

CHAPTER 28

RADIATION PROTECTION PROGRAMS

Authority

N.J.S.A. 26:2D-1 et seq., specifically 26:2D-7,
26:2D-9, 26:2D-21 and 26:2D-76.

Source and Effective Date

R.2000 d.120, effective February 25, 2000.
See: 31 N.J.R. 3007(a), 32 N.J.R. 1016(a).

Executive Order No. 66(1978) Expiration Date

Chapter 28, Radiation Protection Programs, expires on February 25, 2005.

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), 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Subchapter 1, General Provisions, and Subchapter 2, Use of Sources of Radiation and Special Exemptions, were repealed and Subchapter 1, General Provisions, and Subchapter 2, Use of Sources of Ionizing Radiation and Special Exemptions, were adopted as new rules by R.1983 d.592,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, Radiation Protection Programs, was readopted as R.2000 d.120, effective February 25, 2000, and Subchapter 25, Radiation Laboratory Fee Schedule, was repealed by R.2000 d.120, effective March 20, 2000. See: 31 N.J.R. 3007(a), 32 N.J.R. 1016(a). See, also, section annotations.

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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) Unless otherwise provided by statute or codes, rules or regulations promulgated by the Commission on Radiation Protection, this chapter shall constitute the rules of the Radiation Protection Programs, Department of Environmental Protection, and shall govern all persons installing, using, handling, transporting or storing sources of radiation.

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.

7:28-1.2 Construction

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

Amended by R.2000 d.120, effective March 20, 2000.
See: 31 N.J.R. 3007(a), 32 N.J.R. 1016(a).

Substituted a reference to the Radiation Protection Programs for a reference to the Bureau of Radiation Protection.

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

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 a specific subchapter only, will be found in that subchapter.

(a) General Terms:

“Absorbed dose” means the energy imparted to matter by ionizing radiation per unit mass of irradiated material at the

place of interest. The special unit for absorbed dose is the rad. (See “Rad” under (b) below.)

“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.

SUBCHAPTER 11. DISPOSAL OF RADIOACTIVE MATERIALS

7:28-11.1 General requirements

The disposal of radioactive materials is permitted only to the extent and under the conditions specified in Sections 11.2 through 11.7 of this Chapter.

7:28-11.2 Disposal by release into sanitary sewerage systems

(a) An owner may discharge radioactive material into a sanitary sewerage system providing:

1. It is readily soluble or dispersible in water;
2. The quantity of any radioactive material released into the system by the owner in any one day does not exceed the larger of subparagraphs (i) or (ii) of this paragraph:
 - i. The quantity which, if diluted by the average daily quantity of sewage released into the sewer by the owner, will result in an average concentration not greater than the limits specified in Section 6.5(a) (Average concentrations) of this Chapter, Column A, or prorated values if more than one isotope is released: or
 - ii. Ten times the quantity of such material specified in Section 10.9 (Labeling, posting and disposal quantities of radioactive materials) of this Chapter; and
3. The quantity of any radioactive material released in any one month, if diluted by the average monthly quantity of sewage released by the owner, will not result in an average concentration exceeding the limits specified in Section 6.5(a) (Average concentrations) of this Chapter, Column A, or prorated values if more than one isotope is released; and
4. The gross quantity of radioactive material released into the sewerage system by the owner does not exceed one curie per year.

(b) Radioactive wastes excreted by humans shall be exempt from the limitations of subsection (a) of this Section.

7:28-11.3 Disposal by discharges into the air, ground waters or surface waters

(a) An owner may dispose of radioactive material into the air outside a controlled area provided the concentration at the point where the material leaves the controlled area is not in excess of the concentration specified in Section 6.5(a) (Average concentrations) of this Chapter, Column D, or prorated values if more than one isotope is discharged. Where the material is discharged through a stack, tube pipe, or similar conduit, the determination may be made with respect to the point where the material leaves such conduit. For purposes of this subsection, concentrations may be averaged over periods not greater than one year.

(b) No owner shall dispose of radioactive material into surface waters or into ground waters without specific, prior permission in writing from the Department.

7:28-11.4 Disposal by burial in the soil

(a) No owner shall dispose of radioactive material by burial in the soil without prior approval in writing from the Department.

(b) Sites that have been used for burial of radioactive materials shall not be converted to other uses except with the written permission of the Department.

(c) The owner of any burial ground shall notify the Department in writing not less than 30 days in advance of any transfer of title to the property involved.

7:28-11.5 Disposal by transfer to a radioisotope disposal service

(a) An owner may dispose of radioactive materials by transfer to a radioisotope disposal service providing this service has been approved by the Department to receive such materials.

(b) An owner may dispose of radioactive materials by transfer to a person who is authorized to receive such material under a license issued by the Department, a Federal agency, or any agreement state.

7:28-11.6 Disposal by incineration

No owner shall incinerate radioactive materials for the purpose of disposal or preparation for disposal except as specifically approved by the Department in writing.

7:28-11.7 Disposal by a specially approved method

(a) Any person may apply to the Department for approval of proposed procedure to dispose of radioactive material in a manner not otherwise authorized in this Subchapter.

(b) Each application shall include a description of the radioactive material, including the quantities and kinds of radioactive material and the levels of radioactivity involved, and the proposed manner and conditions of disposal.

(c) The application, where appropriate, shall also include an analysis and evaluation of pertinent information as to the nature of the environment, including topographical, geological, meteorological, and hydrological characteristics; usage of ground and surface waters in the general area; the nature and location of other potentially affected facilities; and procedures to be observed to minimize the risk of unexpected or hazardous exposures.

7:28-11.8 Unauthorized removal

Sources of radiation shall be secured against unauthorized removal from the place of storage.

SUBCHAPTER 12. (RESERVED)

SUBCHAPTER 13. REPORTS OF THEFTS AND RADIATION INCIDENTS

7:28-13.1 Reports of theft or loss of radioactive materials

The owner from whose possession a theft or loss occurs shall immediately notify the Department by telephone and telegraph of any theft or loss of radioactive material in such quantities and under such circumstances that a substantial radiation hazard and/or contamination hazard may result.

7:28-13.2 Reportable radiation incidents

(a) The owner shall immediately notify the Department by telephone and 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. The release of radioactive material in concentrations which, if averaged over a period of 24 hours, would exceed 5,000 times the limits specified for such materials in Section 6.5(a) (Average concentrations) of this Chapter Columns C and D, or prorated values if more than one isotope is released;
3. A loss of one working week or more of the operation of any facilities affected; or
4. 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) The owner shall notify the Department within 24 hours by telephone and 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. The release of radioactive material in concentrations which, if averaged over a period of 24 hours, would exceed 500 times the limit specified for such materials in Section 6.5(a) (Average concentrations) of this Chapter Columns C and D, or prorated values if more than one isotope is released;
3. A loss of one day or more of the operation of any facilities affected; or
4. 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) The owner shall notify the Department in writing within 30 days of the following:

1. Each exposure of an individual to radiation or concentrations of radioactive material in excess of any applicable limit of Subchapter 6 (Permissible Dose Rated, Radiation Levels and Concentrations) of this Chapter, or of a licensee's license;
2. Any incident for which notification is required by subsections (a) and (c) of this Section; or
3. Levels of radiation or concentrations of radioactivity, not involving exposure of any individual in excess of any applicable limit Subchapter 6 (Permissible Dose Rated, Radiation Levels and Concentrations) of this Chapter, outside a controlled area in excess of ten times the limits of Section 6.2 (Radiation levels outside controlled areas) and Subchapter 11 (Disposal of Radioactive Materials) of this Chapter, or of a licensee's license.

(f) The reports set forth in subsection (e) of this Section shall describe the extent of exposure of individuals to radiation or to radioactive materials, the levels of radiation and concentrations of radioactive materials involved, the cause of the exposure, levels, or concentrations and corrective steps taken or planned to assure against a recurrence.

(g) In each case where subsection (e)1 of this Section 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 given 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 Subchapter 13 (Reports of Thefts and Radiation Incidents) of the New Jersey Administrative Code. You should preserve this report for future reference."

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.