1 through 5 below and also meets the criterion in (c)6 below may perform the duties of a "qualified medical physicist assistant in radiography":

1. Is currently ARRT certified in general radiography or holds a current New Jersey license as a diagnostic radiologic technologist and has five years of experience as a practicing diagnostic technologist, one year of which shall include performing quality control tests on radiographic equipment;

2. Is currently ARRT certified in both general radiography and in quality management with three years of experience as a practicing diagnostic radiologic technologist;

3. Has a bachelors degree from an accredited college or university in biology, chemistry, radiation sciences, physics, engineering or mathematics and four years of technical experience performing quality control tests on radiographic equipment in the field of radiological health;

4. Has a master's degree or a doctorate degree from an accredited college or university in radiological health, radiation sciences, physics, chemistry, environmental sciences, engineering or a related field and two years of technical experience performing quality control tests on radiographic equipment in the field of radiological health; or

5. Any individual who does not meet at least one of the foregoing criterion may petition the Commission for recognition as a qualified medical physicist assistant in radiography. The individual shall submit a written petition to the Commission that contains sufficient information on his or her educational, professional, clinical, technical, employment and/or any other relevant experience. The Commission may approve any such petition based on its determination that the individual demonstrates competence to act as a qualified medical physicist assistant in radiography.

6. In addition to the criteria in (a)1 through 5 above, the individual shall document to the satisfaction of the Department, that the individual has received, at a minimum, training and instruction on performing QC tests and has performed quality control tests 1 through 9 of Table 4, Medical Physicist's Radiographic QC Survey, in N.J.A.C. 7:28-22.8 on at least five radiographic units while under the immediate supervision of a qualified medical physicist for the supervision of quality assurance programs for diagnostic x-ray imaging.

(d) Only a person who holds a valid certificate issued by the Department in accordance with N.J.A.C. 7:28-22.13(a), meets one of the criteria contained in (d)1 through 5 below, and also meets the criterion in (d)6 below may perform the duties of a "qualified medical physicist assistant in fluoroscopy":

1. Is currently ARRT certified in general radiography or holds a current New Jersey license as a diagnostic radiologic technologist and has five years of experience as a practicing diagnostic technologist, one year of which shall include performing quality control tests in fluoroscopy;

2. Is currently ARRT certified in both general radiography and in quality management with three years of experience as a practicing diagnostic radiologic technologist;

3. Has a bachelors degree from an accredited college or university in biology, chemistry, radiation sciences, physics, engineering or mathematics and four years of technical experience performing quality control tests on fluoroscopic equipment in the field of radiological health;

4. Has a master's degree or a doctorate degree from an accredited college or university in radiological health, radiation sciences, physics, chemistry, environmental sciences, engineering or a related field and two years of technical experience performing quality control tests on fluoroscopic equipment in the field of radiological health; or

5. Any individual who does not meet at least one of he foregoing criterion may petition the Commission for recognition as a qualified medical physicist assistant in fluoroscopy. The individual shall submit a written petition to the Commission that contains sufficient information on his or her educational, professional, clinical, technical, employment and/or any other relevant experience. The Commission may approve any such petition based on its determination that the individual demonstrates competence to act as a qualified medical physicist assistant in fluoroscopy.

6. In addition to the criteria in (d)1 through 5 above, the individual shall document to the satisfaction of the Department, that the individual has received, at a minimum, training and instruction on performing QC tests and has performed quality control tests 1 through 10 of Table 5, Medical Physicist's Fluoroscopic QC Survey, in N.J.A.C. 7:28-22.9 on at least five fluoroscopic units while under the immediate supervision of a qualified medical physicist for the supervision of quality assurance programs for diagnostic x-ray imaging.

HISTORY:

Amended by R.2005 d.239, effective July 18, 2005.
See: 37 N.J.R. 8(a), 37 N.J.R. 2675(a).
In (d), substituted " control tests 1 through 7, 9 and 10 of Table 5" for "control tests 1 through 6 and 9 of Table 5" in 6.
Amended by R.2014 d.083, effective May 5, 2014.
See: 45 N.J.R. 806(a), 46 N.J.R. 768(a).
In the introductory paragraph of (d), inserted a comma following "below"; and in (d)6, deleted "7, 9 and" preceding "10", and inserted a comma following "Survey".

§ 7:28-22.13 Certification and decertification of qualified medical physicists and qualified medical physicist assistants

(a) The Department may issue a certificate valid for up to two years to persons who submit an application to the Department documenting to the satisfaction of the Department that the person meets the qualifications specified in N.J.A.C. 7:28-22.12(a), (b), (c) or (d).

(b) No person shall perform any QC test that is part of the Medical Physicist's Radiographic, Fluoroscopic or Computed Tomography QC Survey without a current certificate issued by the Department, pursuant to this subchapter.

(c) Each certificate shall expire on December 31 of the first odd numbered year following the year of issuance. A certificate may be renewed for a biennial term commencing January 1 of every even numbered year and expiring on December 31 of the following year.

(d) Any person who was issued a certificate pursuant to (a) above, shall display the certificate upon request.

(e) In order to maintain a current certificate, a person shall renew his or her certificate by submitting a completed renewal application to the Department at least 30 days prior to the date of expiration.

(f) A person who wishes to renew an expired certificate shall submit a renewal application to the Department. Such certificate shall be renewed for a period extending from the date of renewal to midnight, December 31 of the next odd number year.

(g) Any person who submits an application for a certificate or certificate renewal to the Department shall include as an integral part of said application, an application fee as follows:

1. Initial certification fee:

i. $ 50.00 for one category;

ii. $ 25.00 for each additional category;

2. Renewal fee:

i. $ 25.00 for each category.

(h) The fees accompanying the application or biennial renewal application shall be in the form of a check or money order made payable to the Treasurer, State of New Jersey. Fees are non-refundable. Applications for certification are available from the Bureau of X-ray Compliance, Mail Code 25-01, PO Box 420, Trenton, NJ 08625-0420.

(i) A person certified by this subchapter shall inform the Department of any change in the address of record within 30 days of such change.

(j) The Department, in addition to any penalties authorized by the Act, may deny an application for a certificate and may revoke or suspend a certificate if the person has:

1. Violated any provision of this chapter;

2. Disregarded the safety, health and welfare of the public in the performance of his or her professional duties;

3. Developed or implemented a QA/QC program or performed a Medical Physicist's QC Survey that is not in conformance with standards in this subchapter; or

4. Affixed his or her signature to any QA/QC program, report or QC survey, which was not prepared by him or her.

HISTORY:

Amended by R.2014 d.083, effective May 5, 2014.
See: 45 N.J.R. 806(a), 46 N.J.R. 768(a).
In (h), substituted "X-ray Compliance" for "Radiological Health", "420" for "415", and "0420" for "0415", and inserted "Mail Code 25-01".

§ 7:28-22.14 (Reserved)

HISTORY:

Repealed by R.2014 d.083, effective May 5, 2014.
See: 45 N.J.R. 806(a), 46 N.J.R. 768(a).
Section was "Compliance schedule".

§ 7:28-22.15 Severability

If any provision, or part thereof, of this subchapter, or the application thereof to any person or circumstance, is held invalid, such invalidity shall not affect the remainder of, or other provisions or applications of, this subchapter which can be given effect without the invalid provision, portion or application. To this end, the provisions of this subchapter are declared to be severable.

SUBCHAPTER 23. (RESERVED)

SUBCHAPTER 24. NUCLEAR MEDICINE AND FUSION IMAGING COMPUTED TOMOGRAPHY (CT) TECHNOLOGY

§ 7:28-24.1 Purpose, scope, and applicability

(a) This subchapter establishes educational and licensure requirements, as well as delineating the scopes of practice, for persons engaged in the practice of nuclear medicine technology, and for persons engaged in the practice of fusion imaging CT technology. This subchapter further establishes certain responsibilities of authorized users, owners, and registrants of radiation sources used in the practice of nuclear medicine technology or the practice of fusion imaging CT technology. This subchapter also establishes standards for the operation of, and the Department's approval of, educational programs in nuclear medicine technology.

(b) This subchapter shall not be interpreted as precluding persons specializing in nuclear medicine physics, computer science, or engineering from manipulating nuclear medicine data under the supervision of an authorized user pursuant to N.J.A.C. 7:28-55.1.

(c) The following are exempt from the requirement to possess a nuclear medicine technology license:

1. Authorized users;

2. Licensed physicians who are acting under the supervision of an authorized user pursuant to N.J.A.C. 7:28-55.1;

3. Students enrolled in and attending a school of medicine or osteopathy, who are acting within the school's curriculum and under the supervision of an authorized user pursuant to N.J.A.C. 7:28-55.1; and

4. Students enrolled in and attending a Department approved school of nuclear medicine technology, who are acting within the school's curriculum, provided that students are supervised in accordance with N.J.A.C. 7:28-24.13(b)1.

(d) The following are exempt from the requirement to possess a fusion imaging CT technology license:

1. Licensed physicians;

2. Licensed diagnostic radiologic technologists;

3. Students enrolled in and attending a school of medicine or osteopathy, who are acting within the school's curriculum, and are under the direct supervision of a licensed physician or licensed diagnostic radiologic technologist or licensed fusion imaging CT technologist;

4. Students enrolled in and attending a Department approved school of nuclear medicine technology and are acting within the school's curriculum, provided that students are supervised in accordance with N.J.A.C. 7:28-24.13(b)2;

5. Licensed nuclear medicine technologists in accordance with N.J.A.C. 7:28-24.4(e); and

6. Students enrolled in and attending a Board approved school of diagnostic radiologic technology in accordance with N.J.A.C. 7:28-19.1(c)4.

(e) The requirements of this subchapter shall not apply to a licensed radiopharmacy operating within the scope of its Department radioactive materials license and New Jersey Board of Pharmacy license.

(f) Authorized users and owners of nuclear medicine technology equipment must also comply with all other applicable Federal and State radioactive material regulations.

HISTORY:

Amended by R.2016 d.022, effective March 7, 2016.
See: 47 N.J.R. 2589(a), 47 N.J.R. 2695(a), 48 N.J.R. 409(b).
Section was "Purpose, scope and applicability". Rewrote the section.

§ 7:28-24.2 Definitions

(a) The following words and terms, when used in this subchapter, shall have the following meanings unless the context clearly indicates otherwise.

"Authorized user" means a licensed physician who is identified as an authorized user on a Department radioactive materials license pursuant to N.J.A.C. 7:28-55.1.

"Board" means the Radiologic Technology Board of Examiners created pursuant to N.J.S.A. 26:2D-24 et seq.

"Clinical education center" means a facility (such as a medical office, hospital, or imaging center) where a person is permitted to engage in the practice of nuclear medicine technology or fusion imaging CT technology for the purposes of clinical education in these disciplines.

"Diagnostic dose" means a radionuclide or radiopharmaceutical which is intended for diagnostic purposes.

"Direct supervision" means being present in the room with the person to observe and supervise the nuclear medicine or CT procedure.

"Engage" means to perform or assist in the performance of an activity.

"Fusion imaging CT technology" means the use of CT equipment as part of a fusion imaging procedure.

"Fusion imaging procedure" means a medical imaging procedure that utilizes equipment capable of performing two or more types of medical imaging procedures simultaneously or in close sequence and merging the data to form a single composite image. For the purpose of this subchapter, fusion imaging procedures are limited to Positron Emission Tomography/Computed Tomography (PET/CT) and Single-Photon Emission Computed Tomography/Computed Tomography (SPECT/CT).

"Indirect supervision" means being immediately available in the room or adjacent to the room where the person is performing the nuclear medicine procedure.

"Initial application" means the first application submitted by an individual to the Department for a license to practice nuclear medicine technology or fusion imaging CT technology.

"JRCNMT" means the Joint Review Committee on Educational Programs in Nuclear Medicine Technology.

"Licensed diagnostic radiologic technologist" means a person who possesses a valid license in diagnostic radiologic technology issued pursuant to N.J.A.C. 7:28-19.

"Licensed fusion imaging CT technologist" means a licensed nuclear medicine technologist that holds an additional license issued by the Board that permits him or her to engage in the practice of fusion imaging CT technology.

"Licensed nuclear medicine technologist" (LNMT) means a person who possesses a valid license issued by the Department to engage in the practice of nuclear medicine technology.

"Licensed physician" means an individual who holds a plenary license to practice medicine issued by the New Jersey State Board of Medical Examiners.

"Operating CT equipment" means using or manipulating CT equipment in any way that leads to or causes the application of radiation to humans or affects the amount or quality of radiation that is received by a human. The term "operating" includes activating or terminating the radiation exposure, setting or adjusting technical factors, and setting or adjusting the size of the exposure field.

"Radionuclide" means a radioactive element or a radioactive isotope.

"Radiopharmaceutical" means a radionuclide or radionuclide compound designed and prepared for administration to humans.

"Therapeutic dose" means a radionuclide or radiopharmaceutical which is intended for therapeutic purposes.

(b) Definitions for other terms used in this subchapter may be found in N.J.A.C. 7:28-1.

HISTORY:

Amended by R.2016 d.022, effective March 7, 2016.
See: 47 N.J.R. 2589(a), 47 N.J.R. 2695(a), 48 N.J.R. 409(b).
Rewrote the section.

§ 7:28-24.3 General provisions

(a) No owner, authorized user, person, or business shall cause, allow, or permit any other person to prepare or administer radiopharmaceuticals or to otherwise engage in the practice of nuclear medicine technology or to act as a licensed nuclear medicine technologist unless that other person is an authorized user or possesses a current, validly obtained license as a nuclear medicine technologist, pursuant to this subchapter.

(b) No owner, authorized user, person, or business shall cause, allow, or permit any other person to engage in the practice of fusion imaging CT technology or to act as a licensed fusion imaging CT technologist unless that other person is a licensed physician, licensed diagnostic radiologic technologist, or possesses both a current nuclear medicine technology and a fusion imaging CT technology license pursuant to this subchapter.

(c) No person other than a licensed fusion imaging CT technologist may use the title "licensed fusion imaging CT technologist" or LRT(FCT) after his or her name.

(d) No person shall prepare or administer radiopharmaceuticals or otherwise engage in the practice of nuclear medicine technology or act as a licensed nuclear medicine technologist unless such person is an authorized user or possesses a current, validly obtained license as a nuclear medicine technologist, pursuant to this subchapter.

(e) No person shall engage in the practice of fusion imaging CT technology unless such person is a licensed fusion imaging CT technologist, or is exempt from the licensing requirements in accordance with N.J.A.C. 7:28-24.1(d).

(f) No owner, authorized user, person, or business shall cause, allow, or permit a licensed fusion imaging CT technologist to perform a CT procedure unless it is part of a fusion imaging procedure, or the technologist is authorized to perform the CT procedure in accordance with an appropriate license.

(g) No licensed fusion imaging CT technologist shall perform a CT procedure unless it is part of a fusion imaging procedure, or the technologist is authorized to perform the CT procedure in accordance with an appropriate license.

(h) No person shall use sealed sources composed of radionuclides for purposes of external beam therapy, except for an authorized user or a radiologic technologist as licensed pursuant to N.J.S.A. 26:2D-24 et seq. and N.J.A.C. 7:28-19.

(i) The owner and the holder of a Federal or State radioactive materials license shall be jointly and severally responsible for identifying and documenting the identity of an authorized user for each administration of that radiopharmaceutical. Such authorized user shall be responsible for any administration of such radiopharmaceutical by a licensed nuclear medicine technologist.

(j) The authorized user, the owner, the holder of a Federal or State radioactive materials license, and the licensed nuclear medicine technologist shall be jointly and severally responsible for complying with all license conditions including, but not limited to, recording such information as may be required as a condition of license issued pursuant to this chapter.

(k) A licensed nuclear medicine technologist shall carry out the practice of nuclear medicine technology in a manner consistent with this chapter.

(l) A licensed fusion imaging CT technologist shall carry out the practice of fusion imaging CT technology in a manner consistent with this chapter.

(m) No school of nuclear medicine technology subject to this subchapter shall enroll students unless the school is approved by the Department.

(n) No school subject to this subchapter shall hold itself out to be an approved school of nuclear medicine technology or claim in any way that completion of the school's curriculum will enable students to be eligible for New Jersey examination and/or New Jersey licensure, unless the school is approved by the Department.

(o) No person shall use or permit the use of ionizing radiation-producing equipment or radioactive materials in such a manner as to expose humans to unnecessary ionizing radiation.

(p) No person shall:

1. Engage in the use or employment of dishonesty, fraud, deception, misrepresentation, false promise, or false pretense while engaged in activities relating to nuclear medicine technology or fusion imaging CT technology or in obtaining a license in those categories;

2. Falsify or make misleading statements on any application for examination or license;

3. Make misleading or false statements to a representative of the Department or Commission;

4. Alter any license or examination results;

5. Fail to comply with any provision of the Act or any rules promulgated thereunder;

6. Engage in the practice of nuclear medicine technology or fusion imaging CT technology while in an intoxicated state or under the influence of narcotics or any drugs which impair or tend to impair consciousness, judgment, or behavior;

7. Engage in negligence, malpractice, or incompetence while practicing nuclear medicine technology or fusion imaging CT technology;

8. Falsify any records, or destroy or steal property or records, relating to the practice of nuclear medicine technology or fusion imaging CT technology;

9. Fail to exercise due regard for safety, life, or health while engaged in the practice of nuclear medicine technology or fusion imaging CT technology;

10. Violate any condition of a radioactive materials license issued by the Department pursuant to this chapter;

11. Violate any condition and restriction that the Department has placed on his or her nuclear medicine technology license or fusion imaging CT technology license; or

12. Fail to display immediately his or her nuclear medicine technology license or fusion imaging CT technology license, or a true copy thereof, upon request of the Department, employer, or any patient.

HISTORY:

Amended by R.2016 d.022, effective March 7, 2016.
See: 47 N.J.R. 2589(a), 47 N.J.R. 2695(a), 48 N.J.R. 409(b).
Rewrote the section.

§ 7:28-24.4 Scopes of practice

(a) Any person who possesses a valid license pursuant to this subchapter shall exercise proper principles of radiation protection with regard to nuclear medicine and CT procedures.

(b) Any person who possesses a valid license to practice nuclear medicine technology issued in accordance with this subchapter may engage in the following activities, which constitute the scope of practice of nuclear medicine technology:

1. Prepare radiopharmaceuticals for administration to humans, administering radiopharmaceuticals to humans;

2. Position patients for examinations that require the administration of radiopharmaceuticals to humans;

3. Set technical factors for examinations that require the administration of radiopharmaceuticals to humans;

4. Operate imaging and/or measuring equipment for examinations that require the administration of radiopharmaceuticals to humans;

5. Acquire and manipulate patient data with or without the use of computers for procedures requiring the administration of radiopharmaceuticals; and

6. Administer pharmaceuticals, provided that the material and its administration comply with the New Jersey State Board of Medical Examiners rule N.J.A.C. 13:35-6.20.

(c) It is not within the scope of practice of a licensed nuclear medicine technologist to:

1. Prescribe or determine the dosage of any form of radionuclide to a human being; or

2. Apply, administer, determine the dosage of, or order the administration of therapeutic doses of any form of radionuclide to a human being.

(d) Any person who possesses a valid license to practice fusion imaging CT technology issued in accordance with this subchapter may engage in the following activities, which constitute the scope of practice of fusing imaging CT technology:

1. Operate CT equipment as part of fusion imaging procedures;

2. Position patients as part of fusion imaging procedures;

3. Set technique factors and make x-ray exposures as part of fusion imaging procedures;

4. Acquire and manipulate the resultant patient imaging data obtained from a fusion imaging procedure; and

5. Perform attenuation correction.

(e) The Board may authorize a licensed nuclear medicine technologist to perform CT procedures for the purpose of gaining competency in CT for New Jersey licensure in Fusion Imaging CT Technology or national certification, provided:

1. The licensed nuclear medicine technologist submits and the Board approves an educational plan, which shall include a list of clinical prerequisites to be completed, the name and address of the clinical education center, a list of the CT equipment to be used, the names and professional credentials of the individuals who will supervise the licensed nuclear medicine technologist while he or she performs CT procedures in accordance with (e)3 below, and a schedule indicating the beginning and ending dates of the period during which the licensed nuclear medicine technologist will perform CT procedures under the educational plan. The plan shall be signed by both the licensed nuclear medicine technologist and the manager or administrator of the clinical education center;

2. The licensed nuclear medicine technologist has fulfilled the requirements at N.J.A.C. 7:28-24.6(a)1;

3. The licensed nuclear medicine technologist performs CT procedures only while under the direct supervision of a licensed physician, licensed diagnostic radiologic technologist, or a licensed fusion imaging CT technologist named in the approved educational plan identified in (e)1 above; and

4. The licensed nuclear medical technologist and clinical education center comply with the terms of the approved educational plan identified in (e)1 above.

HISTORY:

New Rule, R.2016 d.022, effective March 7, 2016.
See: 47 N.J.R. 2589(a), 47 N.J.R. 2695(a), 48 N.J.R. 409(b).
Former N.J.A.C. 7:28-24.4, Examination for licensure of nuclear medicine technologists, recodified to N.J.A.C. 7:28-24.5.

§ 7:28-24.5 Examination for licensure of nuclear medicine technologists

(a) Subject to (b) below, the Department shall admit to examination for licensure any applicant who has paid a fee to the Department as specified in N.J.A.C. 7:28-24.11(a) and submitted satisfactory evidence, verified by oath or affirmation, that the applicant:

1. At the time of application is at least 18 years of age;

2. Has successfully completed four years of secondary school or approved equivalent, at a duly accredited educational institution; and

3. Has successfully completed either a course of study in nuclear medicine technology approved by the Department or an equivalent course of study as determined by the Department, upon the recommendation of the Commission.

(b) The Department may deny an examination application if the applicant has committed any act or omission specified at N.J.A.C. 7:28-24.12(a).

(c) An applicant who fails to pass the examination may reapply in accordance with this section.

(d) Examinations shall be scheduled at the discretion of the Department.

HISTORY:

Recodified from N.J.A.C. 7:28-24.4 and amended by R.2016 d.022, effective March 7, 2016.
See: 47 N.J.R. 2589(a), 47 N.J.R. 2695(a), 48 N.J.R. 409(b).
In the introductory paragraph of (a) and in (b), updated the N.J.A.C. reference. Former N.J.A.C. 7:28-24.5, Nuclear medicine technologist licenses, recodified to N.J.A.C. 7:28-24.7.

§ 7:28-24.6 Examination for licensure of fusion imaging CT technologists

(a) Subject to the conditions in this section, the Board shall admit to examination for licensure any applicant who is of good moral character, has paid a fee to the Department as specified in N.J.A.C. 7:28-24.11(b),

is licensed in nuclear medicine technology pursuant to this subchapter, and has submitted satisfactory evidence, verified by oath or affirmation, that the applicant:

1. Has successfully completed didactic content through educational activities, either in person or on line, that are recognized by the Board, in the following areas:

i. Cross sectional anatomy;

ii. X-ray physics, which shall include the production of x-rays, and operator radiation protection and shielding;

iii. Administration of oral and parenteral contrast media and treatment of adverse reactions;

iv. CT scanner design and operation, which shall include the selection of technical factors for both the scout image and patient scan protocols, verification of correct patient positioning on the scout image, setting the start and end scan location, image processing, equipment maintenance, and identification of equipment malfunctions; and

v. Patient safety, which shall include the expected delivered dose for specified procedures, and the technical factors affecting patient dose; and

2. Has competently performed a minimum of 20 fusion imaging CT procedures, including at least two different types of fusion imaging procedures, such as total body, cardiac, or brain.

(b) The Board may deny an examination application if the applicant has committed any act or omission specified at N.J.A.C. 7:28-24.12(b).

(c) An applicant who fails the examination may reapply in accordance with this section.

(d) Any person who has failed the examination three times shall not be permitted to take the examination a fourth time until the person has submitted proof of completion of a remedial course that includes a full review of course material in areas of low performance as identified by the examination.

(e) After the fourth failure, the person may not retake the examination until that person has submitted proof that he or she has recompleted the requirements of (a)1 and 2 above.

(f) Examinations shall be offered at the discretion of the Board.

HISTORY:

New Rule, R.2016 d.022, effective March 7, 2016.
See: 47 N.J.R. 2589(a), 47 N.J.R. 2695(a), 48 N.J.R. 409(b).
Former N.J.A.C. 7:28-24.6, Temporary, conditional and restricted licenses, recodified to N.J.A.C. 7:28-24.9.

§ 7:28-24.7 Nuclear medicine technologist licenses

(a) The Department may issue a license to any applicant who is at least 18 years of age and has paid a fee to the Department as specified in N.J.A.C. 7:28-24.11(a) and who has submitted satisfactory evidence, verified by oath or affirmation, that the applicant:

1. Has within three years of the date of application passed a nuclear medicine technology examination administered by the American Registry of Radiologic Technologists, Nuclear Medicine Technology Certification Board or American Society of Clinical Pathologists, or another examination approved by the Commission;

2. Holds a current certificate, registration, or license as a nuclear medicine technologist issued by another state or country or by any of the organizations named in (a)1 above and has engaged in the practice of nuclear medicine technology for at least 1,000 hours during the preceding three years in a manner consistent with this chapter; however, such acceptance shall be conditioned upon the certification, registration, or licensure standards in the other state or country being equivalent and satisfactory to the Commission; or

3. Has passed, more than three years prior to the application for a license, a nuclear medicine technology examination approved by the Commission, and has legally engaged in the practice of nuclear medicine technology for at least 1,000 hours during the three years preceding the application for a license in a manner consistent with this chapter.

(b) The Department may deny a license application if the applicant has committed any act or omission specified at N.J.A.C. 7:28-24.12(a).

HISTORY:

Recodified from N.J.A.C. 7:28-24.5 and amended by R.2016 d.022, effective March 7, 2016.
See: 47 N.J.R. 2589(a), 47 N.J.R. 2695(a), 48 N.J.R. 409(b).
Rewrote the section. Former N.J.A.C. 7:28-24.7, License expiration and license renewal, recodified to N.J.A.C. 7:28-24.10.

§ 7:28-24.8 Fusion imaging CT technologist licenses

(a) The Board may issue a license to any applicant who is of good moral character, licensed in nuclear medicine technology pursuant to this subchapter, has paid a fee to the Department as specified in N.J.A.C. 7:28-24.11(b), and has submitted satisfactory evidence, verified by oath or affirmation, that the applicant:

1. Is currently certified in CT by either the American Registry of Radiologic Technologists or Nuclear Medicine Technology Certification Board;

2. Has passed the CT examination of the American Registry of Radiologic Technologists, the Nuclear Medicine Technology Certification Board, or the Board, or an equivalent examination as determined by the Board, within five years prior to the date of the initial license application. If the applicant passed an approved examination more than five years prior to the application, the applicant must provide documentation that he or she has competently engaged in the practice of fusion imaging CT technology for at least 500 hours during the three years preceding the application; or

3. Holds a current certificate, registration, or license as a fusion imaging CT technologist issued by another state, provided the Board determines that the other state's standards are equivalent to those of the Board.

(b) The Board may deny a license application if the applicant has committed any act or omission as specified in N.J.A.C. 7:28-24.12(b).

HISTORY:

New Rule, R.2016 d.022, effective March 7, 2016.
See: 47 N.J.R. 2589(a), 47 N.J.R. 2695(a), 48 N.J.R. 409(b).
Former N.J.A.C. 7:28-24.8, Fees, recodified to N.J.A.C. 7:28-24.11.

§ 7:28-24.9 Conditional and restricted licenses

(a) The Department, at its discretion, may issue a conditional or restricted license including, but not limited to, a condition or restriction limiting the scope of practice of a licensed nuclear medicine technologist.

(b) The Board, at its discretion, may issue a conditional or restricted license including, but not limited to, a condition or restriction limiting the scope of practice of a licensed fusion imaging CT technologist.

(c) No person who possesses a conditional or restricted license shall practice outside of the conditions or restrictions as listed on the license.

HISTORY:

Recodified from N.J.A.C. 7:28-24.6 and amended by R.2016 d.022, effective March 7, 2016.
See: 47 N.J.R. 2589(a), 47 N.J.R. 2695(a), 48 N.J.R. 409(b).
Section was "Temporary, conditional and restricted licenses" Rewrote the section. Former N.J.A.C. 7:28-24.9, Examination application or license application denial, license revocation and suspension, recodified to N.J.A.C. 7:28-24.12.

§ 7:28-24.10 License expiration and license renewal

(a) No nuclear medicine technologist shall practice without a valid New Jersey nuclear medicine technology license, and no fusion imaging CT technologist shall practice without a valid New Jersey fusion imaging technology license.

(b) A nuclear medicine technologist or fusion imaging CT technologist shall inform the Department of any change in the address of record within 30 calendar days of the change.

(c) In order to maintain a valid license, a nuclear medicine technologist or fusion imaging CT technologist shall renew his or her license biennially by submitting a renewal application for the applicable license and the required renewal fee specified in N.J.A.C. 7:28-24.11.

(d) Each license expires on December 31 of the first even numbered year following the year of its issuance. A license may be renewed for a biennial term commencing January 1 of every odd numbered year and expiring on December 31 of the following year.

(e) A renewal application may be denied if the applicant has committed any act or omission specified in N.J.A.C. 7:28-24.12.

(f) A nuclear medicine technologist or fusion imaging CT technologist who possesses an expired license may renew the license, provided that the license has not been expired for more than five years. An individual who wishes to renew an expired license shall submit a renewal application and the current renewal fee to the Department. Such licenses shall be renewed for a period extending from date of renewal to midnight, December 31 of the next even numbered year.

(g) A nuclear medicine technologist who possesses a license that has been expired for more than five years may not have that license renewed, but may apply for a new license through re-examination and other applicable requirements for initial license applications at N.J.A.C. 7:28-24.5 or, if applicable, at N.J.A.C. 7:28-24.7.

(h) A fusion imaging CT technologist who possesses a license that has been expired for more than five years may not have that license renewed, but may apply for a new license through re-examination and other applicable requirements for initial license applications at N.J.A.C. 7:28-24.6 or, if applicable, at N.J.A.C. 7:28-24.8.

HISTORY:

Recodified from N.J.A.C. 7:28-24.7 and amended by R.2016 d.022, effective March 7, 2016.
See: 47 N.J.R. 2589(a), 47 N.J.R. 2695(a), 48 N.J.R. 409(b).
Rewrote the section. Former N.J.A.C. 7:28-24.10, School of nuclear medicine technology: standards for approval, repealed.

§ 7:28-24.11 Fees

(a) Any person who submits a nuclear medicine technology application for an examination, license, or license renewal to the Department shall include as an integral part of the application a service fee as follows:

1. Examination application fee: $ 160.00;

2. Initial license application fee: $ 60.00;

3. Biennial license renewal fee: $ 90.00;

4. License reprint fee: $ 20.00.

(b) Any person who submits a fusion imaging CT technology application for an examination, license, or license renewal to the Department shall include as an integral part of the application a service fee as follows:

1. Examination application fee: $ 160.00;

2. Initial license application fee: $ 60.00;

3. Biennial license renewal fee: $ 90.00;

4. License reprint fee: $ 20.00.

(c) All fees shall be in the form of a check or money order made payable to the Treasurer, State of New Jersey, or any other manner acceptable to the Department, as identified on the relevant application or renewal form.

1. The fees submitted to the Department are not refundable and not transferable.

2. All examination and initial license applications and associated fees shall be mailed to:

State of New Jersey
Department of Environmental Protection
Bureau of X-ray Compliance
Mail Code 25-01
PO Box 420
Trenton, New Jersey 08625-0420

3. All biennial license renewal applications and associated fees shall be mailed to:

State of New Jersey
Department of Treasury
Division of Revenue
PO Box 417
Trenton, New Jersey 08646-0417

HISTORY:

Amended by R.2005 d.239, effective July 18, 2005.
See: 37 N.J.R. 8(a), 37 N.J.R. 2675(a).
In (b), amended the zip code in 3.
Amended by R.2014 d.083, effective May 5, 2014.
See: 45 N.J.R. 806(a), 46 N.J.R. 768(a).
In the address in (b)2, substituted "X-ray Compliance" for "Radiological Health", "420" for "415", and "0420" for "0415", and inserted "Mail Code 25-01".
Recodified from N.J.A.C. 7:28-24.8 and amended by R.2016 d.022, effective March 7, 2016.
See: 47 N.J.R. 2589(a), 47 N.J.R. 2695(a), 48 N.J.R. 409(b).
Rewrote the section. Former N.J.A.C. 7:28-24.11, School of nuclear medicine technology: process for approval; provisional approval; probationary approval; withdraw of approval and other general provisions, repealed.
Amended by R.2020 d.061, effective June 15, 2020.

See: 51 N.J.R. 1731(a), 52 N.J.R. 1267(a).
In (a) and (b), updated fees in 1 through 3, and added 4.

§ 7:28-24.12 Examination application or license application denial, license revocation and suspension, and sanctions

(a) The Department, in addition to any penalties authorized by the Act, may deny any examination or license application, and may revoke or suspend a nuclear medicine technology license, when the applicant or licensed nuclear medicine technologist has:

1. Violated any of the provisions of this subchapter, or the Act;

2. Been convicted of, any crime which relates, or could relate, adversely to the practice of nuclear medicine technology. For the purpose of this section, a plea of guilty, non vult, no contest, or any other such disposition of alleged criminal activity shall be deemed a conviction;

3. Has been admitted to a pretrial intervention program or the substantial equivalent thereof based upon alleged conduct which relates, or could relate, adversely to the practice of nuclear medicine technology;

4. Has had his or her certification, registration, or license to practice nuclear medicine technology revoked or suspended by any other state or certifying agency for reasons consistent with this chapter; or

5. Is incapable, for medical or any other good cause, of discharging the functions of a licensee in a manner consistent with the health, safety and welfare of the public.

(b) The Board, in addition to any penalty authorized by the Act, may, upon learning of any of the acts or omissions listed in (b)1 through 13 below, deny admission to any examination; deny an application for a license in fusion imaging CT technology; revoke or suspend the license of a fusion imaging CT technologist for a fixed period; and censure, reprimand, or otherwise discipline the technologist in accordance with the provisions and procedures set forth in the Radiologic Technologist Act, N.J.S.A. 26:2D-24 et seq.:

1. Violation of any of the provisions of this subchapter or the Act;

2. Conviction of any crime that reasonably relates to fusion imaging CT technology. For the purpose of this section, a plea of guilty, non vult, no contest, or other such disposition of alleged criminal activity shall be deemed a conviction;

3. Revocation or suspension of a certification, registration, or license to fusion imaging CT technology or censure or reprimand by any other state or certifying agency for reasons consistent with this subchapter;

4. Dishonesty, fraud, deception, misrepresentation, or falsification in:

i. Fusion imaging CT technology or in documenting compliance with the Radiation Protection Act, the Radiologic Technologist Act, or this chapter;

ii. Obtaining a fusion imaging CT technology license, including taking the examination and completing the required education and training;

iii. Statements on any fusion imaging CT technology application for examination or license;

iv. Statements or documentation regarding the status of any national certification relating to the field of computed technology;

v. Statements made to a representative of the Department or Board; or

vi. Any records relating to the practice of fusion imaging CT technology;

5. Altering any fusion imaging CT technology license or examination results;

6. Practicing fusion imaging CT technology or reporting to work as a fusion imaging CT technologist while under the influence of alcohol or a Controlled Dangerous Substance as defined in the New Jersey Code of Criminal Justice, N.J.S.A. 2C:1-1 et seq.;

7. Acting in a negligent or incompetent manner relating to fusion imaging CT technology;

8. Maliciously destroying or stealing property or records relating to the practice of fusion imaging CT technology;

9. Failing to exercise due regard for safety, life, or health while engaged in the practice of fusion imaging CT technology;

10. Violating any term limitation, condition, or restriction that the Board has placed on his or her fusion imaging CT technology license;

11. Failing to comply with any State or Federal law or regulation regarding the confidentiality of a patient's medical or dental information;

12. Impersonating a licensed fusion imaging CT technologist;

13. Discriminating in the practice of fusion imaging CT technology as defined in Section 3 of New Jersey Law Against Discrimination, N.J.S.A. 10:5-3, as supplemented or amended.

(c) There is a rebuttable presumption that a person who has been determined by the Board to have committed an act or omission listed in (b) above or has been convicted of a crime involving moral turpitude does not meet the standard of good moral character. A person may rebut the presumption by demonstrating to the Board's satisfaction that he or she is of good moral character.

(d) This subchapter shall not in any way affect or abridge the powers of the Department to issue emergency orders pursuant to N.J.S.A. 26:2D-12 or to bring an action in Superior Court, pursuant to N.J.S.A. 26:2D-13. Recodified from N.J.A.C. 7:28-24.9 and amended by R.2016 d.022, effective March 7, 2016.

HISTORY:

See: 47 N.J.R. 2589(a), 47 N.J.R. 2695(a), 48 N.J.R. 409(b).

Section was "Examination application or license application denial, license revocation and suspension". Rewrote the section. Former N.J.A.C. 7:28-24.12, List of approved schools, recodified to N.J.A.C. 7:28-24.15.

§ 7:28-24.13 School of nuclear medicine technology; standards

(a) In order to be approved by the Department in accordance with N.J.A.C. 7:28-24.14, a school of nuclear medicine technology shall be accredited by JRCNMT, or by an accreditation agency that the Department determines is equivalent, and shall maintain that accreditation.

(b) The school's curriculum shall comply with JRCNMT's standards, or standards that the Department determines are equivalent, and include a valid plan for competency-based clinical education as follows:

1. Nuclear medicine students shall:

i. Perform nuclear medicine procedures under the direct supervision of a licensed nuclear medicine technologist until a school instructor determines that the student has achieved competency in that procedure; and

ii. Perform nuclear medicine procedures for which the student has demonstrated competency in accordance with (b)1i above under either the direct or indirect supervision of a licensed nuclear medicine technologist, as provided in the school's curriculum.

2. Students who perform CT procedures as part of the school's curriculum shall perform these procedures under the direct supervision of a licensed physician or a licensed diagnostic radiologic technologist, or a licensed fusion imaging CT technologist if the CT procedure is part of a fusion imaging procedure.

(c) Neither the school nor its clinical education centers shall assign students to clinical education rotations in such a manner as to substitute for licensed technologists.

(d) The school shall assign students only to clinical education centers that are approved by the Department.

(e) The school shall not have more than two consecutive calendar years in which the pass rate for students taking the American Registry of Radiologic Technologists or Nuclear Medicine Technology Certification Board examination for the first time is below 75 percent.

(f) The school shall forward to the Department a copy of its annual examination report from the American Registry of Radiologic Technologists or Nuclear Medicine Technology Certification Board within 15 calendar days of receipt of the report.

(g) The school shall inform the Department within 15 calendar days after any change that could adversely affect the school's ability to fulfill its responsibility to provide students with appropriate didactic and laboratory instruction and clinical assignments. Such changes include, but are not limited to, a change in status or loss of any official or faculty member, the loss of a clinical education center, a change in the school's curriculum, the sequencing of courses or length of the program, or a change in the sponsorship of the program.

(h) The school shall notify the Department of any change in its accreditation status and the reason for such change no later than seven calendar days after the school is notified of the change in its accreditation status.

(i) The school shall provide the Department in writing the name and address of each new student enrolled in the school's course of study in nuclear medicine technology no later than 30 calendar days after the student's enrollment. The school shall provide the Department in writing the name and address of each student who has successfully completed the school's course of study in nuclear medicine technology no later than 30 calendar days after the student completes the course of study.

(j) The school shall provide all students with whole body and finger radiation monitoring devices and ensure that the devices are worn during all times when students are in a controlled area. Student exposure to radiation shall not exceed the occupational limits and, if applicable, the embryo-fetus exposure limit pre-

scribed in the standards for protection against radiation at N.J.A.C. 7:28-6.1. In the event that a student or embryo-fetus receives an exposure that exceeds the exposure limit, the school shall, within seven calendar days, notify the Department.

(k) The school, including its clinical education centers, shall:

1. Permit the Department to conduct site inspections;

2. Make available to the Department such information, records, or persons that may be needed to determine compliance with the requirements of this subchapter; and

3. Demonstrate to the satisfaction of the Department that it complies with the requirements of this subchapter.

HISTORY:

New Rule, R.2016 d.022, effective March 7, 2016.
See: 47 N.J.R. 2589(a), 47 N.J.R. 2695(a), 48 N.J.R. 409(b).

§ 7:28-24.14 School of nuclear medicine technology; process for approval and termination

(a) In order to be approved by the Department, a school of nuclear medicine technology shall submit to the Department a complete application, which shall include:

1. The name, address, and contact information of the school;

2. The name and credentials of the program director;

3. The name and address of all clinical education centers;

4. A copy of the school's accreditation letter from JRCNMT or an equivalent accreditation agency;

5. Copies of policies governing the supervision of students that comply with N.J.A.C. 7:28-24.13(b);

6. The last three annual examination reports of the school's nuclear medicine technology graduates' first-time examination performance on the American Registry of Radiologic Technologists or Nuclear Medicine Technology Certification Board. A school that has graduated students for less than three years shall submit the most recent annual examination reports, if any; and

7. A written statement permitting Department inspection pursuant to N.J.A.C. 7:28-24.13(k).

(b) The Department shall approve the application if it determines that the school has complied with this subchapter.

(c) Any change to the information contained in school's approved application shall be reported to the Department within 15 calendar days after the change.

(d) A school whose application has been denied shall be notified by letter, via certified mail, which shall contain the findings that resulted in the denial.

(e) Schools that are approved by the Department on or before March 6, 2016 are deemed approved.

(f) In order to maintain approval, the school shall comply with the requirements of this subchapter.

(g) A school may have its approval terminated by the Department for failure to comply with this subchapter. The Department shall notify the school via certified mail. The notice shall include the findings that led to the termination and specify the effective date of the termination.

HISTORY:

New Rule, R.2016 d.022, effective March 7, 2016.
See: 47 N.J.R. 2589(a), 47 N.J.R. 2695(a), 48 N.J.R. 409(b).

§ 7:28-24.15 List of approved schools

A list of approved schools of nuclear medicine technology and their approval status shall be available from the Department, and may be obtained by contacting the Department. (See N.J.A.C. 7:28-24.11(d)2 for the Department's address.)

HISTORY:

Recodified from N.J.A.C. 7:28-24.12 and amended by R.2016 d.022, effective March 7, 2016.
See: 47 N.J.R. 2589(a), 47 N.J.R. 2695(a), 48 N.J.R. 409(b).
Updated the N.J.A.C. reference.

§ 7:28-24.16 Adjudicatory hearings

(a) Subject to the limitation on third-party hearing rights at (e) below, an applicant for examination, initial license, or license renewal; a licensed technologist; a school of nuclear medicine technology; or any person aggrieved by any Department or Board finding or administrative order may contest the finding or

administrative order and request an adjudicatory hearing. The request shall be made in writing to the Department at the address at (d) below no later than 20 calendar days after receipt of the Department's or Board's findings or administrative order. The person or school requesting the hearing shall include the following information in each hearing request:

1. The name, address, and telephone number of the person or school and any authorized representative;

2. The date the person or school received the Department's or Board's finding;

3. A copy of the finding or administrative order giving rise to the request for a hearing, and a list of all issues being appealed;

4. The defenses to each of the Department's or Board's findings of fact, stated in short and plain terms;

5. An admission or denial of each of the Department's or Board's findings. If the person or school is without knowledge or information sufficient to form a belief as to the truth of a finding, the person or school shall so state and this shall have the effect of a denial. A denial shall fairly meet the substance of the findings denied. When the person or school intends in good faith to deny only a part or a qualification of a finding, the person or school shall specify so much of it as is true and material and deny only the remainder. The person or school may not generally deny all of the findings, but shall make all denials as specific denials of designated findings. For each finding the person or school denies, the person or school shall state the fact or facts as the person or school believes it or them to be;

6. Information supporting the request and specific reference to or copies of other written documents relied upon to support the request;

7. An estimate of the time required for the hearing (in days and/or hours); and

8. A request, if necessary, for a barrier-free hearing location for physically disabled persons.

(b) The Department shall deny the hearing request if:

1. The person or school requesting the hearing fails to include all of the information required in (a) above; or

2. The Department does not receive the request in the time specified in (a) above.

(c) The Department shall conduct all adjudicatory hearings in accordance with the Administrative Procedure Act, N.J.S.A. 52:14B-1 et seq., and the Uniform Administrative Procedure Rules, N.J.A.C. 1:1.

(d) Requests for adjudicatory hearings shall be sent to:

New Jersey Department of Environmental Protection
Office of Administrative Hearings and Dispute Resolution
ATTENTION: Adjudicatory Hearing Requests
401 E. State Street
Mail Code 401-07A
PO Box 420
Trenton, NJ 08625-0420; and

New Jersey Department of Environmental Protection
Bureau of X-ray Compliance
Mail Code 25-01
25 Arctic Parkway
PO Box 420
Trenton, New Jersey 08625-0420
Attention: Hearing Request

(e) Nothing in this section shall be construed to provide a right to an adjudicatory hearing in contravention of N.J.S.A. 52:14B-3.1 through 3.3.

HISTORY:

New Rule, R.2016 d.022, effective March 7, 2016.
See: 47 N.J.R. 2589(a), 47 N.J.R. 2695(a), 48 N.J.R. 409(b).
Administrative change, effective February 23, 2023.
See: 55 N.J.R. 528(a).

§ 7:28-24.17 Severability

Each section of this subchapter is severable. In the event that any section, subsection or division, or application thereof, is held invalid in a court of law, the remainder of this subchapter shall continue in full force and effect.

HISTORY:

New Rule, R.2016 d.022, effective March 7, 2016.
See: 47 N.J.R. 2589(a), 47 N.J.R. 2695(a), 48 N.J.R. 409(b).

SUBCHAPTERS 25 THROUGH 26. (RESERVED)

SUBCHAPTER 27. RADON TESTING AND MITIGATION

§ 7:28-27.1 Scope and applicability

(a) (Reserved.)

(b) This subchapter establishes rules, requirements, and procedures with which an individual or business wishing to perform radon testing or mitigation in New Jersey shall comply in order to become, and remain, certified. Except as set forth at (c) below, certification is mandatory in New Jersey for any business or individual performing radon testing or mitigation services in buildings, as required pursuant to N.J.S.A. 26:2D-70 et seq.

(c) The certification program established in this subchapter shall not apply to:

1. An individual performing testing or mitigation on a building he or she owns, as provided at N.J.S.A. 26:2D-72. If the owner of a building is other than an individual, radon testing or mitigation performed on the building shall be performed by a certified business and certified individual;

2. An individual performing radon testing or mitigation without remuneration, as provided at N.J.S.A. 26:2D-72;

3. An individual or business subject to the new construction techniques set forth at N.J.A.C. 5:23-10;

4. A retail outlet that does not provide any services set forth in this subchapter;

5. An individual or business that manufactures or sells radon measurement devices, but does not otherwise test for, or mitigate, radon in New Jersey; and

6. A business that samples and analyzes for radon in water as regulated by N.J.A.C. 7:18.

(d) If any provision of this subchapter, or the application thereof to any individual, business, or circumstance, is adjudicated to be invalid or unenforceable to any extent, the remainder of this subchapter, or its application to any individual, business, or circumstance other than those that are the subject of the adjudication, shall continue to be unaffected by the adjudication.

§ 7:28-27.2 Definitions

The words and terms defined below, when used in this subchapter, shall have the following meanings unless the context clearly indicates otherwise.

"Acknowledgement notice" means a written statement from the Department to an individual who applies for initial or expired renewal certification as a radon measurement specialist, radon mitigation specialist, or radon measurement technician, or to a business that applies for initial certification as a radon measurement business or radon mitigation business, that documents that all initial certification application requirements have been met. The acknowledgement notice qualifies an individual and a business to enter into an affiliation. The individual or business is not certified when the acknowledgement notice is issued.

"Affiliate" or "affiliated" means, as to a certified radon measurement technician or certified radon measurement specialist, an individual who deploys and retrieves radon measurement devices through an arrangement with a certified radon measurement business as delineated in a completed affiliation form. As to a certified radon mitigation specialist, "affiliate" or "affiliated" means an individual who installs radon mitigation systems through an arrangement with a certified radon mitigation business, as delineated in a completed affiliation form. The affiliate need not be an employee of the certified business.

"Affiliation" means the association of a certified radon measurement technician or certified radon measurement specialist with a certified radon measurement business, or the association of a certified radon mitigation specialist with a certified radon mitigation business. Affiliation is established between the certified business and the affiliate by completing an affiliation form. An individual or business can have multiple affiliations.

"Affiliation form" means a document recognized by the Department and signed by a certified business or a business with an acknowledgement notice and a certified individual or an individual with an acknowledgement notice that details the responsibilities of both the certified radon business and the certified individual in accordance with this subchapter.

"Applicant" means any business or individual who applies for certification.

"Approved radon chamber facility" means a performance test chamber that is certified or approved by a nationally recognized organization to perform testing for the authorized proficiency program and perform instrument calibrations.

"Authorized measurement protocol" means the most current revisions of "Protocol for Conducting Measurements of Radon and Radon Decay Products in Homes," American National Standards Institute (ANSI)/ American Association of Radon Scientists and Technologists (AARST) MAH-2019; "Protocol for Conducting Measurements of Radon and Radon Decay Products in Multifamily Buildings," ANSI/AARST MAMF-2017; and "Protocol for Conducting Measurements of Radon and Radon Decay Products in Schools and Large Buildings," ANSI/AARST MALB-2014. ANSI/AARST publications are available at www.aarst.org and www.ansi.org. The Department is incorporating these authorized measurement protocols herein, as supplemented or amended.

"Authorized mitigation protocol" means "Soil Gas Mitigation Standards for Existing Homes," ANSI/ AARST SGM-SF-2017; "Radon Mitigation Standards for Multifamily Buildings," ANSI/AARST RMS-MF-2018; and "Radon Mitigation Standards for Schools and Large Buildings," ANSI/AARST RMS-LB-2018. ANSI/AARST publications are available at www.aarst.org and www.ansi.org. The Department is incorporating these authorized measurement protocols herein, as supplemented or amended.

"Authorized proficiency test" means a radon measurement device performance test conducted in accordance with the requirements of a nationally recognized organization.

"Blank measurement" means a method of evaluating a detector response from sources other than the radon exposure at a testing location, such as during shipping, storage, and handling.

"Business" means and includes, without limitation, a sole proprietorship, corporation, limited liability company, or partnership, of the United States, any state, and any political subdivision or agency thereof.

"Calibration" means the process of determining the response of an instrument or measurement system to a series of known radon values over the range of the instrument or measurement system, and adjusting the response, if necessary, based on known radon levels.

"Certification credential" means a certificate printed on State of New Jersey stationery, or other official written or electronic documentation of certification issued by the Department, which shows that an applicant meets all certification requirements of this subchapter and is approved and certified for one year. The name of the certified business or individual, certification number, and dates of the certification period are listed on the certification credential. For initial and renewal applications, a certification credential will be issued when the Department approves the application.

"Certified business" means a certified radon measurement business or a certified radon mitigation business, as applicable.

"Certified individual" means a certified radon measurement technician, certified radon measurement specialist, or certified radon mitigation specialist, as applicable. "Certified individual" also means a certified radon mitigation technician certified in accordance with N.J.A.C. 7:28-27.34.

"Certified radon laboratory" means a radiological laboratory that analyzes samples for the presence of radon and/or radon progeny in a facility separate from the location in which the sample was taken using stationary detection equipment, and that holds a current valid certification issued by the Department pursuant to N.J.A.C. 7:18 for radon analysis.

"Certified radon measurement business" means a business certified pursuant to this subchapter to test for the presence of radon gas in buildings.

"Certified radon measurement specialist" means an individual certified pursuant to this subchapter to perform radon measurement activities and evaluate radon measurements, and to direct the operations of a certified radon measurement business, if agreed upon by the specialist and business.

"Certified radon measurement technician" means an individual certified pursuant to this subchapter to perform radon measurement activities.

"Certified radon mitigation business" means a business certified pursuant to this subchapter to design and install systems in buildings to mitigate and safeguard against radon exposure.

"Certified radon mitigation specialist" means an individual certified pursuant to this subchapter to inspect a building, evaluate diagnostic tests to determine appropriate radon mitigation and safeguard strategies for a building, and to design and install systems in buildings to mitigate and safeguard against radon exposure.

"Client" means the individual or business that owns the building that is tested or mitigated through services regulated pursuant to this subchapter.

"Department" means the New Jersey Department of Environmental Protection.

"Device" means test equipment that is on a nationally recognized organization's approved list of test equipment that can be used to test for radon.

"Device model" means a unique number or name given to portable test equipment that is made by a device manufacturer.

"Duplicate measurement" means two devices placed side-by-side, approximately four inches apart, during the same time period in order to determine the ability of the measurement to be consistently reproduced.

"Expiration date" means 11:59 P.M. on the date that is one year from the date of the issuance of a certification.

"Individual" means a human being.

"Large building" means a building classified as Group A, Group B, Group F, Group H, Group I, and/or Group M by the International Building Code, incorporated by reference at N.J.A.C. 5:23-3.14; or any other occupancy group included in the Authorized Measurement Protocols.

"Minimum detectable concentration (MDC)" means the lowest concentration that is detectable at an established confidence level (95 percent at a minimum). Refer to "Radon Measurement Systems Quality Assurance" (ANSI/AARST MS-QA), as supplemented or amended, for the method to calculate MDC using the equation for the Lower Limit of Detection Counting Technology (LLD_{CT}) Methods for CRMs and the Lower Limit of Detection Non-Counting Technology (LLD_{NCT}) Methods for EICs.

"Mitigate" means to apply materials and/or install systems and materials to reduce the radon concentration in the indoor atmosphere or prevent entry of radon into the indoor atmosphere.

"Mitigation system" means a step, or series of steps, employed to actively reduce radon levels in buildings including, but not limited to, sealing techniques, natural and forced air ventilation techniques, soil depressurization techniques, and the installation of a fan to activate radon-resistant elements of new construction.

"Multifamily building" means a residential building having more than one attached dwelling or other occupied unit including, but not limited to, condominium, townhouse, and apartment buildings.

"Nationally recognized organization" means the National Radon Proficiency Program, National Radon Safety Board, or other recognized independent administrative program that provides radon certification, accreditation, chamber approval, standards development, and proficiency services.

"Non-portable device" means a device that requires additional laboratory equipment in order to analyze the sample collected and generate reportable results including, but not limited to, a charcoal canister, charcoal liquid scintillation detector, or alpha track detector. Non-portable devices shall be analyzed by a certified laboratory pursuant to N.J.A.C. 7:18.

"Picocurie per liter (pCi/L)" means 2.2 disintegrations of radioactive decay in one liter. It is used as a measure of the concentration of radon gas in air. One picocurie is equivalent to one trillionth of a Curie.

"Portable device" means a device that does not require additional laboratory equipment in order to analyze the sample collected and generate reportable results, such as, but not limited to, a continuous radon monitor or electret device, including the electret reader. Portable devices do not require the analysis to be conducted by a certified laboratory pursuant to N.J.A.C. 7:18.

"Program administration fee" means the fee charged in accordance with N.J.A.C. 7:28-27.27(c) to fund the radon certification program.

"Quality assurance" or "QA" means the activities required to establish confidence that radon test data are of the required precision and accuracy.

"Quality assurance plan" or "QA plan" means a formal document describing in detail the necessary quality assurance policies, quality control procedures, and other technical activities that must be implemented to ensure that the results of the work performed will satisfy the stated performance or acceptance criteria. The quality assurance plan defines objectives to be attained and the responsibilities and authorities of personnel, especially in regard to data quality and corrective action.

"Quality control" or "QC" means the technical activities that measure the attributes and performance of a process against defined standards to verify that they meet established specifications, including documentation.

"Radiation work experience" means the experience an individual obtains from performing work related to radiation including, but not limited to, radiation protection; use of radiation equipment, devices, and instruments; monitoring, testing, and analyzing radiation; reviewing, interpreting, and analyzing radiological data; and radon measurement activities.

"Radon" means the radioactive noble gas radon-222 and the short-lived decay products of radon-222 decay, including polonium-218, lead-214, bismuth-214, and polonium-214.

"Relative percent difference" or "RPD" means a statistic used to evaluate the difference between two measurements. The "RPD" normalizes the difference between two measurements by dividing by the best estimate of the true value, which is the mean of the two results. The difference is compared as a fraction to the mean of the two results as there is no reason to assume that one measurement is more accurate than the other, and over time a set of "RPD" values can be used as an estimate of imprecision.

"Single-family home" means a residential building with one dwelling unit.

"Spike testing" means exposing a device to known radon concentrations in a radon chamber facility to test the accuracy of the device. The concentrations are as recommended by the manufacturer to simulate exposures normally encountered in field measurements.

"Working level" or "WL" means a unit of radon decay product exposure rate. One working level refers to the concentration of short-lived decay products of radon in equilibrium with 100 pCi/L in the air.

"Working level month" or "WLM" means a unit of exposure used to express the accumulated human exposure to radon decay products, where one WLM = one WL exposure for 170 hours.

§ 7:28-27.3 General provisions

(a) No business or individual subject to this subchapter shall test for, or mitigate, radon in the State of New Jersey without being certified pursuant to this subchapter.

(b) No certified business or certified individual shall disclose to any business or individual, except the owner, the Department of Environmental Protection, or the Department of Health, the address or owner of a nonpublic building that the certified business or certified individual has tested or treated for the presence of radon, unless the owner of the building waives, in writing, this right of confidentiality. In the case of a prospective sale of a building that has been tested for radon gas and radon progeny, the seller shall provide the buyer, at the time the contract of sale is entered into, with a copy of the results of that test and evidence of any subsequent mitigation or treatment. Any prospective buyer who contracts for the testing of a building shall have the right to receive the results of that testing.

(c) A certified radon measurement business may disclose the results of radon testing to the certified individual who performed the test. A certified business may disclose the results of radon testing or mitigation to the owner's legal representative, including an attorney or real estate agent, acting in accordance with a written agreement the attorney or agent has with the owner. A certified individual is not a legal representative. If the owner of the building is other than an individual, a certified business may disclose the results of radon testing or evidence of any subsequent mitigation or treatment to the following:

1. For a corporation:

i. A president, secretary, treasurer, or vice-president of the corporation in charge of a principal business function, or any other individual who performs similar policy or decision-making functions for the corporation; or

ii. The manager of the certified business, provided the authority to sign documents has been assigned or delegated to the manager in accordance with corporate procedures;

2. For a limited liability company, an individual who has the authority to bind the limited liability company to the provisions of this subchapter, including without limitation, an officer, member, or manager of the limited liability company;

3. For a sole proprietorship, the proprietor;

4. For a partnership, a general partner;

5. For a municipality, county, state, Federal, or other public agency, either a principal executive officer or ranking elected official. For purposes of this section, a principal executive officer of a Federal agency includes:

i. The chief executive officer of the agency; or

ii. A senior executive officer having responsibility for the overall operations of a principal geographic unit of the agency (such as a Regional Administrator); and

6. A duly authorized representative of any of the above, if the authorization is made in writing by an individual described at (c)1 through 5 above. A duly authorized representative may be either a named individual or any individual occupying a named position.

(d) Each certified business and certified individual shall remain in compliance with and conduct activities in accordance with the approved certification and the provisions of the Act, this subchapter, and all other applicable municipal, county, State, and Federal statutes, rules, regulations, and codes.

(e) To become certified to test or mitigate radon in accordance with this subchapter, a business or individual shall submit an application on a form provided by the Department at www.njradon.org, and the appropriate fee to the Department, as directed on the application form.

(f) Any business or individual subject to this subchapter who performs radon testing or mitigation without being certified shall be subject to the criminal penalties at N.J.S.A. 26:2D-77.

(g) A certification shall expire if it is not timely renewed. For purposes of this subchapter, timely renewal of a certification means the business or individual submits a renewal application in order that the Department receives it 30 days or more before the expiration date of the certification.

(h) A renewal application that is received by the Department less than 30 days before the certification expiration date and is not approved by the expiration date, shall continue through the review process after the certification expires. The new certification period shall begin on the date the Department approves the application.

(i) If a renewal application is not received by the Department prior to the expiration date, to renew its certification, the business or individual shall submit a renewal application with the proper fee for the expired renewal in accordance with N.J.A.C. 7:28-27.27(d).

(j) To amend the information in the certification at any time during the certification period or after an acknowledgement notice is received, a business or individual shall submit, to the Department, in writing, the information to be changed. The request for amendment shall be signed in accordance with N.J.A.C. 7:28-27.4. The amendment is not operative until the Department reviews, approves, and confirms the change, in writing, to the certified business or certified individual. There is no fee to amend a certification.

(k) To cancel a certification, a certified business or certified individual shall submit a written and signed request to the Department. The cancellation shall be final upon written confirmation by the Department.

(l) Any questions concerning the requirements of this subchapter should be directed to the New Jersey Department of Environmental Protection, Bureau of Environmental Radiation, Radon Section, at the address set forth at N.J.A.C. 7:28-1.5(a). Applications and forms are available at www.njradon.org.

§ 7:28-27.4 Signatories

(a) An individual applying for initial or renewal certification, or amending an existing certification, shall provide and sign the following statement on his or her application, renewal form, or request for an amendment:

"I certify under penalty of law that the information provided in this document is true, accurate, and complete. I am aware that there are significant civil and criminal penalties for submitting false, inaccurate, or incomplete information, including fines and/or imprisonment. I am aware that the certification for which I am applying requires compliance with N.J.A.C. 7:28-27 at all times when providing radon services under that certification."

(b) A business applying for initial or renewal certification, or amending an existing certification, shall provide and sign the following statement on its application, renewal form, or request for an amendment:

"I certify under penalty of law that I have personally examined and am familiar with the information submitted in this application and all attached documents. I believe that the submitted information is true, accurate and complete. I am aware that there are significant civil and criminal penalties for submitting false, inaccurate, or incomplete information, including the possibility of fine and/or imprisonment. I am aware that the certification for which this business is applying requires compliance with N.J.A.C. 7:28-27 at all times when the business and affiliates are providing radon services under that certification."

(c) For purposes of (b) above, the following individuals shall sign:

1. For a corporation:

i. A president, secretary, treasurer, or vice-president of the corporation in charge of a principal business function, or any other individual who performs similar policy or decision-making functions for the corporation; or

ii. The manager of the business applying to be certified, provided the authority to sign documents has been assigned or delegated to the manager in accordance with corporate procedures;

2. For a limited liability company, an individual who has the authority to bind the limited liability company to the provisions of this subchapter, including, without limitation, an officer, member, or manager of the limited liability company;

3. For a sole proprietorship, the proprietor;

4. For a partnership, a general partner;

5. For a municipality, county, state, Federal, or other public agency, either a principal executive officer or ranking elected official. For purposes of this section, a principal executive officer of a Federal agency includes:

i. The chief executive officer of the agency; or

ii. A senior executive officer having responsibility for the overall operations of a principal geographic unit of the agency (such as a Regional Administrator);

6. A duly authorized representative of any of the above, if the authorization is made in writing by an individual described at (c)1 through 5 above. A duly authorized representative may be either a named individual or any individual occupying a named position.

§ 7:28-27.5 Affiliation

(a) A certified business shall ensure that radon services are conducted on its behalf by a certified individual with whom the business is affiliated, or by an individual not subject to certification pursuant to N.J.A.C. 7:28-27.1(c)1 and 2.

(b) Prior to affiliation, an individual shall provide to the certified business or business with an acknowledgement notice:

1. If the individual is not yet initially certified, a copy of the Department's acknowledgement notice as specified at N.J.A.C. 7:28-27.18(d), 27.21(d), or 27.24(d);

2. If the individual is certified, a copy of a valid Department certification credential;

3. If the individual will test or mitigate multifamily buildings or schools and large buildings, proof of an eight-hour training course for multifamily buildings, and/or an eight-hour training course for schools and large buildings, in accordance with N.J.A.C. 7:28-27.20(c), 27.23(b), and 27.26(c); and

4. If the individual will use a portable device, proof of passing the authorized proficiency test for each device model.

(c) A certified business or business with an acknowledgement notice shall provide the following to each prospective affiliate:

1. A copy of the QA plan, prepared in accordance with N.J.A.C. 7:28-27.14;

2. A copy of the radiological safety plan, prepared in accordance with N.J.A.C. 7:28-27.15; and

3. Radiation safety training, in accordance with N.J.A.C. 7:28-27.9(q) and 27.13(g).

(d) A certified business or a business with an acknowledgement notice and a certified individual or an individual with an acknowledgement notice shall affiliate by completing the affiliation form available on the Department's website at www.njradon.org, and submitting the form to the Department in accordance with (f) below. The completed affiliation form shall include:

1. The business's name and certification number, if the business is already certified;

2. The business representative's name and signature;

3. The affiliate's name, certification number, if the individual is already certified, and signature;

4. The date the affiliation form is signed;

5. A statement that the business has provided to the affiliate the QA plan (if applicable), the radiological safety plan, and radiation safety training; and

6. A statement that the certified business and certified affiliate are both responsible for complying with this subchapter when conducting testing or mitigation.

(e) A certified business or a business with an acknowledgement notice shall add an affiliate or an individual with an acknowledgement notice to its initial application or amend its certification prior to the individual performing radon testing and/or mitigation activities through an arrangement with the certified business.

(f) A certified business or a business with an acknowledgement notice adds an affiliate to its certification by amending its certification in accordance with N.J.A.C. 7:28-27.3(j). The business shall submit the completed affiliation form to the Department with the request for amendment and shall provide a copy of the request for amendment to the individual.

(g) A certified business removes an affiliate from its certification by amending its certification in accordance with N.J.A.C. 7:28-27.3(j). The certified business shall provide a copy of the request for amendment to the individual.

(h) The amendment to add or remove an affiliate from the business's certification shall be effective on the date of the Department's written confirmation to the business and affiliate that it has amended the business's certification. In the case of a business with an acknowledgement notice, the affiliation shall be effective on the date the business receives its certification credential.

(i) If a certified individual or certified business fails to comply with this subchapter, the Department may investigate and, when necessary, limit the number of affiliations for that business or individual until the Department is satisfied that the business or individual can demonstrate compliance.

1. Notice pursuant to this subsection shall be served by certified mail or by personal service, concisely state the facts that give rise to the order, and advise the violator of the right to request an adjudicatory hearing pursuant to the procedure at N.J.A.C. 7:28-27.31.

2. Use of any remedy pursuant to this subsection shall not preclude the use of any other remedy available to the Department.

§ 7:28-27.6 Authorized proficiency testing and calibration for portable devices

(a) An individual applying for certification or a certified radon measurement specialist or technician shall pass one authorized proficiency test for each portable device model he or she uses, prior to using the device model.

1. The authorized proficiency test shall be conducted at an approved radon chamber facility; and

2. The individual shall submit the results to each certified business with which the individual is affiliated for that device model.

(b) Each portable device must have a current calibration certificate prior to adding it to the business's certification. A portable device shall be calibrated annually.

1. If a certified individual or an individual with an acknowledgement notice owns or leases the device, the individual shall submit the current calibration certificate to each business with which the individual is affiliated for that device;

2. If a certified radon measurement business or a business with an acknowledgement notice owns the device, the business shall have the device calibrated;

3. The calibration shall be completed no more than 12 months prior to the submission of an initial or renewal radon measurement business application;

4. An approved radon chamber facility or the device manufacturer shall be used for calibration; and

5. A certified individual shall ensure that a device has a current calibration certificate prior to using the device, whether the individual or a certified business owns or leases the device.

(c) A certified radon measurement business or a business with an acknowledgement notice adds the device model to the business's certification when an authorized proficiency test has been passed by at least one affiliate who uses the device model and the QA Plan has been approved.

(d) To add a device model or device, a certified radon measurement business or a business with an acknowledgement notice shall amend its certification as set forth at N.J.A.C. 7:28-27.3(j) and shall submit the name of the device manufacturer, the device model number, the device serial number, the device owner's name, and the current calibration certificate.

(e) To remove a device model or device, a certified radon measurement business shall amend its certification as set forth at N.J.A.C. 7:28-27.3(j) and shall submit the name of the device manufacturer, the device model number, the device serial number, and the device owner's name.

§ 7:28-27.7 Radon measurement business—initial certification

(a) An initial certification is valid for one year following the date of issuance, unless it is suspended, revoked, or canceled.

(b) A radon measurement business shall submit an application for initial certification in accordance with N.J.A.C. 7:28-27.3(e).

(c) A complete initial application shall include:

1. The business name, physical location, mailing address; primary and secondary individuals in charge of the business; individual in charge of tracking affiliates and their certification status; contact information for each individual, which may include a telephone number and electronic mail address; and any branch names, addresses, and contact information;

2. The business's status as a corporation, limited liability company, sole proprietorship, partnership, or municipality, county, state, Federal, or other public agency;

3. The name and address of each owner, officer, general and limited partner, director, and principal shareholder;

4. For a corporation, the state of domestic incorporation, and the name and principal place of business of each parent corporation of the applicant;

5. A list of non-portable devices in accordance with N.J.A.C. 7:28-27.9(d)2;

6. An identification of the building types to be tested and the authorized measurement protocols to be followed for each building type in accordance with N.J.A.C. 7:28-27.9(d);

7. A copy of the QA plan in accordance with N.J.A.C. 7:28-27.14;

8. A copy of the radiological safety plan in accordance with N.J.A.C. 7:28-27.15;

9. A copy of the chain of custody forms in accordance with N.J.A.C. 7:28-27.9(g);

10. A copy of the instruction document the business provides to individuals who are not subject to certification pursuant to this subchapter, in accordance with N.J.A.C. 7:28-27.9(h);

11. A copy of the confidentiality waiver form in accordance with N.J.A.C. 7:28-27.9(*o*);

12. A copy of each reporting form used to report results to clients in accordance with N.J.A.C. 7:28-27.17(c); and

13. The proper fee in accordance with N.J.A.C. 7:28-27.27(d).

(d) The Department will issue an acknowledgement notice to an applicant who complies with the requirements of this section. Upon receipt of the acknowledgement notice, the business shall submit amendments in accordance with N.J.A.C. 7:28-27.3(j) to provide the affiliation forms in accordance with N.J.A.C. 7:28-27.5, a list of affiliates and their training dates in accordance with N.J.A.C. 7:28-27.9(d)4, and the portable device information in accordance with N.J.A.C. 7:28-27.6. Upon approval by the Department and affiliation with a certified radon measurement specialist or an individual who has received an acknowledgement notice to become a radon measurement specialist, a certification credential will be issued. The certification shall contain the information provided in the application and any subsequent amendments in accordance with N.J.A.C. 7:28-27.3(j).

§ 7:28-27.8 Radon measurement business—certification renewal

(a) A renewal certification is valid for one year following the date of issuance, unless it is suspended, revoked, or canceled.

(b) A radon measurement business shall submit, to the Department, an application for renewal on the form that the Department provides in advance of the expiration date.

(c) A complete renewal application shall contain:

1. All information required in an application for an initial certification as set forth at N.J.A.C. 7:28-27.7, but only to the extent that the information differs from what is contained in the certified business's most recent certification;

2. A copy of the current calibration certificate for each portable device used by the certified business's affiliates in accordance with N.J.A.C. 7:28-27.6(b);

3. Documentation of spike testing, if applicable, in accordance with N.J.A.C. 7:28-27.10(f); and

4. The proper fee in accordance with N.J.A.C. 7:28-27.27(d).

(d) The Department will issue a certification credential to an applicant who complies with the requirements of this section. The certification shall contain the information provided in the application and any subsequent amendments in accordance with N.J.A.C. 7:28-27.3(j).

§ 7:28-27.9 Responsibilities of a certified radon measurement business

(a) A certified radon measurement business shall maintain its certification by submitting an annual renewal application in accordance with N.J.A.C. 7:28-27.8 and amending its certification, when necessary, in accordance with N.J.A.C. 7:28-27.3(j).

(b) A certified radon measurement business shall affiliate with at least one certified radon measurement specialist or an individual who has received an acknowledgement notice to become a radon measurement specialist, in accordance with N.J.A.C. 7:28-27.5, and submit the affiliation form to the Department.

(c) A certified radon measurement business shall comply with this subchapter and ensure that its affiliates conduct radon testing in accordance with the authorized measurement protocols for each building type, this subchapter, the certified business's certification, QA plan, and radiological safety plan.

(d) A certified radon measurement business shall provide to the Department:

1. The information required at N.J.A.C. 7:28-27.6(d);

2. A list of the non-portable devices, including the device manufacturer/model and device number, as assigned by a nationally recognized organization, to be used by the business and/or its affiliates and either:

i. The name and certification number of the analytical laboratory certified in accordance with N.J.A.C. 7:18 that will analyze each device; or

ii. An indication that the certified business will analyze the non-portable devices, in which case the certified business shall provide its certification number pursuant to N.J.A.C. 7:18;

3. A list of the building types to be tested, including residential, non-residential, or school buildings. If residential, whether single-family, condominium, townhouse, apartment, and/or other residential building types will be tested.

4. The name of the affiliate or affiliates who will test multifamily buildings, schools and/or large buildings; and the date on which each identified affiliate took the eight-hour multifamily buildings training course and/or the eight-hour schools and large buildings training course, as applicable.

(e) The daily operation of a certified radon measurement business shall be directed by one or more certified radon measurement specialists affiliated with the business, whose responsibilities are set forth at N.J.A.C. 7:28-27.20(j).

(f) A certified radon measurement business shall develop and comply with a QA plan in accordance with N.J.A.C. 7:28-27.14 for each device model identified in its certification and to be used by its affiliates in order to ensure the reliability and validity of radon measurements. The plan shall be submitted to the Department for approval as part of the business's application for initial certification, or an amendment to its certification, and shall be provided to each affiliate annually and when the certified business revises the plan to change the procedure affiliates must follow.

(g) A certified radon measurement business shall establish a chain of custody form for each type of portable and non-portable device and each building type. The chain of custody form shall be submitted to the Department for approval as part of the business's application for initial certification or an amendment to its certification and shall include (g)1 through 19 below when the form is completed in its entirety by an affiliate for every device, and (g)1, (g)3 through 17 below when the form is completed by an individual not subject to certification pursuant to N.J.A.C. 7:28-27.1(c)1 and 2. The affiliate shall complete (g)7 and (g)14 through 17 in the field.

1. Test location including address, city, State, zip code, incorporated municipality, and county;

2. Client address, city, State, and zip code, if different than test location;

3. Portable or non-portable device type;

4. Device model number for portable devices;

5. Device serial number or reference number;

6. Floor where the test was conducted: zero is the basement, one is the first floor, etc.;

7. Whether closed building conditions, as provided in the applicable authorized measurement protocol, were met;

8. The type of building the test was performed in: residential, non-residential, or school.

i. If the building is residential, whether it is a single-family, condominium, townhouse, apartment, or other residential building type; and

ii. If the building is a school, the school name, New Jersey Department of Education school code, and room number of the location tested;

9. Structure type: basement, crawlspace, slab on grade, or combination;

10. Test type: standard, blank, or duplicate;

11. Whether the test was conducted at a child care center;

12. Whether the test was conducted as part of a real estate transaction;

13. Whether the test was conducted after mitigation;

14. The certification number of the individual who deployed the device. If the individual is not subject to certification, the signature of the individual;

15. The time and date the device was deployed;

16. The certification number of the individual or the signature of the owner who retrieved the device;

17. The time and date the device was retrieved;

18. If the device is non-portable, the certification number of the radon laboratory analyzing the device; and

19. The calibration expiration date for the CRM, electret reader, or other portable device that the affiliate used for the test.

(h) If the certified radon measurement business provides devices to an individual not subject to certification pursuant to N.J.A.C. 7:28-27.1(c)1 or 2, the certified business shall also provide a testing instruction document to the individual. The instruction document shall be submitted to the Department for approval as part of its application for initial or renewal certification or as an amendment to its certification, and shall include:

1. Specific testing requirements in accordance with the authorized measurement protocols;

2. The requirement to complete the chain of custody form in its entirety; and

3. Directions for the return of the device to the business.

(i) Neither the certified business nor any of its affiliates shall conduct a test with a device, unless the device is identified on the certified business's certification and has a current calibration certificate. A certified business shall add a device to its certification during initial or renewal certification in accordance with N.J.A.C. 7:28-27.7 or 27.8, or as an amendment in accordance with N.J.A.C. 7:28-27.3(j) and 27.6(d).

(j) A certified radon measurement business shall secure the services of a laboratory certified pursuant to N.J.A.C. 7:18, Regulations Governing the Certification of Laboratories and Environmental Measurements, to analyze non-portable devices belonging to the certified business. In the alternative, the certified business may analyze the non-portable devices, provided the business is certified to analyze the devices pursuant to N.J.A.C. 7:18.

(k) A certified radon measurement business shall implement quality control measures in accordance with N.J.A.C. 7:28-27.10.

(l) A certified radon measurement business shall invalidate a test that does not meet the requirements of the authorized measurement protocols, the QA plan, or this subchapter. If a test is invalidated:

1. The reason for invalidating the test shall be clearly documented on the client report form;

2. The test result shall not be reported on the client report form or otherwise provided to the client; and

3. The test shall not be reported to the Department.

(m) A certified radon measurement business shall report tests performed only by an affiliate, or by an individual not subject to certification pursuant to N.J.A.C. 7:28-27.1(c)1 and 2, and reviewed by a measurement specialist, to the Department in accordance with N.J.A.C. 7:28-27.17(a), and in a client report form in accordance with N.J.A.C. 7:28-27.17(c). The client report form shall be submitted to the Department for approval as part of its application for initial certification. If the form is revised, the revised form must be submitted to the Department for approval as part of the certified business's application for renewal certification, or as an amendment to its certification.

(n) A certified radon measurement business shall include in the client report a reference to the Department's website at www.njradon.org for the most recent version of the testing and mitigation guidance document that is approved by the Department.

(o) A certified radon measurement business shall establish a confidentiality waiver form and require affiliates to use the waiver form to obtain written authorization from the owner to provide an address and corresponding radon test result to an individual other than the building owner, or the buyer in the case of a prospective sale. A waiver shall not apply to individuals referenced at N.J.A.C. 7:28-27.3(c). The waiver form shall be submitted to the Department for approval as part of the business's application for initial certification. If the form is revised, the revised form must be submitted to the Department for approval as part of the certified business's application for renewal certification, or as an amendment to its certification. The waiver shall include:

1. A statement in accordance with N.J.A.C. 7:28-27.3(b) indicating that the owner or their legal representative agrees to release the information;

2. The name and signature of the owner or their legal representative as provided at N.J.A.C. 7:28-27.3(c);

3. The name and signature of the affiliate; and

4. The date that the owner or representative signs the document.

(p) A certified radon measurement business shall develop and comply with a radiological safety plan in accordance with N.J.A.C. 7:28-27.15 in order to keep the radon exposure of affiliates as low as reasonably achievable. The plan shall be submitted to the Department for approval as part of the business's application for initial certification, and shall be provided to each affiliate annually, and when the certified business revises the plan to change the procedures affiliates must follow. If the plan is revised, the revised plan must be submitted to the Department for approval as part of the certified business's application for renewal certification, or as an amendment to its certification.

(q) A certified radon measurement business shall provide radiation safety training to each prospective affiliate, including the following:

1. An overview of radiation and radiation safety;

2. An overview of radon and the risk of developing lung cancer from radon exposure;

3. The radiation safety practices that each affiliate entering a building must follow for radon testing, including:

i. Limiting the time spent in areas with potentially high radon concentrations;

ii. Responding to questions or concerns of clients in a low radon area;

iii. Setting up radon testing devices prior to entering an area with potentially high radon concentrations; and

iv. Not smoking in buildings being tested; and

4. A certified radon measurement business shall administer a radiation safety examination to prospective affiliates and shall determine:

i. The passing score required on the test; and

ii. The measures the business will take if the prospective affiliate does not pass the test, such as additional training or re-administering the test.

§ 7:28-27.10 Quality control measures

(a) Authorized proficiency testing shall be conducted in accordance with N.J.A.C. 7:28-27.6(a).

(b) Each portable device on the business's certification shall be calibrated in accordance with N.J.A.C. 7:28-27.6(b).

(c) Throughout each month, a certified radon measurement business shall conduct the lesser of 10 percent duplicates or 50, for each portable and non-portable device type and distributed among New Jersey tests conducted by affiliates and individuals not subject to certification pursuant to N.J.A.C. 7:28-27.1(c)1 and 2. When a continuous radon monitor is used for testing and there is no other continuous radon monitor available, another type of device shall be used.

1. The RPD shall be calculated for each duplicate pair and the certified radon measurement business shall use the following minimum criteria for all duplicate analyses:

Average of the two test devices	Warning Limit Triggered	Control Limit Triggered
≥ 4.0 pCi/L	RPD > 28.0%	RPD > 36.0%
2.0-3.9 pCi/L	RPD > 50.0%	RPD > 67.0%
< 2.0 pCi/L	Absolute value of the difference between the two tests is >1 pCi/L if both tests are above the minimum detectable concentration	n/a

2. If more than five percent of the checks fall within the warning limit or more than one percent of the checks fall outside the control limit for a device, the certified business shall investigate, take corrective action, and document the investigation and corrective action. If the limit continues to be exceeded, the business shall take the affected devices out of service until the problem is identified, corrected, and documented.

(d) Throughout each month, a certified radon measurement business shall conduct the lesser of five percent blanks or 25, distributed among New Jersey tests conducted by affiliates and individuals not subject to certification pursuant to N.J.A.C. 7:28-27.1(c)1 and 2.

1. The minimum control limits for blanks shall be as follows:

Device	Control Limit
Non-portable	>Minimum Detectable Concentration
Electret	≥ 2 volts, or as recommended by the manufacturer for that configuration

2. If blank results fall outside the control limit for a device, the certified business shall investigate, take corrective action, and document the investigation and corrective action. If the limit continues to be exceeded, the business shall take the affected device out of service until the problem is identified, corrected, and documented.

(e) A certified radon measurement business shall provide instructions for deploying devices for blank measurements, and shall distribute devices for blank measurements among all the places where the devices are stored, transported, and deployed, including:

1. Side-by-side with the test;

2. At the certified business's location;

3. At the affiliate's office and storage area; and

4. In the vehicles that transport the devices.

(f) A certified radon measurement business shall conduct spike testing for electret readers that it owns. If a device is affiliate-owned, the certified individual shall conduct spike testing and shall submit the results to each certified business with which the individual is affiliated for that device.

1. Spike tests shall be conducted at a rate of three per 100 tests, with a minimum of three per year and a maximum of six per month; and

2. The certified radon measurement business shall monitor the results of spike testing and shall investigate any significant deviation from the known spike concentration.

(g) From each shipment of electret devices from the manufacturer, the device owner shall set aside the lesser of five percent or 10, which shall be evaluated at least weekly for voltage drift and results documented.

1. If a device is affiliate-owned, the certified individual shall submit the results weekly to each certified business with which the individual is affiliated for that device;

2. If the voltage loss is more than one volt per week over a three-week test period for short-term electrets, or one volt per month over a three-month test period for long-term electrets, the certified business shall investigate, take corrective action, and document the investigation and corrective action; and

3. If the limit continues to be exceeded, the certified business shall instruct the owner to take the affected device out of service until the problem is identified, corrected, and documented.

(h) Following the manufacturer's instructions, the device owner shall zero the electret reader and document results at least weekly.

1. If a device is affiliate-owned, the certified individual shall submit the results weekly to each certified business with which the individual is affiliated for that device; and

2. If the manufacturer's limits are exceeded, the certified business shall instruct the owner to take the affected device out of service until the problem is identified, corrected, and documented.

(i) Following the manufacturer's instructions, the device owner shall check the reference cells and document results at least weekly.

1. If a device is affiliate-owned, the certified individual shall submit the results weekly to each certified business with which the individual is affiliated for that device; and

2. If the manufacturer's limits are exceeded, the certified business shall instruct the owner to take the affected device out of service until the problem is identified, corrected, and documented.

(j) Each calendar quarter, a certified specialist responsible for the daily operations of the certified business shall prepare and submit to the individual who signed the application in accordance with N.J.A.C. 7:28-27.4, a written report of the results of duplicate tests, blank tests, authorized proficiency tests, calibrations, and spike tests, voltage drift, zeroing, and reference cell checks, as applicable, and any corrective action.

§ 7:28-27.11 Radon mitigation business—initial certification

(a) An initial certification is valid for one year following the date of issuance, unless the certification is suspended, revoked, or canceled.

(b) A radon mitigation business shall submit an application for initial certification in accordance with N.J.A.C. 7:28-27.3(e).

(c) A complete initial application shall include:

1. The business name, physical location, and mailing address; primary and secondary individuals in charge of the business; individual in charge of tracking affiliates and their certification status; contact information for each individual, which may include telephone number and electronic mail address; and any branch names, addresses, and contact information;

2. The business's status as a corporation, limited liability company, sole proprietorship, partnership, or government agency;

3. The name and address of each owner, officer, general and limited partner, director, and principal shareholder;

4. For a corporation, the state of domestic incorporation, and the name and principal place of business of each parent corporation of the applicant;

5. An identification of the building types to be mitigated and the authorized mitigation protocols to be followed for each building type, in accordance with N.J.A.C. 7:28-27.13(d);

6. A copy of the radiological safety plan in accordance with N.J.A.C. 7:28-27.15;

7. A copy of the form contract for a fan installation only and the form contract for a full mitigation system installation in accordance with N.J.A.C. 7:28-27.13(*l*); and

8. The proper fee in accordance with N.J.A.C. 7:28-27.27(d).

(d) The Department will issue an acknowledgement notice to an applicant who complies with the requirements of this section. Upon receipt of the acknowledgement notice, the business shall submit amendments in accordance with N.J.A.C. 7:28-27.3(j) to provide the affiliation forms in accordance with N.J.A.C. 7:28-27.5, and a list of affiliates and their training dates in accordance with N.J.A.C. 7:28-27.13(d)2. Upon approval by the Department and affiliation with a certified radon mitigation specialist or an individual who has received an acknowledgement notice to become a radon mitigation specialist, a certification credential will be issued. The certification shall contain the information provided in the application and any subsequent amendments in accordance with N.J.A.C. 7:28-27.3(j).

§ 7:28-27.12 Radon mitigation business—certification renewal

(a) A renewal certification is valid for one year following the date of issuance, unless the certification is suspended, revoked, or canceled.

(b) A radon mitigation business shall submit to the Department, an application for renewal on the form that the Department provides in advance of the expiration date.

(c) A complete renewal application shall contain:

1. All information required in an application for an initial certification as set forth at N.J.A.C. 7:28-27.11, but only to the extent that the information differs from what is contained in the certified business's most recent certification; and

2. The proper fee in accordance with N.J.A.C. 7:28-27.27(d).

(d) The Department will issue a certification credential to an applicant who complies with the requirements of this section. The certification shall contain the information provided in the application and any subsequent amendments in accordance with N.J.A.C. 7:28-27.3(j).

§ 7:28-27.13 Responsibilities of a certified radon mitigation business

(a) A certified radon mitigation business shall maintain its certification by submitting an annual renewal application in accordance with N.J.A.C. 7:28-27.12 and amending its certification, when necessary, in accordance with N.J.A.C. 7:28-27.3(j).

(b) A certified radon mitigation business shall affiliate with a certified radon mitigation specialist or an individual who has received an acknowledgement notice to become a radon mitigation specialist, in accordance with N.J.A.C. 7:28-27.5 and submit the affiliation form to the Department.

(c) A certified radon mitigation business shall comply with this subchapter and ensure that its affiliates conduct radon mitigation in accordance with the authorized mitigation protocols for each building type, this subchapter, the certified business's certification, and radiological safety plan.

(d) A certified radon mitigation business shall provide to the Department:

1. A list of the building types to be mitigated, including residential, non-residential, or school buildings. If residential, whether single-family, condominium, townhouse, apartment, and/or other residential building types will be mitigated.

2. The name of the affiliate or affiliates who will mitigate multifamily buildings, schools, and/or large buildings; and the date on which each identified affiliate took the eight-hour multifamily buildings training course and/or the eight-hour schools and large buildings course, as applicable.

(e) The daily operation of a certified radon mitigation business shall be directed by one or more certified radon mitigation specialists affiliated with the business, whose responsibilities are set forth at N.J.A.C. 7:28-27.26(k).

(f) A certified radon mitigation business shall develop and comply with a radiological safety plan in accordance with N.J.A.C. 7:28-27.15, in order to keep the radon exposure of affiliates as low as reasonably achievable. The plan shall be submitted to the Department for approval as part of the business's application for initial certification, and shall be provided to each affiliate annually, and when the certified business revises the plan to change the procedures affiliates must follow. If the plan is revised, the revised plan must be submitted to the Department for approval as part of the certified business's application for renewal certification, or as an amendment to its certification.

(g) A certified radon mitigation business shall provide radiation safety training to each prospective affiliate and uncertified individuals as specified at (n) below, including the following:

1. An overview of radiation and radiation safety;

2. An overview of radon and the risk of developing lung cancer from radon exposure; and

3. The radiation safety practices that each affiliate entering a building must follow for radon mitigation work, including:

i. Knowing the pre-mitigation radon test result;

ii. Ventilating building areas where mitigation work is being performed;

iii. Limiting the time spent in areas with potentially high radon concentrations;

iv. Taking work breaks/lunches away from elevated radon areas;

v. Allowing in the building only the number of persons necessary to carry out mitigation work; and

vi. Not smoking in buildings being mitigated.

(h) A certified radon mitigation business shall administer a radiation safety examination to prospective affiliates and shall determine:

1. The passing score required on the test; and

2. The measures the business will take if the prospective affiliate does not pass the test, such as additional training or re-administering the test.

(i) A certified radon mitigation business shall provide, to the Department, the method by which the business shall track radon exposure for each affiliate, including a description of the following:

1. An explanation of the tracking methods at (j) below, including all calculations;

2. Measures to be taken to ensure exposure does not exceed two working level months per year (WLM per year); and

3. Measures to be taken when exposure exceeds two WLM per year.

(j) A certified radon mitigation business shall annually track its affiliates' exposure to radon by:

1. Requiring its affiliates to wear a passive long-term radon detector while working for at least three consecutive months; or

2. Estimating radon exposure by performing one calculation using the highest pre-mitigation radon test result obtained by any affiliate and the maximum total time spent by any affiliate in buildings while conducting mitigations for the past year, or if a new business, by estimating radon exposure at six months and one year during the first year of certification, using the following calculation:

WLM per year = (exposure (WL) x hours exposed per year) / 170 hours per month

(Assumes one month of work = 170 hours)

$$ER = \frac{(WL \times 100)}{pCi/L}$$

For radon mitigation, if the equilibrium ratio (ER) is not given, it is assumed to be 100 percent; which means that the ER = 1.0.

$$1 = \frac{(WL \times 100)}{(pCi/L)}$$

$$WL = \frac{(pCi/L)}{100}$$

(k) A certified radon mitigation business shall notify an affiliate when the affiliate's actual or estimated exposure exceeds two WLM per year.

(l) A certified radon mitigation business shall require an affiliate, prior to each mitigation system installation, to provide the client with a copy of a written contract that has been signed by the affiliate and the client. The form contract shall be submitted to the Department for approval as part of the certified business's application for initial certification. If the form is revised, the revised form must be submitted to the Department for approval as part of the certified business's application for renewal certification, or as an amendment to its certification. The form contract shall include:

1. The certified radon mitigation business's name, certification number, address, and telephone number;

2. The affiliate's printed name, signature, and certification number;

3. The client's printed name and signature;

4. The date on which the contract is effective;

5. The warranty, if any, on the reduction of the radon level, and the warranty shall specify when a fan is installed on pre-existing pipes, whether the entire mitigation system, including the pre-existing piping, is covered and, if it is not, the specific parts of the mitigation system that are covered. The contract shall state when no warranty is provided;

6. Diagnostic test results, if appropriate;

7. A written description of the specific radon mitigation system components to be installed;

8. A short-term radon test in accordance with (*o*) below;

9. Written instructions for the operation and maintenance of the mitigation equipment, including a discussion of the possible energy costs associated with operating the system;

10. An indication of whether there would be additional charges to the client for the certified business to perform further work on the installed system if the system does not meet the standards specified in the warranty;

11. The estimated service charge, if applicable, for the certified mitigation business to return to the property to address issues with the system while under warranty;

12. A statement that the signed contract constitutes the client's authorization to a certified radon measurement business to provide to the certified radon mitigation business the results of the post-mitigation testing required at (*o*) below; and

13. The statement: "This notice is provided to you by a business certified by the New Jersey Department of Environmental Protection (Department) to perform radon mitigation services. At some time in the near future, a representative of the Department may contact you to ask your permission to visit your building. The purpose of the visit would be to inspect the recently installed radon mitigation system."

(m) Before performing work on an existing mitigation system, the certified business and specialist shall advise the client, in the contract, whether the mitigation system meets the most recent authorized mitigation protocol, and provide a written estimate of the upgrades needed, the cost to bring the system into compliance, and information regarding the potential health impact if the system is not upgraded.

(n) A certified radon mitigation business shall ensure that an uncertified individual assisting a certified individual with the mitigation shall not perform any aspect of the system design or installation including, but not limited to, drafting design drawings, installing the pipes, fan, and monitor, and sealing pipe connections. An uncertified individual assisting a certified individual with the mitigation may perform basic construction tasks including, but not limited to, moving supplies and tools, drilling holes in a foundation, clearing gravel and dirt from the suction point, cutting pipes, and cleaning the area after the mitigation system is installed.

(o) A certified radon mitigation business shall ensure that a short-term radon test is conducted no sooner than 24 hours after a mitigation system is installed and functioning and within 30 days after the installation of the system.

(p) A certified radon mitigation business shall include in the contract a reference to the Department's website at www.njradon.org for the most recent version of the testing and mitigation guidance document that is approved by the Department.

§ 7:28-27.14 Quality assurance (QA) plan

(a) The QA plan shall contain the following items, presented in order, and clearly identified:

1. A title page that identifies:

i. The title of the document;

ii. The name and signature of one individual designated in accordance with N.J.A.C. 7:28-27.9(e);

iii. The business's name, address, and certification number; and

iv. The date the document was prepared;

2. A table of contents for the QA plan;

3. A description of the business's organization, including:

i. The title of the individual who signed the application in accordance with N.J.A.C. 7:28-27.4;

ii. An acknowledgment that it is the responsibility of a certified radon measurement specialist to oversee the daily operations of the business in accordance with N.J.A.C. 7:28-27.9(e), and to perform quality assurance and quality control functions; and

iii. A description of the reporting structure between the individuals at (a)3i and ii above and the business's affiliates;

4. A description of the business's responsibilities and its requirements regarding affiliates and their responsibilities in accordance with N.J.A.C. 7:28-27.9(c) through (*o*); and

5. A description of internal quality control checks conducted by the business and its affiliates for all devices in accordance with N.J.A.C. 7:28-27.10.

(b) The business shall provide a copy of the QA plan, and any revision thereto, to each affiliate in accordance with N.J.A.C. 7:28-27.5.

§ 7:28-27.15 Radiological safety plan

(a) The radiological safety plan shall contain the following items, presented in order, and clearly identified:

1. A title page that identifies:

i. The title of the document;

ii. The name and signature of one individual designated in accordance with N.J.A.C. 7:28-27.9(e);

iii. The business name, address, and certification number; and

iv. The date the document was prepared;

2. A table of contents for the radiological safety plan; and

3. A description of the business's and affiliate's responsibilities in accordance with N.J.A.C. 7:28-27.9(p) and (q) for a measurement business and N.J.A.C. 7:28-27.13(f) through (k) for a mitigation business.

(b) The business shall provide a copy of the radiological safety plan, and any revision thereto, to each affiliate in accordance with N.J.A.C. 7:28-27.5.

§ 7:28-27.16 Recordkeeping

(a) A certified radon measurement business shall maintain the following for five years, in a format that is immediately available to the Department:

1. The affiliation form for each affiliate;

2. Initial radiation safety training records, including the test, for each affiliate;

3. A copy of the annual certification credential for each affiliate;

4. Calibration certificates for portable devices;

5. Quality control records in accordance with N.J.A.C. 7:28-27.10;

6. A copy of the authorized measurement protocols used by the certified radon measurement business and its affiliates; and

7. Records of all radon tests, including invalidated tests, performed by an individual, whether certified or exempt from certification, using a device on the business's certification, including the chain of custody form, the client report, and information required at N.J.A.C. 7:28-27.9(g).

(b) A certified radon mitigation business shall maintain the following for five years, in a format that is immediately available to the Department:

1. The affiliation form for each affiliate;

2. Initial radiation safety training records, including the test, for each affiliate and uncertified individuals specified at N.J.A.C. 7:28-27.9(q);

3. A copy of the annual certification credential for each affiliate;

4. Calibration certificates for portable devices used for diagnostic testing;

5. Radon exposure tracking records;

6. A copy of the authorized mitigation protocols used by the certified radon mitigation business and its affiliates; and

7. Records of all mitigation work conducted, including the executed contract and information required at N.J.A.C. 7:28-27.17(b).

§ 7:28-27.17 Reporting

(a) A certified radon measurement business shall submit, to the Department, on or before the first day of each month:

1. The results of all radon tests performed during the second previous month, and for those tests, the information required to be recorded on the chain of custody form in accordance with N.J.A.C. 7:28-27.9(g). For example, the results from the May testing shall be submitted by July 1. Data shall be submitted in the format and the media required by the Department. Radon test results shall be reported in picocuries per liter (pCi/L); and

2. A letter signed by a certified measurement specialist that states he or she has reviewed, verified, and approved the report.

(b) A radon mitigation business shall submit to the Department, on or before the first day of each month:

1. A report on all mitigation work performed during the second previous month. For example, the mitigations conducted during May shall be submitted by July 1. Reports shall be submitted in the format and the media required by the Department and shall include:

i. Mitigated location including address, city, State, zip code, incorporated municipality, and county;

ii. The type of building mitigation was performed in: residential, non-residential, or school;

iii. If the building is residential, whether it is a single-family, condominium, townhouse, apartment, or other residential building type;

iv. If the building is a school, the school name and New Jersey Department of Education school code;

v. Whether the mitigation was conducted at a child care center;

vi. Pre-mitigation radon concentration, including the floor where the test was conducted (zero is the basement, one is the first floor, etc.), the date the test was conducted, the device or devices used for the test, and the certified measurement business that conducted the test;

vii. Type of mitigation system installed;

viii. Date of mitigation;

ix. Post-mitigation radon concentration, including the floor where the test was conducted (zero is the basement, one is the first floor, etc.), the date the test was conducted, the device or devices used, and the certified measurement business that conducted the test;

x. Structure type (basement, crawlspace, and/or slab on grade); and

xi. The certification number of the individual who installed the mitigation system;

2. A letter signed by a certified mitigation specialist that states he or she has reviewed, verified, and approved the report; and

3. Any post-mitigation radon test results that were not included with a previously submitted mitigation system.

(c) A client report issued by the certified radon measurement business, in accordance with N.J.A.C. 7:28-27.3(b) and (c), shall include the following:

1. Business name, address, telephone number, and certification number;

2. Device;

3. Device calibration expiration date, for portable devices and electret readers;

4. Laboratory name and certification number, for non-portable devices;

5. Owner's address;

6. Address tested, if different from (c)5 above;

7. Test start date and time;

8. Test stop date and time;

9. Floor tested;

10. Test results in pCi/L;

11. Printed name, signature, and certification number of the measurement specialist who reviewed the report;

12. Report date; and

13. The statement: "This notice is provided to you by a business certified by the New Jersey Department of Environmental Protection to perform radon measurements. N.J.S.A. 26:2D-73 requires that no person shall disclose to any individual, except the Department of Environmental Protection or the Department of Health the address or owner of a nonpublic building that the person has tested or treated for the presence of radon, unless the owner of the building waives, in writing, this right of confidentiality. In the case of a prospective sale of a building which has been tested for radon, the seller shall provide the buyer, at the time the contract of sale is entered into, with a copy of the results of that test and evidence of any subsequent mitigation or treatment, and any prospective buyer who contracts for the testing shall have the right to receive the results of that testing."

§ 7:28-27.18 Radon measurement specialist—initial certification

(a) An initial certification is valid for one year following the date of issuance, unless the certification is suspended, revoked, or canceled.

(b) An individual shall submit an application for initial certification in accordance with N.J.A.C. 7:28-27.3(e).

(c) A complete initial application shall include:

1. The individual's name, Social Security number, home mailing address, home address (no post office box), and other contact information, which may include telephone number and electronic mail address;

2. Documentation showing that the applicant possesses the education and radiation work experience required in accordance with N.J.A.C. 7:28-27.20(b). Documentation of education shall consist of a certified copy of a transcript from an accredited institution showing the applicant's name and the degree awarded. Documentation of radiation work experience shall consist of a letter from either the employer with whom the applicant obtained the work experience, or an individual other than the applicant who has extensive

knowledge of the applicant's work experience, listing all applicable work experience and the dates or range of dates that the applicant performed the work;

3. Documentation showing that the applicant has completed 16 hours of initial training from a nationally recognized organization. The documentation shall consist of the individual's training course certificate, which provides the individual's name, the name of the course, the approved course number, the number of credit hours, and the date of the course;

4. When applicable, documentation of the training required for multifamily buildings and/or schools and large buildings, as required in accordance with N.J.A.C. 7:28-27.20(c). The documentation shall consist of the individual's training course certificate, which provides the individual's name, the name of the course, the approved course number, the number of credit hours, and the date of the course;

5. Documentation showing that the applicant successfully passed a radon examination for radon measurement specialist, or the equivalent category, administered by the National Radon Proficiency Program or other organization that the Department determines administers a substantively equivalent examination. The Department will provide a list of approved organizations on its website, www.njradon.org. Documentation shall consist of a copy of the individual's examination results;

6. A list of the portable devices the applicant owns, including the manufacturer, model number, and serial number in accordance with N.J.A.C. 7:28-27.20(h);

7. Documentation showing that the applicant completed an authorized proficiency test for each device model identified at (c)6 above in accordance with N.J.A.C. 7:28-27.6(a); and

8. The proper fee in accordance with N.J.A.C. 7:28-27.27(d).

(d) The Department will issue an acknowledgement notice to an applicant who complies with the requirements of this section. When the Department receives an affiliation form from a certified radon measurement business or a business with an acknowledgement notice in accordance with N.J.A.C. 7:28-27.5, the Department will issue a certification credential. The certification shall contain the information provided in the application and any subsequent amendments in accordance with N.J.A.C. 7:28-27.3(j).

§ 7:28-27.19 Radon measurement specialist—certification renewal

(a) A renewal certification is valid for one year following the date of issuance, unless the certification is suspended, revoked, or canceled.

(b) A certified radon measurement specialist shall submit, to the Department, an application for renewal on the form that the Department provides in advance of the expiration date.

(c) A complete renewal application shall contain:

1. All of the information required in an application for an initial certification as set forth at N.J.A.C. 7:28-27.18, but only to the extent that the information differs from what is contained in the certified measurement specialist's most recent certification;

2. Proof of completion of continuing education required in accordance with N.J.A.C. 7:28-27.20(d). Documentation shall consist of the training course certificate, which provides the individual's name, the name of the course, the approved course number, the number of credit hours, and the date of the course. Documentation from the conference organizer of the individual's attendance for two days at a national radon training conference or documentation from the training course provider showing an individual instructed eight hours of radon continuing education shall also fulfill this requirement; and

3. The proper fee in accordance with N.J.A.C. 7:28-27.27(d).

(d) The Department will issue a certification credential to an applicant who complies with the requirements of this section. The certification shall contain the information provided in the application and any subsequent amendments in accordance with N.J.A.C. 7:28-27.3(j).

§ 7:28-27.20 Responsibilities of a certified radon measurement specialist

(a) A certified radon measurement specialist shall maintain his or her certification by submitting an annual renewal application in accordance with N.J.A.C. 7:28-27.19, and amending the certification, when necessary, in accordance with N.J.A.C. 7:28-27.3(j).

(b) A certified radon measurement specialist shall possess the following:

1. A Bachelor of Science degree in engineering or a natural science, which includes biology, chemistry, physics, geology, or environmental science and one year of radiation work experience;

2. A Bachelor of Science or Bachelor of Arts degree in any subject other than as identified at (b)1 above and two years of radiation work experience;

3. An Associate's degree in any subject and four years of radiation work experience;

4. Five years of radiation work experience; or

5. A certified health physicist certification accreditation.

(c) A certified radon measurement specialist shall complete an eight-hour multifamily buildings training course and/or an eight-hour schools and large buildings training course approved by a nationally recognized organization, and shall provide a copy of each of these training certificates to the radon measurement business, in order to test these building types. This training shall be in addition to the initial training required at N.J.A.C. 7:28-27.18(c)3.

(d) A certified radon measurement specialist shall annually complete eight hours of continuing education from a nationally recognized organization, completed no more than 12 months prior to the most current certification expiration date or the renewal application submittal date, if the certification is expired.

(e) A certified radon measurement specialist or an individual seeking certification as a radon measurement specialist who receives an acknowledgement notice from the Department in accordance with N.J.A.C. 7:28-27.18(d) shall affiliate with at least one business in accordance with N.J.A.C. 7:28-27.5.

1. For each business, the individual shall:

i. Review and comply with the QA plan in accordance with N.J.A.C. 7:28-27.14;

ii. Review and comply with the radiological safety plan in accordance with N.J.A.C. 7:28-27.15;

iii. Take radiation safety training and pass a subsequent examination in accordance with N.J.A.C. 7:28-27.13(g); and

iv. Sign an affiliation form in accordance with N.J.A.C. 7:28-27.5.

2. If a certified radon measurement specialist is affiliated with more than one certified business, the certified individual shall follow the QA plan and radiological safety plan for the business through which the radon test is performed.

(f) A certified radon measurement specialist shall comply with this subchapter, and shall conduct radon testing only while certified and affiliated, and only in accordance with the authorized measurement protocols for each building type, this subchapter, and the certified business's QA plan and radiological safety plan.

(g) A certified radon measurement specialist shall pass an authorized proficiency test in accordance with N.J.A.C. 7:28-27.6(a).

(h) A certified radon measurement specialist shall provide, to the Department, a list of the portable devices he or she owns, including the manufacturer, model number, and serial number.

(i) A certified radon measurement specialist when conducting a radon test shall:

1. Enter all information for each radon test on the chain of custody form provided by the certified business in accordance with N.J.A.C. 7:28-27.9(g);

2. Perform quality control measures in accordance with N.J.A.C. 7:28-27.10;

3. Use a portable device, only if:

i. The device is identified on the certification of both the certified measurement business and the certified radon measurement specialist;

ii. The device has a current calibration certificate; and

iii. The data obtained directly from the device are submitted to the certified measurement business for review and reporting.

4. If applicable to the test, obtain the signature of the owner or their legal representative on the confidentiality waiver in accordance with N.J.A.C. 7:28-27.9(*o*); and

5. For a non-portable device, submit the device and chain of custody form to the certified radon measurement business from which the device was obtained. For a portable device, submit the collected data and chain of custody form to the radon measurement business with which the individual is affiliated.

(j) A certified radon measurement specialist who directs the daily operation of a certified business shall:

1. Ensure that the certified radon measurement business and its affiliates are in compliance with the certified business's most recent certification and this subchapter;

2. Prepare and sign affiliation forms issued by the business;

3. Review the chain of custody form and client report for all tests and the raw data for continuous radon monitors and the voltage from electret readers;

4. Approve, verify, and sign the certified business's reports that are specified at N.J.A.C. 7:28-27.17(a) and (c);

5. Prepare, sign, implement, and ensure compliance with the certified business's QA plan;

6. Prepare, sign, implement, and ensure compliance with the certified business's radiological safety plan;

7. Ensure that the certified business maintains records in accordance with N.J.A.C. 7:28-27.16; and

8. Prepare and submit the certified business's annual certification application, and amend the certification, as needed.

§ 7:28-27.21 Radon measurement technician—initial certification

(a) An initial certification is valid for one year following the date of issuance, unless the certification is suspended, revoked, or canceled.

(b) An individual shall submit an application for initial certification in accordance with N.J.A.C. 7:28-27.3(e).

(c) A complete initial application shall include:

1. The individual's name, Social Security number, home mailing address, home address (no post office box), and other contact information, which may include telephone number and electronic mail address;

2. Documentation showing that the applicant has completed 16 hours of initial training from a nationally recognized organization. Documentation shall consist of the individual's training course certificate, which provides the individual's name, the name of the course, the approved course number, the number of credit hours, and the date of the course;

3. When applicable, documentation of the training required for multifamily buildings and/or schools and large buildings, as required in accordance with N.J.A.C. 7:28-27.23(b). Documentation shall consist of the individual's training course certificate, which provides the individual's name, the name of the course, the approved course number, the number of credit hours, and the date of the course;

4. Documentation showing that the applicant successfully passed a radon examination for radon measurement technician, or the equivalent category, administered by the National Radon Proficiency Program or other organization that the Department determines administers a substantively equivalent examination. The Department will provide a list of approved organizations on its website, www.njradon.org. Documentation shall consist of a copy of the individual's examination results;

5. A list of the portable devices the applicant owns, including the manufacturer, model number, and serial number in accordance with N.J.A.C. 7:28-27.23(g);

6. Documentation showing that the applicant completed an authorized proficiency test for each device model identified at (c)5 above, in accordance with N.J.A.C. 7:28-27.6(a); and

7. The proper fee in accordance with N.J.A.C. 7:28-27.27(d).

(d) The Department will issue an acknowledgement notice to an applicant who complies with the requirements of this section. When the Department receives an affiliation form from a certified radon measurement business or a business with an acknowledgement notice in accordance with N.J.A.C. 7:28-27.5, the Department will issue a certification credential. The certification shall contain the information provided in the application and any subsequent amendments in accordance with N.J.A.C. 7:28-27.3(j).

§ 7:28-27.22 Radon measurement technician—certification renewal

(a) A renewal certification is valid for one year following the date of issuance, unless the certification is suspended, revoked, or canceled.

(b) A certified radon measurement technician shall submit, to the Department, an application for renewal on the form that the Department provides in advance of the expiration date.

(c) A complete renewal application shall contain:

1. All information required in an application for an initial certification as set forth at N.J.A.C. 7:28-27.21, but only to the extent that the information differs from what is contained in the certified radon measurement technician's most recent certification;

2. Proof of completion of continuing education required in accordance with N.J.A.C. 7:28-27.23(c). Documentation shall consist of the training course certificate, which provides the individual's name, the name of the course, the approved course number, the number of credit hours, and the date of the course. Documentation from the conference organizer of the individual's attendance for one day at a national radon training conference or documentation from the training course provider showing an individual instructed four hours of radon continuing education shall also fulfill this requirement; and

3. The proper fee in accordance with N.J.A.C. 7:28-27.27(d).

(d) The Department will issue a certification credential to an applicant who complies with the requirements of this section. The certification shall contain the information provided in the application and any subsequent amendments in accordance with N.J.A.C. 7:28-27.3(j).

§ 7:28-27.23 Responsibilities of a certified radon measurement technician

(a) A certified radon measurement technician shall maintain his or her certification by submitting an annual renewal application in accordance with N.J.A.C. 7:28-27.22 and amending the certification, when necessary, in accordance with N.J.A.C. 7:28-27.3(j).

(b) A certified radon measurement technician shall complete an eight-hour multifamily buildings training course and/or an eight-hour schools and large buildings training course approved by a nationally recognized organization, and shall provide a copy of each of these training certificates to the radon measurement business, in order to test these building types. This training shall be, in addition to, the initial training required at N.J.A.C. 7:28-27.21(c)2.

(c) A certified radon measurement technician shall annually complete four hours of continuing education from a nationally recognized organization, completed no more than 12 months prior to the current certification expiration date or the renewal application submittal date, if the certification is expired.

(d) A certified radon measurement technician or an individual seeking certification as a radon measurement technician who receives an acknowledgement notice from the Department in accordance with N.J.A.C. 7:28-27.21(d) shall affiliate with at least one business in accordance with N.J.A.C. 7:28-27.5.

1. For each business the individual shall:

i. Review and comply with the QA plan in accordance with N.J.A.C. 7:28-27.14;

ii. Review and comply with the radiological safety plan in accordance with N.J.A.C. 7:28-27.15;

iii. Take radiation safety training and pass a subsequent examination in accordance with N.J.A.C. 7:28-27.9(q); and

iv. Sign an affiliation form in accordance with N.J.A.C. 7:28-27.5; and

2. If a certified radon measurement technician is affiliated with more than one certified business, the certified individual shall follow the QA plan and radiological safety plan for the business through which the radon test is performed.

(e) A certified radon measurement technician shall comply with this subchapter, and shall ensure that he or she conducts radon testing only while certified and affiliated, and only in accordance with the authorized measurement protocols for each building type, this subchapter, and the certified business's QA plan and radiological safety plan.

(f) A certified radon measurement technician shall pass an authorized proficiency test in accordance with N.J.A.C. 7:28-27.6(a).

(g) A certified radon measurement technician shall provide, to the Department, a list of the portable devices he or she owns, including the manufacturer, model number, and serial number.

(h) A certified radon measurement technician, when conducting a radon test shall:

1. Enter all information for each radon test on the chain of custody form provided by the certified business in accordance with N.J.A.C. 7:28-27.9(g);

2. Perform quality control measures in accordance with N.J.A.C. 7:28-27.10;

3. Use a portable device only if:

i. The device is identified on the certification of both the certified measurement business and the certified radon measurement technician;

ii. The device has a current calibration certificate; and

iii. The data obtained directly from the device are submitted to the certified measurement business for review and reporting;

4. If applicable to the test, obtain the signature of the owner or their legal representative on the confidentiality waiver in accordance with N.J.A.C. 7:28-27.9(*o*); and

5. For a non-portable device, submit the device and chain of custody form to the certified radon measurement business from which the device was obtained. For portable devices, submit the collected data and chain of custody form to the radon measurement business with which the individual is affiliated.

§ 7:28-27.24 Radon mitigation specialist—initial certification

(a) An initial certification is valid for one year following the date of issuance, unless the certification is suspended, revoked, or canceled.

(b) An individual shall submit an application for initial certification in accordance with N.J.A.C. 7:28-27.3(e).

(c) A complete initial application shall include:

1. The individual's name, Social Security number, home mailing address, home address (no post office box), and other contact information, which may include telephone number and electronic mail address;

2. Documentation showing that the applicant possesses the education and work experience required at N.J.A.C. 7:28-27.26(b). Documentation of education shall consist of a certified copy of a transcript from an accredited institution or course agenda, a certificate from a heating, ventilation, and air conditioning training provider, and/or documentation from the radon mitigation specialist from whom the individual received mitigation instruction through observing radon mitigation system installation. Documentation of work experience shall consist of a letter from the employer with whom the individual obtained the work experience, or from a reference that has extensive knowledge of the individual's work experience. In either case, the letter must outline all applicable responsibilities and specific dates performed;

3. Documentation showing that the applicant has completed 24 hours of initial training from a nationally recognized organization. Documentation shall consist of the individual's training course certificate, which provides the individual's name, the name of the course, the approved course number, the number of credit hours, and the date of the course;

4. When applicable, documentation of the training required for multifamily buildings and/or schools and large buildings, as required at N.J.A.C. 7:28-27.26(c). Documentation shall consist of the individual's training course certificate, which provides the individual's name, the name of the course, the approved course number, the number of credit hours, and the date of the course;

5. Documentation showing that the applicant successfully passed a radon examination for radon mitigation specialist, or the equivalent category, administered by the National Radon Proficiency Program or other organization that the Department determines administers a substantively equivalent examination. The Department will provide a list of approved organizations on its website, www.njradon.org. Documentation shall consist of a copy of the individual's examination results; and

6. The proper fee in accordance with N.J.A.C. 7:28-27.27(d).

(d) The Department will issue an acknowledgement notice to an applicant who complies with the requirements of this section. When the Department receives an affiliation form from a certified radon mitigation business or a business with an acknowledgement notice in accordance with N.J.A.C. 7:28-27.5, the Department will issue a certification credential. The certification shall contain the information provided in the application and any subsequent amendments in accordance with N.J.A.C. 7:28-27.3(j).

§ 7:28-27.25 Radon mitigation specialist—certification renewal

(a) A renewal certification is valid for one year following the date of issuance, unless the certification is suspended, revoked, or canceled.

(b) A certified radon measurement specialist shall submit to the Department an application for renewal on the form that the Department provides in advance of the expiration date.

(c) A complete renewal application shall contain:

1. All information required in an application for an initial certification as set forth at N.J.A.C. 7:28-27.24, but only to the extent that the information differs from what is contained in the certified radon mitigation specialist's most recent certification;

2. Proof of completion of continuing education required at N.J.A.C. 7:28-27.26(d). Documentation shall consist of the training course certificate, which provides the individual's name, the name of the course, the approved course number, the number of credit hours, and the date of the course. Documentation from the conference organizer of the individual's attendance for two days at a national radon training conference or documentation from the training course provider showing an individual instructed eight hours of radon continuing education shall also fulfill this requirement; and

3. The proper fee in accordance with N.J.A.C. 7:28-27.27(d).

(d) The Department will issue a certification credential to an applicant who complies with the requirements of this section. The certification shall contain the information provided in the application and any subsequent amendments in accordance with N.J.A.C. 7:28-27.3(j).

§ 7:28-27.26 Responsibilities of a certified radon mitigation specialist

(a) A certified radon mitigation specialist shall maintain his or her certification by submitting an annual renewal application in accordance with N.J.A.C. 7:28-27.25 and amending the certification, when necessary, in accordance with N.J.A.C. 7:28-27.3(j).

(b) A certified radon mitigation specialist shall possess any combination of three years of relevant education and work experience. For purposes of this section, relevant education means college level studies in architecture or engineering, technical school education in heating, ventilation, and air conditioning, and/or mitigation instruction through observing radon mitigation system installation under the direction of a

radon mitigation specialist; and relevant work experience means the design, construction, and renovation of buildings and/or the design and installation of mitigation systems if he or she has obtained mitigation experience by being licensed, certified, or accredited by another state or a nationally recognized organization. The education and work experience requirements shall not apply to an individual who provides documentation that he or she holds a valid license in New Jersey as a professional engineer.

(c) A certified radon mitigation specialist shall complete an eight-hour multifamily buildings training course and/or an eight-hour schools and large buildings training course approved by a nationally recognized organization, and shall provide a copy of each of these training certificates to the radon mitigation business, in order to mitigate these building types. This training shall be, in addition to, the initial training required at N.J.A.C. 7:28-27.24(c)3.

(d) A certified radon mitigation specialist shall annually complete eight hours of continuing education from a nationally recognized organization, completed no more than 12 months prior to the current certification expiration date or no more than 12 months prior to the renewal application submittal date, if the certification is expired.

(e) A certified radon mitigation specialist or an individual seeking certification as a radon mitigation specialist who received an acknowledgement notice from the Department in accordance with N.J.A.C. 7:28-27.24(d), shall affiliate with at least one business in accordance with N.J.A.C. 7:28-27.5.

1. For each business, the individual shall:

i. Review and comply with the radiological safety plan in accordance with N.J.A.C. 7:28-27.15;

ii. Take radiation safety training and pass a subsequent examination in accordance with N.J.A.C. 7:28-27.13(g); and

iii. Sign an affiliation form in accordance with N.J.A.C. 7:28-27.5; and

2. If a certified radon mitigation specialist is affiliated with more than one certified business, the certified individual shall follow the radiological safety plan for the business through which the radon mitigation is performed.

(f) A certified radon mitigation specialist shall conduct radon mitigation only while certified and affiliated, and only in accordance with the authorized mitigation protocols for each building type, this subchapter, and the certified business's radiological safety plan, and shall otherwise comply with this subchapter.

(g) Prior to the installation of a mitigation system, a certified radon mitigation specialist shall provide the client with a copy of a written contract that has been signed by the affiliate and the owner or their legal representative. The contract shall be supplied on behalf of the certified business as provided at N.J.A.C. 7:28-27.13(*l*).

(h) Prior to performing work on an existing mitigation system, a certified radon mitigation specialist on behalf of the certified business shall advise the client, in writing, whether the mitigation system meets the most recent authorized mitigation protocol, and provide a written estimate of the upgrades needed, and the cost to bring the system into compliance.

(i) A certified radon mitigation specialist on behalf of the certified business shall, as provided at N.J.A.C. 7:28-27.13(n), allow an uncertified individual to assist with only basic construction tasks during the installation of the radon mitigation system.

(j) A certified radon mitigation specialist shall ensure that a short-term radon test is conducted no sooner than 24 hours after a mitigation system is installed and functioning, and within 30 days after the installation of the system.

(k) A certified radon mitigation specialist that directs the daily operation of the certified business shall:

1. Ensure that the certified radon mitigation business and its affiliates are in compliance with the business's most recent certification and this subchapter;

2. Prepare and sign affiliation letters issued by the business;

3. Review, approve, verify, and sign the certified business's reports that are specified at N.J.A.C. 7:28-27.17(b);

4. Prepare, sign, implement, and ensure compliance with the radiological safety plan;

5. Ensure that a contract is provided for each mitigation system in accordance with (g) above;

6. Ensure that the certified business maintains records in accordance with N.J.A.C. 7:28-27.16; and

7. Prepare and submit the business's annual certification application.

§ 7:28-27.27 Fees

(a) An individual or business seeking initial or renewal certification shall submit, to the Department, a non-refundable application fee in accordance with Fee Schedule A below.

(b) A business shall submit to the Department an inspection fee in accordance with Fee Schedule A below.

(c) In addition to the fees in Fee Schedule A, a program administration fee shall be submitted semi-annually to the Department:

1. By a certified radon measurement business in accordance with Fee Schedule B below; and

2. By a certified radon mitigation business in accordance with Fee Schedule C below.

(d) Each year, beginning on July 1, the semi-annual fees specified at (c) above shall be adjusted by the previous 12-month inflation factor, rounded down to the next whole dollar. The inflation factor is calculated from the Annual Average Consumer Price Index, for All Urban Consumers (CPI-U) for the U.S. City Average, not seasonally adjusted, published annually by the U.S. Department of Labor, Bureau of Labor Statistics.

1. If the inflation factor for a 12-month period is negative, the fees will remain unchanged from the previous year; and

2. The adjusted fees shall be reflected through a notice of administrative change, published in the New Jersey Register.

FEE SCHEDULE A

	Initial Application and Expired Renewal Application Fee ($)	Annual Renewal Certification Fee ($)	Inspection Fee ($)
Radon Measurement Business	400	200	400
Radon Measurement Specialist	150	75	N/A
Radon Measurement Technician	75	50	N/A
Radon Mitigation Business	400	200	400
Radon Mitigation Specialist	150	75	N/A

FEE SCHEDULE B

Program Administration Fees-Radon Measurement Business

Number of Radon Tests Conducted by Affiliates and Owners and Reported by the Measurement Business Each Semi-Annual Period *	Program Fee ($)	Activity Fee ($)	Total Fee ($)
-0-	508	-0	508
1-49	508	57	565
50-99	508	177	685
100-199	508	351	859
200-299	508	585	1,093
300-499	508	935	1,443
500-999	508	1,765	2,264
1000-1999	508	3,509	4,017
2000-5000	508	8,188	8,696
Greater than 5000	508	11,702	12,210

*First Calendar Period: July 1 through December 31
Second Calendar Period: January 1 through June 30

FEE SCHEDULE C

Program Administration Fees-Radon Mitigation Business

Number of Radon Mitigations Systems Installed by Affiliates Each Semi-Annual Period*	Program Fee ($)	Activity Fee ($)	Total Fee ($)

0	796	0	796
1-10	796	122	918
11-24	796	445	1,241
25-49	796	909	1,705
50-74	796	1,524	2,320
75-99	796	2,139	2,935
100-124	796	2,738	3,534
125-149	796	3,369	4,165
150-174	796	3,987	4,783
175-200	796	4,601	5,397
Greater than 200	796	4,917	5,713

*First Calendar Period: July 1 through December 31
Second Period: January 1 through June 30

(e) If the Department conducts an inspection of a certified business located out-of-State, the business shall be responsible for payment of the costs incurred by the inspector including, but not limited to, motor vehicle mileage reimbursement, motor vehicle rental and insurance, airfare, hotels, parking, transportation, and allowances for meals, incidental expenses, and per diem. The costs paid by the certified business shall be only those incurred by the inspector in accordance with State and Federal travel policies. The certified business shall pay the inspector's hotel and transportation expenses directly to the hotel and transportation provider in advance of the inspection. The certified business shall reimburse the Department within 30 calendar days after the date of the Department's statement to the certified business setting forth the remaining costs.

§ 7:28-27.28 Inspections

(a) The Department and its representatives may enter, and inspect, any site, building, or equipment, or any portion thereof, owned or operated by an applicant or by the certified radon measurement or mitigation individual or business, at any time, in order to ascertain compliance with the Radiation Protection Act, N.J.S.A. 26:2D-1 et seq., this subchapter, any certification, or any other agreement or order issued or entered into pursuant thereto. Such right shall include, but not be limited to, the right to test any equipment at the facility, to sketch or photograph any portion of the site, building, or equipment, to copy, or photograph any document or records necessary to determine such compliance, and to interview any employees, affiliates, or representatives of the owner, operator, or applicant. Such right shall be absolute and shall not be conditioned upon any action by the Department, except the presentation of appropriate credentials, as requested, and compliance with appropriate standard safety procedures.

(b) Certified businesses or applicants, and any employees, affiliates, or representatives thereof, shall assist and shall not hinder or delay the Department and its representatives in the performance of all aspects of any inspection. This assistance shall include allowing the Department and its representatives to accompany an affiliate at a particular building or property for the purpose of inspecting the affiliate's activities, while the affiliate is performing any measurement, mitigation, or safeguard activity. During an inspection in which the Department is accompanying an affiliate, the affiliate shall use all sampling and measurement equipment under normal routine operating conditions or under such other conditions as may be requested by the Department. This assistance shall also include deploying Department sampling devices alongside the business's device and returning the Department sampling devices to a designated location. The affiliate shall, upon request, make sampling and measurement equipment available to the Department for the purpose of making comparative measurements.

(c) Upon request, a certified business shall make known to the Department's representatives, the owners, residents, and addresses of properties or buildings where radon measurement, mitigation, or safeguard activities are scheduled, in progress, or completed for the purpose of possible inspection by the Department.

§ 7:28-27.29 Denial, suspension, or revocation of a certification; affiliation limitation

(a) The Department may deny a certification to an individual or a business or limit the number of affiliations of a certified individual or business when the individual or business is not in compliance with all provisions of the Act or this subchapter.

(b) The Department may suspend a certification if the certified individual or business:

1. Violates any requirements of the certification or provisions of this subchapter;

2. Violates a statute, rule, or order of the Department;

3. Falsifies, or makes false representations to the Department on, any report, record, application requirement, or other certification requirement;

4. Records faulty measurements or installs malfunctioning or ineffective mitigation systems; or

5. Makes false or misleading claims about tests and/or services offered.

(c) The Department may revoke a certification if the certified individual or business:

1. Violates any requirements of the certification or provisions of this subchapter;

2. Violates any requirements of the certification or provisions of this subchapter for which there was a previous suspension, as listed at (b) above;

3. Violates any requirements of the certification or provisions of this subchapter while a certification is suspended as listed at (b) above;

4. Endangers the public health, safety, and welfare;

5. Operates in such a manner, so as to cause harm, injury, or damage to persons, property, or the environment or poses a significant risk of harm, injury, or damage; or

6. Aids, abets, combines with, or conspires with any person for any purpose that will evade, or be a violation of, the provisions of the Act, this subchapter, or the certification.

(d) The Department may limit the number of affiliations that a certified individual or business may have if the certified individual or business:

1. Violates any requirements of the certification or provisions of this subchapter;

2. Violates a statute, rule, or order of the Department;

3. Falsifies, or makes false representations to the Department, on any report, record, application requirement, or other certification requirement;

4. Records faulty measurements or installs malfunctioning or ineffective mitigation systems; or

5. Makes false or misleading claims about tests and/or services offered.

(e) A notice of denial, suspension, or revocation or a notice to limit the number of affiliations of a certified individual or business shall be issued to the violator.

1. Notices under this section shall be served by way of certified mail or by personal service.

2. A notice under this section shall:

i. Identify the section of the Act, rule, administrative order, suspension notice, or certification violated;

ii. Concisely state the facts that constitute the violation;

iii. Order the violation to cease;

iv. Advise the violator of the right to request an adjudicatory hearing pursuant to the procedure at N.J.A.C. 7:28-27.31; and

v. Become final if a request for adjudicatory hearing is not submitted to the Department in accordance with N.J.A.C. 7:28-27.31 or when a submitted request for adjudicatory hearing, in accordance with N.J.A.C. 7:28-27.31 has been adjudicated and upheld.

(f) The duration of a suspension is at the discretion of the Department and will be determined according to the severity of the violation. The Department will not reinstate a suspended certification until:

1. The entire suspension period has expired; and

2. The reasons for the suspension are eliminated and corrected.

(g) The Department will not withdraw a revocation until:

1. The reasons for the revocation are eliminated and corrected; and

2. The Department permits the individual or business to apply for certification again and issues a new certification.

(h) An individual or business whose certification has been suspended or revoked shall not apply for any certification authorized by this subchapter until the suspended or revoked certification is reinstated.

(i) Upon suspension or revocation, an individual or business shall immediately surrender their certification documents to the Department.

1. The Department shall notify the businesses with which the individual is affiliated that the individual's suspension or revocation is final; or

2. The Department shall notify the business's affiliates that the business's suspension or revocation is final.

(j) The scope and duration of a limitation on the number of affiliates a certified individual or business may have is at the discretion of the Department and will be determined according to the severity of the violation. The Department will not remove the affiliation limitation until the reason(s) for the limitation have been corrected.

(k) Use of any remedy under this section shall not preclude the use of any other remedy available to the Department.

§ 7:28-27.30 Criminal penalties

(a) Any business or individual that violates N.J.S.A. 26:2D-72, 73, or 74 or any rule or regulation adopted pursuant to N.J.S.A. 26:2D-72, 73, or 74 shall be guilty of a crime of the third degree.

(b) Use of any remedy under this section shall not preclude the use of any other remedy available to the Department.

§ 7:28-27.31 Request for adjudicatory hearing

(a) Within 20 calendar days from receipt of a notice limiting the number of affiliations pursuant to N.J.A.C. 7:28-27.5(i), or a certification denial, or a suspension or revocation issued by the Department pursuant to N.J.A.C. 7:28-27.29, the individual or business may request an adjudicatory hearing to contest such action by submitting a written request to the Department to the following two addresses:

1. Office of Legal Affairs
ATTENTION: Adjudicatory Hearing Requests
Department of Environmental Protection
Mail Code 401-04L
PO Box 402
401 East State Street, 7th Floor
Trenton, New Jersey 08625-0402; and

2. The address at N.J.A.C. 7:28-1.5(a).

(b) The individual or business requesting a hearing shall include with the completed Adjudicatory Hearing Request Checklist the following information:

1. The name, address, telephone number, and electronic mail address of:

i. The person the Department named in the notice limiting the number of affiliations, or certification denial or the suspension or revocation for which the hearing is sought;

ii. A contact person or authorized representative, if the person the Department named in the notice limiting the number of affiliations, or certification denial or the suspension or revocation is other than an individual; and

iii. The person's attorney, if any;

2. The date the person received the notice limiting the number of affiliations, or certification denial or the suspension or revocation for which a hearing is sought;

3. A copy of the notice limiting the number of affiliations, or certification denial or the suspension or revocation for which a hearing is sought, pursuant to (a) above;

4. A list of all factual and legal issues that the person is contesting, with each defense position stated in short and plain terms, and in accordance with (c) below;

5. Documents or information supporting the request for a hearing, and specific reference to, or copies of other written documents relied on, to support the request;

6. An estimate of the time required for the hearing (in days and/or hours); and

7. A request, if necessary, for a barrier-free hearing location for physically disabled persons.

(c) The individual or business requesting the hearing shall include an admission, a denial, or an averment of insufficient knowledge or information of the findings listed in the document being contested, as follows:

1. If the individual or business is without knowledge or information sufficient to form a belief as to the truth of a specific finding, the individual or business shall so state and this shall have the effect of a denial;

2. If the response to the Department allegation of noncompliance is that the individual or business has complied with some or all of the applicable requirements, a description of all such compliance, including specific citation to each applicable requirement with which the person alleges it has complied; the facts and circumstances of the compliance; and evidence of compliance and the date of compliance;

3. If an individual or business intends to deny any finding or portion of the finding in the document:

i. The individual or business shall identify the finding or portion of the finding that is denied. A general denial of some or all of the findings shall have the effect of an admission of each finding generally denied;

ii. For each finding or portion of a finding the individual or business denies, the individual or business shall explain the factual and legal basis of the denial. Any failure to provide a factual and legal basis for a denial shall have the effect of an admission of the finding; and

iii. The individual or business shall ensure that each denial fairly meets the substance of the finding or portion of the finding denied. A denial that does not meet the substance of the finding denied shall have the effect of an admission of the finding; and

4. If an individual or business fails to either admit or deny any specific finding or portion of a finding, this shall have the effect of an admission of that finding.

(d) The Department shall deny a request for a hearing, if:

1. The Department does not timely receive a complete request for a hearing pursuant to (a) above; or

2. The individual or business fails to include in the request for a hearing, all the information required at (b) and (c) above.

(e) An adjudicatory hearing shall be conducted in accordance with the Administrative Procedure Act, N.J.S.A. 52:14B-1 et seq., and 52:14F-1 et seq., and the Uniform Administrative Procedure Rules, N.J.A.C. 1:1.

§ 7:28-27.32 Liability of certified radon measurement or radon mitigation business for actions of affiliates

(a) Notwithstanding the responsibility of any other individual or business or the exemption from the provisions of any other section of this subchapter, any certified business shall be responsible for any violation of the Act or rules committed by an affiliate of the certified business in the scope of the affiliate's testing or mitigation services if the violation was within the certified business's reasonable ability to control, as delineated in the affiliation form with that certified business.

(b) The liability of the certified business and the affiliate shall be joint and several.

§ 7:28-27.33 One-time certification application requirements for a certified radon measurement business, specialist, and technician and certified radon mitigation business and specialist

(a) Notwithstanding the expiration date of its certification, a business or individual that is a certified radon measurement business, specialist, or technician or a certified radon mitigation business or specialist as of June 6, 2022, shall submit a complete initial application to the Department in accordance with N.J.A.C. 7:28-27.7, 27.11, 27.18, 27.21, or 27.24, such that the Department receives the application on or before October 4, 2022.

(b) If the certified business or individual's certification has an expiration date that is on or after June 6, 2022, and on or before December 2, 2022, the certified business or individual shall not submit a renewal application, but shall submit an initial application as provided at (a) above.

(c) The Department will consider a certified business or individual that submits an application in accordance with this section to be certified from June 6, 2022, until the Department notifies the business or individual that its initial application has been approved or rejected.

(d) If a certified business or individual submits an application for initial certification pursuant to this section such that the Department receives it after October 4, 2022 and on or before December 2, 2022, the certification shall be valid on the later of December 3, 2022 or the date the Department approves the initial application.

(e) An individual's certification credential that is valid on June 6, 2022, shall serve as proof of certification for purposes of affiliation with a certified business.

(f) Upon Department approval of the initial application submitted in accordance with (a) above, the certification for the business or individual shall be valid until the date that is one year from the day and month after the expiration date of the business's or individual's certification in effect as of June 6, 2022.

(g) Except as provided at (d) above, an individual or business that does not timely submit an application for certification, in accordance with this section shall not be certified as of December 3, 2022. To become certified, the business or individual shall submit an application for renewal of an expired certification.

§ 7:28-27.34 Radon mitigation technician

(a) Notwithstanding the expiration date of his or her certification, an individual who is certified as a radon mitigation technician as of June 6, 2022, shall submit to the Department a complete renewal application as specified at (d) and (e) below or, if the individual meets the requirements of a certified radon mitigation specialist, a complete initial application in accordance with N.J.A.C. 7:28-27.24, such that the Department receives the application on or before October 4, 2022.

(b) If an individual certified as a radon mitigation technician as of June 6, 2022 submits an application for certification pursuant to this section such that the Department receives it after October 4, 2022, and on or before December 2, 2022, the certification shall be valid on the later of December 3, 2022, or the date the Department approves the initial application.

(c) The Department will consider a certified radon mitigation technician that submits an application in accordance with (a) above to be certified from June 6, 2022, until the Department notifies the individual that the application has been approved or rejected. An individual that does not timely submit an application for certification in accordance with this section shall not be certified as of December 3, 2022. To become certified, the individual shall submit an application for renewal of an expired certification.

(d) A certified radon mitigation technician shall submit, to the Department, an application for renewal on the form that the Department sends to the individual in advance of June 6, 2022.

(e) The certified mitigation technician shall update the information contained on the form provided at (d) above, and shall provide documentation showing completion of four hours of continuing education from a nationally recognized organization, completed no more than 12 months prior to the renewal application submittal. Documentation shall consist of the training course certificate, which provides the individual's name, the name of the course, the approved course number, the number of credit hours, and the date of the course. Documentation from the conference organizer of the individual's attendance for one day at a national radon training conference or documentation from the training course provider showing an individual instructed four hours of radon continuing education also fulfills this requirement.

(f) A certified radon mitigation technician shall complete an eight-hour multifamily buildings training course and/or an eight-hour schools and large buildings training course approved by a nationally recognized organization, and shall provide a copy of each of these training certificates to the radon mitigation business, in order to mitigate these building types.

(g) Upon Department approval of the renewal application, the radon mitigation technician's certification shall, unless suspended, revoked, or canceled, be valid until December 3, 2023, and cannot thereafter be renewed.

(h) A certified radon mitigation technician may submit an application to be certified as a radon mitigation specialist when he or she meets the requirements at N.J.A.C. 7:28-27.24, Radon mitigation specialist—initial application.

(i) On and after December 3, 2022, a certified radon mitigation technician shall comply with (j) through (*o*) below.

(j) A certified radon mitigation technician shall affiliate with at least one business in accordance with N.J.A.C. 7:28-27.5.

1. For each business, the certified individual shall:

i. Review and comply with the radiological safety plan in accordance with N.J.A.C. 7:28-27.15;

ii. Take radiation safety training and pass a subsequent examination in accordance with N.J.A.C. 7:28-27.13(g); and

iii. Sign an affiliation form in accordance with N.J.A.C. 7:28-27.5; and

2. If a certified radon mitigation technician is affiliated with more than one certified business, the certified individual shall follow the radiological safety plan for the business through which the radon mitigation is performed.

(k) A certified radon mitigation technician shall conduct radon mitigation only while certified and affiliated, and only in accordance with the authorized mitigation protocols for each building type, this subchapter, and the certified business's radiological safety plan, and shall otherwise comply with this subchapter.

(l) Prior to the installation of a mitigation system, a certified radon mitigation technician shall provide the client with a copy of a written contract that has been signed by the affiliate and the client. The contract shall be supplied on behalf of the certified business, as provided at N.J.A.C. 7:28-27.13(*l*).

(m) Prior to performing work on an existing mitigation system, a certified radon mitigation technician on behalf of the certified business shall, as provided at N.J.A.C. 7:28-27.26(h), advise the client in writing

whether the mitigation system meets the most recent authorized mitigation protocol, and provide a written estimate of the upgrades needed, and the cost to bring the system into compliance.

(n) A certified radon mitigation technician shall, on behalf of the certified business, as provided at N.J.A.C. 7:28-27.13(n), allow an uncertified individual to assist with only basic construction tasks during the installation of the radon mitigation system.

(o) A certified radon mitigation technician shall ensure that a short-term radon test is conducted no sooner than 24 hours after a mitigation system is installed and functioning, and within 30 days after the installation of the system.

SUBCHAPTER 27A. (RESERVED)

SUBCHAPTERS 28 THROUGH 40. (RESERVED)

SUBCHAPTER 41. MERCURY VAPOR LAMPS

§ 7:28-41.1 Purpose and scope

This subchapter applies to indoor and outdoor facilities using mercury vapor lamps for illumination and establishes safety requirements for their use.

§ 7:28-41.2 Definitions

The following words and terms, when used in this subchapter, shall have the following meanings unless the context clearly indicates otherwise.

"Mercury vapor lamp" means any mercury vapor or metal halide lamp incorporating a high-pressure arc discharge tube that has a fill consisting primarily of mercury and that is contained within an outer envelope (it does not include the tungsten filament self-ballasted mercury vapor or metal halide lamp).

"Non-self-extinguishing mercury vapor lamp" means a mercury vapor lamp which does not comply with the requirements for a self-extinguishing mercury vapor lamp, hereinafter defined.

"Outer envelope" means the lamp element, usually glass, surrounding a high-pressure arc discharge tube, that, when intact, attenuates the emission of ultraviolet radiation.

"Self-extinguishing mercury vapor lamp" means a mercury vapor lamp which shall cease operation within a cumulative operating time not to exceed 15 minutes following breakage or removal of at least three square centimeters of contiguous surface of the outer envelope. Self-extinguishing lamps manufactured prior to September 7, 1981 shall cease operation within a cumulative operating time not to exceed 15 minutes following complete breakage or removal of the outer envelope.

"Shortwave ultraviolet radiation" means radiation with wavelengths shorter than 320 nanometers.

HISTORY:

Amended by R.2005 d.239, effective July 18, 2005.
See: 37 N.J.R. 8(a), 37 N.J.R. 2675(a).
Amended by R.2014 d.083, effective May 5, 2014.
See: 45 N.J.R. 806(a), 46 N.J.R. 768(a).
Deleted definition "New facility".

§ 7:28-41.3 General requirements for indoor installations

(a) No person shall cause, suffer, allow or permit the installation or use of a mercury vapor lamp in any indoor area which may be occupied by people unless the following requirements are met:

1. The mercury vapor lamp is of the self-extinguishing type; or

2. The mercury vapor lamp is of the non-extinguishing type provided it is installed within a totally enclosed lighting fixture with a protective shield which protects the lamp from damage and absorbs shortwave ultraviolet radiation.

HISTORY:

Amended by R.2005 d.239, effective July 18, 2005.
See: 37 N.J.R. 8(a), 37 N.J.R. 2675(a).
Amended by R.2014 d.083, effective May 5, 2014.
See: 45 N.J.R. 806(a), 46 N.J.R. 768(a).
Deleted (b).

§ 7:28-41.4 General requirements for outdoor installations

(a) No person shall cause, suffer, allow or permit the installation or use of a mercury vapor lamp in any outdoor area where people are likely to remain in the area of illumination for periods in excess of 15 minutes unless the following requirements are met:

1. The mercury vapor lamp is of the self-extinguishing type; or

2. The mercury vapor lamp may be of the non-self-extinguishing type provided it is installed within a totally enclosed lighting fixture with a protective shield which protects the lamp from damage and absorbs shortwave ultraviolet radiation.

(b) The Department may exempt certain outdoor mercury vapor lamp installations from the provisions of (a) above, provided the Department has determined that sufficient precautions have been taken to minimize the possibility of over-exposure to shortwave ultraviolet radiation.

HISTORY:

Amended by R.2005 d.239, effective July 18, 2005.
See: 37 N.J.R. 8(a), 37 N.J.R. 2675(a).
Amended by R.2014 d.083, effective May 5, 2014.
See: 45 N.J.R. 806(a), 46 N.J.R. 768(a).
Deleted (c).

SUBCHAPTER 42. RADIO FREQUENCY RADIATION

§ 7:28-42.1 Scope

(a) This subchapter governs exposure to radio frequency radiation from fixed radio frequency devices.

(b) This subchapter shall not apply to the intentional exposure of patients to radiation for the purpose of diagnosis, treatment or investigation for the prevention or control of disease.

HISTORY:

Amended by R.1987 d.206, effective May 4, 1987.
See: 18 New Jersey Register 1166(a), 19 New Jersey Register 770(a).
Deleted non-occupational from (a).

§ 7:28-42.2. Purpose

The purpose of this subchapter is to define safety requirements for the use of radio frequency devices that radiate in the frequency range from 300 kHz to 100 GHz in order to prevent possible harmful effects in human beings from exposure to such radiation.

HISTORY

Amended by R.2005 d.239, effective July 18, 2005.
See: 37 N.J.R. 8(a), 37 N.J.R. 2675(b).

§ 7:28-42.3 Radio Frequency Protection Guides (RFPG)

(a) Radio frequency devices, excluding microwave ovens, shall be maintained as follows:

1. No person shall cause, suffer, allow or permit the use of a radio frequency device which exposes or may expose any worker or member of the public to radio frequency radiation which is in excess of the applicable Radio Frequency Protection Guide in N.J.A.C. 7:28-42.4.

2. At frequencies between 300 kHz and 100 GHz, the RFPG in N.J.A.C. 7:28-42.4 may be exceeded if the exposure conditions can be shown by laboratory procedures to produce specific absorption rates (SARs) below 0.4 W/kg as averaged over any one gram of tissue.

(b) Microwave ovens shall be maintained as follows:

1. No person shall cause, suffer, allow or permit the use of a microwave oven manufactured after October 6, 1971 that radiates in excess of $5mW/cm^2$ at any point 5 cm or greater from any external surface of the oven.

2. No person shall cause, suffer, allow or permit the use of a microwave oven manufactured before October 6, 1971 that radiates in excess of $10mW/cm^2$ at any point 5 cm or greater from any external surface of the oven.

3. Measurements shall be made with the microwave oven operating at its maximum output and with a container of 275 +/-15 ml of tap water at an initial temperature of 20 +/-5 °C placed on the carrying surface provided by the manufacturer.

i. The container shall be a low form 600 ml beaker having an inside diameter of approximately 8.5 cm and made of electrically non-conductive material such as glass or plastic.

HISTORY:

Administrative correction to (a)1 and (b)1 and 2.
See: 24 New Jersey Register 4526(a).

§ 7:28-42.4 Radio Frequency Protection Guides (RFPG) for whole body exposure

Frequency Range	Mean Squared Electric Field Strength $(V/m)^2$	Mean Squared Magnetic Field Strength $(A/m)^2$	Plane Wave Power Density (mW/cm^2)
300 kHz-3 MHz	400,000	2.5	100
3 MHz-30 MHz	4,000 ($900/f^2$)	0.025 ($900/f^2$)	$900/f^2$
30 MHz-300 MHz	4,000	0.025	1.0
300 MHz-1.5 GHz	4,000 (f/300)	0.025 (f/300)	f/300
1.5 GHz-100 GHz	20,000	0.125	5.0

Note 1. f—frequency (MHz)

Note 2. For near field exposure, both the mean squared electric and magnetic field strengths shall be determined.

Note 3. For frequencies below 300 MHz, both the mean squared electric and magnetic field strengths shall be determined.

Note 4. At frequencies above 300 MHz, either the mean squared electric or magnetic field strengths shall be determined.

Note 5. The applicable RFPG shall be averaged over any 0.1 hour interval.

Note 6. Measurement to determine adherence to the RFPG shall be made at distances 5 cm or greater from any object.

Note 7. Where electromagnetic fields are present at more than one frequency or for broadband fields, the fraction of the RFPG incurred within each frequency interval shall be determined and the sum of all such fractions shall not exceed unity.

HISTORY:

Administrative Correction at "Frequency Range" and at "Maximum Allowed Mean Squared Magnetic Field Strength".
See: 24 New Jersey Register 4371(a).

SUBCHAPTERS 43 THROUGH 47. (RESERVED)

SUBCHAPTER 48. FEES FOR THE REGISTRATION OF NONIONIZING RADIATION PRODUCING SOURCES

§ 7:28-48.1 Scope, purpose and general provisions

(a) This subchapter establishes initial registration fees and annual renewal fees for all radiofrequency and microwave heaters, sealers and industrial ovens, and imposes reporting requirements on the owners of these sources. The fees collected by the Department will support a program that will assure the compliance of the regulated sources with the applicable provisions of N.J.A.C. 7:28-42.

(b) Each owner of a nonionizing radiation producing source that is subject to this subchapter is responsible for ensuring compliance with all requirements of this subchapter. If there is more than one owner of a nonionizing radiation producing source, each owner is jointly and severally liable for complying with all the requirements of this subchapter.

(c) If an owner fails to comply with any of the Department's requests made pursuant to this subchapter, the Department may assess a penalty in accordance with N.J.S.A. 26:2D-13.

§ 7:28-48.2 Definitions

The following words and terms, when used in this subchapter, shall have the following meanings, unless the context clearly indicates otherwise.

"Controlling interest" means the interest held by the person or persons who owns more than 50 percent of the voting stock or other equity interest in an owner; it also means the interest held by a person or persons who owns 50 percent or less of the voting stock or other equity interest in an owner and who possesses, directly or indirectly, the power to direct or cause the direction of the management and policies in an owner.

"Dispose" or "disposal" means the discarding or destroying of a nonionizing radiation producing source.

"Gigahertz" (GHz) means 1,000,000,000 hertz or cycles per second.

"Kilohertz" (kHz) means 1,000 hertz or cycles per second.

"Megahertz" (MHz) means 1,000,000 hertz or cycles per second.

"Microwave heater, sealer and industrial oven" means any source which uses microwave radiation between the frequencies of 300 MHz and 100 GHz to heat, melt, dry, cure, sanitize, disinfect or alter the chemical composition of materials such as, but not limited to, plastics, rubber, glue, wood, dyes or food.

"Microwave radiation" means, for the purposes of this subchapter, nonionizing radiation between the frequencies of 300 MHz and 100 GHz. (By convention, microwave radiation describes all the frequencies between 300 MHz and 300 GHz. Microwave radiation is a subset of the radiofrequency radiation spectrum.)

"Nonionizing radiation" means radiation which does not have the capability of ionizing the medium through which it is passing.

"Nonionizing radiation producing source" or "source" means, for the purposes of this subchapter, any equipment, machine or device capable of emitting nonionizing radiation between the frequencies of 300 kHz and 100 GHz.

"Owner" means a person who has title to a radiation source or who possesses a radiation source as a lessee, bailee or pursuant to the terms of a registration issued by the Department, by a Federal agency, or by any other state.

"Person" includes an individual, corporation, partnership, firm, association, trust, estate, public or private institution, group, municipality, any state or other legal entity; and any legal successor, representative agent, or agency of the foregoing.

"Radiation area" means an area which is accessible to a worker and in which there exists levels of nonionizing radiation that exceed the maximum permissible levels of such radiation as specified in the rules of the Commission.

"Radiation Assessment Document" means a form or series of forms issued by the Department requiring information such as, but not limited to, radiation frequency, duty cycle of each source, the source operator's position in relation to each source and any additional information which will be used to predict radiation levels in the areas surrounding nonionizing radiation producing sources.

"Radiofrequency radiation" means, for the purposes of this subchapter, nonionizing radiation between the frequencies of 300 kHz and 100 GHz. (By convention, radiofrequency radiation described all the frequencies below 300 GHz, with microwave radiation as a subset of the radiofrequency radiation spectrum.)

"Radiofrequency heater and sealer" means any source, including induction and dielectric heaters, which uses radiofrequency radiation between the frequencies of 300 kHz and 299 MHz to heat, melt, dry, cure, sanitize, disinfect or alter the chemical composition of materials such as, but not limited to, plastics, rubber, glue, wood, dyes or food.

"Registration" means the submission by the owner and receipt by the Department of the completed registration form and Radiation Assessment Document, and the payment of fees.

"Transferee" means a person who obtains either:

1. Ownership of a nonionizing radiation producing source; or

2. A controlling interest in the owner of such a source.

"Transferor" means a person who sells or otherwise transfers either:

1. A nonionizing radiation producing source; or

2. A controlling interest in the owner of such a source.

HISTORY:

Amended by R.2008 d.281, effective September 15, 2008 (operative September 30, 2009).
See: 40 N.J.R. 2309(a), 40 N.J.R. 5196(b), 41 N.J.R. 3415(a).
Added definition "Radiation area".

§ 7:28-48.3 Registration of a nonionizing radiation producing source

(a) (Reserved)

(b) No owner shall operate a nonionizing radiation producing source listed in (b)1 or 2 below unless the owner completes the registration form and it is received by the Department by March 4, 1995. Thereafter, no owner shall operate the sources listed in (b)1 or 2 below unless the owner completes the registration form and it is received by the Department 30 calendar days after the owner takes possession of any of the sources listed below:

1. Radiofrequency heaters and sealers; or

2. Microwave heaters, sealers and industrial ovens.

(c) An owner shall register on forms made available by the Department. The registration form shall include the following information:

1. The owner's name, address and telephone number;

2. The type of source(s);

3. The number of source(s);

4. The location of source(s);

5. The frequency or frequency range of radiation emitted from each source; and

6. Any additional information which is reasonably necessary to identify the source or the owner of the source.

(d) An owner shall produce immediately, upon request by the Department, a copy of the completed registration form.

(e) If an owner of a nonionizing radiation producing source fails to register that source with the Department, and the Department has reason to believe that the source is a radiofrequency or microwave heater, sealer, or industrial oven, the Department may require the owner to provide information on the source and may conduct an inspection of the source, facility and any documents or records pertaining thereto.

§ 7:28-48.4 Amendments to the registration of a nonionizing radiation producing source

An owner shall notify the Department in writing within 30 calendar days of any change in the information on the registration form.

§ 7:28-48.5 Radiation Assessment Document

(a) An owner shall submit to the Department a Radiation Assessment Document, on forms made available by the Department, no later than 60 calendar days after the owner's receipt of the bill for the initial registration fee.

(b) (Reserved)

(c) For sources listed in N.J.A.C. 7:28-48.3(b), the Radiation Assessment Document shall include the following information:

1. The owner's name, address and telephone number;

2. The type of source(s);

3. The number of source(s);

4. The location of each source;

5. The frequency or frequency range of radiation emitted from each source;

6. The duty cycle of each source;

7. The source operator's position in relation to each source; and

8. Any additional information which is reasonably necessary to assess compliance of the sources with the provisions of N.J.A.C. 7:28-42.

§ 7:28-48.6 Amendments to Radiation Assessment Documents

An owner shall notify the Department in writing within 30 calendar days of any change in the information contained in the Radiation Assessment Document.

§ 7:28-48.7 Initial registration fee and annual renewal fee for nonionizing radiation producing sources

(a) An owner shall remit to the Department the initial registration fee or annual renewal fee no later than 30 calendar days after the owner's receipt of the bill issued by the Department.

(b) An owner shall pay the fees for initial registration and annual renewal as follows:

Source Category	Initial Registration Fee	Annual Renewal Fee
1. Radiofrequency heaters and sealers, per location		
One source	$ 180.00	$ 160.00
Two sources	305.00	285.00
Three sources	415.00	395.00
Four sources	565.00	545.00
Five sources	675.00	650.00
Six sources	795.00	770.00
Seven sources	910.00	890.00
Eight sources	1,010.00	990.00
For each additional source at the same location, add:	90.00	90.00
2. Microwave heaters, sealers and industrial ovens, per location		
One source	$ 125.00	$ 125.00
Two sources	220.00	225.00
Three sources	325.00	330.00
Four sources	415.00	425.00
Five sources	505.00	520.00
Six sources	600.00	615.00
Seven sources	705.00	725.00
Eight sources	805.00	830.00
For each additional source at the same location, add:	80.00	85.00

(c) An owner remitting an initial registration fee or annual renewal fee shall mail a check or money order, made payable to "Treasurer, State of New Jersey," to the Department of Treasury at the following address:

State of New Jersey
Department of Treasury
Division of Revenue
PO Box 417
Trenton, NJ 08646-0417

(d) An owner who fails to remit the initial registration fee or annual renewal fee within 30 calendar days after the owner's receipt of the bill shall be assessed a late charge, which is 20 percent of the amount of the billed fee.

(e) The registration of an owner who fails to submit an annual renewal fee within 60 calendar days after the owner's receipt of the bill shall be considered expired.

1. Any owner whose registration has expired pursuant to this subsection shall, upon a written request transmitted to the Department within 30 calendar days of the expiration of the registration, be afforded the opportunity for a hearing thereon in the manner provided for contested cases pursuant to the Administrative Procedure Act, N.J.S.A. 52:14B-1 et seq., and the Uniform Administrative Procedure Rules, N.J.A.C. 1:1.

2. Requests for hearings shall be sent to the New Jersey Department of Environmental Protection, Office of Administrative Hearings and Dispute Resolution, ATTENTION: Adjudicatory Hearing Requests, 401 E. State Street, Mail Code 401-07A, PO Box 420, Trenton, NJ 08625-0420.

(f) An owner who allows the registration of a source to expire by failing to remit the annual renewal fee within 60 calendar days after the owner's receipt of the bill shall be required to file a new registration form along with the appropriate initial registration fee listed in (b) above.

(g) Fees submitted to the Department are not refundable.

HISTORY:

Administrative Correction.
See: 27 N.J.R. 498(b).
Amended by R.2005 d.239, effective July 18, 2005.
See: 37 N.J.R. 8(a), 37 N.J.R. 2675(a).
Amended the addresses throughout.
Amended by R.2014 d.083, effective May 5, 2014.
See: 45 N.J.R. 806(a), 46 N.J.R. 768(a).
In (e)2, inserted "Mail Code 401-04L," and "401 East State Street, 7th Floor,".
Administrative change, effective February 23, 2023.
See: 55 N.J.R. 528(a).

§ 7:28-48.8 Sale of a nonionizing radiation producing source or transfer of a controlling interest; termination of registration upon sale of nonionizing radiation producing source or upon transfer of controlling interest

(a) A person who sells or otherwise transfers either a nonionizing radiation producing source, or a controlling interest in the owner of such a source, shall notify the Department in writing at least 30 calendar days before the sale or transfer occurs. The transferor shall include the following information in the notice:

1. The name and address of the transferee; and

2. The date of the proposed sale or transfer.

(b) Unless the procedures set forth in either (c) or (d) below are followed, the registration of a nonionizing radiation producing source shall terminate upon the sale of the source or upon the transfer of a controlling interest in the person who owns the source.

(c) The registration of a nonionizing radiation producing source shall not terminate upon the sale of the source or upon the transfer of a controlling interest under (b) above, and shall be transferred to the transferee, if the transferee certifies to the Department in writing that it will assume all of the transferor's liabilities in connection with:

1. Any deficiencies in the operation of source that would result in a violation of any of the provisions of N.J.A.C. 7:28-42; and

2. All penalties arising in connection with the source from occurrences or circumstances existing before the date of the sale or transfer.

(d) The registration of a nonionizing radiation producing source shall not terminate upon the sale of the source or upon the transfer of a controlling interest under (b) above, if the transferor takes the actions required of the transferor under the following procedure:

1. The transferor shall notify the Department in writing of the proposed sale or transfer, prior to the sale or transfer in accordance with (a) above;

2. The Department may, in its discretion, perform an onsite audit of the nonionizing radiation producing source. If the Department performs such an audit, it shall be completed within 90 calendar days after receipt of notice under (d)1 above;

3. Within 45 calendar days after the deadline for completion of the audit in (d)2 above, based on the audit and/or a review of Department records, the Department shall either:

i. Issue to the transferor a notice stating that there are no deficiencies in the operations of the nonionizing radiation producing source and that no violations exist; or

ii. Issue to the transferor a report of all deficiencies and one or more notices of prosecutions or administrative orders; and

4. The transferor corrects all deficiencies and pays all the penalties noted in (d)3 above.

(e) If the registration of a nonionizing radiation producing source continues pursuant to the procedures set forth in either (c) or (d) above, the transferee shall operate its nonionizing radiation producing source in compliance with this subchapter and all applicable provisions of this chapter.

(f) If the registration of a nonionizing radiation producing source terminates pursuant to (b) above, the transferee shall submit an initial registration form and the appropriate initial registration fee within 30 calendar days after it takes possession of the nonionizing radiation producing source or assumes a control-

ling interest in the owner of such a source, unless it is the intent of the transferee to dispose of the source. If the transferee operates the nonionizing radiation producing source before it submits the completed initial registration form, the transferee shall be in violation of N.J.A.C. 7:28-48.3.

§ 7:28-48.9 Disposal of a nonionizing radiation producing source

(a) Whenever an owner disposes of a nonionizing radiation producing source, as listed in N.J.A.C. 7:28-48.3(a) and (b), the owner shall give written notification to the Department within 30 calendar days after such disposal. The owner shall provide to the Department a complete description of the final disposition of the source.

(b) The registration of a nonionizing radiation producing source shall terminate upon the disposal of the source.

§ 7:28-48.10 Exemption from registration and payment of initial registration fee and annual renewal fee

(a) An owner of a nonionizing radiation producing source is exempt from registration and payment of initial registration and annual renewal fees if:

1. The source is not operational, and does not emit nonionizing radiation;

2. (Reserved)

3. (Reserved)

4. The source is used for display purposes only, and does not emit nonionizing radiation;

5. The source is possessed, used or stored by the United States Government; or

6. The source is a microwave oven used to cook food for customers' consumption in locations such as, but not limited to, restaurants, canteens, and other eating establishments, or a microwave oven purchased by a consumer for use in the home.

SUBCHAPTER 49. (RESERVED)

SUBCHAPTER 50. NOTICES, INSTRUCTIONS AND REPORTS TO WORKERS: INSPECTION AND INVESTIGATIONS

§ 7:28-50.1 Incorporation by reference

(a) Except as set forth in (b) and (c) below, this subchapter incorporates by reference 10 CFR Part 19, Notices, Instructions and Reports to Workers: Inspection and Investigations.

(b) The following provisions of 10 CFR Part 19 are not incorporated by reference. If there is a cross reference to a Federal citation specifically entirely excluded from incorporation, then the cross referenced citation is not incorporated by virtue of the cross reference:

1. 10 CFR 19.5, Communications;

2. 10 CFR 19.8, Information collection requirements: OMB approval;

3. 10 CFR 19.11(b), Posting of notices to workers; and

4. 10 CFR 19.30, Violations.

(c) The following provisions of 10 CFR Part 19 are incorporated by reference with the specified changes:

1. "Atomic Energy Act of 1954" as used in the provisions of Part 19 of the Code of Federal Regulations that are incorporated by reference, shall mean the Radiation Protection Act of 1958, N.J.S.A. 26:2D-1 et seq.;

2. "Nuclear Regulatory Commission," "NRC," and "U.S. Nuclear Regulatory Commission," as used in the provisions of Part 19 of the Code of Federal Regulations that are incorporated by reference, shall mean the New Jersey Department of Environmental Protection, except when specifically noted in this subchapter;

3. 10 CFR 19.2, Scope, delete references to 10 CFR Parts 50, 52, 54, 60, 63, 72, and 76;

4. 10 CFR 19.2(a)(1), replace "parts 30 through 36, 39, 40, 60, 61, 63, 70 or 72 of this chapter" with "N.J.A.C. 7:28-51 through 60, and 63," and delete " including persons licensed to operate a production or utilization facility under parts 50 or 52 of this chapter, persons licensed to possess power reactor spent fuel in an independent spent fuel storage installation (ISFSI) under part 72 of this chapter, and in accordance with 10 CFR 76.60 to persons required to obtain a certificate of compliance or an approved compliance plan under part 76 of this chapter";

5. 10 CFR 19.2(b), delete "The regulations in this part do not apply to subpoenas issued under 10 CFR 2.702";

6. 10 CFR 19.3, Definitions, "Act" shall mean the Radiation Protection Act of 1958, N.J.S.A. 26:2D-1 et seq.;

7. 10 CFR 19.3, Definitions, "Commission" shall mean the New Jersey Department of Environmental Protection;

8. 10 CFR 19.3, in the definition of "License," replace "in parts 30 through 36, 39, 40, 60, 61, 63, 70, or 72" with "in N.J.A.C. 7:28-51 through 60 and 63";

9. 10 CFR 19.3, in the definition of "Regulated activities," delete "or any title of the Energy Reorganization Act of 1972, as amended";

10. 10 CFR 19.3, in the definition of "Regulated entities," delete ", including (but not limited to) an applicant for or holder of a standard design approval under subpart E of part 52 of this chapter or a standard design certification under subpart B of part 52 of this chapter.";

11. 10 CFR 19.4, replace "Except as specifically authorized by the Commission in writing, no" with "No," and replace "by the General Counsel" with "signed and approved by the Commissioner of the Department,";

12. 10 CFR 19.11(a), Posting of notices to workers, delete "(except for an early site permit under subpart A of part 52 of this chapter, or a holder of a manufacturing license under subpart F or part 52 of this chapter)";

13. 10 CFR 19.11(a)(1), replace "Part 20" with "N.J.A.C. 7:28-6";

14. 10 CFR 19.11(a)(4), replace "pursuant to subpart B of part 2 of this chapter" with "by the Department";

15. 10 CFR 19.11(d), delete "or (b)(1) or (2)";

16. 10 CFR 19.11(e)(1), replace "licensee," with "licensee or," delete "each applicant for or holder of a standard design approval under subpart E of part 52 of this chapter, each applicant for an early site permit under subpart A of part 52 of this chapter, and each applicant for a standard design certification under subpart B of part 52 of this chapter," replace "NRC Form 3" with "Form RPP-14," and replace "August 1997" with "November 2010";

17. 10 CFR 19.11(e)(2), replace "by writing to the Regional Administrator of the appropriate U.S. Nuclear Regulatory Commission Regional Office listed in appendix D to part 20 or this chapter, by calling (301) 415-7232, via e-mail to forms@nrc.gov, or by visiting the NRC's website at http://www.nrc.gov and selecting forms from the index found on the home page" with "contacting the Radioactive Materials Program at the address, phone number, or website listed in N.J.A.C. 7:28-1.5";

18. 10 CFR 19.11(g), delete "or (b)(3)";

19. 10 CFR 19.13(a), replace "10 CFR part 19" with "N.J.A.C. 7:28-50";

20. 10 CFR 19.14(a), Presence of representatives of licensees and regulated entities, and workers during inspections, replace "licensee," with "licensee or," and delete "each applicant for or holder of a standard design approval under subpart E of part 52 of this chapter, each applicant for an early site permit under subpart A of part 52 of this chapter, and each applicant for a standard design certification under subpart B of part 52 of this chapter";

21. 10 CFR 19.16(a), replace "Administrator of the appropriate Commission Regional Office" with "Radioactive Materials Program";

22. 10 CFR 19.16(a) and (b), replace all references to "Regional Office Administrator" with "Radioactive Materials Program";

23. 10 CFR 19.17(a), replace all references to "Executive Director for Operations" with "Manager, Bureau of Environmental Radiation of the Department," and replace "Washington, DC 20555-0001; by hand delivery to the NRC's offices at 11555 Rockville Pike, Rockville, Maryland" with "at the address or physical location specified in N.J.A.C. 7:28-1.5(a)," and delete "Detailed guidance on making electronic submissions can be obtained by visiting the NRC's Web site at http://www.nrc.gov/site-help/e-submittals.html; by e-mail to SHD.Resource@nrc.gov ; or by writing the Office of Information Services, U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001. The guidance discusses, among other topics, the formats the NRC can accept, the use of electronic signatures, and the treatment of nonpublic information.";

24. 10 CFR 19.17(a) and (b), replace all references to "Administrator of the appropriate Regional Office" with "Supervisor, Radioactive Materials Program";

25. 10 CFR 19.18(b), replace "Office of the General Counsel" with "Office of the Attorney General of New Jersey," and replace all references to "agency" with "State";

26. 10 CFR 19.20, delete "a holder of a certificate of compliance issued under part 76 of this chapter," and replace "parts 30, 40, 50, 52, 54, 60, 61, 63, 70, 72, 76, or 150 of this chapter" with "N.J.A.C. 7:28-51, 58, 59, 60 or 62";

27. 10 CFR 19.31, replace "Commission" with "Department, with approval of the Commission on Radiation Protection," and replace "by law, will not result in undue hazard to life and property" with "in accordance with the provisions of N.J.A.C. 7:28-2.8";

28. 10 CFR 19.32, delete ", or under any title of the Energy Reorganization Act of 1974, as amended" and add "Allegations of discrimination are to be reported to the Division on Civil Rights, Department of Law and Public Safety, 140 East Front Street, P.O. Box 089, Trenton, New Jersey, 08625-089."; and

29. 10 CFR 19.40, delete all of 10 CFR 19.40(a) and (b) and replace with "The Radiation Protection Act of 1958, N.J.S.A. 26:2D-1 et seq., provides for criminal sanctions for violation of any provision of the Act."

(d) For those facilities whose radioactive materials are licensed solely by the Department, NRC Form 3, "Notice to Employees" shall mean the Department's Form RPP-14, "Notice to Employees, Standards for Protection Against Radiation," available from the Department by contacting the Radioactive Materials Program at the address, phone number, or website listed in N.J.A.C. 7:28-1.5.

(e) Those facilities which possess a license from the Department and the NRC for radioactive materials shall post both the NRC's Form 3, "Notice to Employees," and the Department's Form RPP-14, "Notice to Employees, Standards for Protection Against Radiation."

(f) Reports that are to be submitted to the Department pursuant to this subchapter shall be submitted to the address at N.J.A.C. 7:28-1.5.

(g) Requests for adjudicatory hearings shall be made in accordance with N.J.A.C. 7:28-4.17, and requirements governing requests for stay of the effective date of the Department decision for which an adjudicatory hearing is requested are set forth at N.J.A.C. 7:28-4.18.

HISTORY:

Amended by R.2014 d.083, effective May 5, 2014.
See: 45 N.J.R. 806(a), 46 N.J.R. 768(a).
Rewrote the section.

SUBCHAPTER 51. RULES OF GENERAL APPLICABILITY TO DOMESTIC LICENSING OF BYPRODUCT MATERIAL

§ 7:28-51.1 Incorporation by reference

(a) Except as set forth in (b) and (c) below, this subchapter incorporates by reference 10 CFR Part 30, Rules of General Applicability to Domestic Licensing of Byproduct Material.

(b) The following provisions of 10 CFR Part 30 are not incorporated by reference. If there is a cross reference to a Federal citation specifically entirely excluded from incorporation, then the cross referenced citation is not incorporated by virtue of the cross reference:

1. 10 CFR 30.3(b) through (d), Activities requiring license;

2. 10 CFR 30.4, Definitions, the following definitions are not incorporated by reference: "Act," "alert," "commencement of construction - paragraph 2," "construction, paragraph 9(ii)," "Department and Department of Energy," "production facility," "site area emergency," and "utilization facility";

3. 10 CFR 30.6, Communications;

4. 10 CFR 30.7(e)(3), Employee Protection;

5. 10 CFR 30.8, Information collection requirements: OMB approval;

6. 10 CFR 30.11(b) and (c), Specific exemptions;

7. 10 CFR 30.21(c), Radioactive drug: Capsules containing carbon-14 urea for "in vivo" diagnostic use for humans;

8. 10 CFR 30.32(f), Application for specific licenses;

9. 10 CFR 30.33(a)(5), General requirements for issuance of specific license;

10. 10 CFR 30.34(d), (e)(1) and (e)(3), Terms and conditions of licenses;

11. 10 CFR 30.41(b)(6), Transfer of byproduct material;

12. 10 CFR 30.50(c)(3), Reporting Requirements;

13. 10 CFR 30.55, Tritium reports; and

14. 10 CFR 30.63, Violations.

(c) The following provisions of 10 CFR Part 30 are incorporated by reference with the specified changes:

1. 10 CFR 30.1, Scope, replace "in the United States governing domestic licensing of byproduct material under the Atomic Energy Act of 1954, as amended (68 Stat. 919), and under title II of the of the Energy Reorganization Act of 1974 (88 Stat. 1242), and exemptions from the domestic licensing requirements permitted by Section 81 of the Act" with "in the State of New Jersey where the New Jersey Department of Environmental Protection maintains jurisdiction governing domestic licensing of byproduct material under the Radiation Protection Act of 1958, N.J.S.A. 26:2D-1 et seq.";

2. 10 CFR 30.3(a), replace "part 150 of this chapter" with "N.J.A.C. 7:28-62";

3. 10 CFR 30.4, Definitions, "Commission" shall mean the New Jersey Department of Environmental Protection;

4. "Nuclear Regulatory Commission," "NRC," and "U.S. Nuclear Regulatory Commission," as used in the provisions of Part 30 of the Code of Federal Regulations that are incorporated by reference, shall mean the New Jersey Department of Environmental Protection, except when specifically noted in this subchapter; and at:

i. 10 CFR 30.4, Definitions, "Agreement State,"

5. 10 CFR 30.5, replace "Except as specifically authorized by the Commission in writing, no" with "No," and replace "parts 31 through 36 and 39" with "N.J.A.C. 7:28-52 through 57 and 63," and replace "by the General Counsel" with "signed and approved by the Commissioner of the Department";

6. 10 CFR 30.7(a), delete "The protected activities are established in section 211 of the Energy Reorganization Act of 1974, as amended, and in general are related to the administration or enforcement of a requirement imposed under the Atomic Energy Act or the Energy Reorganization Act.";

7. 10 CFR 30.7(a)(3), replace "Energy Reorganization Act of 1974, as amended, or the Atomic Energy Act of 1954, as amended" with "Radiation Protection Act of 1958, N.J.S.A. 26:2D-1 et seq.";

8. 10 CFR 30.7(e)(1), replace "part 19" with "N.J.A.C. 7:28-50";

9. 10 CFR 30.9(b), replace all references to "Administrator of the appropriate Regional Office" with "Supervisor, Radioactive Materials Program";

10. 10 CFR 30.10(b), replace "10 CFR part 2, subpart B" with "N.J.S.A. 26:2D-13";

11. 10 CFR 30.11(a), replace "Commission" with "Department, with approval of the Commission on Radiation Protection," and replace "parts 31 through 36 and 39 of this chapter as it determines are authorized by law and will not endanger life or property or the common defense and security and are otherwise in the public interest" with "N.J.A.C. 7:28-52 through 57 and 63 as it determines are authorized in accordance with the provisions of N.J.A.C. 7:28-2.8";

12. 10 CFR 30.11(d), replace all references to "part 61 of this chapter" with "N.J.A.C. 7:28-59";

13. 10 CFR 30.12, "Department" shall mean Department of Energy, "Commission" shall mean U.S. Nuclear Regulatory Commission," and "Act" shall mean the Atomic Energy Act of 1974;

14. 10 CFR 30.13, replace "parts 31 through 36 and 39 of this chapter" with "N.J.A.C. 7:28-52 through 57 and 63" and delete "section 81 of";

15. 10 CFR 30.14(a), delete "section 81 of" and replace "parts 31 through 36 and 39 of this chapter" with "N.J.A.C. 7:28-52 through 57 and 63";

16. 10 CFR 30.14(c), delete "section 81 of," replace "parts 31 through 36 and 39 of this chapter" with "N.J.A.C. 7:28-52 through 57 and 63," and add "the Department or" after "holding a specific license issued by";

17. 10 CFR 30.14(c), "Commission" shall mean the U.S. Nuclear Regulatory Commission;

18. 10 CFR 30.14(d), add "or the U.S. NRC" after "Agreement State" and replace "§ 32.11 of this chapter" with "N.J.A.C. 7:28-53";

19. 10 CFR 30.15(a), delete "section 81 of" and replace "parts 20 and 30 through 36 and 39" with "N.J.A.C. 7:28-6 and 51 through 57";

20. 10 CFR 30.15(a)(2)(iii), "Commission" shall mean the U.S. Nuclear Regulatory Commission;

21. 10 CFR 30.18(a), delete "section 81 of" and replace "parts 30 through 34, 36, and 39 of this chapter" with "N.J.A.C. 7:28-51 through 54, 56, 57 and 63";

22. 10 CFR 30.18(b), replace "§ 31.4 of this chapter or similar general license of a state" with "N.J.A.C. 7:28-52 or similar general license of an Agreement State or the U.S. NRC," delete "section 81 of," and replace "parts 30 through 34, 36 and 39" with "N.J.A.C. 7:28-51 through 54, 56, 57 and 63";

23. 10 CFR 30.18(d), add "or the U.S. NRC" after both occurrences of "Agreement State";

24. 10 CFR 30.19(a), delete "section 81 of" and replace "parts 20 and 30 through 36 and 39 of this chapter" with "N.J.A.C. 7:28-6, 51 through 57 and 63";

25. 10 CFR 30.19(b), add "or the U.S. NRC" after "Agreement State" and delete both instances of "of this chapter";

26. 10 CFR 30.20(a), delete "section 81 of," replace "19, 20 and 30 through 36, and 39 of this chapter" with "N.J.A.C. 7:28-6, 50 through 57 and 63;"

27. 10 CFR 30.20(b), add "or the U.S. NRC" after "Agreement State" and delete both instances of "of this chapter";

28. 10 CFR 30.21(b), replace "part 35 of this chapter" with "N.J.A.C. 7:28-55";

29. 10 CFR 30.22(a), delete "section 81 of" and replace "19, 20, 21, 30 through 36, and 39 of this chapter" with N.J.A.C. 7:28-6, 20, 51 through 57 and 63"; and delete "of this chapter" after "§ 32.30";

30. 10 CFR 30.22(b), delete both instances of "of this chapter";

31. 10 CFR 30.31(a), replace "parts 32 through 36, and 39" with "N.J.A.C. 7:28-53 through 57 and 63";

32. 10 CFR 30.32(a), replace the first sentence with "Application for specific licenses and renewals from the State shall be filed with the Department on forms available from the Department";

33. 10 CFR 30.32(d), replace "parts 32 through 35 of this chapter" with "N.J.A.C. 7:28-53 through 55 and 63";

34. 10 CFR 30.32(e), replace all references to 10 CFR Part 170 with N.J.A.C. 7:28-64;

35. 10 CFR 30.32(g), delete all seven instances of "of this chapter";

36. 10 CFR 30.32(g)(1) and (2), "Commission" shall mean the U.S. Nuclear Regulatory Commission;

37. 10 CFR 30.32(h), replace "parts 32 through 35 of this chapter" with "N.J.A.C. 7:28-53 through 55 and 63";

38. 10 CFR 30.32(j), replace "part 35 of this chapter" with "N.J.A.C. 7:28-55" and add "or U.S. NRC" after "Agreement State";

39. 10 CFR 30.32(j)(1), add "or U.S. NRC" after "Agreement State";

40. 10 CFR 30.33(a)(4), replace "parts 32 through 36 and 39" with "N.J.A.C. 7:28-53 through 57 and 63";

41. 10 CFR 30.33(b), delete "(Form NRC 374, "Byproduct Material License");

42. 10 CFR 30.34(a), replace "parts 31 through 36 and 39 of this chapter" with "N.J.A.C. 7:28-52 through 57 and 63";

43. 10 CFR 30.34(b), replace "parts 31 through 36 and 39" with "N.J.A.C. 7:28-52 through 57 and 63";

44. 10 CFR 30.34(c), replace "parts 31 through 36 and 39" and "parts 31 through 36 and 39 of this chapter" with "N.J.A.C. 7:28-52 through 57 and 63";

45. 10 CFR 30.34(c), replace "part 71 of this chapter" with N.J.A.C. 7:28-61";

46. 10 CFR 30.34(f), replace "appropriate NRC Regional Office specified in § 30.6" with "Radioactive Materials Program";

47. 10 CFR 30.34(h)(1), replace "appropriate NRC Regional Administrator" with "Radioactive Materials Program";

48. 10 CFR 30.35(c)(6), replace "10 CFR 20.1402" with "N.J.A.C. 7:28-12.1";

49. 10 CFR 30.35(e)(1)(B), replace "10 CFR 20.1402" with "N.J.A.C. 7:28-12" and add "or restricted" after "unrestricted," and delete ", provided that, if the applicant or licensee can demonstrate its ability to meet the provisions of 10 CFR 20.1403, the cost estimate may be based on meeting the 10 CFR 20.1403 criteria";

50. 10 CFR 30.35(c)(5), replace "10 CFR Part 20" with "N.J.A.C. 7:28-12";

51. 10 CFR 30.35(g)(3)(iv), replace "10 CFR Part 20, subpart E" with "N.J.A.C. 7:28-12";

52. 10 CFR 30.36(j)(1), replace "NRC" with "NJRAD";

53. 10 CFR 30.36(j)(2), replace "10 CFR Part 20, subpart E" with "N.J.A.C. 7:28-12";

54. 10 CFR 30.36(k)(3)(i), replace "10 CFR Part 20, Subpart E" with "N.J.A.C. 7:28-12";

55. 10 CFR 30.36(k)(3)(ii), replace "10 CFR Part 20, subpart E" with "N.J.A.C. 7:28-12";

56. 10 CFR 30.37(a), replace the wording of (a) with "Application for renewal of a specific State license shall be filed with the Department on NJRAD Form-313 available from the Department.";

57. 10 CFR 30.38, Change the title of the section from "Application for amendment of licenses" to "Amendment of licenses," and replace "Applications for amendment of a license shall be filed on Form NRC-313 in accordance with 30.32" with "Requests to amend a license shall be submitted in a letter form to the Department or on NJRAD Form-313";

58. 10 CFR 30.39, replace "parts 32 through 36 and 39 of this chapter" with "N.J.A.C. 7:28-53 through 57 and 63";

59. 10 CFR 30.41(b)(1), add "of Energy" after "the Department";

60. 10 CFR 30.41(b)(2), "Act" shall mean the Atomic Energy Act of 1954 (68 Stat. 919), including any amendments thereto";

61. 10 CFR 30.41(b)(5), add "or the U.S. NRC" after "an Agreement State";

62. 10 CFR 30.41(c), add "or the U.S. NRC" after both occurrences of "Agreement State";

63. 10 CFR 41(d)(4) and (5), add "or the U.S. NRC" after "the Commission";

64. 10 CFR 30.50(c)(1) replace "NRC Operations Center" with "the Department at the appropriate phone number listed in N.J.A.C. 7:28-1.5.";

65. 10 CFR 30.50(c)(2), replace "appropriate NRC Regional office listed in appendix D to part 20 of this Chapter" with "Radioactive Materials Program";

66. 10 CFR 30.51(a), replace "parts 31 through 36 of this chapter" with "N.J.A.C. 7:28-52 through 56 and 63";

67. 10 CFR 30.51(b) and (c)(1), replace all references to "parts 31 through 36 of this chapter" with "N.J.A.C. 7:28-52 through 56 and 63";

68. 10 CFR 30.51(c)(2), replace all references to "parts 31 through 36 and 39 of this chapter" with "N.J.A.C. 7:28-52 through 57 and 63";

69. 10 CFR 30.51(d) and (f), replace all references to "appropriate NRC Regional Office" with "Radioactive Material Program";

70. 10 CFR 30.53, replace "parts 31 through 36 and 39 of this chapter" with "N.J.A.C. 7:28-52 through 57 and 63";

71. 10 CFR 30.61(a), replace "parts 31 through 35 of this chapter" with "N.J.A.C. 7:28-52 through 55 and 63";

72. 10 CFR 30.61(b), delete "section 182 of";

73. 10 CFR 30.64, replace all of 10 CFR 30.64 with "The Radiation Protection Act of 1958, N.J.S.A. 26:2D-1 et seq., provides for criminal sanctions for violation of any provision of the Act";

74. 10 CFR 30, Appendix A to Part 20 - Criteria Relating to Use of Financial Tests and Parent Company Guarantees for Providing Reasonable Assurance of Funds for Decommissioning, II Financial Test (A)(1)(ii) and (A)(2)(ii), delete, "or, for a power reactor licensee, at least six times the amount of decommissioning funds being assured by a parent company guarantee for the total of all reactor units or parts thereof (Tangible net worth shall be calculated to exclude the net book value of the nuclear unit(s))";

75. 10 CFR 30, Appendix A to Part 20 - Criteria Relating to Use of Financial Tests and Parent Company Guarantees for Providing Reasonable Assurance of Funds for Decommissioning, II Financial Test (A)(1)(iv) and (A)(2)(iv), delete, "or, for a power reactor licensee, at least six times the amount of decommissioning funds being assured by a parent company guarantee for the total of all reactor units or parts therefore"; and

76. 10 CFR 30, Appendix B to Part 30—Quantities of Licensed Material Requiring Labeling, end Note, replace "§ 20.303" with "N.J.A.C. 7:28-6."

(d) For those facilities whose radioactive materials are licensed solely by the Department, NRC Form 3, "Notice to Employees" shall mean the Department's Form RPP-14, "Notice to Employees, Standards for Protection Against Radiation," available from the Department by contacting the Radioactive Materials Program at the address, phone number, or website listed in N.J.A.C. 7:28-1.5.

(e) Those facilities which possess a license from the Department and the NRC for radioactive materials shall post both the NRC's Form 3, "Notice to Employees" and the Department's Form RPP-14, "Notice to Employees, Standards for Protection Against Radiation."

(f) Reports that are to be submitted to the Department pursuant to this subchapter shall be submitted to the address at N.J.A.C. 7:28-1.5.

(g) Requests for adjudicatory hearings shall be made in accordance with N.J.A.C. 7:28-4.17, and requirements governing requests for stay of the effective date of the Department decision for which an adjudicatory hearing is requested are set forth at N.J.A.C. 7:28-4.18.

HISTORY:

Amended by R.2014 d.083, effective May 5, 2014.
See: 45 N.J.R. 806(a), 46 N.J.R. 768(a).
Rewrote the section.

SUBCHAPTER 52. GENERAL DOMESTIC LICENSES FOR BYPRODUCT MATERIAL

§ 7:28-52.1 Incorporation by reference

(a) Except as set forth in (b) and (c) below, this subchapter incorporates by reference 10 CFR Part 31, General Domestic Licenses for Byproduct Material.

(b) The following provisions of 10 CFR Part 31 are not incorporated by reference. If there is a cross reference to a Federal citation specifically entirely excluded from incorporation, then the cross referenced citation is not incorporated by virtue of the cross reference:

1. 10 CFR 31.4, Information collection requirements: OMB approval; and

2. 10 CFR 31.22, Violations.

(c) The following provisions of 10 CFR Part 31 are incorporated by reference with the specified changes:

1. "Commission," "Nuclear Regulatory Commission," "NRC," and "U.S. Nuclear Regulatory Commission," as used in the provisions of Part 31 of the Code of Federal Regulations that are incorporated by reference, means the Department, except when specifically noted in this subchapter;

2. 10 CFR 31.1, replace "10 CFR Part 30" with "N.J.A.C. 7:28-51";

3. 10 CFR 31.2, replace "Parts 19, 20, and 21 of this chapter" with "N.J.A.C. 7:28-6 and 50";

4. 10 CFR 31.5(b)(1)(ii), add "or by the U.S. Nuclear Regulatory Commission" after "Agreement State";

5. 10 CFR 31.5(c)(3)(ii), replace "parts 30 and 32 of this chapter" with "N.J.A.C. 7:28-51 and 53" and add "or from the U.S. Nuclear Regulatory Commission" after "Agreement State";

6. 10 CFR 31.5(c)(5), replace "parts 30 and 32 of this chapter" with "N.J.A.C. 7:28-51 and 53" and add "or by the U.S. Nuclear Regulatory Commission" after "Agreement State";

7. 10 CFR 31.5(c)(5), replace "§ 20.1402" with "N.J.A.C. 7:28-12";

8. 10 CFR 31.5(c)(8)(i), replace "parts 30 and 32 of this chapter, or part 30 of this chapter" with "N.J.A.C. 7:28-51 and 53, or N.J.A.C. 7:28-51" and add "or of the U.S. Nuclear Regulatory Commission" after "Agreement State";

9. 10 CFR 31.5(c)(10), replace "parts 19, 20, and 21, of this chapter," with "and N.J.A.C. 7:28-6 and 50";

10. 10 CFR 31.5(c)(11), replace "Director, Office of Federal and State Materials and Environmental Management Programs" with "Department" and replace "§ 30.6(a) of this chapter" with "N.J.A.C. 7:28-1.5";

11. 10 CFR 31.5(c)(13)(ii), after "fee required by" replace "Sec. 170.31 of this chapter" with "N.J.A.C. 7:28-64";

12. 10 CFR 31.5(c)(13)(iv), add "or by the U.S. Nuclear Regulatory Commission" after "Agreement State";

13. 10 CFR 31.5(c)(14), replace "Director, Office of Federal and State Materials and Environmental Management Programs, ATTN: GLTS, U.S. Nuclear Regulatory Commission, Washington, D.C. 20555-0001" with "Radioactive Materials Program";

14. 10 CFR 31.6, add "or by the U.S. Nuclear Regulatory Commission" after "by an Agreement State" and add "or within NRC jurisdiction" after "within such Agreement State";

15. 10 CFR 31.6, replace "any non-Agreement State" with "the State of New Jersey, where the Department maintains jurisdiction";

16. 10 CFR 31.6(b), add "or by the U.S. Nuclear Regulatory Commission" after "Agreement State";

17. 10 CFR 31.6(c), add "or of the U.S. Nuclear Regulatory Commission" after "Agreement State";

18. 10 CFR 31.7(a), add "or by the U.S. Nuclear Regulatory Commission" after all occurrences of "by an Agreement State";

19. 10 CFR 31.7(b), replace "parts 19, 20, and 21, of this chapter" with "N.J.A.C. 7:28-6 and 50";

20. 10 CFR 31.8(a)(1), replace "a non-Agreement State" with "the State of New Jersey, where the Department maintains jurisdiction";

21. 10 CFR 31.8(b), add "or by the U.S. Nuclear Regulatory Commission" after both occurrences of "Agreement State";

22. 10 CFR 31.8(c), replace "parts 19, 20, and 21, of this chapter" with "N.J.A.C. 7:28-6 and 50";

23. 10 CFR 31.10(a), add "or by the U.S. Nuclear Regulatory Commission" after both occurrences of "Agreement State";

24. 10 CFR 31.10(b)(1), replace "part 30 or 32" with "N.J.A.C. 7:28-51 or 53" and add "or from the U.S. Nuclear Regulatory Commission" after "Agreement State";

25. 10 CFR 31.10(b)(3), replace "parts 19, 20, and 21, of this chapter" with "N.J.A.C. 7:28-6 and 50,";

26. 10 CFR 31.11(b)(1), replace with "NRC Form 483" with "NJRAD Form 483," replace "Director, Office of Federal and State Materials and Environmental Management Programs" with "Radioactive Materials Program," and replace "30.6(a) of this chapter" with "N.J.A.C. 7:28-1.5";

27. 10 CFR 31.11(b)(2), replace "part 35 of this chapter" with "N.J.A.C. 7:28-55";

28. 10 CFR 31.11(d)(1), add "or by the U.S. Nuclear Regulatory Commission" after both occurrences of "Agreement State";

29. 10 CFR 31.11(e), add "radioactive materials" prior to "registrant";

30. 10 CFR 31.11(f), replace "parts 19, 20, and 21, of this chapter" with "and N.J.A.C. 7:28-6 and 50";

31. 10 CFR 31.12(b), replace "10 CFR parts 19, 20, and 21" with "N.J.A.C. 7:28-6 and 50";

32. 10 CFR 31.12(c)(3), replace "part 110 of this chapter" with "10 CFR part 110";

33. 10 CFR 31.12(c)(4), replace "part 30 of this chapter" with "N.J.A.C. 7:28-51," and add "or of the U.S. Nuclear Regulatory Commission" after "Agreement State";

34. 10 CFR 31.12(c)(5), replace "Director of the Office of Federal and State Materials and Environmental Management Programs" with "Radioactive Materials Program," and replace "30.6(a) of this chapter" with "N.J.A.C. 7:28-1.5"; and

35. 10 CFR 31.23, replace all of 10 CFR 31.23 with "The Radiation Protection Act of 1958, N.J.S.A. 26:2D-1 et seq., provides for criminal sanctions for violation of any provision of the Act."

(d) For those facilities whose radioactive materials are licensed solely by the Department, NRC Form 3, "Notice to Employees," shall mean the Department's Form RPP-14, "Notice to Employees, Standards for Protection Against Radiation," available from the Department by contacting the Radioactive Materials Program at the address, phone number, or website listed in N.J.A.C. 7:28-1.5.

(e) Those facilities which possess a license for radioactive materials from both the Department and the NRC shall post both the NRC's Form 3, "Notice to Employees," and the Department's Form RPP-14, "Notice to Employees, Standards for Protection Against Radiation."

(f) Reports that are to be submitted to the Department pursuant to this subchapter shall be submitted to the address at N.J.A.C. 7:28-1.5.

(g) Requests for adjudicatory hearings shall be made in accordance with N.J.A.C. 7:28-4.17, and requirements governing requests for stay of the effective date of the Department decision for which an adjudicatory hearing is requested are set forth at N.J.A.C. 7:28-4.18.

HISTORY:

Amended by R.2014 d.083, effective May 5, 2014.
See: 45 N.J.R. 806(a), 46 N.J.R. 768(a).
Rewrote the section.

SUBCHAPTER 53. SPECIFIC DOMESTIC LICENSES TO MANUFACTURE OR TRANSFER CERTAIN ITEMS CONTAINING BYPRODUCT MATERIAL

§ 7:28-53.1 Incorporation by reference

(a) Except as set forth in (b) and (c) below, this subchapter incorporates by reference 10 CFR Part 32, Specific Domestic Licenses to Manufacture or Transfer Certain Items Containing Byproduct Material.

(b) The following provisions of 10 CFR Part 32 are not incorporated by reference. If there is a cross reference to a Federal citation specifically entirely excluded from incorporation, then the cross referenced citation is not incorporated by virtue of the cross reference:

1. 10 CFR 32.1(c)(1) and (2), Purpose and scope;

2. 10 CFR 32.8, Information collection requirements: OMB approval;

3. 10 CFR 32.11, Introduction of byproduct material in exempt concentrations into products or materials, and transfer of ownership or possession: Requirements for license;

4. 10 CFR 32.12, Same: Records and material transfer reports;

5. 10 CFR 32.14, Certain items containing byproduct material; requirements for license to apply or initially transfer;

6. 10 CFR 32.15, Same: Quality assurance, prohibition of transfer, and labeling;

7. 10 CFR 32.16, Certain items containing byproduct material: Records and reports of transfer;

8. 10 CFR 32.18, Manufacture, distribution and transfer of exempt quantities of byproduct material: Requirements for license;

9. 10 CFR 32.19, Same: Conditions of licenses;

10. 10 CFR 32.20, Same: Records and material transfer reports;

11. 10 CFR 32.21, Radioactive drug: Manufacture, preparation or transfer for commercial distribution of capsules containing carbon-14 urea each for "in vivo" diagnostic use for humans to persons exempt from licensing; Requirements for a license;

12. 10 CFR 32.21a, Same: Conditions of license;

13. 10 CFR 32.22, Self-luminous products containing tritium, krypton-85 or promethium 147: Requirements for license to manufacture, process, produce, or initially transfer;

14. 10 CFR 32.23, Same: Safety criteria;

15. 10 CFR 32.25, Conditions of licenses issued under § 32.22: Quality control, labeling, and reports of transfer;

16. 10 CFR 32.26, Gas and aerosol detectors containing byproduct material: Requirements for license to manufacture, process, produce, or initially transfer;

17. 10 CFR 32.27, Same: Safety criteria;

18. 10 CFR 32.28, Same: Table of organ doses;

19. 10 CFR 32.29, Conditions of licenses issued under § 32.26: Quality control, labeling, and reports of transfer;

20. 10 CFR 32.30, Certain industrial devices containing byproduct material: Requirements for license to manufacture, process, produce, or initially transfer;

21. 10 CFR 32.31, Certain industrial devices containing byproduct material: Safety criteria;

22. 10 CFR 32.32, Conditions of licenses issued under § 32.20: Quality control, labeling, and reports of transfer;

23. 10 CFR 32.210, Registration of product information;

24. 10 CFR 32.211, Inactivation of certificates of registration of sealed sources and devices; and

25. 10 CFR 32.301, Violations.

(c) The following provisions of 10 CFR Part 32 are incorporated by reference with the specified changes:

1. "Commission," "Nuclear Regulatory Commission," "NRC," and "U.S. Nuclear Regulatory Commission," as used in the provisions of Part 32 of the Code of Federal Regulations that are incorporated by reference, shall mean the Department, except when specifically noted in this subchapter;

2. 10 CFR 32.1(a)(1), replace "part 30 of this chapter" with "N.J.A.C. 7:28-51";

3. 10 CFR 32.1(a)(2), replace "part 31 or 35 of this chapter" with "N.J.A.C. 7:28-52 or 55" and replace "part 30 of this chapter" with "N.J.A.C. 7:28-51";

4. 10 CFR 32.1(a)(2), add "or of the U.S. Nuclear Regulatory Commission" after "Agreement State";

5. 10 CFR 32.1(b), replace "part 30 of this chapter" with "N.J.A.C. 7:28-51";

6. 10 CFR 32.2, in the definition of "nationally tracked source," replace "part 20 of this Chapter" with "10 CFR part 20 as incorporated by reference in N.J.A.C. 7:28-6";

7. 10 CFR 32.13, replace "§ 32.11" with "10 CFR 32.11" and add "or of the U.S. Nuclear Regulatory Commission" after "Agreement State";

8. 10 CFR 32.51(a), add "or of the U.S. Nuclear Regulatory Commission" after "Agreement State";

9. 10 CFR 32.15(b) delete "of this chapter" and add "the U.S. NRC or" before "an Agreement State";

10. 10 CFR 32.51(a)(3)(iii), "U.S. NRC" shall mean U.S. Nuclear Regulatory Commission;

11. 10 CFR 32.51(c), add "or of the U.S. Nuclear Regulatory Commission" after "Agreement State";

12. 10 CFR 32.51a(b) add, "or of the U.S. Nuclear Regulatory Commission" after "an Agreement State";

13. 10 CFR 32.51a(b)(1), add "or U.S. Nuclear Regulatory Commission's" after "Agreement State's" and add "or the U.S. Nuclear Regulatory Commission" after "Agreement State";

14. 10 CFR 32.51a(b)(4), add "or at the U.S. Nuclear Regulatory Commission" after "Agreement State regulatory agency";

15. 10 CFR 32.51a(e), add "or the U.S. Nuclear Regulatory Commission" after "Agreement State";

16. 10 CFR 32.52(a), replace "Director, Office of Federal and State Materials and Environmental Management Programs, ATTN: GLTS" with "Radioactive Material Program" and replace "§ 30.6(a) of this chapter" with "N.J.A.C. 7:28-1.5";

17. 10 CFR 32.52(b), add "U.S. Nuclear Regulatory Commission's" after "Agreement State's" in both locations and add "U.S. Nuclear Regulatory Commission" after "Agreement State agency";

18. 10 CFR 32.54(a), "U.S. NRC" and "NRC" shall mean U.S. Nuclear Regulatory Commission;

19. 10 CFR 32.55, add "or U.S. NRC" after "Agreement State";

20. 10 CFR 32.56(b), delete "of this chapter," add "or the U.S. NRC" after "Agreement State agency," add "or the U.S. NRC" before "during the reporting period," add "or the U.S. NRC" before "upon request," and delete "of the agency";

21. 10 CFR 32.58, "United States Nuclear Regulatory Commission" and "Commission" shall mean U.S. Nuclear Regulatory Commission;

22. 10 CFR 32.59, add "or of the U.S. Nuclear Regulatory Commission" after "Agreement State";

23. 10 CFR 32.56, replace "Director, Office of Federal and State Materials and Environmental Management Programs" with "Radioactive Material Program" and replace "§ 30.6(a) of this chapter" with "N.J.A.C. 7:28-1.5";

24. 10 CFR 32.58, "U.S. Nuclear Regulatory Commission" and "Commission" shall mean U.S. Nuclear Regulatory Commission;

25. 10 CFR 32.62(e), delete "of this chapter," and add "of U.S. NRC" after "Agreement State";

26. 10 CFR 32.71(d), "U.S. Nuclear Regulatory Commission" and "Commission" shall mean U.S. Nuclear Regulatory Commission;

27. 10 CFR 32.72(a), replace "part 35 of this chapter" with "N.J.A.C. 7:28-55";

28. 10 CFR 32.72(b)(5)(i), add "or the U.S. Nuclear Regulatory Commission" after "Agreement State";

29. 10 CFR 32.72(b)(5)(ii), add "or U.S. Nuclear Regulatory Commission" after "Agreement State";

30. 10 CFR 32.72(5)(iii) and (iv), "Commission" shall mean the U.S. Nuclear Regulatory Commission;

31. 10 CFR 32.72(d), replace "other Federal, and State" with "Federal, and other State";

32. 10 CFR 32.74(a), replace "part 35 of this chapter" with "N.J.A.C. 7:28-55";

33. 10 CFR 32.74(a)(3), add "or the U.S. Nuclear Regulatory Commission" after "Agreement State"; and

34. 10 CFR 32.303, replace all of 10 CFR 32.303 with "The Radiation Protection Act of 1958, N.J.S.A. 26:2D-1 et seq., provides for criminal sanctions for violation of any provision of the Act."

(d) For those facilities whose radioactive materials are licensed solely by the Department, NRC Form 3, "Notice to Employees" shall mean the Department's Form RPP-14, "Notice to Employees, Standards for Protection Against Radiation," available from the Department by contacting the Radioactive Materials Program at the address, phone number, or website listed in N.J.A.C. 7:28-1.5.

(e) Those facilities which possess a license from the Department and the NRC for radioactive materials shall post both the NRC's Form 3, "Notice to Employees," and the Department's Form RPP-14, "Notice to Employees, Standards for Protection Against Radiation."

(f) Reports that are to be submitted to the Department pursuant to this subchapter shall be submitted to the address at N.J.A.C. 7:28-1.5.

(g) Requests for adjudicatory hearings shall be made in accordance with N.J.A.C. 7:28-4.17, and requirements governing requests for stay of the effective date of the Department decision for which an adjudicatory hearing is requested are set forth at N.J.A.C. 7:28-4.18.

HISTORY:

Amended by R.2014 d.083, effective May 5, 2014.
See: 45 N.J.R. 806(a), 46 N.J.R. 768(a).
Rewrote the section.

SUBCHAPTER 54. SPECIFIC DOMESTIC LICENSES OF BROAD SCOPE FOR BYPRODUCT MATERIAL

§ 7:28-54.1 Incorporation by reference

(a) Except as set forth in (b) and (c) below, this subchapter incorporates by reference 10 CFR Part 33, Specific Domestic Licenses of Broad Scope for Byproduct Material.

(b) The following provisions of 10 CFR Part 33 are not incorporated by reference. If there is a cross reference to a Federal citation specifically entirely excluded from incorporation, then the cross referenced citation is not incorporated by virtue of the cross reference:

1. 10 CFR 33.8, Information collection requirements: OMB approval; and

2. 10 CFR 33.21, Violations.

(c) The following provisions of 10 CFR Part 33 are incorporated by reference with the specified changes:

1. "Commission," "Nuclear Regulatory Commission," "NRC," and "U.S. Nuclear Regulatory Commission," as used in the provisions of Part 33 of the Code of Federal Regulations that are incorporated by reference, shall mean the Department;

2. 10 CFR 33.1, replace "part 30 of this chapter" with "N.J.A.C. 7:28-51";

3. 10 CFR 33.12, replace with "Application for specific licenses from the State and renewals shall be filed with the Department on forms available from the Department";

4. 10 CFR 33.16, replace "Part 30 of this chapter" with "N.J.A.C. 7:28-51";

5. 10 CFR 33.17(a)(3), replace "part 32, 34, or 35 of this chapter" with "N.J.A.C. 7:28-53, 55, and 63"; and

6. 10 CFR 33.23, replace all of 10 CFR 33.23 with "The Radiation Protection Act of 1958, N.J.S.A. 26:2D-1 et seq., provides for criminal sanctions for violation of any provision of the Act."

(d) For those facilities whose radioactive materials are licensed solely by the Department, NRC Form 3, "Notice to Employees," shall mean the Department's Form RPP-14, "Notice to Employees, Standards for

Protection Against Radiation," available from the Department by contacting the Radioactive Materials Program at the address, phone number, or website listed in N.J.A.C. 7:28-1.5.

(e) Those facilities which possess a license from the Department and the NRC for radioactive materials shall post both the NRC's Form 3, "Notice to Employees," and the Department's Form RPP-14, "Notice to Employees, Standards for Protection Against Radiation."

(f) Reports that are to be submitted to the Department pursuant to this subchapter shall be submitted to the address at N.J.A.C. 7:28-1.5.

(g) Requests for adjudicatory hearings shall be made in accordance with N.J.A.C. 7:28-4.17, and requirements governing requests for stay of the effective date of the Department decision for which an adjudicatory hearing is requested are set forth at N.J.A.C. 7:28-4.18.

HISTORY:

Amended by R.2014 d.083, effective May 5, 2014.
See: 45 N.J.R. 806(a), 46 N.J.R. 768(a).
Rewrote the section.

SUBCHAPTER 55. MEDICAL USE OF BYPRODUCT MATERIAL

§ 7:28-55.1 Incorporation by reference

(a) Except as set forth in (b) and (c) below, this subchapter incorporates by reference 10 CFR Part 35, Medical Use of Byproduct Material.

(b) The following provisions of 10 CFR Part 35 are not incorporated by reference. If there is a cross reference to a Federal citation specifically entirely excluded from incorporation, then the cross referenced citation is not incorporated by virtue of the cross reference:

1. 10 CFR 35.8, Information collection requirements: OMB approval;

2. 10 CFR 35.11(c), License required;

3. 10 CFR 35.12(c)(1)(ii);

4. 10 CFR 35.13(a)(1) and (2);

5. 10 CFR 35.63(b)(2)(i) through 35.63(b)(2)(iii), Determination of dosages of unsealed byproduct material for medical use;

6. 10 CFR 35.63(c)(3)(i) through 35.63(c)(3)(ii); and

7. 10 CFR 35.4001, Violations.

(c) The following provisions of 10 CFR Part 35 are incorporated by reference with the specified changes:

1. "Commission," "Nuclear Regulatory Commission," "NRC," and "U.S. Nuclear Regulatory Commission," as used in the provisions of Part 35 of the Code of Federal Regulations, that are incorporated by reference, means the Department, except at:

i. 10 CFR 35.2, Definitions;

ii. 10 CFR 35.13(b)(4)(iii), License amendments; and

iii. 10 CFR 35.67(b)(2), Requirements for possession of sealed sources and brachytherapy sources;

2. 10 CFR 35.1, replace "parts 19, 20, 21, 30, 71, 170 and 171 of this chapter" with "N.J.A.C. 7:28-6, 50, 51, 61 and 64";

3. 10 CFR 35.6(b) and (c), replace "another Federal agency" with "a Federal agency";

4. 10 CFR 35.7, replace "other Federal, and State" with "Federal, and other State";

5. 10 CFR 35.10(a), delete "A Government agency or a Federally recognized Indian Tribe that possesses and uses accelerator-produced radioactive material or discrete sources of radium-226 for which a specific medical use license is required by the Atomic Energy Act of 1954, as amended, must comply with the requirements of this part, including provisions that are specific to licensees, on November 30, 2007.", replace "All other persons" with "All persons," and delete "on August 8, 2009, or earlier as noticed by the NRC";

6. 10 CFR 35.11(a), add "or the U.S. NRC" after "an Agreement State"

7. 10 CFR 35.12(b)(1), replace "and one copy of Form 313, 'Application for Material License,'" with "application for a specific license on NJRAD Form 313 available from the Department,";

8. 10 C.F.R 35.12(c), delete the wording "amendment or";

9. 10 CFR 35.12(c)(1), delete the wording "and one copy" and "either";

10. 10 CFR 35.12(c)(1)(i), replace "NRC Form 313" with "NJRAD Form 313," and replace "Material" with "Radioactive Materials";

11. 10 CFR 35.12(c)(1)(ii), delete wording and replace with "A request for an amendment may be submitted on NJRAD Form 313 or by a letter addressed to the Department.";

12. 10 CFR 35.13(b)(4)(i) and (ii), add "or U.S. NRC" after "Agreement State";

13. 10 CFR 35.13(a), delete "except that -" ;

14. 10 CFR 35.14(a), add "or U.S. NRC" after both occurrences of "or Agreement State";

15. 10 CFR 35.14(a), "Commission" in both occurrences of "Commission master material" shall mean U.S. NRC;

16. 10 CFR 35.14(c), replace "§ 30.6 of this chapter" with "N.J.A.C. 7:28-1.5";

17. 10 CFR 35.15, replace "Part 33 of this chapter" with "N.J.A.C. 7:28-54";

18. 10 CFR 35.18(a)(1), replace "NRC Form 313" with "NJRAD Form 313";

19. 10 CFR 35.18(a)(2), replace "Part 170 of this chapter" with "N.J.A.C. 7:28-64";

20. 10 CFR 35.18(a)(4), replace "Part 30 of this chapter" with "N.J.A.C. 7:28-51";

21. 10 CFR 35.19, add "with the approval of the Commission on Radiation Protection," after "may," and replace "and will not endanger life or property or the common defense and security and are otherwise in the public interest" with "in accordance with the provisions of N.J.A.C. 7:28-2.8";

22. 10 CFR 35.49(a), replace "10 CFR Part 30" with "N.J.A.C. 7:28-51" and add "or of the U.S. NRC" after "an Agreement State";

23. 10 CFR 35.49(b), add "or a U.S. NRC" after "Agreement State";

24. 10 CFR 35.49(c), replace "10 CFR Part 30" with "N.J.A.C. 7:28-51" and add "or of the U.S. NRC" after "Agreement State";

25. 10 CFR 35.50(a), add "or the U.S. NRC" after both occurrences of "Agreement State";

26. 10 CFR 35.50(a), "NRC's" shall mean U.S. NRC's;

27. 10 CFR 35.50(a)(2)(ii)(A), add "or the U.S. NRC" after "Agreement State";

28. 10 CFR 35.50(b)(1)(ii), add "or U.S. NRC" after "Agreement State";

29. 10 CFR 35.50(b)(1)(ii), "Commission" in "Commission master material licensee" shall mean U.S. NRC;

30. 10 CFR 35.50(c)(1), add "or the U.S. NRC" after "Agreement State";

31. 10 CFR 35.51(a), add "or the U.S. NRC" after both occurrences of "Agreement State";

32. 10 CFR 35.51(a), "NRC's" shall mean U.S. NRC's;

33. 10 CFR 35.51(a)(2)(i), add "or the U.S. NRC" after "Agreement State";

34. 10 CFR 35.51(b)(2), add "or U.S. NRC" after "Agreement State";

35. 10 CFR 35.55(a), add "or the U.S. NRC" after both occurrences of "Agreement State";

36. 10 CFR 35.55(a), "NRC's" shall mean U.S. NRC's;

37. 10 CFR 35.57(a)(1), add "or U.S. NRC" after both occurrences of "Agreement State";

38. 10 CFR 33.57(a)(1), replace both occurrences of "master material license" with "U.S. NRC master material license";

39. 10 CFR 35.57(a)(2), add "or U.S. NRC" after both occurrences of "Agreement State";

40. 10 CFR 33.57(a)(2), replace both occurrences of "master material license" with "U.S. NRC master material license";

41. 10 CFR 35.57(b)(1), add "or U.S. NRC" after both occurrences of "Agreement State";

42. 10 CFR 35.57(b)(1), "Commission" in both occurrences of "Commission master material" shall mean U.S. NRC;

43. 10 CFR 35.57(b)(2), add "or U.S. NRC" after both instances of "Agreement State"; and replace "Commission" with "U.S. NRC" before each instance of master material license;

44. 10 CFR 35.61(a), replace "10 CFR Part 20" with "N.J.A.C. 7:28-6";

45. 10 CFR 35.65(a) and (b), add "or U.S. NRC" after "Agreement State";

46. 10 CFR 35.67(e)(1), replace "parts 20 and 30 of this chapter" with "N.J.A.C. 7:28-6 and 51";

47. 10 CFR 35.70(a), replace "Part 20 of this chapter" with "N.J.A.C. 7:28-6";

48. 10 CFR 35.80(a)(4), replace "Part 20 of this chapter" with "N.J.A.C. 7:28-6";

49. 10 CFR 35.100(a)(1), add "or U.S. NRC" after "Agreement State";

50. 10 CFR 35.100(a)(2), add "or U.S. NRC" after "Agreement State";

51. 10 CFR 35.100(c), add "or U.S. NRC" after "Agreement State";

52. 10 CFR 35.190(a), add "or the U.S. NRC" after both occurrences of "Agreement State";

53. 10 CFR 35.190(a), "NRC's" shall mean U.S. NRC's;

54. 10 CFR 35.190(b), (c)(1)(ii), and (c)(2), add "or U.S. NRC" after "Agreement State";

55. 10 CFR 35.200(a)(1), add "or U.S. NRC" after "Agreement State";

56. 10 CFR 35.200(a)(2), add "or U.S. NRC" after "Agreement State";

57. 10 CFR 35.200(c), add "or U.S. NRC" after "Agreement State";
58. 10 CFR 35.290(a), add "or the U.S. NRC" after both occurrences of "Agreement State";
59. 10 CFR 35.290(a), "NRC's" shall mean U.S. NRC's;
60. 10 CFR 35.290(b), (c)(1)(ii) and (c)(2), add "or U.S. NRC" after "Agreement State";
61. 10 CFR 35.300(a)(1), add "or U.S. NRC" after "Agreement State";
62. 10 CFR 35.300(a)(2), add "or U.S. NRC" after "Agreement State";
63. 10 CFR 35.300(c), add "or U.S. NRC" after "Agreement State";
64. 10 CFR 35.390(a), add "or the U.S. NRC" after both occurrences of "Agreement State";
65. 10 CFR 35.390(a), "NRC's" shall mean U.S. NRC's;
66. 10 CFR 35.390(b)(1)(ii) and (b)(2), add "or U.S. NRC" after "Agreement State";
67. 10 CFR 35.392(a), add "or the U.S. NRC" after both occurrences of "Agreement State";
68. 10 CFR 35.392(a), "NRC's" shall mean U.S. NRC's;
69. 10 CFR 35.392(b), (c)(2) and (c)(3), add "or U.S. NRC" after "Agreement State";
70. 10 CFR 35.394(a), add "or the U.S. NRC" after both occurrences of "Agreement State";
71. 10 CFR 35.394(a), "NRC's" shall mean U.S. NRC's;
72. 10 CFR 35.394(b), (c)(2), and (c)(3), add "or U.S. NRC" after "Agreement State";
73. 10 CFR 35.396(a) and (b), add "or U.S. NRC" after "Agreement State";
74. 10 CFR 35.396(c), add "or the U.S. NRC" after "Agreement State";
75. 10 CFR 35.396(d)(2) and (d)(3), add "or U.S. NRC" after "Agreement State";
76. 10 CFR 35.490(a), add "or the U.S. NRC" after both occurrences of "Agreement State";
77. 10 CFR 35.490(a), "NRC's" shall mean U.S. NRC's;
78. 10 CFR 35.490(b)(1)(ii), (b)(2), and (b)(3), add "or U.S. NRC" after "Agreement State";
79. 10 CFR 35.491(a) and (b)(3), add "or U.S. NRC" after "Agreement State";
80. 10 CFR 35.590(a), add "or the U.S. NRC" after both occurrences of "Agreement State";
81. 10 CFR 35.590(a), "NRC's" shall mean U.S. NRC's;
82. 10 CFR 35.605(a), (b), and (c), add "or the U.S. NRC" after "Agreement State";
83. 10 CFR 35.655(b), add "or the U.S. NRC" after "Agreement State";
84. 10 CFR 35.690(a), add "or the U.S. NRC" after both occurrences of "Agreement State";
85. 10 CFR 35.690(a), "NRC's" shall mean U.S. NRC's;
86. 10 CFR 35.690(b)(1)(ii), (b)(2), and (b)(3), add "or the U.S. NRC" after "Agreement State";
87. 10 CFR 35.900(b)(2), add "or the U.S. NRC" after "Agreement State";
88. 10 CFR 35.3045(c), replace "NRC Operations Center" with "Department";
89. 10 CFR 35.3045(d), replace the wording of 10 CFR 35.3045(d) with "The licensee shall submit a written report to the Department at the address or fax number listed in N.J.A.C. 7:28-1.5 within 15 days after discovery of the medical event."
90. 10 CFR 35.3047(c), replace "NRC Operations Center" with "Department";
91. 10 CFR 35.3047(d), replace "By an appropriate method listed in § 30.6 of this chapter, the" with "The" and replace "appropriate NRC Regional Office listed in § 30.6 of this chapter" with "Department at the address or fax number listed in N.J.A.C. 7:28-1.5";
92. 10 CFR 35.3067, replace "appropriate NRC Regional Office listed in § 30.6 of this chapter, by an appropriate method listed in § 30.6 of this chapter" with "Department at the address or fax number listed in N.J.A.C. 7:28-1.5" and delete ", with a copy to the Director, Office of Federal and State Materials and Environmental Management Programs."; and
93. 10 CFR 35.4002, replace all of 10 CFR 35.4002 with "The Radiation Protection Act of 1958, N.J.S.A. 26:2D-1 et seq., provides for criminal sanctions for violation of any provision of the Act."

(d) For those facilities whose radioactive materials are licensed solely by the Department, NRC Form 3, "Notice to Employees" shall mean the Department's Form RPP-14, "Notice to Employees, Standards for Protection Against Radiation," available from the Department by contacting the Radioactive Materials Program at the address, phone number, or website listed in N.J.A.C. 7:28-1.5.

(e) Those facilities which possess a license from the Department and the NRC for radioactive materials shall post both the NRC's Form 3, "Notice to Employees" and the Department's Form RPP-14, "Notice to Employees, Standards for Protection Against Radiation."

(f) Reports that are to be submitted to the Department pursuant to this subchapter shall be submitted to the address at N.J.A.C. 7:28-1.5.

(g) Requests for adjudicatory hearings shall be made in accordance with N.J.A.C. 7:28-4.17, and requirements governing requests for stay of the effective date of the Department decision for which an adjudicatory hearing is requested are set forth at N.J.A.C. 7:28-4.18.

HISTORY:

Amended by R.2014 d.083, effective May 5, 2014.
See: 45 N.J.R. 806(a), 46 N.J.R. 768(a).
Rewrote the section.

SUBCHAPTER 56. LICENSES AND RADIATION SAFETY REQUIREMENTS FOR IRRADIATORS

§ 7:28-56.1 Incorporation by reference

(a) Except as set forth in (b) and (c) below, this subchapter incorporates by reference 10 CFR Part 36, Licenses and Radiation Safety Requirements for Irradiators.

(b) The following provisions of 10 CFR Part 36 are not incorporated by reference. If there is a cross reference to a Federal citation specifically entirely excluded from incorporation, then the cross referenced citation is not incorporated by virtue of the cross reference:

1. 10 CFR 36.2, Definitions, the following definitions are not incorporated by reference: "commencement of construction, paragraph 2" and "construction, paragraph 9(ii)";

2. 10 CFR 36.8, Information collection requirements: OMB approval; and

3. 10 CFR 36.91, Violations.

(c) The following provisions of 10 CFR Part 36 are incorporated by reference with the specified changes:

1. "Commission," "Nuclear Regulatory Commission," "NRC," and "U.S. Nuclear Regulatory Commission," as used in the provisions of Part 36 of the Code of Federal Regulations that are incorporated by reference, means the Department, except when specifically noted in this subchapter;

2. 10 CFR 36.1(a), replace "parts 19, 20, 21, 30, 71, 170 and 171 of this chapter" with "N.J.A.C. 7:28-6, 50, 51, 61 and 64";

3. 10 CFR 36.5, replace "Except as specifically authorized by the Commission in writing, no" with "No" and replace "by the General Counsel" with "signed and approved by the Commissioner of the Department,"

4. 10 CFR 36.11, replace "Form NRC 313, 'Application for Material License,'" with "NJRAD Form 313," delete "and one copy," and replace "appropriate NRC Regional Office listed in appendix D to part 20 of this chapter" with "Department at the address or fax number listed in N.J.A.C. 7:28-1.5";

5. 10 CFR 36.11, replace "part 170 of this chapter" and "§ 170.31 of this chapter" with "N.J.A.C. 7:28-64";

6. 10 CFR 36.13(g), add "or the U.S. Nuclear Regulatory Commission" after "Agreement State";

7. 10 CFR 36.15, replace "§ 170.31" with "N.J.A.C. 7:28-64" and replace "the Atomic Energy Act of 1954, as amended" with "the Act";

8. 10 CFR 36.17, replace "Commission" with "Department, with approval of the Commission on Radiation Protection," and replace "by law and will not endanger life or property or the common defense and security and are otherwise in the public interest" with "in accordance with the provisions of N.J.A.C. 7:28-2.8";

9. 10 CFR 36.51(a)(2), replace "parts 19 and 36 of NRC regulations" with "N.J.A.C. 7:28-50 and 56";

10. 10 CFR 36.59(a), add "or the U.S. Nuclear Regulatory Commission" after both occurrences of "Agreement State";

11. 10 CFR 36.59(c), add "or U.S. NRC" after both occurrences of "Agreement State"; and

12. 10 CFR 36.93, replace all of 10 CFR 36.93 with "The Radiation Protection Act of 1958, N.J.S.A. 26:2D-1 et seq., provides for criminal sanctions for violation of any provision of the Act."

(d) For those facilities whose radioactive materials are licensed solely by the Department, NRC Form 3, "Notice to Employees" shall mean the Department's Form RPP-14, "Notice to Employees, Standards for Protection Against Radiation," available from the Department by contacting the Radioactive Materials Program at the address, phone number, or website listed in N.J.A.C. 7:28-1.5.

(e) Those facilities which possess a license from the Department and the NRC for radioactive materials shall post both the NRC's Form 3, "Notice to Employees" and the Department's Form RPP-14, "Notice to Employees, Standards for Protection Against Radiation."

(f) Reports that are to be submitted to the Department pursuant to this subchapter shall be submitted to the address at N.J.A.C. 7:28-1.5.

(g) Requests for adjudicatory hearings shall be made in accordance with N.J.A.C. 7:28-4.17, and requirements governing requests for stay of the effective date of the Department decision for which an adjudicatory hearing is requested are set forth at N.J.A.C. 7:28-4.18.

HISTORY:

Amended by R.2014 d.083, effective May 5, 2014.
See: 45 N.J.R. 806(a), 46 N.J.R. 768(a).
Rewrote the section.

SUBCHAPTER 57. LICENSES AND RADIATION SAFETY REQUIREMENTS FOR WELL LOGGING

§ 7:28-57.1 Incorporation by reference

(a) Except as set forth in (b) and (c) below, this subchapter incorporates by reference 10 CFR Part 39, Licenses and Radiation Safety Requirements for Well Logging.

(b) The following provisions of 10 CFR Part 39 are not incorporated by reference. If there is a cross reference to a Federal citation specifically entirely excluded from incorporation, then the cross referenced citation is not incorporated by virtue of the cross reference:

1. 10 CFR 39.8, Information collection requirements: OMB approval; and

2. 10 CFR 39.101, Violations.

(c) The following provisions of 10 CFR Part 39 are incorporated by reference with the specified changes:

1. "Commission," "Nuclear Regulatory Commission," "NRC," and "U.S. Nuclear Regulatory Commission," as used in the provisions of Part 39 of the Code of Federal Regulations that are incorporated by reference, means the Department, except at:

i. 10 CFR 39.41(f), Design and performance criteria for sources; and

ii. 10 CFR 39.63(*l*), Operating and emergency procedures.

2. 10 CFR 39.1(a), replace "parts 19, 20, 21, 30, 40, 70, 71, and 150 of this chapter" with "N.J.A.C. 7:28-6, 50, 51, 58, 60, 61 and 64";

3. 10 CFR 39.5, replace "Except as specifically authorized by the Commission in writing, no" with "No," and replace "by the General Counsel" with "signed and approved by the Commissioner of the Department";

4. 10 CFR 39.11, replace "Form NRC 313" with "NJRAD Form 313" and replace "appropriate NRC Regional Office listed in appendix D of part 20 of this chapter" with "Department at the address or fax number listed in N.J.A.C. 7:28-1.5";

5. 10 CFR 39.11, replace "part 170 of this chapter" and "§ 170.31 of this chapter" with "N.J.A.C. 7:28-64";

6. 10 CFR 39.31(a)(3), replace "10 CFR part 71" with "N.J.A.C. 7:28-61";

7. 10 CFR 39.33(a), replace "part 20 of this chapter" with "N.J.A.C. 7:28-6";

8. 10 CFR 39.35(b), add "or the U.S. NRC" after both occurrences of "Agreement State";

9. 10 CFR 39.35(d)(1), add "or U.S. NRC" after both occurrences of "Agreement State";

10. 10 CFR 39.35(d)(2), replace "appropriate NRC Regional Office listed in appendix D of part 20 of this chapter" with "Department at the address or fax number listed in N.J.A.C. 7:28-1.5";

11. 10 CFR 39.43(c), (d) and (e), add "or U.S. NRC" after "Agreement State";

12. 10 CFR 39.51, add "or by the U.S. NRC" after "by an Agreement State";

13. 10 CFR 39.61(a)(2)(i), replace "parts 19, 20, and 39 of this chapter" with "N.J.A.C. 7:28-6, 50 and 57";

14. 10 CFR 39.61(b)(1), replace "parts 19 and 20 of this chapter" with "N.J.A.C. 7:28-6 and 50";

15. 10 CFR 39.63(*l*), replace "Part 21" with "10 CFR part 21";

16. 10 CFR 39.73(a), replace "19, 20, and 39" with "N.J.A.C. 7:28-6, 50 and 57";

17. 10 CFR 39.75(e), add ", or NRC" after "Agreement State";

18. 10 CFR 39.77(a), replace "NRC Regional Office by telephone" with "Department by telephone as per N.J.A.C. 7:28-1.5" and replace "using an appropriate method listed in § 30.6(a) of this chapter," with "at the address or fax number listed in N.J.A.C. 7:28-1.5";

19. 10 CFR 39.77(c)(1), replace "appropriate NRC Regional Office" with "Department at the phone number listed in N.J.A.C. 7:28-1.5";

20. 10 CFR 39.77(d), replace "appropriate NRC Regional Office" with "Department at the address or fax number listed in N.J.A.C. 7:28-1.5";

21. 10 CFR 39.91, add "with the approval of the Commission on Radiation Protection," after "initiative," and replace "and will not endanger life or property or the common defense and security and are otherwise in the public interest" with "in accordance with the provisions of N.J.A.C. 7:28-2.8"; and

22. 10 CFR 39.103, replace all of 10 CFR 39.103 with "The Radiation Protection Act of 1958, N.J.S.A. 26:2D-1 et seq., provides for criminal sanctions for violation of any provision of the Act."

(d) Reports that are to be submitted to the Department pursuant to this subchapter shall be submitted to the address at N.J.A.C. 7:28-1.5.

(e) Requests for adjudicatory hearings shall be made in accordance with N.J.A.C. 7:28-4.17, and requirements governing requests for stay of the effective date of the Department decision for which an adjudicatory hearing is requested are set forth at N.J.A.C. 7:28-4.18.

HISTORY:

Amended by R.2014 d.083, effective May 5, 2014.
See: 45 N.J.R. 806(a), 46 N.J.R. 768(a).
Rewrote the section.

SUBCHAPTER 58. DOMESTIC LICENSING OF SOURCE MATERIAL

§ 7:28-58.1 Incorporation by reference

(a) Except as set forth in (b) and (c) below, this subchapter incorporates by reference 10 CFR Part 40, Domestic Licensing of Source Material.

(b) The following provisions of 10 CFR Part 40 are not incorporated by reference. If there is a cross reference to a Federal citation specifically entirely excluded from incorporation, then the cross referenced citation is not incorporated by virtue of the cross reference:

1. 10 CFR 40.2a, Coverage of inactive tailings sites;

2. 10 CFR 40.4, Definitions. The following definitions in 10 CFR 40.4 are not incorporated by reference: "byproduct material," "commencement of construction, paragraph 2," "Commission," and "construction, paragraph 9(ii)";

3. 10 CFR 40.5, Communications;

4. 10 CFR 40.8, Information collection requirements: OMB approval;

5. 10 CFR 40.12(b), Carriers;

6. 10 CFR 40.20(b) and (c), Types of licenses;

7. 10 CFR 40.23, General license for carriers of transient shipments of natural uranium other than in the form of ore or ore residue;

8. 10 CFR 40.26, General license for possession and storage of byproduct material as defined in this part;

9. 10 CFR 40.27, General license for custody and long-term care of residual radioactive material disposal sites;

10. 10 CFR 40.28, General license for custody and long-term care of uranium or thorium byproduct materials disposal sites;

11. 10 CFR 40.31(c), (f) through (h), (j), (k), (*l*), and (m), Application for specific licenses;

12. 10 CFR Part 40.32(d), (e), (g), General requirements for issuance of specific licenses;

13. 10 CFR 40.33, Issuance of a license for a uranium enrichment facility;

14. 10 CFR 40.35(f), Conditions of specific licenses issued pursuant to § 40.34;

15. 10 CFR 40.38, Ineligibility of certain applicants;

16. 10 CFR 40.41(d), (e)(1), (e)(3), and (g), Terms and conditions of licenses;

17. 10 CFR 40.51(b)(6), Transfer of source or byproduct material;

18. 10 CFR 40.52, Certain items containing source material; requirements for license to apply or initially transfer.

19. 10 CFR 40.53, Conditions of licenses issued for initial transfer of certain items containing source material: Quality control, labeling, and records and reports.;

20. 10 CFR 40.64, Reports;

21. 10 CFR 40.65, Effluent monitoring reporting requirements;

22. 10 CFR 40.66, Requirements for advance notice of export shipments of natural uranium;

23. 10 CFR 40.67, Requirement for advance notice for importation of natural uranium from countries that are not party to the Convention on the Physical Protection of Nuclear Material;

24. 10 CFR 40.91, Violations; and

25. 10 CFR 40 Appendix A, Criteria Relating to the Operation of Uranium Mills and the Disposition of Tailings or Wastes Produced by the Extraction or Concentration of Source Material from Ores Processed Primarily for Their Source Material Content.

(c) In addition to the changes outlined in N.J.A.C. 7:28-1.6, the following provisions of 10 CFR Part 40 are incorporated by reference with the specified changes:

1. "Commission," "Nuclear Regulatory Commission," "NRC," and "U.S. Nuclear Regulatory Commission," as used in the provisions of Part 40 of the Code of Federal Regulations that are incorporated by reference, means the Department, except when specifically noted in this subchapter;

2. "Registrant" as used in the provisions of Part 40 of the Code of Federal Regulations that are incorporated by reference, means a "radioactive materials registrant" except when specifically noted;

3. "Source and byproduct material" as used in the provisions of Part 40 of the Code of Federal Regulation that are incorporated by reference, means source material, except when specifically noted in this subchapter;

4. 10 CFR 40.6, replace "Except as specifically authorized by the Commission in writing, no" with "No," and replace "by the General Counsel" with "signed and approved by the Commissioner of the Department,";

5. 10 CFR 40.7(a), delete "The protected activities are established in section 211 of the Energy Reorganization Act of 1974, as amended, and in general are related to the administration or enforcement of a requirement imposed under the Atomic Energy Act or the Energy Reorganization Act.";

6. 10 CFR 40.7(a)(3), replace "Energy Reorganization Act of 1974, as amended, or the Atomic Energy Act of 1954, as amended" with "Radiation Protection Act of 1958, N.J.S.A. 26:2D-1 et seq.";

7. 10 CFR 40.7(e)(1), replace "part 19" with "N.J.A.C. 7:28-50";

8. 10 CFR 40.9(b), replace "Administrator of the appropriate Regional Office" with "Department";

9. 10 CFR 40.14(a), replace "Commission" with "Department, with approval of the Commission on Radiation Protection," and replace "by law and will not endanger life or property or the common defense and security and are otherwise in the public interest" with "in accordance with the provisions of N.J.A.C. 7:28-2.8";

10. 10 CFR 40.21, delete "or byproduct material";

11. 10 CFR 40.22(b)(3), replace "§§ 40.1 through 40.10" with "§§ 40.1, 40.2, 40.3, 40.4, 40.6 and 40.7, 40.9 and 40.10," and replace "40.41 (a) through (e)" with "40.41(a) through (c) and (e)(2)";

12. 10 CFR 40.25(c)(1), replace "NRC Form 244, "Registration Certificate—Use of Depleted Uranium Under General License" with "forms available from the Department";

13. 10 CFR 40.25(c)(2), replace "Director, Division of Industrial and Medical Nuclear Safety, with a copy to the Regional Administrator of the appropriate U.S. Nuclear Regulatory Commission Regional Office listed in appendix D of part 20 of this chapter" with "Department";

14. 10 CFR 40.25(d)(4), replace "Director, Division of Industrial and Medical Nuclear Safety, with a copy to the Regional Administrator of the appropriate U.S. Nuclear Regulatory Commission Regional Office listed in appendix D of part 20 of this chapter" with "Department";

15. 10 CFR 40.25(e), delete "parts 19, 20, and 21, of this chapter" with "part 21 of this chapter and N.J.A.C. 7:28-6 and N.J.A.C. 7:28-50";

16. 10 CFR 40.31(a), replace "NRC Form 313, 'Application for Material License,' in accordance with the instructions in § 40.5 of this chapter" with "forms available from the Department";

17. 10 CFR 40.31(e), replace "§ 170.31" with "N.J.A.C. 7:28-64";

18. 10 CFR 40.25(c)(1), (c)(2), and (d)(3), add "or Department equivalent" after "'Registration Certificate-Use of Depleted Uranium Under General License,'";

19. 10 CFR 40.35(d)(1) and (d)(2), add "or Department equivalent" after "'Registration Certificate-Use of Depleted Uranium Under General License,'";

20. 10 CFR 40.35(e)(1), replace "Director, Office of Nuclear Material Safety and Safeguards" with "Department";

21. 10 CFR 40.31(c), replace "regulations contained in parts 2 and 9 of this chapter" with "the Open Public Records Act (N.J.S.A. 47:1A-1 et seq.)";

22. 10 CFR 40.36(c)(5) replace "20.1402" with "N.J.A.C. 7:28-12.1";

23. 10 CFR 40.36(d)(1)(i)(B), replace "20.1402" with "N.J.A.C. 7:28-12.1," add "or restricted" after "unrestricted," and delete ", provided that, if the applicant or licensee can demonstrate its ability to meet the provisions of 10 CFR 20.1403, the cost estimate may be based on meeting the 10 CFR 20.1403 criteria";

24. 10 CFR 40.31(e), replace "part 170" with "Subchapter 64" and "§ 170.31" with "Subchapter 64";

25. 10 CFR 40.36(e)(2), replace "part 30" with "Subchapter 51";

26. 10 CFR 40.36(f)(3)(iv), replace "10 CFR part 20, subpart E" with "N.J.A.C. 7:28-12" and replace "10 CFR 20.2002" with "N.J.A.C. 7:28-6";

27. 10 CFR 40.41(c), replace "part 71" with "N.J.A.C. 7:28-61";

28. 10 CFR 40.41(f)(1), replace "appropriate NRC Regional Administrator" with "Department";

29. 10 CFR 40.42(j)(2), replace "10 CFR part 20, subpart E" with "N.J.A.C. 7:28-12";

30. 10 CFR 40.42(k)(3)(i), replace "10 CFR part 20, subpart E" with "N.J.A.C. 7:28-12";

31. 10 CFR 40.42(k)(3)(ii), replace "10 CFR part 20, subpart E" with "N.J.A.C. 7:28-12";

32. 10 CFR 40.43(a), add "or Department equivalent" after "NRC Form 313";

33. 10 CFR 40.44, add "or Department equivalent" after "NRC Form 313";

34. 10 CFR 40.46(b) delete "or Appendix A to this part";

35. 10 CFR 40.51(b)(5) add "or the U.S. Nuclear Regulatory Commission" after "Agreement State";

36. 10 CFR 40.51(c), add "or the U.S. Nuclear Regulatory Commission" after both instances of "Agreement State";

37. 10 CFR 40.60(c)(2), replace "NRC's Document Control Desk" with "Department" and replace "appropriate NRC regional office listed in appendix D to part 20 of this chapter" with "Department"; and

38. 10 CFR 40.82, replace all of 10 CFR 40.82 with "The Radiation Protection Act of 1958, N.J.S.A. 26:2D-1 et seq., provides for criminal sanctions for violation of any provision of the Act."

(d) For those facilities whose radioactive materials are licensed solely by the Department, NRC Form 3, "Notice to Employees" shall mean the Department's Form RPP-14, "Notice to Employees, Standards for Protection Against Radiation," available from the Department by contacting the Radioactive Materials Program at the address, phone number, or website listed in N.J.A.C. 7:28-1.5.

(e) Those facilities which possess a license from the Department and the NRC for radioactive materials shall post both the NRC's Form 3, "Notice to Employees" and the Department's Form RPP-14, "Notice to Employees, Standards for Protection Against Radiation."

(f) Reports that are to be submitted to the Department pursuant to this subchapter shall be submitted to the address at N.J.A.C. 7:28-1.5.

(g) Requests for adjudicatory hearings shall be made in accordance with N.J.A.C. 7:28-4.17, and requirements governing requests for stay of the effective date of the Department decision for which an adjudicatory hearing is requested are set forth at N.J.A.C. 7:28-4.18.

HISTORY:

Amended by R.2014 d.083, effective May 5, 2014.
See: 45 N.J.R. 806(a), 46 N.J.R. 768(a).
Rewrote the section.
Amended by R.2016 d.022, effective March 7, 2016 (operative March 19, 2016).
See: 47 N.J.R. 2589(a), 47 N.J.R. 2695(a), 48 N.J.R. 409(b).
In the introductory paragraph of (c), substituted "In addition to the changes outlined in N.J.A.C. 7:28-1.6, the" for "The"; rewrote (c)11; and in (c)23, updated the first CFR reference.

SUBCHAPTER 59. LICENSING REQUIREMENTS FOR LAND DISPOSAL OF RADIOACTIVE WASTE

§ 7:28-59.1 Incorporation by reference

(a) Except as set forth in (b) and (c) below, this subchapter incorporates by reference 10 CFR Part 61, Licensing Requirements for Land Disposal of Radioactive Waste.

(b) The following provisions of 10 CFR Part 61 are not incorporated by reference. If there is a cross reference to a Federal citation specifically entirely excluded from incorporation, then the cross referenced citation is not incorporated by virtue of the cross reference:

1. 10 CFR 61.4, Communications;

2. 10 CFR 61.8, Information collection requirements: OMB approval;

3. 10 CFR 61.16, Other information;

4. 10 CFR 61.23(i) and (j), Standards for issuance of a license; and

5. 10 CFR 61.83, Violations.

(c) The following provisions of 10 CFR Part 61 are incorporated by reference with the specified changes:

1. "Nuclear Regulatory Commission," "NRC," and "U.S. Nuclear Regulatory Commission," as used in the provisions of Part 61 of the Code of Federal Regulations, that are incorporated by reference, means the Department, except when specifically noted in this subchapter;

2. 10 CFR 61.1(a), replace "part 20 of this chapter" with "N.J.A.C. 7:28-6";

3. 10 CFR 61.1(b), replace "part 150 of this chapter" with "N.J.A.C. 7:28-62";

4. 10 CFR 61.1(b)(2), replace "part 40 of this chapter" with "N.J.A.C. 7:28-58";

5. 10 CFR 61.1(b)(3), replace "part 20 of this chapter" with "N.J.A.C. 7:28-6";

6. 10 CFR 61.5, delete "Except as specifically authorized by the Commission in writing, no" with "No," and replace "by the General Counsel" with "signed and approved by the Commissioner of the Department,";

7. 10 CFR 61.6, replace "Commission" with "Department, with approval of the Commission on Radiation Protection," and replace "by law and will not endanger life or property or the common defense and security and are otherwise in the public interest" with "in accordance with the provisions of N.J.A.C. 7:28-2.8";

8. 10 CFR 61.7(c)(4), replace "Department" with "Department of Energy";

9. 10 CFR 61.12(k), replace "part 20 of this chapter" with "N.J.A.C. 7:28-6";

10. 10 CFR 61.13(c), replace "part 20 of this chapter" with "N.J.A.C. 7:28-6";

11. 10 CFR 61.20(c), replace "part 170 of this chapter" with "N.J.A.C. 7:28-64";

12. 10 CFR 61.23(d), replace "part 20 of this chapter" with "N.J.A.C. 7:28-6";

13. 10 CFR 61.24(k)(1), replace "NRC Regional Administrator" with "Supervisor of the Radioactive Materials Program";

14. 10 CFR 61.43, replace "part 20 of this chapter" with "N.J.A.C. 7:28-6";

15. 10 CFR 61.71, 10 CFR 61.72(a), 10 CFR 61.73(a), 10 CFR 61.73(b), and 10 CFR 61.73(c), replace "Director" with "Manager of the Bureau of Environmental Radiation";

16. 10 CFR 61.80(i)(1), delete "to the Director, Office of Federal and State Materials and Environmental Management Programs," and replace "with a copy to the appropriate NRC Regional Office shown in appendix D to part 20 of this chapter" with "to the Department at the address or fax number listed in N.J.A.C. 7:28-1.5"; and

17. 10 CFR 61.84, replace all of 10 CFR 61.84 with "The Radiation Protection Act of 1958, N.J.S.A. 26:2D-1 et seq., provides for criminal sanctions for violation of any provision of the Act."

(d) For those facilities whose radioactive materials are licensed solely by the Department, NRC Form 3, "Notice to Employees" shall mean the Department's Form RPP-14, "Notice to Employees, Standards for Protection Against Radiation," available from the Department by contacting the Radioactive Materials Program at the address, phone number, or website listed in N.J.A.C. 7:28-1.5.

(e) Those facilities which possess a license from the Department and the NRC for radioactive materials shall post both the NRC's Form 3, "Notice to Employees" and the Department's Form RPP-14, "Notice to Employees, Standards for Protection Against Radiation."

(f) Reports that are to be submitted to the Department pursuant to this subchapter shall be submitted to the address at N.J.A.C. 7:28-1.5.

(g) Requests for adjudicatory hearings shall be made in accordance with N.J.A.C. 7:28-4.17, and requirements governing requests for stay of the effective date of the Department decision for which an adjudicatory hearing is requested are set forth at N.J.A.C. 7:28-4.18.

HISTORY:

Amended by R.2014 d.083, effective May 5, 2014.
See: 45 N.J.R. 806(a), 46 N.J.R. 768(a).
Rewrote the section.

SUBCHAPTER 60. DOMESTIC LICENSING OF SPECIAL NUCLEAR MATERIAL

§ 7:28-60.1 Incorporation by reference

(a) Except as set forth in (b) and (c) below, this subchapter incorporates by reference 10 CFR Part 70, Domestic Licensing of Special Nuclear Material.

(b) The following provisions of 10 CFR Part 70 are not incorporated by reference. If there is a cross reference to a Federal citation specifically entirely excluded from incorporation, then the cross referenced citation is not incorporated by virtue of the cross reference:

1. 10 CFR 70.1(c) through (e), Purpose;

2. 10 CFR 70.4, definition of "commencement of construction, paragraph 2," "Commission", and "construction, paragraph 9(ii)";
3. 10 CFR 70.5, Communications;
4. 10 CFR 70.8, Information collection requirements: OMB approval;
5. 10 CFR 70.13, Department of Defense;
6. 10 CFR 70.14, Foreign military aircraft;
7. 10 CFR 70.19(a)(1) and (2), pertaining to recognition of specific licenses;
8. 10 CFR 70.20a, General license to possess special nuclear material for transport;
9. 10 CFR 70.20b, General license for carriers of transient shipments of formula quantities of strategic special nuclear material, special nuclear material of moderate strategic significance, special nuclear material of low strategic significance, and irradiated reactor fuel;
10. 10 CFR 70.21(a)1, (c), and (f) through (h), Filing;
11. 10 CFR 70.22(b), (c), and (f) through (n), Contents of application;
12. 10 CFR 70.23(a)(6) through (12), and (b), Requirements for the approval of applications;
13. 10 CFR 70.23a, Hearing required for uranium enrichment facility;
14. 10 CFR 70.24, Criticality accident requirements;
15. 10 CFR 70.25(a)(1), Financial assurance and recordkeeping for decommissioning;
16. 10 CFR 70.31(c) through (e), Issuance of licenses;
17. 10 CFR 70.32(a)(1), (4) through (7), (b)(1), (3), (4), and (c) through (k), Conditions of licenses;
18. 10 CFR 70.37, Disclaimer of warranties;
19. 10 CFR 70.40, Ineligibility of certain applicants;
20. 10 CFR 70.42(b)(6), Transfer of special nuclear material;
21. 10 CFR 70.44, Creditor regulations;
22. 10 CFR 70.51(c), Records requirements;
23. 10 CFR 70.52, Reports of accidental criticality;
24. 10 CFR 70.55(c), Inspections;
25. 10 CFR 70.59, Effluent monitoring reporting requirements;
26. 10 CFR 70.60, Applicability;
27. 10 CFR 70.61, Performance requirements;
28. 10 CFR 70.62, Safety program and integrated safety analysis;
29. 10 CFR 70.64, Requirements for new facilities or new processes at existing facilities;
30. 10 CFR 70.65, Additional content of applications;
31. 10 CFR 70.66, Additional requirements for approval of license application;
32. 10 CFR 70.72, Facility changes and change process;
33. 10 CFR 70.73, Renewal of licenses;
34. 10 CFR 70.74, Additional reporting requirements;
35. 10 CFR 70.76, Backfitting;
36. 10 CFR 70.91, Violations;
37. 10 CFR 70.82, Suspension and operation in war or national emergency; and
38. Appendix A.

(c) In addition to the changes outlined in N.J.A.C. 7:28-1.6, the following provisions of 10 CFR Part 70 are incorporated by reference with the specified changes:

1. "Commission," "Nuclear Regulatory Commission," "NRC," and "U.S. Nuclear Regulatory Commission," as used in the provisions of Part 70 of the Code of Federal Regulations that are incorporated by reference, mean the Department except when specifically noted in this subchapter and at 10 CFR 70.42(b)(2);
2. 10 CFR 70.6, Interpretations, delete "Except as specifically authorized by the Commission in writing, no" with "No," and replace "by the General Counsel" with "signed and approved by the Commissioner of the Department,";
3. 10 CFR 70.4, in definition of "person," replace "Department" with "Department of Energy";
4. 10 CFR 70.7(a), delete "The protected activities are established in section 211 of the Energy Reorganization Act of 1974, as amended, and in general are related to the administration or enforcement of a requirement imposed under the Atomic Energy Act or the Energy Reorganization Act.";
5. 10 CFR 70.7(a)(3), replace "Energy Reorganization Act of 1974, as amended, or the Atomic Energy Act of 1954, as amended" with "Radiation Protection Act of 1958, N.J.S.A. 26:2D-1 et seq.";
6. 10 CFR 70.7(e)(1), replace "part 19" with "N.J.A.C. 7:28-50";
7. 10 CFR 70.11, replace "Department" with "Department of Energy";

8. 10 CFR 70.17(a), replace "Commission" with "Department, with approval of the Commission on Radiation Protection," and replace "by law and will not endanger life or property or the common defense and security and are otherwise in the public interest" with "in compliance with N.J.A.C. 7:28-2.8";

9. 10 CFR 70.19(a)(3), replace "(3)" with "(1)," and replace "an Agreement State" with "New Jersey";

10. 10 CFR 70.19(b), add "or the U.S. NRC" after both instances of "Agreement State."

11. 10 CFR 70.19(c), replace "19, 20," with "N.J.A.C. 7:28-50 and N.J.A.C. 7:28-6" and delete "and 21";

12. 10 CFR 70.21(d), replace "regulations contained in part 2 of this chapter" with "Open Public Records Act (N.J.S.A. 47:1A-1 et seq.)";

13. 10 CFR 70.25(c)(5) replace "20.1402" with "N.J.A.C. 7:28-12.1";

14. 10 CFR 70.25(e)(1)(i)(B), replace "20.1402" with "N.J.A.C. 7:28-12.1," add "or restricted" after "unrestricted," and delete ", provided that, if the applicant or licensee can demonstrate its ability to meet the provisions of 10 CFR 20.1403, the cost estimate may be based on meeting the 10 CFR 20.1403 criteria";

15. 10 CFR 70.25(g)(3)(iii), replace "10 CFR part 20, subpart E" with "N.J.A.C. 7:28-12";

16. 10 CFR 70.25(g)(3)(iv), replace "10 CFR part 20, subpart E" with "N.J.A.C. 7:28-12";

17. 10 CFR 70.38(j)(2), replace "10 CFR part 20, subpart E" with "N.J.A.C. 7:28-12";

18. 10 CFR 70.38(k)(3)(i), replace "10 CFR part 20, subpart E" with "N.J.A.C. 7:28-12";

19. 10 CFR 70.38(k)(3)(ii), replace "10 CFR part 20, subpart E" with "N.J.A.C. 7:28-12";

20. 10 CFR 70.42(b)(1), replace "Department" with "Department of Energy";

21. 10 CFR 70.42(b)(4), add "or non-Agreement State" after "Agreement State" and add "or the U.S. NRC" after both instances of "State";

22. 10 CFR 70.42(c), add "or the U.S. NRC" after both instances of "Agreement State";

23. 10 CFR 70.42(d)(4), add "or the U.S. NRC" after "Agreement State";

24. 10 CFR 70.42(d)(5), add "or the U.S. NRC" after "Agreement State";

25. 10 CFR 70.50(c)(2), delete "to the NRC's Document Control Desk," and replace "with a copy to the appropriate NRC regional office listed in appendix D to part 20 of this chapter" with "to the Department at the address or fax number listed in N.J.A.C. 7:28-1.5"; and

26. 10 CFR 70.56, delete ", produced" and "production,".

(d) Reports that are to be submitted to the Department pursuant to this subchapter shall be submitted to the address at N.J.A.C. 7:28-1.5.

(e) Requests for adjudicatory hearings shall be made in accordance with N.J.A.C. 7:28-4.17, and requirements governing requests for stay of the effective date of the Department decision for which an adjudicatory hearing is requested are set forth at N.J.A.C. 7:28-4.18.

(f) For those facilities whose radioactive materials are licensed solely by the Department, NRC Form 3, "Notice to Employees" shall mean the Department's Form RPP-14, "Notice to Employees, Standards for Protection Against Radiation," available from the Department by contacting the Radioactive Materials Program at the address, phone number, or website listed in N.J.A.C. 7:28-1.5.

HISTORY:

Amended by R.2014 d.083, effective May 5, 2014.
See: 45 N.J.R. 806(a), 46 N.J.R. 768(a).
Rewrote the section.
Amended by R.2016 d.022, effective March 7, 2016 (operative March 19, 2016).
See: 47 N.J.R. 2589(a), 47 N.J.R. 2695(a), 48 N.J.R. 409(b).
In (b)36, deleted "and" from the end; in (b)37, substituted "; and" for a period; added (b)38; in the introductory paragraph of (c), substituted "In addition to the changes outlined in N.J.A.C. 7:28-1.6, the" for "The"; and in (c)14, updated the first CFR reference.

SUBCHAPTER 61. PACKAGING AND TRANSPORTATION OF RADIOACTIVE MATERIALS

§ 7:28-61.1 Incorporation by reference

(a) Except as set forth in (b) and (c) below, this subchapter incorporates by reference 10 CFR Part 71, Packaging and Transportation of Radioactive Material.

(b) The following provisions of 10 CFR Part 71 are not incorporated by reference. If there is a cross-reference to a Federal citation specifically entirely excluded from incorporation, then the cross-referenced citation is not incorporated by virtue of the cross-reference.

1. 10 CFR 71.6, Information collection requirements: OMB approval;

2. 10 CFR 71.10, Public inspection of application;
3. 10 CFR 71.14(b), Exemptions for low-level materials;
4. 10 CFR 71.19, Previously approved package;
5. 10 CFR 71.31, Contents of application;
6. 10 CFR 71.33, Package description;
7. 10 CFR 71.35, Package evaluation;
8. 10 CFR 71.37, Quality assurance;
9. 10 CFR 71.38, Renewal of a certificate of compliance or quality assurance program approval;
10. 10 CFR 71.39, Requirement for additional information;
11. 10 CFR 71.41, Demonstration of compliance;
12. 10 CFR 71.43, General standards for all packages;
13. 10 CFR 71.45, Lifting and tie-down standards for all packages;
14. 10 CFR 71.51, Additional requirements for Type B packages;
15. 10 CFR 71.55, General requirements for fissile material packages;
16. 10 CFR 71.59, Standards for arrays of fissile material packages;
17. 10 CFR 71.61, Special requirements for Type B packages containing more than 10^5A_2;
18. 10 CFR 71.63, Special requirement for plutonium shipments;
19. 10 CFR 71.64, Special requirements for plutonium air shipments;
20. 10 CFR 71.65, Additional requirements;
21. 10 CFR 71.70, Incorporation by reference;
22. 10 CFR 71.71, Normal conditions of transport;
23. 10 CFR 71.73, Hypothetical accident conditions;
24. 10 CFR 71.74, Accident conditions for air transport of putonium;
25. 10 CFR 71.75, Qualification of special form radioactive material;
26. 10 CFR 71.77, Qualification of LSA-III Material;
27. 10 CFR 71.85(a), (b), and (c);
28. 10 CFR 71.91(b);
29. 10 CFR 71.101(c)(2), (d) through (e), Quality assurance requirements;
30. 10 CFR 71.107, Package design control;
31. 10 CFR 71.109, Procurement document control;
32. 10 CFR 71.111, Instructions, procedures and drawings;
33. 10 CFR 71.113, Document control;
34. 10 CFR 71.115, Control of purchased material, equipment and services;
35. 10 CFR 71.117, Identification and control of materials, parts and components;
36. 10 CFR 71.119, Control of special processes;
37. 10 CFR 71.121, Internal inspection;
38. 10 CFR 71.123, Test control; and
39. 10 CFR 71.125, Control of measuring and test equipment.

(c) In addition to the changes outlined at N.J.A.C. 7:28-1.6, the following provisions of 10 CFR 71 are incorporated by reference with the specified changes:

1. "Commission," "Nuclear Regulatory Commission," "NRC," and "U.S. Nuclear Regulatory Commission," as used in the provisions of Part 71 of the Code of Federal Regulations that are incorporated by reference, means the Department, except at:

i. 10 CFR 71.0(a)2 and (d)1, Purpose and Scope;

ii. 10 CFR 71.4, definitions for "Certificate Holder," "Certificate of Compliance(CoC)" and "Package (3) Type B Package";

iii. 10 CFR 71.17(e);

iv. 10 CFR 71.88(a)4, Air transport of plutonium;

v. 10 CFR 71.93(c), Inspections and tests;

vi. 10 CFR 71.95(a)(1) and (a)(2);

vii. 10 CFR 71.97(c)(1), (c)(3)(iii), and (f), Advance notification of shipment of irradiated reactor fuel and nuclear waste; and

viii. 10 CFR 71.101(f), Quality assurance requirements;

2. 10 CFR 71.0(b), replace "parts of this chapter (e.g., 10 CFR parts 20, 21, 30, 40, 70 and 73)," with "State Regulations (e.g. N.J.A.C. 7:28-6, 51, 58, and 60)" and add "U.S. Nuclear Regulatory Commission (NRC)" into the list of other agencies;

3. 10 CFR 71.1(a), replace rule text with "Except where otherwise specified, all communications and reports concerning the regulations in this part and applications filed under them should be sent to the Department as specified in N.J.A.C. 7:28-1.5.";

4. 10 CFR 71.2, delete "Except as specifically authorized by the Commission in writing, no" with "No," and replace "by the General Counsel" with "signed and approved by the Commissioner of the Department,";

5. 10 CFR 71.4, in definition of special form radioactive material, N.J.A.C. 7:28-1.6(i) shall not apply to replace references to past versions of Part 71 with N.J.A.C. 7:28-61;

6. 10 CFR 71.5(b), replace "Director, Office of Nuclear Material Safety and Safeguards, U.S. Nuclear Regulatory Commission, Washington, D.C., 20555-0001" with "the Department in accordance with N.J.A.C. 7:28-1.5";

7. 10 CFR 71.7(b), replace "Administrator of the appropriate Regional Office" with "Supervisor, Radioactive Materials Program";

8. 10 CFR 71.9(c), replace "Commission licensee, certificate holder, applicant for a Commission license or a CoC" with "Department licensee, NRC certificate holder, applicant for a Department license or NRC CoC";

9. 10 CFR 71.9(e)(1), replace "Each licensee, certificate holder, and applicant for a license or CoC must prominently post the current revision of NRC Form 3, 'Notice to Employees,' referenced in § 19.11(c) of this chapter" with "Each licensee, certificate holder, and applicant for a license or CoC must prominently post the current revision of Department Form RPP-14, 'Notice to Employees, Standards for Protection Against Radiation,' referenced in Subchapter 50";

10. 10 CFR 71.9(e)2, replace with "Copies of Department Form RPP-14 may be obtained from the Department in accordance with N.J.A.C. 7:28-1.5.";

11. 10 CFR 71.12, replace "Commission" with "Department, with approval of the Commission on Radiation Protection," and replace "by law and will not endanger life or property nor the common defense and security" with "in accordance with the provisions of N.J.A.C. 7:28-2.8";

12. 10 CFR 71.13, replace "10 CFR part 35" with "N.J.A.C. 7:28-55" and add "or the U.S. NRC" after "Agreement State";

13. 10 CFR 71.17(c)(3), do not replace the address as otherwise indicated at N.J.A.C. 7:28-1.6 Table 1;

14. 10 CFR 71.85(d), replace "in paragraphs (a) through (c) of this section," with "of paragraphs (a) through (c) of 10 CFR 71.85";

15. 10 CFR 91(c) and (d), delete "certificate holder, and an applicant for a CoC";

16. 10 CFR 71.95(c), replace "§ 71.1(a)" with "N.J.A.C. 7:28-1.5" and replace "to: ATTN: Document Control Desk, Director, Spent Fuel Project Office, Office of Nuclear Material Safety and Safeguards" with "to the Department";

17. 10 CFR 71.101(a,) delete "Each certificate holder and applicant for a package approval is responsible for satisfying the quality assurance requirements that apply to design, fabrication, testing, and modification of packaging subject to this subpart.";

18. 10 CFR 71.101(b), delete "certificate holder, and an applicant for a CoC";

19. 10 CFR 71.100, replace all of 10 CFR 71.100 with "The Radiation Protection Act of 1958, N.J.S.A. 26:2D-1 et seq., provides for criminal sanctions for violation of any provision of the Act."

20. 10 CFR 71.101(c)1, replace "§ 71.1(a)" with "N.J.A.C. 7:28-1.5" and replace "to: ATTN: Document Control Desk, Director, Spent Fuel Project Office, Office of Nuclear Material Safety and Safeguards" with "to the Department"; and

21. 10 CFR 71.101(f), replace "NRC, in accordance with § 71.1" with "Department, in accordance with N.J.A.C. 7:28-1.5."

22. 10 CFR 71.103(a), delete "certificate holder, and applicant for a Certificate of Compliance" in both instances;

23. 10 CFR 71.135, delete "certificate holder, and applicant for a Certificate of Compliance";

(d) Reports that are to be submitted to the Department pursuant to this subchapter shall be submitted to the address at N.J.A.C. 7:28-1.5.

(e) Requests for adjudicatory hearings shall be made in accordance with N.J.A.C. 7:28-4.17, and requirements governing requests for stay of the effective date of the Department decision for which an adjudicatory hearing is requested are set forth at N.J.A.C. 7:28-4.18.

HISTORY:

Amended by R.2014 d.083, effective May 5, 2014.
See: 45 N.J.R. 806(a), 46 N.J.R. 768(a).

Rewrote the section.
Amended by R.2016 d.022, effective March 7, 2016 (operative March 19, 2016).
See: 47 N.J.R. 2589(a), 47 N.J.R. 2695(a), 48 N.J.R. 409(b).
In the introductory paragraph of (c), substituted "In addition to the changes outlined in N.J.A.C. 7:28-1.6, the" for "The"; rewrote (c)1iii; added new (c)5; and recodified former (c)5 through (c)15 as (c)6 through (c)16.
Amended by R.2020 d.061, effective June 15, 2020.
See: 51 N.J.R. 1731(a), 52 N.J.R. 1267(a).
In the introductory paragraph of (b), substituted "cross-reference" for "cross reference" twice, and "cross-referenced" for "cross referenced"; added new (b)21; recodified former (b)21 through (b)25 as (b)22 through (b)26; added new (b)27 and (b)28; recodified former (b)26 through (b)36 as (b)29 through (b)39; in the introductory paragraph of (c), substituted "at" for "in"; in (c)1iii, substituted "10 CFR 71.17(e)" for "10 CFR 71.17"; added new (c)13 through (c)15; recodified former (c)13 as (c)16; added new (c)17 and (c)18; recodified former (c)14 through (c)16 as (c)19 through (c)21; and added (c)22 and (c)23.

SUBCHAPTER 62. RECIPROCITY

§ 7:28-62.1 Incorporation by reference

(a) Except as set forth in (b) and (c) below, this subchapter incorporates by reference 10 CFR Part 150, Exemptions and Continued Regulatory Authority in Agreement States and in offshore waters under Section 274 [42 U.S.C. § 2021].

(b) The following provisions of 10 CFR Part 150 are not incorporated by reference. If there is a cross reference to a Federal citation specifically entirely excluded from incorporation, then the cross referenced citation is not incorporated by virtue of the cross reference:

1. 10 CFR 150.3, Definitions of "Commission," "foreign obligation," "offshore waters," "production facility," "reconciliation," "uranium enrichment facility," and "utilization facility";

2. 10 CFR 150.4, Communications;

3. 10 CFR 150.7, Persons in offshore waters not exempt;

4. 10 CFR 150.8, Information collection requirements: OMB approval;

5. 10 CFR 150.10, Persons exempt;

6. 10 CFR 150.14, Commission regulatory authority for physical protection;

7. 10 CFR 150.15, Persons not exempt;

8. 10 CFR Part 150.15a, Continued Commission authority pertaining to byproduct material;

9. 10 CFR Part 150.16, Submission to Commission of nuclear material transfer reports;

10. 10 CFR Part 150.17, Submission to Commission of source material reports;

11. 10 CFR Part 150.17a, Compliance with requirements of US/IAEA safeguards agreement;

12. 10 CFR Part 150.19, Submission to Commission of tritium reports;

13. 10 CFR 150.20(a)(1)(i)(ii) and (iii), pertaining to recognition of Agreement State licenses;

14. 10 CFR Part 150.21, Transportation of special nuclear material by aircraft;

15. 10 CFR 150.30, Violations;

16. 10 CFR 150.31, Requirements for Agreement State regulation of byproduct material; and

17. 10 CFR 150.32, Funds for reclamation or maintenance of byproduct material.

(c) The following provisions of 10 CFR Part 150 are incorporated by reference with the specified changes:

1. "Commission," "Nuclear Regulatory Commission," "NRC," and "U.S. Nuclear Regulatory Commission," as used in the provisions of Part 150 of the Code of Federal Regulations that are incorporated by reference, mean the Department except at:

i. 10 CFR 150.3, definition of "Agreement State";

2. 10 CFR 150.3, "Act" shall mean the Radiation Protection Act of 1958, N.J.S.A. 26:2D-1 et seq.;

3. 10 CFR 150.5, replace "Except as specifically authorized by the Commission in writing, no" with "No," and replace "by the General Counsel" with "signed and approved by the Commissioner of the Department,";

4. 10 CFR 150.20, add "or the U.S. Nuclear Regulatory Commission" after "Agreement State";

5. 10 CFR 150.20(a)(1), add "or the U.S. Nuclear Regulatory Commission" after "Agreement State," and replace "- -" with "New Jersey";

6. 10 CFR 150.20(a)(2), add "or the U.S. Nuclear Regulatory Commission" after "Agreement State";

7. 10 CFR 150.20(b), add "or by the U.S. Nuclear Regulatory Commission" after the first occurrence of "Agreement State," and replace all instances of "a non-Agreement State, in an area of exclusive Federal jurisdiction within an Agreement State, or in offshore waters" with "New Jersey";

8. 10 CFR 150.20(b), references to specific sections of 10 CFR part 30, refer to N.J.A.C. 7:28-51, sections of 10 CFR part 40, refer to N.J.A.C. 7:28-58, sections of 10 CFR part 70, refer to N.J.A.C. 7:28-60, and sections of 10 CFR part 39, refer to N.J.A.C. 7:28-57. Delete "§§ 74.11, 74.15, and 74.19 of this chapter" and replace "10 CFR parts 19, 20, and 71" with "N.J.A.C. 7:28-6, 50, and 61," and replace "part 34" with "N.J.A.C. 7:28-63";

9. 10 CFR 150.20(b)(1), replace "NRC Form-241, 'Report of Proposed Activities in Non-Agreement States'" with "NJRAD Form-241, 'Reciprocity Application Form'," and add "or U.S. Nuclear Regulatory Commission:" after "Agreement State";

10. 10 CFR 150.20(b)(1), replace "§ 170.31 of this chapter with the Regional Administrator of the U.S. Nuclear Regulatory Commission Regional Office listed on the NRC Form 241 and in appendix D to part 20 of this chapter for the Region in which the Agreement State that issued the license is located" with "N.J.A.C. 7:28-64 with the Department";

11. 10 CFR 150.20(b)(1), replace "Regional Administrator" with "Supervisor, Radioactive Materials Program or designee";

12. 10 CFR 150.20(b)(1)(i), replace "Region" with "Department" and replace both occurrences of "NRC Form-241" with "NJRAD Form-241";

13. 10 CFR 150.20(b)(1)(ii), replace "Region" with "Department";

14. 10 CFR 150.20(b)(1)(iii), replace "NRC Form-241" with "NJRAD Form-241" and add "or the U.S. Nuclear Regulatory Commission" after "Agreement State";

15. 10 CFR 150.20(b)(2), replace both occurrences of "NRC Form-241" with "NJRAD Form-241" and replace "Regional Administrator" with "Department";

16. 10 CFR 150.20(b)(3), replace "any non-Agreement State, in an area of exclusive Federal jurisdiction within an Agreement State, or in offshore waters" with "New Jersey";

17. 10 CFR 150.20(b)(4), replace "non-Agreement States or in areas of exclusive Federal jurisdiction within Agreement States" with "New Jersey" and replace "year, except that the general license in paragraph (a) of this section concerning activities in offshore waters authorizes that person to possess or use radioactive materials, or engage in the activities authorized, for an unlimited period of time" with "year.";

18. 10 CFR 150.20(b)(5), add "or the U.S. Nuclear Regulatory Commission"; and

19. 10 CFR 150.33, replace the wording of 10 CFR 150.33 with "The Radiation Protection Act of 1958, N.J.S.A. 26:2D-1 et seq., provides for criminal sanctions for violation of any provision of the Act."

(d) The incorporation by reference of 10 CFR 150.20(b) shall not include the ability to issue general licenses to operate in areas of exclusive Federal jurisdiction and offshore waters, but only to Agreement State and NRC licensees that wish to operate within New Jersey's jurisdiction in accordance with N.J.A.C. 7:28-50.1(d).

(e) Reports that are to be submitted to the Department pursuant to this subchapter shall be submitted to the address at N.J.A.C. 7:28-1.5.

(f) Requests for adjudicatory hearings shall be made in accordance with N.J.A.C. 7:28-4.17, and requirements governing requests for stay of the effective date of the Department decision for which an adjudicatory hearing is requested are set forth at N.J.A.C. 7:28-4.18.

HISTORY:

Amended by R.2014 d.083, effective May 5, 2014.
See: 45 N.J.R. 806(a), 46 N.J.R. 768(a).
Rewrote (b) and (c).

SUBCHAPTER 63. LICENSES FOR INDUSTRIAL RADIOGRAPHY USING SEALED SOURCES AND RADIATION SAFETY REQUIREMENTS FOR SUCH INDUSTRIAL RADIOGRAPHIC OPERATIONS

§ 7:28-63.1 Incorporation by reference

(a) Except as set forth in (b) and (c) below, this subchapter incorporates by reference 10 CFR Part 34, Licenses for Industrial Radiography Using Sealed Sources and Radiation Safety Requirements for Such Industrial Radiographic Operations.

(b) The following provisions of 10 CFR Part 34 are not incorporated by reference. If there is a cross reference to a Federal citation specifically entirely excluded from incorporation, then the cross referenced citation is not incorporated by virtue of the cross reference:

1. 10 CFR 34.8, Information collection requirements: OMB approval; and

2. 10 CFR 34.121, Violations.

(c) The following provisions of 10 CFR Part 34 are incorporated by reference with the specified changes:

1. "Commission," "Nuclear Regulatory Commission," "NRC," and "U.S. Nuclear Regulatory Commission," as used in the provisions of Part 34 of the Code of Federal Regulations that are incorporated by reference, mean the Department, except in 10 CFR 34.20(a)(1) and (2);

2. In every instance, replace "§ " or "§§ " with "10 CFR";

3. 10 CFR 34.1, replace "10 Parts 19, 20, 21, 30, 71, 150, 170, and 171 of this chapter" with "10 CFR Part 21 and N.J.A.C. 7:28-6, 50, 51, 61, 62 and 64";

4. 10 CFR 34.3, Definitions, "ALARA," replace "10 CFR Part 20" with "N.J.A.C. 7:28-6";

5. 10 CFR 34.5, replace "Except as specifically authorized by the Commission in writing, no" with "No," and replace "by the General Counsel" with "signed and approved by the Commissioner of the Department";

6. 10 CFR 34.11, replace "on NRC Form 313, 'Application for Material License,' in accordance with the provisions of § 30.32 of this chapter," with "an original application for a specific State license";

7. 10 CFR 34.20(b)(2), replace "10 CFR part 71" with "N.J.A.C. 7:28-61";

8. 10 CFR 34.25(a), replace "10 CFR part 20 of this chapter" with "N.J.A.C. 7:28-6";

9. 10 CFR 34.27(a), add "New Jersey," after "authorized to do so by";

10. 10 CFR 34.27(b), add "or the U.S. NRC" after "an Agreement State";

11. 10 CFR 34.27(c)(1), add "or by the U.S. NRC" after "or by an Agreement State" and add "or the U.S. NRC" after "or an Agreement State";

12. 10 CFR 34.27(d), replace "Director, Office of Federal and State Materials and Environmental Management Programs, by an appropriate method listed in § 30.6(a) of this chapter" with "Manager, Bureau of Environmental Radiation";

13. 10 CFR 34.27(d), delete "A copy of the report must be sent to the Administrator of the appropriate Nuclear Regulatory Commission's Regional Office listed in appendix D of 10 CFR part 20 of this chapter 'Standards for Protection Against Radiation.'";

14. 10 CFR 34.27(e), add "or the U.S. NRC" after "an Agreement State";

15. 10 CFR 34.35(b), replace "10 CFR part 71" with "N.J.A.C. 7:28-61";

16. 10 CFR 34.41(c), delete "offshore platform," and add "or by the U.S. NRC" after "by an Agreement State";

17. 10 CFR 34.42(c)(1), replace "10 CFR part 20 of this chapter" and "10 CFR part 20" with "N.J.A.C. 7:28-6" in both instances;

18. 10 CFR 34.43(a)(1), replace "Director, Office of Federal and State Materials and Environmental Management Programs, by an appropriate method listed in § 30.6(a) of this chapter" with "Manager, Bureau of Environmental Radiation, by an appropriate method listed in N.J.A.C. 7:28-51";

19. 10 CFR 34.43(b)(1), replace "10 CFR parts 19 and 20, of this chapter" with "N.J.A.C. 7:28-6 and 50," and replace "10 CFR 71" with "N.J.A.C. 7:28-61";

20. 10 CFR 34.43(c)(1), replace "10 CFR parts 19 and 20 of this chapter" with "N.J.A.C. 7:28-6 and 50" and replace "10 CFR part 71" with "N.J.A.C. 7:28-61";

21. 10 CFR 34.45(a)(1), replace "10 CFR part 20 of this chapter" with "N.J.A.C. 7:28-6";

22. 10 CFR 34.45(a)(9), delete "of this chapter";

23. 10 CFR 34.51, replace "10 CFR part 20 of this chapter" with "N.J.A.C. 7:28-6";

24. 10 CFR 34.89(b)(2), replace "10 CFR parts 19, 20, and 34 of NRC regulations" with "N.J.A.C. 7:28-6, 50, and 63";

25. 10 CFR 34.89(b)(12), delete "of this chapter'" and add "or the U.S. NRC" after "Agreement State";

26. 10 CFR 34.101(a), replace "and under other sections of this chapter, such as § 21.21, each licensee shall send a written report to the NRC's Office of Federal and State Materials and Environmental Management Programs, by an appropriate method listed in § 30.6(a) of this chapter" with "each licensee shall send a written report to the Manager, Bureau of Environmental Radiation, by an appropriate method listed in N.J.A.C. 7:28-1.5";

27. 10 CFR 34.101(c), replace "appropriate NRC regional office listed in § 30.6(a)(2) of this chapter" with "Department, at an appropriate method listed in N.J.A.C. 7:28-1.5";

28. 10 CFR 34.111, replace "Commission" with "Department, with approval of the Commission on Radiation Protection," and replace "by law and will not endanger life or property or the common defense and security and are otherwise in the public interest" with "in accordance with the provisions of N.J.A.C. 7:28-2.8."

29. 10 CFR 34.123, replace the wording of 10 CFR 34.123 with "The Radiation Protection Act of 1958, N.J.S.A. 26:2D-1 et seq., provides for criminal sanctions for violation of any provision of the Act.";

30. 10 CFR Part 34 Appendix A(I)(12), add "and/or the U.S. NRC" after "Agreement States";

31. 10 CFR Part 34 Appendix A(II)(1), add "or U.S. NRC" after "Agreement State";

32. 10 CFR Part 34 Appendix A(II)(2), add "or U.S. NRC" after "equivalent Agreement State" and add "or a U.S. NRC" after "an Agreement State"; and

33. 10 CFR Part 34 Appendix A(III)(1), add "or U.S. NRC" after "Agreement State."

(d) Reports that are to be submitted to the Department pursuant to this subchapter shall be submitted to the address at N.J.A.C. 7:28-1.5.

(e) Requests for adjudicatory hearings shall be made in accordance with N.J.A.C. 7:28-4.17, and requirements governing requests for stay of the effective date of the Department decision for which an adjudicatory hearing is requested are set forth at N.J.A.C. 7:28-4.18.

HISTORY:

Amended by R.2014 d.083, effective May 5, 2014.
See: 45 N.J.R. 806(a), 46 N.J.R. 768(a).
Rewrote (b) and (c).

SUBCHAPTER 64. RADIOACTIVE MATERIALS LICENSE FEES

§ 7:28-64.1 Purpose and applicability

(a) This subchapter establishes fees for registration and licensing of radioactive materials. Annual license fees for radioactive materials are set forth in Tables 1 and 2 at N.J.A.C. 7:28-64.2.

(b) Fees will be effective on September 30, 2009.

(c) Fees for NRC licenses that are transferred to New Jersey will be prorated to July 2010, when the Department will again issue invoices for annual fees.

HISTORY:

Administrative change.
See: 41 N.J.R. 3798(c).

§ 7:28-64.2 Schedule of fees

(a) Except as set forth in (b) and (c) below, this section incorporates by reference the table in 10 CFR 171.16 entitled "Schedule of materials annual fees and fees for government agencies licensed by NRC."

(b) The Department does not regulate nuclear reactors, special nuclear materials in quantities sufficient to form a critical mass, high-level waste disposal facilities, or byproduct material defined in Section 11e(2) of the Atomic Energy Act of 1954, as amended (42 U.S.C. § 2014).

(c) Insofar as the incorporated rules refer to the facilities and/or materials in (b) above, they do not apply. The following provisions of the table identified in (a) above are incorporated by reference with the specified changes:

1. In every instance, replace "§ " or "§§ " with "10 CFR";

2. Delete column 2, labeled "Annual fees";

3. Delete row labeled 2.A.(5);

4. Row labeled 3.A, replace "parts 30 and 33 of this chapter" with "N.J.A.C. 7:28-51 and 54";

5. Row labeled 3.B., replace "part 30 of this chapter" with "N.J.A.C. 7:28-51";

6. Row labeled 3.C., delete "of this chapter," replace "part 40 of this chapter" with "N.J.A.C. 7:28-58,"; and delete "This category does not apply to licenses issued to nonprofit educational institutions whose processing or manufacturing is exempt under 171.11(a)(1). The licenses are covered by fee under Category 3.D.";

7. Row labeled 3.D., delete "of this chapter," replace "part 40 of this chapter" with "N.J.A.C. 7:28-58," delete "This category includes licenses issued under §§ 32.72 and/or 32.74 of this chapter to nonprofit educational institutions whose processing or manufacturing is exempt under § 171.11(a)(1).," and replace "part 40 of this chapter" with "N.J.A.C. 7:28-58";

8. Row labeled 3.H., delete "of this chapter" after "Subpart A of part 32," and replace both instances of "part 30 of this chapter" with "N.J.A.C. 7:28-51";

9. Row labeled 3.I., delete "of this chapter" after "Subpart A of part 32," and replace both instances of "part 30 of this chapter" with "N.J.A.C. 7:28-51";

10. Row labeled 3.J., replace "Subpart B of part 32 of this chapter" with "Subpart B of 10 CFR part 32" and replace "part 31 of this chapter" with "N.J.A.C. 7:28-52";

11. Row labeled 3.K., replace "Subpart B of part 32 of this chapter" with "Subpart B of 10 CFR part 32," and replace "part 31 of this chapter" with "N.J.A.C. 7:28-52";

12. Row labeled 3.L., replace "parts 30 and 33 of this chapter" with "N.J.A.C. 7:28-51 and 54";

13. Row labeled 3.M., replace "part 30 of this chapter" with "N.J.A.C. 7:28-51";

14. Row labeled 3.O., replace "part 34 of this chapter" with "N.J.A.C. 7:28-63" and replace "part 40 of this chapter" with "N.J.A.C. 7:28-58";

15. Row labeled 3.Q., replace "part 31 of this chapter" with N.J.A.C. 7:28-52";

16. Row labeled 7.A., replace "parts 30, 35, 40, and 70 of this chapter" with "N.J.A.C. 7:28-51, 55, 58, and 60";

17. Row labeled 7.B., replace "parts 30, 33, 35, 40, and 70" with "N.J.A.C. 7:28-51, 54, 55, 58, and 60";

18. Row labeled 7.C., replace "parts 30, 35, 40, and 70 of this chapter" with "N.J.A.C. 7:28-51, 55, 58, and 60"; and

19. Row labeled 14.A., replace "parts 30, 40, 70, 72, and 76 of this chapter" with "N.J.A.C. 7:28-51, 58, and 60."

(d) Fees for source, byproduct, and certain special nuclear materials are established in Table 1, Schedule of Source, Special Nuclear, and Byproduct Material Annual Fees, and are matched to the NRC categories, incorporated by reference in (a) and (b) above.

(e) Other specified fees, including fees for diffuse NARM, are established in Table 2, Schedule of Radioactive Materials Annual Fees.

(f) If, by amendment or otherwise, a license changes to another fee category, the fee for the new category will take effect on the anniversary date of the license.

(g) The fee for any category for which a fee is not provided at Table 1 below shall be calculated in accordance with N.J.A.C. 7:28-64.3(d) and 64.4(d).

(h) For a fee identified as "full cost" in Table 1 or 2 below, the licensee shall pay the Department's actual costs associated with the activity, which costs include, but are not limited to, labor (including fringe and indirect costs), transportation, per diem, materials, legal fees, and monitoring costs, as applicable.

Table 1
Schedule of Source, Special Nuclear, and Byproduct Material Annual Fees

FEE CATEGORY	LICENSE TYPE	ANNUAL FEE ($)
1.	Special Nuclear Material	
A.-B.	(Reserved.)	
C.	Licenses for possession and use of special nuclear material in sealed sources contained in devices used in industrial measuring systems, including x-ray fluorescence analyzers	2,030
D.	All other special nuclear material except a) licenses authorizing special nuclear material in unsealed form in combination that would constitute a critical quantity, as defined at N.J.A.C. 7:28-62; b) U-235 or plutonium for fuel fabrication activities; c) spent fuel and reactor-related greater than Class C (GTCC) waste at an independent spent fuel storage installation (ISFSI); d) special nuclear material in sealed sources contained in devices used in industrial measuring systems, including x-ray fluorescence analyzers; or e) licenses or certificates for the operation of a uranium enrichment facility.	5,200
E.	(Reserved.)	
2.	Source Material	
A.	(Reserved.)	

FEE CATEGORY	LICENSE TYPE	ANNUAL FEE ($)
B.	Licenses that authorize only the possession, use, and/or installation of source material for shielding, or licenses that authorize possession, storage, and use of reference sources containing source material for calibration, proficiency testing, quality assurance, and/or in the manufacturing of exempt devices.	695
C.	All other source material licenses	11,955
3.	Byproduct material	
A.	Licenses of broad scope for possession and use of byproduct material issued under N.J.A.C. 7:28-51 and 54 for processing or manufacturing of items containing byproduct material for commercial distribution.	26,290
B.	Other licenses for possession and use of byproduct material issued under N.J.A.C. 7:28-51 for processing or manufacturing of items containing byproduct material for commercial distribution. This category also includes licenses for repair, assembly, and disassembly of products containing radium-226.	7,585
C.	Licenses issued under N.J.A.C. 7:28-53 authorizing the processing or manufacturing and distribution or redistribution of radiopharmaceuticals, generators, reagent kits, and/or sources and devices containing byproduct material. This category also includes the possession and use of source material for shielding authorized under N.J.A.C. 7:28-58 when included on the same license.	10,770
D.	(Reserved.)	
E.	Licenses for possession and use of byproduct material in sealed sources for irradiation of materials in which the source is not removed from its shield (self-shielded units).	3,650
F.	Licenses for possession and use of less than 10,000 curies of byproduct material in sealed sources for irradiation of materials in which the source is exposed for irradiation purposes. This category also includes underwater irradiators for irradiation of materials in which the source is not exposed for irradiation purposes.	7,115
G.	Licenses for possession and use of 10,000 curies or more of byproduct material in sealed sources for irradiation of materials in which the source is exposed for irradiation purposes. This category also includes underwater irradiators for irradiation of materials in which the source is not exposed for irradiation purposes.	28,125
H.	Licenses issued under N.J.A.C. 7:28-53 (Subpart A of 10 CFR 32) to distribute items containing byproduct material that require device review to persons exempt from the licensing requirements of N.J.A.C. 7:28-51 (10 CFR 30), except specific licenses authorizing redistribution of items that have been authorized for distribution to persons exempt from the licensing requirements of N.J.A.C. 7:28-51.	11,275

FEE CATEGORY	LICENSE TYPE	ANNUAL FEE ($)
I.	Licenses issued under N.J.A.C. 7:28-53 (Subpart A of 10 CFR 32) to distribute items containing byproduct material or quantities of byproduct material that do not require device evaluation to persons exempt from the licensing requirements of N.J.A.C. 7:28-51, except for specific licenses authorizing redistribution of items that have been authorized for distribution to persons exempt from the licensing requirements of N.J.A.C. 7:28-51.	10,625
J.	Licenses issued under N.J.A.C. 7:28-53 to distribute items containing byproduct material that require sealed source and/or device review to persons generally licensed under N.J.A.C. 7:28-52, except specific licenses authorizing redistribution of items that have been authorized for distribution to persons generally licensed under N.J.A.C. 7:28-52.	2,190
K.	Licenses issued under N.J.A.C. 7:28-53 to distribute items containing byproduct material or quantities of byproduct material that do not require sealed source and/or device review to persons generally licensed under N.J.A.C. 7:28-52, except specific licenses authorizing redistribution of items that have been authorized for distribution to persons generally licensed under N.J.A.C. 7:28-52.	1,640
L.	Licenses of broad scope for possession and use of byproduct material issued under N.J.A.C. 7:28-51 and 54 for research and development that do not authorize commercial distribution.	13,390
M.	Other licenses for possession and use of byproduct material issued under N.J.A.C. 7:28-51 for research and development that do not authorize commercial distribution.	5,115
N.	Licenses that authorize services for other licensees, except: Licenses that authorize only calibration and/or leak testing services are subject to the fees specified in fee Category 3.P.	7,585
O.	Licenses for possession and use of byproduct material issued under N.J.A.C. 7:28-63 for industrial radiography operations. This category also includes the possession and use of source material for shielding authorized under N.J.A.C. 7:28-58 when authorized on the same license.	12,870
P.	All other specific byproduct material licenses, except those in Categories 4.A through 9.D.	2,470
Q.	(Reserved.)	
R.	Possession of items or products containing radium-226 identified in N.J.A.C. 7:28-52 which exceed the number of items or limits specified in that section. (Persons who possess radium sources that are used for operational purposes in another fee category are not also subject to the fees in this category. This exception does not apply if the radium sources are possessed for storage only.)	
1.	Possession of quantities exceeding the number of items or limits in N.J.A.C. 7:28-52, but less than or equal to 10 times the number of items or limits specified.	1,915
2.	Possession of quantities exceeding 10 times the number of items or limits specified in N.J.A.C. 7:28-52.	2,470
S.	Licenses for production of accelerator-produced radionuclides.	9,855

FEE CATEGORY	LICENSE TYPE	ANNUAL FEE ($)
4.	Waste Processing	
A.	(Reserved.)	
B.	Licenses specifically authorizing the receipt of waste byproduct material, source material, or special nuclear material from other persons for the purpose of packaging or repackaging the material. The licensee will dispose of the material by transfer to another person authorized to receive or dispose of the material.	10,965
C.	Licenses specifically authorizing the receipt of prepackaged waste byproduct material, source material, or special nuclear material from other persons. The licensee will dispose of the material by transfer to another person authorized to receive or dispose of the material.	8,730
5.	Well Logging	
A.	Licenses for possession and use of byproduct material, source material, and/or special nuclear material for well logging, well surveys, and tracer studies other than field flooding tracer studies.	3,920
B.	(Reserved.)	
6.	Nuclear Laundry	
A.	(Reserved.)	
7.	Medical	
A.	Licenses issued under N.J.A.C. 7:28-51, 55, 58, and 60 for human use of byproduct material, source material, or special nuclear material in sealed sources contained in teletherapy devices. This category also includes the possession and use of source material for shielding when authorized on the same license.	12,320
B.	Licenses of broad scope issued to medical institutions or two or more physicians under N.J.A.C. 7:28-51, 55, 58, and 60 authorizing research and development, including human use of byproduct material except licenses for byproduct material, source material, or special nuclear material in sealed sources contained in teletherapy devices. This category also includes the possession and use of source material for shielding when authorized on the same license. Separate fees will not be assessed for pacemaker licenses issued to medical institutions who also hold nuclear medicine licenses under Category 7.B. or 7.C.	26,310
C.	Other licenses issued under N.J.A.C. 7:28-51, 55, 58, and 60 for human use of byproduct material, source material, and/or special nuclear material except licenses for byproduct material, source material, or special nuclear material in sealed sources contained in teletherapy devices. This category also includes the possession and use of source material for shielding when authorized on the same license. Separate fees will not be assessed for pacemaker licenses issued to medical institutions who also hold nuclear medicine licenses under Category 7.B. or 7.C.	4,380
8.	Civil Defense	

FEE CATEGORY	LICENSE TYPE	ANNUAL FEE ($)
A.	Licenses for possession and use of byproduct material, source material, or special nuclear material for civil defense activities.	1,965
9.-13.	(Reserved.)	
14.	Decommissioning/Reclamation	
A.	Byproduct, source, or special nuclear material licenses and other approvals authorizing decommissioning, decontamination, reclamation, or site restoration activities under N.J.A.C. 7:28-51, 58, and 60.	Full Cost
B.	Site-specific decommissioning activities associated with unlicensed sites, whether or not the sites have been previously licensed.	Full Cost
15.	(Reserved.)	
16.	Reciprocity Reciprocal recognition of an out-of-State license for a period of less than 180 days.	50 percent of annual fee of applicable category, rounded to the nearest $ 5.00.
17.-18.	(Reserved.)	

Table 2
Schedule of Radioactive Materials Annual Fees

FEE CATEGORY	LICENSE TYPE	ANNUAL FEE ($)
1.	Water Treatment Facilities as defined at N.J.A.C. 7:10-3.6	
A.	Very Small Community Water Systems	365
B.	Small Community Water Systems	1,060
C.	Medium Community Water Systems	1,520
D.	Large Community Water Systems	3,040
E.	Non-Transient Non-Community Water Systems treating 1,000 gallons per day or less, with accumulated activity of radium greater than or equal to 10 µCi.	245
F.	Non-Transient Non-Community Water Systems treating more than 1,000 gallons per day, with accumulated activity of radium greater than or equal to 10 µCi.	610
2.	Amendments	
A.	Request to amend a license requiring no license review including, but not limited to, facility name change or removal of a previously authorized user.	0
B.	Request to amend a license requiring review including, but not limited to, addition of isotopes, procedure changes, new authorized users, or a new radiation safety officer.	240
C.	Request to amend a license requiring technical review whether or not a site visit is also required. This includes, but is not limited to, a facility move or the addition of a process.	470
3.	Inspections	

FEE CATEGORY	LICENSE TYPE	ANNUAL FEE ($)
A.	Routine	0
B.	Non-routine Reinspection	Full Cost
C.	Pre-licensing	470
D.	Reciprocity	470
E.	Inspection as a result of an incident	Full Cost
4.	Additional Use Sites (Non-contiguous)	
A.	Non-profit educational institutions	25 percent of appropriate fee
B.	Medical Private Practices	50 percent of appropriate fee
5.	Devices under a General License Requiring Registration	430
6.	General License Registration for Community or Non-Community Water Treatment Systems	245
7.	Diffuse NARM License	3,040
8.	X-ray fluorescence devices	
A.	A government body, department, agency, authority, or any other unit of any state, Federal, county, or local government using a X-ray fluorescence device	245
B.	All others	1,235

HISTORY:

Administrative correction and change.
See: 42 N.J.R. 2127(a).
Amended by R.2014 d.083, effective May 5, 2014.
See: 45 N.J.R. 806(a), 46 N.J.R. 768(a).
Rewrote (c) and Table 2; and added (h).
Administrative change.
See: 50 N.J.R. 1810(a).
Administrative change.
See: 51 N.J.R. 1205(a).
Amended by R.2020 d.061, effective June 15, 2020.
See: 51 N.J.R. 1731(a), 52 N.J.R. 1267(a).
In Table 1, 2B, inserted ", or licenses that authorize possession, storage, and use of reference sources containing source material for calibration, proficiency testing, quality assurance, and/or in the manufacturing of exempt devices"; in Table 1, 16, substituted "out-of-State" for "out-of-state" and inserted "rounded to the nearest $ 5.00."; and in Table 2, 2C, rewrote the license type.
Administrative change, effective June 24, 2021.
See: 53 N.J.R. 1225(a).
Administrative change, effective June 23, 2022.
See: 54 N.J.R. 1388(a).

§ 7:28-64.3 Application fee

(a) An initial application for a license shall be accompanied by payment in the full amount of the fee specified in Tables 1 and 2 at N.J.A.C. 7:28-64.2.

(b) The Department may not process the application prior to the receipt of the required fee. The application fee is not refundable except in those cases where the Department determines that a license is not required.

(c) A license covering more than one of the categories in Tables 1 and 2 at N.J.A.C. 7:28-64.2 shall be accompanied by the prescribed fee for each category applicable to the license.

(d) The application fee for a category of NRC license that is not included in Table 1 at N.J.A.C. 7:28-64.2 shall be calculated as follows: NJ Fee = 0.75 (NRC Annual fee + 0.1 NRC application fee). NRC fees are established in 10 CFR Parts 170 and 171. The Department incorporates by reference the fee provisions of 10 CFR Parts 170 and 171, for purposes of calculating fees pursuant to this subsection.

§ 7:28-64.4 Annual fee

(a) The annual fee is not refundable except in those cases where the Department determines that the fee is not required.

(b) Fees are payable 30 days after the date of the invoice.

(c) A license covering more than one of the categories in Tables 1 and 2 at N.J.A.C. 7:28-64.2 shall be invoiced for the prescribed fee for each category applicable to the license.

(d) The annual fee for a category of NRC license that is not included in Tables 1 and 2 at N.J.A.C. 7:28-64.2 shall be calculated as follows: NJ Fee = 0.75 (NRC Annual fee + 0.1 NRC application fee). NRC fees are established in 10 CFR Part 170 and 171. The Department incorporates by reference the fee provisions of 10 CFR Parts 170 and 171, for purposes of calculating fees pursuant to this subsection.

(e) The Department shall not release a facility for unrestricted use until the applicable annual fee is paid.

(f) A licensee who provides sufficient information for the Department to determine that the facility may be released for unrestricted use shall be refunded half of the annual fee, if the information is provided to the Department during the first half of the fiscal year. The first half of the fiscal year ends on midnight of December 31. No refund shall be given if the information is provided to the Department after December 31.

HISTORY:

Amended by R.2014 d.083, effective May 5, 2014.
See: 45 N.J.R. 806(a), 46 N.J.R. 768(a).
Rewrote (e); and added (f).

§ 7:28-64.5 Inspections

(a) The Department shall make periodic inspections of licensees.

(b) If the Department finds a violation that could have implications regarding worker or public dose limits at N.J.A.C. 7:28-6 during an inspection, the licensee must pay all Department costs associated with subsequent reinspection of the licensee. The costs shall be the actual costs incurred by the Department and include, but not limited to, labor, transportation, per diem, materials, legal fees, and monitoring costs.

§ 7:28-64.6 Reciprocity fees

(a) A licensee submitting an application for reciprocal recognition of a materials license issued by another Agreement State or the NRC for a period of 180 days or less during a calendar year must pay one-half of the fee specified under Tables 1 and 2 at N.J.A.C. 7:28-64.2.

(b) The Department will not process the application for reciprocity prior to the receipt of the required fee.

§ 7:28-64.7 Fees for licensees with additional use sites

(a) The Department will consider sites that are not contiguous or adjacent as additional use sites for nonprofit educational institutions provided that:

1. The sites are operated by the same person;

2. The sites are in the same license category or categories;

3. The applicant for a license provides for one radiation safety officer, and if applicable, one radiation safety committee, as responsible for all sites; and

4. The Department is reasonably satisfied from the information provided in the application that the applicant will adequately control radioactive material at all sites listed in the application.

(b) Each additional use site as defined (a) above shall be charged 25 percent of the applicable fee for each applicable category.

(c) The Department will consider sites that are not contiguous or adjacent as additional use sites for private medical practices, provided that:

1. The sites are operated by the same person;

2. The sites are in the same license category or categories;

3. The applicant for a license provides for one radiation safety officer, and if applicable, one radiation safety committee, as responsible for all sites;

4. The Department is reasonably satisfied from the information provided in the application that the applicant will adequately control radioactive material at all sites listed in the application; and

5. There shall be no more than three additional use sites per license.

(d) Each additional use site as defined (c) above shall be charged 50 percent of the applicable fee for each applicable category.

§ 7:28-64.8 Fees for license amendments

A letter requesting an amendment to a specific license shall be accompanied by payment in full of the fee specified in Table 2 at N.J.A.C. 7:28-64.2.

§ 7:28-64.9 Failure to pay prescribed fees

(a) The Department will not process any application unless the licensee pays, on or before the due date, the fee prescribed by this subchapter.

(b) If the Department finds that a licensee has not paid a renewal fee prescribed by this section by the due date, the Department will take the appropriate enforcement action.

§ 7:28-64.10 Annual adjustment of fees

(a) Each year the annual fees in Tables 1 and 2 at N.J.A.C. 7:28-64.2 will be adjusted by the previous 12-month inflation factor. The inflation factor is calculated from the Consumer Price Index, all urban consumers, U.S. city average (CPI-U), published monthly by the U.S. Department of Labor, Bureau of Labor Statistics. The CPI-U for purposes of calculating the inflation factor shall be the CPI-U for the 12-month period ending May 31. The resulting fee will be rounded up or down to the nearest increment of $ 5.00.

(b) The inflation factor shall be the past year percent change for the United States city average, all items, all urban consumers.

(c) If the inflation factor for a 12-month period is negative, the fees will remain unchanged from the previous year.

(d) The adjusted fees shall be reflected through a notice of administrative change, published in the New Jersey Register; however, the adjusted fees shall be effective on July 1, whether or not a notice of administrative change has been published.

HISTORY:

Amended by R.2020 d.061, effective June 15, 2020.
See: 51 N.J.R. 1731(a), 52 N.J.R. 1267(a).
In (a), substituted "at" for "in" and added the last sentence.

SUBCHAPTER 65. PHYSICAL PROTECTION OF CATEGORY 1 AND CATEGORY 2 QUANTITIES OF RADIOACTIVE MATERIAL

§ 7:28-65.1 Incorporation by reference

(a) Except as set forth in (b) and (c) below, this subchapter incorporates by reference 10 CFR Part 37, Physical Protection of Category 1 and Category 2 Quantities of Radioactive Material.

(b) The following provisions of 10 CFR Part 37 are not incorporated by reference. If there is a cross-reference to a Federal citation specifically entirely excluded from incorporation, then the cross-referenced citation is not incorporated by virtue of the cross-reference:

1. 10 CFR 37.11(b).

(c) In addition to the changes in N.J.A.C. 7:28-1.6, the following provisions of 10 CFR Part 37 are incorporated by reference with the specified changes:

1. "Commission," "Nuclear Regulatory Commission," "NRC," and "U.S. Nuclear Regulatory Commission," as used in the following provisions of Part 37 of the Code of Federal Regulations that are incorporated by reference, mean the "U.S. Nuclear Regulatory Commission":

i. 10 CFR 37.5 in definitions of "Agreement State" and "fingerprint orders";

ii. 10 CFR 37.25(b)(2);

iii. 10 CFR 37.27(a);

iv. 10 CFR 37.27(c)(1) through (3);

v. 10 CFR 37.29(a)(1);

vi. 10 CFR 37.29(a)(7);

vii. 10 CFR 37.29(a)(8);

viii. 10 CFR 37.71; and

ix. 10 CFR 37.77(a)(1), limited to the NRC website and address for obtaining contact information for the office of each appropriate governor or governor's designee.

2. "Security Orders," as used in 10 CFR Part 37, means the license conditions imposed in NJ Radioactive Materials licenses that implement NRC's Orders Imposing Fingerprinting (EA-07-305).

3. 10 CFR 37.5 Definitions, "Atomic Energy Act of 1954," or "Act" shall mean "Atomic Energy Act of 1954" in the following instances:

i. 10 CFR 37.5 in definition of "Agreement State" ;

ii. 10 CFR 37.29(a);

iii. 10 CFR 37.29(a)(7); and

iv. 10 CFR 37.29(b);

4. 10 CFR 37.5, Definitions, in the definition of "fingerprint orders," delete "or the legally binding requirements issued by Agreement States";

5. 10 CFR 37.5, Definitions, in the definition of "license issuing authority," replace "or the appropriate agency of an Agreement State" with "the U.S. Nuclear Regulatory Commission or the appropriate agency of an Agreement State";

6. 10 CFR 37.5, Definitions, in the definition of "person," replace "Government agency" with "state or local government agency" and delete "other than the Commission or the DOE except that the Department shall be considered a person within the meaning of the regulations in 10 CFR chapter I to the extent that its facilities and activities are subject to the licensing and related regulatory authority of the Commission under section 202 of the Energy Reorganization Act of 1974 (88 Stat. 1244), the Uranium Mill Tailings Radiation Control Act of 1978 (92 Stat. 3021), the Nuclear Waste Policy Act or 1982 (96 Stat. 2201), and section 2(b)(2) of the Low-Level Radioactive Waste Policy Amendments Act of 1985 (99 Stat. 1842), and any State or any political subdivision of or any political entity within a State, any foreign government or nation or any political subdivision of any such government or nation, or other entity";

7. 10 CFR 37.77 (a)(1), replace "The notification to the NRC may be made by email to RAMQC_SHIPMENTS @nrc.gov or by fax to 301-816-5151" with "The notification to the Bureau of Environmental Radiation may be made by email to RAMQC@dep.nj.gov or by fax at the number provided at N.J.A.C. 7:28-1.5(b)"; and

8. 10 CFR 37.81(g), delete "In addition, the licensee shall provide one copy of the written report addressed to the Director, Division of Security Policy, Office of Nuclear Security and Incident Response, U.S. Nuclear Regulatory Commission, Washington DC 20555-0001."

HISTORY:

New Rule, R.2016 d.022, effective March 7, 2016 (operative March 19, 2016).
See: 47 N.J.R. 2589(a), 47 N.J.R. 2695(a), 48 N.J.R. 409(b).

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