ENVIRONMENTAL REGULATION

DIVISION OF ENVIRONMENTAL SAFETY AND HEALTH

COMMISSION ON RADIATION PROTECTION

Radiation Protection Programs

Proposed Readoption with Amendments: N.J.A.C. 7:28

Authorized By: Bradley M. Campbell, Commissioner, Department of Environmental Protection and the Commission on Radiation Protection, Dr. Julie K. Timins, Chair.

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

DEP Docket Number: 33-04-12/465

Calendar Reference: See Summary below for explanation of exception to calendar requirement.

Proposal Number: PRN 2005-11

Submit written comments by March 4, 2005 to:

Alice A. Previte, Esq.

Attention: DEP Docket No. 33-04-12/465

Office of Legal Affairs

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The Department of Environmental Protection (Department) requests that commenters submit comments on disk or CD as well as on paper. Submission of a disk or CD is not a requirement. The Department prefers Microsoft Word 6.0 or above. Macintosh™ formats should not be used. Each comment should be identified by the applicable N.J.A.C. citation, with the commenter's name and affiliation following the comment.

The agency proposal follows:

Summary

As the Commission and the Department have provided a 60-day comment period on this notice of proposal, this notice is excepted from the rulemaking calendar requirement pursuant to N.J.A.C. 1:30-3.3(a)5.

Pursuant to Executive Order No. 66(1978) and N.J.S.A. 52:14B-5.1, N.J.A.C. 7:28 expires on February 25, 2005. The Commission on Radiation Protection (Commission) and the Department have reviewed these rules and have determined that they are necessary for the purposes for which they were originally promulgated. Therefore, the Commission and the Department propose to readopt these rules with minor amendments in order to continue to provide a framework for regulating activities involving the use of radiation. Because the proposed readoption was filed before February 25, 2005, the expiration date was statutorily extended by 180 days, until August 24, 2005. See N.J.S.A. 52:14B-5.1c.

N.J.A.C. 7:28 addresses many areas of radiation protection including radioactive materials, machine sources of ionizing radiation, nuclear power plants, businesses that provide radon testing and mitigation, nonionizing radiation and licensing of radiologic technologists and nuclear medicine technologists. The rules cover such areas as obtaining licenses and registrations, reporting requirements, waste management standards, quality assurance standards for medical diagnostic x-ray installations, personnel monitoring, operating standards, record keeping and fees for various services.

Radiation is a hazard because the energy or particles given off can react directly with protein molecules or DNA in cells. While some damage can be corrected by cellular repair mechanisms, the more damage that has been done, the greater the possibility of mutation, cell malfunction or cell death.

Radiation can pose different kinds of health risks. It is difficult to accurately assess the risks from different doses of radiation when some serious consequences, such as cancer and genetic effects, may not be observed for many years. The effects of low doses of radiation are not known and may not be immediately visible. Therefore, it is prudent to keep radiation doses as low as possible.

Effective regulatory control contributes to minimizing unnecessary radiation and its attendant risks. For medical uses of radiation, regulatory controls decrease unnecessary radiation exposures while retaining the medical benefits from the procedure. For users of radioactive materials, licensure programs ensure that properly trained and credentialed individuals are responsible for the handling, storage and proper disposal of such materials.

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As further explained below, the Commission and the Department are proposing various amendments to the rules. Throughout the chapter, proposed amendments include corrections that reflect recent organizational changes at the Department. Other proposed amendments modify terminology and paragraph arrangement, and correct grammar and punctuation in order to clarify the intent of the rules.

The Commission and the Department note that on May 17, 2004, a proposal of amendments to various subchapters in N.J.A.C. 7:28 was published. (See 36 N.J.R. 2336(a)). These amendments, when adopted, will be incorporated into the chapter as readopted through this rulemaking.

The following is a summary of the rules proposed for readoption and the proposed amendments.

N.J.A.C. 7:28-1 General Provisions

Subchapter 1 defines the purpose and scope of Chapter 28 and states that these rules shall be liberally construed to permit the Department, Radiation Protection Programs (now the Radiation Protection and Release Prevention Element) and their various agencies to discharge their statutory functions. This subchapter also establishes definitions of words and terms used throughout the chapter.

The May 2004 proposal noted previously includes amendments to this subchapter.

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N.J.A.C. 7:28-2 Use of Sources of Ionizing Radiation and Special Exemptions

Subchapter 2 requires that all persons who use, operate, receive, possess, dispose of, transfer, install, transport or store sources of ionizing radiation must comply with the requirements of the chapter. This subchapter also establishes the preconditions that must be met prior to the use of sources of radiation. Among these preconditions are criteria for supervision, instruction for all persons working in or frequenting the vicinity of radiation-producing machines or radioactive materials, restrictions on the use of certain radiation-producing equipment, licensing of persons who arrange for intentional human irradiation and the institution of emergency precautions based upon a study of potential radiation hazards.

Under N.J.A.C. 7:28-2, the Department may inspect any source of radiation and its operation, inspect the facility and premises where located, examine records and require tests deemed necessary for the administration of this chapter. This subchapter also allows the Department, with the approval of the Commission, to grant special exemptions from the rules upon application by an individual who shows proof of hardship or compelling need why a rule requirement cannot be met. The Commission must determine that granting an exemption will not result in exposure to radiation in excess of the limits specified in N.J.A.C. 7:28-6. This subchapter also prohibits certain radiation-producing devices from being used.

The May 2004 proposal noted previously includes amendments to this subchapter.

N.J.A.C. 7:28-3 Registration of Ionizing Radiation-Producing Machines and Radioactive Materials

Subchapter 3 establishes the requirements for registering all ionizing radiation-producing machines located in the State of New Jersey. These requirements include the application process, notification of amendments to the registration, the process for temporary registration and the notification requirements of the sale, installation, relocation or disposal of a machine source of radiation. The subchapter also lists those machine sources and radioactive materials that are exempt from the registration process.

This subchapter prohibits the transfer of such registration; requires notification to the State of any changes to the NRC license in order to amend the State registration and contains the criteria under which the Department may deny a registration application, or suspend, modify or revoke a registration.

The fee structure for the initial registration application and the annual registration renewal for ionizing radiation-producing machines, and the fees and requirements for registering radioactive by-product material, source material and special nuclear material that is licensed by the United States Nuclear Regulatory Commission (NRC) are set forth in N.J.A.C. 7:28-3.

The May 2004 proposal noted previously includes amendments to this subchapter.

N.J.A.C. 7:28-4 Licensing of Naturally Occurring and Accelerator Produced Radioactive Materials

Subchapter 4 establishes the requirements to obtain a general or specific State license for the production, transfer, receipt, acquisition, ownership, possession or use of all naturally occurring and accelerator produced radioactive materials. This subchapter includes general and

special requirements for obtaining approval of and amendments to licenses along with the renewal and expiration of licenses, and establishes the terms and conditions of general and specific State licenses, and the fees for each. Among these terms and conditions are the requirements that records be kept by the licensee, the obligation to allow the Department access to a licensed facility for inspection and that tests on radioactive materials and on radiation equipment must be performed at facilities which store or use radioactive materials.

Also at N.J.A.C. 7:28-4 are the procedures by which a general or specific license may be modified, revoked, suspended or terminated. This subchapter also establishes the rules that allow the applicant for a license to file a confidentiality claim to cover information the applicant considers trade secrets.

The May 2004 proposal noted previously includes amendments to this subchapter.

N.J.A.C. 7:28-5 Controlled Areas

Subchapter 5 establishes the criteria for defining and designating a controlled area. This subchapter addresses the use of residential quarters as controlled areas. This subchapter establishes the precautionary procedures to be taken to ensure that radiation levels do not exceed those permitted in N.J.A.C. 7:28-6, and lists the conditions to be met in order to reclassify a controlled area as an uncontrolled area.

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N.J.A.C. 7:28-6 Permissible Dose Rates, Radiation Levels and Concentration

Subchapter 6 establishes the maximum radiation dose that an individual in a controlled area may receive in any one calendar quarter. Radiation levels at any point outside a controlled area must be limited to a level at which there is no reasonable possibility of an individual receiving a radiation dose to the whole body, head and trunk, active blood-forming organs, gonads or lens of the eyes in excess of 0.5 rem in any one year. Concentrations of radioactive materials in effluents from controlled areas may not exceed the limits specified in N.J.A.C. 7:28-11.2 and 11.3. N.J.A.C. 7:28- 6.1(a) establishes the dose limit to a worker in a controlled area in any calendar quarter.

N.J.A.C. 7:28-6 establishes the maximum permissible average concentrations of radioactive materials in air and water, and sets forth the procedures to be followed when individuals are exposed to radiation at a level that exceeds the limits specified in N.J.A.C. 7:28-6.1(a) as the result of a radiation incident or emergency.

N.J.A.C. 7:28-6.1(a) establishes the dose limit to a worker in a controlled area in any calendar quarter. The Commission and the Department are proposing to codify the note regarding the exclusion from these limits of the doses received by human patients from intentional exposure to radiation for the purpose of diagnosis or therapy at the end of subsection (a) as N.J.A.C. 7:28-6.1(a)4. This change would make the paragraph structure of subsection (a) consistent with that of the similar exclusion in subsection (b).

The May 2004 proposal noted previously includes amendments to this subchapter.

N.J.A.C. 7:28-7 Radiation Surveys and Personnel Monitoring

Subchapter 7 establishes the requirements for performing radiation surveys of controlled and uncontrolled areas to determine compliance with the radiation exposure limits specified in N.J.A.C. 7:28-6. In addition, this subchapter establishes the requirement that owners of installations where radioactive materials are stored or used provide and require the use of personnel-monitoring equipment for each individual entering a controlled area under circumstances detailed in N.J.A.C. 7:28-7.4(a). N.J.A.C. 7:28-7.5 provides that the Department may require bioassays where necessary or desirable to aid in determining the extent of an individual's exposure to concentrations of radioactive material.

The May 2004 proposal noted previously includes amendments to this subchapter.

N.J.A.C. 7:28-8 Records

Subchapter 8 establishes the recordkeeping requirements for personnel monitoring of radiation exposure, radiation surveys, radioactive materials installations, sealed source testing results and discontinued radiation installations. Information obtained from personnel-monitoring equipment must be compiled into clear, legible records and these records must be maintained at the installation and made available to both the Department and current and former employees.

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N.J.A.C. 7:28-9 Radioactive Contamination Control

Subchapter 9 establishes the requirements for minimizing the radioactive contamination of all areas in which radioactive materials are used, and of each individual working therein. These requirements apply to all owners of installations where radioactive materials are used or stored. This subchapter includes personnel and material contamination limits, criteria for the decontamination of premises and sealed source testing requirements.

The May 2004 proposal noted previously includes amendments to this subchapter.

N.J.A.C. 7:28-10 Labeling, Posting, and Controls

Subchapter 10 establishes the specifications for the conventional "radiation caution" symbol that appears on signs required to be posted in areas where sources of radiation are being used, stored or transported. Labels bearing the symbol must be placed on equipment and containers that are being used, stored or transported, and specific criteria must be met before the signs and labels can be removed. Also included are the exceptions from posting and labeling requirements.

The May 2004 proposal noted previously includes amendments to this subchapter.

N.J.A.C. 7:28-11 Disposal of Radioactive Materials

Subchapter 11 establishes the requirements for and conditions under which the disposal of radioactive materials is permitted. The methods addressed include disposal by release into sanitary sewerage systems, disposal by discharge into the air, disposal by burial in the soil,

disposal by transfer to a radioisotope disposal service, disposal by incineration and disposal by a specially approved method. This subchapter prohibits disposal into surface water or ground water without specific prior written permission from the Department, and requires that sources of radiation be secured against unauthorized removal from the place of storage.

The May 2004 proposal noted previously includes amendments to this subchapter.

N.J.A.C. 7:28-12 Remediation Standards for Radioactive Materials

Subchapter 12 establishes minimum standards for the remediation of real property contaminated by radioactive materials, and 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. This subchapter establishes radiation dose standards applicable to remediation of radioactive contamination of all real property, minimum remediation standards for radionuclide contamination of soil and the petition requirements for alternative remediation standards for radioactive contamination. This subchapter establishes requirements pertaining to engineering or institutional controls, pertaining to a change in land use and pertaining to the final status survey.

N.J.A.C. 7:28-13 Report of Thefts and Radiation Incidents

Subchapter 13 requires an owner of a source of radiation to immediately report to the Department a theft or loss of radioactive material under such circumstances that a substantial radiation hazard and/or contamination hazard may result. This subchapter also requires an

owner of a source of radiation to immediately report to the Department any radiation incident which may have caused or threatens to cause: (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 to the feet, ankles, hands or forearms of any individual to 375 rems or more of radiation; (2) the release of radioactive materials in concentrations, which, if averaged over a period of 24 hours, would exceed 5,000 times the limits specified for such material in N.J.A.C. 7:28-6.5; (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. This subchapter also establishes the reporting requirements for radiation incidents involving exposure of an individual or the environment to radiation at levels specified in N.J.A.C. 7:28-13.2(a), including specific topics to be addressed in the report, and reporting timetables.

The May 2004 proposal noted previously includes amendments to this subchapter.

N.J.A.C. 7:28-14 Therapeutic Installations

Subchapter 14 establishes the requirements for therapeutic installations used in the healing arts. This subchapter establishes machine performance standards for therapeutic x-ray systems and therapeutic accelerator systems, facility radiation safety operating procedures, calibration and spot check requirements and recordkeeping requirements.

At N.J.A.C. 7:28-14.2, the definition of “traceable to national standards” makes reference to a Federal agency, the National Bureau of Standards (NBS). In 1988, this agency expanded its mission and was renamed the National Institute of Standards and Technology (NIST). The

Commission and the Department propose to amend the definition to correct the reference to the NIST.

At N.J.A.C. 7:28-14.3(a), the Department is proposing to delete the phrase "at a distance of one meter from the target." Similar language appears at the end of the sentence. The first use of this phrase is being removed because the Department believes it is duplicative and unnecessary. The proposed amendment is not intended to change the current requirement.

N.J.A.C. 7:28-15 Medical Diagnostic X-ray Installations

Subchapter 15 establishes the machine performance standards, shielding requirements and facility operating procedures for medical radiographic, fluoroscopic and mammography radiographic installations, mobile or portable diagnostic equipment, medical cabinet x-ray systems and radiation therapy simulators. It establishes credentials for “qualified individual for the performance of radiation surveys for diagnostic x-ray systems and therapy simulator systems,” “qualified medical physicist for the supervision of quality assurance programs for diagnostic x-ray equipment” and “qualified medical physicist for the supervision of quality assurance programs for therapy simulator systems.” This subchapter establishes machine performance standards, quality assurance and dosimetry procedures and facility operating procedures for computed tomography equipment, and requirements for individual radiation safety, including protective equipment standards, procedures for patient holding, written safety rules and prohibitions on the intentional irradiation of human beings except for the purpose of medical diagnosis or treatment. The use of shoe-fitting fluoroscopes, fixed vertical fluoroscopic

systems used for non-image intensified fluoroscopy and hand-held fluoroscopic screen and chest photofluorographic x-ray units is prohibited.

N.J.A.C. 7:28-16 Dental Radiographic Installations

Subchapter 16 establishes the requirements for dental radiographic installations, which include equipment performance standards, structural shielding requirements and facility operating procedures.

N.J.A.C. 7:28-17 Industrial and Nonmedical Radiography

Subchapter 17 establishes the radiation safety requirements for persons using sealed sources, radiographic exposure devices or ionizing radiation-producing machines for industrial and non-medical radiography. These requirements include registration or licensing of equipment, equipment control for radiographic exposure devices and storage containers and equipment control for ionizing radiation-producing machines. This subchapter establishes personnel radiation safety training requirements for radiographers and radiographers' assistants and precautionary procedures to be followed during the use of industrial radiographic equipment. It also establishes specific standards for cabinet x-ray systems and shielded room radiography. Users of portable x-ray bomb detection equipment are exempted from the requirements of performing a radiation safety survey prior to inspecting a suspicious package or device.

N.J.A.C. 7:28-18 Major Nuclear Facilities

Subchapter 18 establishes requirements for the protection of individuals from exposure to radiation in excess of the limits specified in N.J.A.C. 7:28-6 for major nuclear facilities including nuclear reactors, nuclear fuel fabrication plants, nuclear fuel reprocessing plants and nuclear waste handling or disposal facilities. This subchapter establishes standards to ensure that individuals outside of these facilities receive no radiation exposures from environmental or direct radiation that are in excess of the limits established in N.J.A.C. 7:28-6.

Any person constructing a major nuclear facility must first submit a general description of the proposed facility including the plans for the required monitoring systems to the Department. Prior to operation, the facility's emergency plans must be submitted to the Department. Any radiation incident at a major nuclear facility must be reported to the Department.

N.J.A.C. 7:28-19 Medical Exposure to Ionizing Radiation by Radiologic Technologists

Subchapter 19 establishes the rules to prohibit improper and prevent excessive exposure to ionizing radiation through the intentional irradiation of humans. These rules implement N.J.S.A. 26:2D-24 et seq., the Radiologic Technologist Act. This subchapter defines the scope of procedures for obtaining a license to practice radiologic technology, as well as the procedures for suspension or revocation of the license. This subchapter establishes the criteria and standards for educational programs of diagnostic, radiation therapy, chest, dental, podiatric, orthopedic and urologic radiography, including the procedure to obtain program approval and accreditation, and

for admitting students to a radiography program and for the use of x-ray equipment by a student. The examination and licensing fees are also listed.

N.J.A.C. 7:28-20 Particle Accelerators for Industrial and Research Use

Subchapter 20 establishes the registration and use requirements for particle accelerators in industrial or research use. The use of such equipment on humans is prohibited. Credentials are established for a "Particle Accelerator Safety Officer" who is authorized to implement and maintain a radiation safety program for the particle accelerator facility. There are requirements for training programs, shielding design, radiation area surveys, controls and interlock systems, warning devices, operating procedures, area and personnel monitoring and ventilation. This subchapter also contains the specific requirements for electron microscopes.

N.J.A.C. 7:28-21 Analytical X-ray Installations

Subchapter 21 establishes the requirements for the use of analytical x-ray equipment including but not limited to, x-ray diffraction, x-ray spectroscopy, x-ray fluorescence or fluorescence x-ray spectroscopy equipment. General machine performance standards and facility operating procedures are established as well as additional equipment requirements for open beam and closed beam x-ray systems. This subchapter contains certain exemptions that apply to analytical x-ray equipment with a high voltage supply that cannot operate at potentials above 16 kilovolts.

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N.J.A.C. 7:28-22 Quality Assurance Programs for Medical Diagnostic X-ray Installations

Subchapter 22 establishes requirements that increase protection to the public and radiation workers from unnecessary exposure to radiation and reduce the occurrence of misdiagnosis caused by faulty equipment and operator error. It also 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 improved 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, and establishes 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.

N.J.A.C. 7:28- 22.9(b)1 specifies the quality control tests listed in Table 5, "Medical Physicist's Fluoroscopic QC Survey," that a medical physicist can delegate to a qualified medical physicist assistant (MPA). N.J.A.C. 7:28- 22.9(b) provides that the medical physicist may delegate to the MPA the performance of the tests listed in Table 5, except those identified at N.J.A.C. 7:28-22.9(b)1. The excluded tests are tests 8, 11, and 12. N.J.A.C. 7:28- 22.12(d)6 specifies the number of times certain quality control tests listed in Table 5 must be performed by a qualified MPA in the presence of a medical physicist before the MPA can be delegated the

performance of these quality control tests by a medical physicist. N.J.A.C. 7:28-22.12(d)6 is intended to ensure that the MPA receives training from a qualified medical physicist and is observed performing the tests properly. In order to conform the qualification standards at N.J.A.C. 7:28-22.12(d)6 to the delegation provisions at N.J.A.C. 7:28-22.12(b), which will ensure that MPAs are properly supervised and trained before being delegated performance of the quality control tests, tests 7 and 10 are added to the quality control tests specified at N.J.A.C. 7:28-22.12(d)6.

N.J.A.C. 7:28-23 is reserved.

N.J.A.C. 7:28-24 Nuclear Medicine Technology

Subchapter 24 establishes the radiation safety requirements for persons administering radiopharmaceuticals to humans for diagnostic or therapeutic purposes and for performing diagnostic or therapeutic procedures requiring the administration of radiopharmaceuticals to humans. This subchapter also establishes the licensing requirements for individuals who administer radionuclides or radiopharmaceuticals while engaged in the practice of nuclear medicine technology, and the criteria for approval of nuclear medicine technology educational programs and curriculum requirements. In addition, the examination and licensing fees are set forth in this subchapter.

N.J.A.C. 7:28-25 and 26 are reserved.

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N.J.A.C. 7:28-27 Certification of Radon Testers and Mitigators

Subchapter 27 establishes rules, requirements and procedures for becoming a certified radon testing or mitigation business, specialist or technician in the State of New Jersey. The sale of devices or the testing or mitigation of radon by persons who are not certified under this subchapter is prohibited. The subchapter allows for temporary certifications. Certified persons must conduct their activities in compliance with this subchapter.

This subchapter addresses the application and certification requirements for businesses and individuals that intend to do radon testing or mitigation. Certified radon measurement and mitigation businesses are required to maintain records and submit monthly reports to the Department. This subchapter establishes procedures for renewing certifications and sets forth the conditions for recognizing certifications issued by other states. This subchapter establishes the procedures for requesting an adjudicatory hearing when a certification is denied, refused or revoked.

This subchapter establishes fees for courses, examinations, certification application review, annual re-certification and facility inspections. This subchapter establishes exemptions from certification requirements. It establishes the required elements of a quality assurance plan and the minimum requirements for a radiological safety plan.

The Department may enter and inspect the premises of any certified radon business. The Department may also deny, suspend or revoke a certification under certain circumstances.

Violations of the Radiation Protection Act, N.J.S.A. 26:2D-72, 73, or 74, or any rule promulgated in accordance with those provisions of the Act, are crimes of the third degree.

The terms "radon decay products" and "radon progeny" are utilized interchangeably throughout Subchapter 27. The term "radon progeny" is defined in N.J.A.C. 7:28-27.2. For the purpose of consistency, the Commission and the Department are proposing to replace the term "radon decay products" with "radon progeny" throughout the subchapter.

At N.J.A.C. 7:28-27.28(c), the Department is proposing a change in the name of the reference material that a certified radon measurement business and certified radon mitigation business must provide clients before initiating any mitigation work at the client's site. This new document represents the Department's most recent guidance publication about radon.

N.J.A.C. 7:28-28 through 40 are reserved.

N.J.A.C. 7:28-41 Mercury Vapor Lamps

Subchapter 41 establishes safety requirements for the installation and use of mercury vapor lamps in indoor and outdoor areas that may be occupied by people.

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N.J.A.C. 7:28-42 Radio Frequency Radiation

This subchapter establishes the exposure limits of individuals to radiofrequency radiation from fixed radio frequency devices, which radiate in the frequency range of 300 kHz to 100GHz, including microwave ovens. This subchapter does not apply to the intentional exposure of patients to radiation.

N.J.A.C. 7:28-43 through 47 are reserved.

N.J.A.C. 7:28-48 Fees for the Registration of Nonionizing Radiation Producing Sources

Subchapter 48 establishes initial registration and annual renewal fees for all radiofrequency and microwave heaters, sealers and industrial ovens, which radiate in the frequency range of 300 kHz to 100 GHz, including microwave ovens, and imposes reporting requirements on the owners of these sources. The sale or disposal of nonionizing radiation-producing sources is also reportable to the Department. This subchapter contains procedures for requesting hearings and exemptions from the registration and payment of the initial and annual fee.

Social Impact

N.J.A.C. 7:28 was first promulgated in 1969 to protect the public and radiation workers from unnecessary exposure to radiation. Radiation is known to cause cancer and other adverse health effects in humans, and there are ongoing legitimate concerns about the adverse effects

caused by overexposure to radiation, particularly as the use of radioactive materials and the use of ionizing and nonionizing radiation-producing machines for industrial, commercial, medical and household applications continues to rise. The increased use of such materials and devices results in increased exposure to radiation and increased associated risks.

Radiation is ubiquitous and in some cases its use is necessary or even desirable. The goal of the radiation protection regulatory program is to prohibit and prevent the use or presence of unnecessary radiation in such a manner as to be, or tend to be, injurious or dangerous to the health of the people, the ecology, wildlife, agriculture and industry of the State. The rules proposed for readoption with amendments by the Commission and the Department require that regulated sources of radiation be shielded, transported, handled, used and kept in such a manner as to prevent users and the general public from receiving unnecessary exposures.

Economic Impact

There will continue to be an economic impact associated with complying with the rules proposed for readoption with amendments. The costs of compliance include fees for registration, certification or licensing, expenses for personnel and equipment monitoring, and the costs associated with reporting and recordkeeping, and training costs. The rules proposed for readoption with amendments will not have any new economic impact on regulated facilities or individuals that are required to pay fees to the Department as part of this regulation. However, proposed amendments to the fees in N.J.A.C. 7:28 were published in the New Jersey Register on May 17, 2004 (36 N.J.R. 2336(a)).

Environmental Impact

The rules proposed for readoption with amendments will have a positive effect on the environment, in that they will continue to limit the amount of radiation allowed in the environment. Human exposure to radiation causes cancer and other adverse health effects. Limits on the amount of radiation allowed in the environment continue to have a positive effect on the health of humans. A fundamental tenet of radiation protection has been the assertion that populations of non-human biota are protected in situations where exposure levels are protective of humans (National Council on Radiation Protection Report No. 109, 1991). The Commission and the Department anticipate that plant, animal and aquatic life benefit from the rules proposed for readoption and amendment insofar as the rules ensure that the standards that prevent or reduce unnecessary radiation exposure will continue in effect.

Federal Standards Statement

Executive Order No. 27 (1994) and N.J.S.A. 52:14B-1 et seq. (as amended by P.L. 1995, c65) require state agencies that adopt, readopt or amend state regulations that exceed any Federal standards or requirements to include in the rulemaking document a Federal standards analysis. There are several Federal statutes that establish regulatory programs concerning radiation; however, the rules proposed for readoption with amendments do not contain any standards or requirements that exceed Federal law.

The Secretary of the United States Department of Health and Human Services (HHS) has promulgated regulations in 21 CFR Part 1000 et seq. that apply to devices that emit x-rays and other ionizing radiation, electrons, neutrons and other particulate radiation. Examples include television receivers, accelerators, x-ray machines, electron microscopes and neutron generators. These Federal regulations are applicable to manufacturers, distributors and dealers of these radiation-producing devices, and pertain primarily to record keeping and reporting requirements as well as to the importation of electronic devices (see 21 CFR Parts 1002, 1003, 1004 and 1005). These regulations are not applicable to the end-user of these devices, such as the medical, dental, hospital, government and industrial facilities that possess and use these devices.

In addition, 21 CFR Part 1020 and 21 CFR Part 1030 establish performance standards for ionizing and nonionizing radiation-producing equipment. These requirements apply to the manufacturer and assembler of these devices. Once the devices are sold and placed in use, the Federal government no longer regulates them. The use of the devices are, however, regulated in New Jersey where the applicable standards contained in the rules proposed for readoption are enforced at the medical, dental, hospital, governmental and industrial facilities that possess these devices. The State standards governing the use of these radiation-producing devices are identical to the performance standards established by the Secretary of HHS. Moreover, the State standards apply to a different regulated entity than the Federal standards and apply at a different time in the life cycle of the devices.

The Federal Communications Commission (FCC) regulates certain radiofrequency communications devices that fall between the frequencies of 300 kilohertz and 100 Gigahertz.

The Department has overlapping authority with the FCC regarding human exposure to radiofrequency radiation, except for wireless devices governed by the 1996 Telecommunications Act, in which the FCC preempts state regulations. For those devices jointly regulated by the FCC and the State, the Department's exposure limits do not exceed Federal limits.

The requirement that nuclear medicine technologists and radiologic technologists be licensed in New Jersey is pursuant to State law and regulations in N.J.S.A. 26:2D-1 et seq. and 26:2D-24 et seq., respectively. There are no comparable Federal regulations on licensure.

The Nuclear Regulatory Commission (NRC) regulates source, by-product and special nuclear materials. The State regulates naturally occurring and accelerator-produced radioactive materials. While a particular radionuclide could be produced as a by-product of a reactor or by using an accelerator, the origin of the material dictates whether State or Federal requirements apply. There is no overlap in responsibility. However, State rule N.J.A.C. 7:28-3.5 does require that NRC-licensed materials be registered with the Department and that a corresponding fee must be paid by the registrant in accordance with N.J.A.C. 7:28-3.13. This registration program ensures proper tracking of the NRC-licensed material in New Jersey and greatly assists the Department in emergency response situations. There is no comparable Federal requirement.

The State has a mandatory certification program for radon testers and mitigators that was established pursuant to N.J.S.A. 26:2D-70 et seq. There is no comparable Federal requirement.

The Commission and the Department have determined that the rules proposed for readoption with amendment do not contain any standards or requirements that exceed the

standards or requirements imposed by Federal law. Accordingly, Executive Order No. 27 (1994) and N.J.S.A. 52:14B-1 et seq. do not require any further analysis.

Jobs Impact

The Commission and the Department do not anticipate that N.J.A.C 7:28 as proposed for readoption with amendments will have any impact on employment or jobs in New Jersey,

Agriculture Industry Impact

Pursuant to N.J.S.A. 52:14B-4(a)2, the Commission and the Department have evaluated the rules proposed for readoption with amendments to determine the nature and extent of its impact on the agriculture industry. The Commission and the Department do not expect that there will be any impact on farming in New Jersey as a consequence of the rules proposed for readoption with amendment.

Regulatory Flexibility Analysis

As required by the New Jersey Regulatory Flexibility Act, N.J.S.A. 52:14B-16 et seq., the Commission and the Department have evaluated the rules proposed for readoption with amendments in N.J.A.C. 7:28. These rules proposed for readoption with amendments affect owners, possessors and users of radioactive materials, machine sources of ionizing and nonionizing radiation, individuals and businesses involved in radon measurement and mitigation

and users of mercury vapor lamps. The Department estimates that at least 80 percent of those affected meet the definition of "small businesses" under the New Jersey Regulatory Flexibility Act.

The fees and compliance costs incurred under the existing rules will remain in effect. In N.J.A.C. 7:28-3.12, 4.19, 27.30 and 48.7, fees are based on the type and number of units or the type of activity. Regulated entities with fewer units, fewer activities or less complex licensing needs will pay less in fees. This may or may not correspond with their status as a small business under the Regulatory Flexibility Act. No reduction in fees is provided based upon classification as a small business.

In proposing this readoption, the Commission and the Department have evaluated the need to protect the public from unnecessary exposure to radiation against the economic impact of the rules and have determined that to minimize the standards for small businesses would endanger the environment and public health and safety. The hazard posed by radiation is the same whether or not the owner of the source is a small business. Therefore, no reduction in compliance standards is provided for small businesses.

Smart Growth Impact

Executive Order No. 4(2002) requires State agencies that adopt, amend or repeal State regulations to include in the rulemaking document a Smart Growth Impact statement that describes the impact of the proposed rule on the achievement of smart growth and implementation of the State Development and Redevelopment Plan (State Plan). The rules

proposed for readoption with amendments do not relate to the State's land use and development policies in a way that would either encourage or discourage any development or redevelopment in this State contrary to the guiding principles of the State Plan. As a result, the Commission and the Department do not expect this readoption to have an impact on the State's achievement of smart growth or implementation of the State Plan.

Since the proposed rules proposed for readoption with amendment will prevent or reduce unnecessary radiation exposure, the rules support the conservation and environmental protection goals and policies underlying the State Plan.

Full text of the proposed readoption can be found in the New Jersey Administrative Code at N.J.A.C. 7:28.

Full text of the proposed amendments follows (additions indicated in boldface **thus**; deletions indicated in brackets [thus]):

SUBCHAPTER 1. GENERAL PROVISIONS

7:28-1.1 Purpose and scope

(a) (No change.)

(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

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Protection Programs,**]** Department of Environmental Protection, and shall govern all persons installing, using, handling, transporting or storing sources of radiation.

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.

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 Programs] **Radiation Protection and Release Prevention Element**, PO Box 415, Trenton, New Jersey 08625-0415. The physical location of the office is 25 Arctic Parkway, Ewing, New Jersey 08638.

(b) 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 Programs] **Radiation Protection and Release Prevention Element**

   New Jersey Department of Environmental Protection

   25 Arctic Parkway

   Ewing, NJ 08638

   Telephone: **(**609**)**[-]984-[5555] **5462**

Hours: 8:00 A.M. to 5:00 P.M. daily, except Saturday, Sunday, and Holidays

After hours and weekends: ~~(~~609~~)~~[-]292-7172 **~~or toll free: 1 (877) 927-6337 (1 (877) WARN-DEP)~~**

2. (No change.)

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

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. 7:28-6.2 (Radiation levels outside controlled areas).

(b) (No change.)

SUBCHAPTER 3. REGISTRATION OF IONIZING RADIATION-PRODUCING MACHINES AND RADIOACTIVE MATERIALS

7:28-3.11 Table of radioactive materials and quantities exempt from registration

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(a) The following radioactive materials, in quantities less than or equal to those specified below, are exempt from registration:

Radioactive Material	Column A Not as a sealed source (microcuries)	Column B As a sealed source (microcuries)
…		
[Technitium] **Technetium** 99 (Tc 99)	1	10
…		

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

(a)- (h) (No change.)

(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,** [Bureau] **Division** of Revenue, PO Box 417, Trenton, New Jersey [08625-0417] **08646-0417**.

(j) (No change.)

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7:28-3.13 Fees for registration of radioactive by-product material, source material and special nuclear material

(a)– (e) (No change.)

(f) The initial registration fee, the annual renewal fee and registration amendment fee shall be mailed to:

State of New Jersey

Department of [Environmental Protection] Treasury

[Bureau] **Division** of Revenue

[428 East State Street] **PO Box 417**

Trenton, New Jersey [08625-0402] **08646-0417**

(g) (No change.)

SUBCHAPTER 5. CONTROLLED AREAS

7:28-5.3 Precautionary procedures

(a) Any person having possession, custody or control of any ionizing radiation-producing machine and/or radioactive material 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 [pertaining to Radiation survey and personnel monitoring.] **, Radiation Surveys and Personnel Monitoring.**

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2.-7. (No change.)

SUBCHAPTER 6. PERMISSIBLE DOSE RATES, RADIATION LEVELS AND CONCENTRATIONS

7:28-6.1 Exposure of individuals in controlled areas

(a) Except as provided in [subsection] (b) [of this Section] **below,** no individual in a controlled area shall receive in any period of one calendar quarter a dose in excess of the following specified limits:

1.-3. (No change.)

[Note:] **4.** Doses received by human patients from intentional exposure to radiation for the purpose of diagnosis or therapy shall be excluded **from the computations set forth in (a) 1, 2 and 3 above.**

(b)- (f) (No change.)

7:28-6.4 Exposures in the event of radiation incidents or emergencies

In the event of a radiation incident in which an employee or emergency worker receives more than the limits specified in [Section 6.1(a) (] **subsection (a) of N.J.A.C. 7:28-6.1,** Exposure of individuals in controlled areas[) of this Chapter]**,** or in the event of emergency conditions in which immediate action required to minimize danger to life results in an employee or emergency worker receiving doses beyond the limits specified in [Section 6.1(a) (]**subsection (a) of N.J.A.C. 7:28-6.1,** Exposure of individuals in controlled areas[) of this Chapter.]**,** [Each] **each**

employer shall take measures to limit additional exposures of his employees to an extent and for a period, which shall be subject to approval by the Department. All such doses shall be reported as required by [Subchapter] **N.J.A.C. 7:28-**13**,** Reports of Thefts and Radiation Incidents[) of this Chapter]**,** and shall be included in the records required by [Subchapter] **N.J.A.C 7:28-**8**,** [(]Records[) of this Chapter].

SUBCHAPTER 13. REPORTS OF THEFTS AND RADIATION INCIDENTS

7:28-13.2 Reportable radiation incidents

(a)-(f) (No change.)

(g) In each case where [subsection] (e)1 [of this Section] **above** requires a report to the Department of exposure of an individual, the owner shall:

1. (No change.)

2. Concurrently give[n] 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

7:28-14.2 Definitions

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

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...

"Traceable to national standards" means a dosimetry system calibrated by the [National Bureau of Standards (NBS)] **National Institute of Standards and Technology (NIST**) or calibrated in a beam which has been standardized by a transfer-grade ionization chamber having [a NBS] **an NIST** calibration.

...

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]**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.-iv. (No change.)

v. For 501 to 999 kVp Systems the leakage radiation [at a distance of one meter from the target] shall not exceed 0.1 percent of the useful beam exposure rate at one meter from the target; and

vi. (No change.)

2.–11. (No change.)

(b)-(f) (No change.)

SUBCHAPTER 17. INDUSTRIAL AND NONMEDICAL RADIOGRAPHY

7:28-17.7 Cabinet x-rays systems

(a)-(d) (No change.)

(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)-(j) (No change.)

SUBCHAPTER 19. MEDICAL EXPOSURE TO IONIZING RADIATION BY RADIOLOGIC TECHNOLOGISTS

7:28-19.11 Criteria and standards

The Board will establish criteria and standards for educational programs in each licensing category. These standards will be printed and available from the Department of Environmental Protection, Bureau of [Radiation Protection] **Radiological Health, PO Box 415**, Trenton, New Jersey 08625**-0415**.

SUBCHAPTER 20. PARTICLE ACCELERATORS FOR INDUSTRIAL AND RESEARCH USE

7:28-20.7 Shielding design and radiation area survey requirements for a particle accelerator

(a)-(g) (No change.)

(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 [last] **least** one of these radiation survey instruments shall be calibrated, operable, and easily accessible at the facility for use at all times.

(i) (No change.)

SUBCHAPTER 21. ANALYTICAL X-RAY INSTALLATIONS

7:28-21.3 General equipment requirements

(a) (No change.)

(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.-4. (No change.)

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**.** [that] **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

(No change in table.)

SUBCHAPTER 22. QUALITY ASSURANCE PROGRAMS FOR MEDICAL DIAGNOSTIC X-RAY INSTALLATIONS

7:28-22.12 Qualifications of medical physicists and medical physicist assistants

(a)-(c) (No change.)

(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":

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1.-5 (No change.)

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 [6] **7.** [and] 9 **and 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.

SUBCHAPTER 24. NUCLEAR MEDICINE TECHNOLOGY

7:28-24.8 Fees

(a) (No change.)

(b) All fees shall be in the form of a check or money order made payable to the Treasurer, State of New Jersey.

1.-2. (No change.)

3. All biennial license renewal applications and associated fee**s** shall be mailed to:

State of New Jersey

Department of Treasury

Division of Revenue

PO Box 417

Trenton, New Jersey [08625] **08646**-0417

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SUBCHAPTER 27. CERTIFICATION OF RADON TESTERS AND MITIGATORS

7:28-27.2 Definitions

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

…

"Certified radon laboratory" means a radiological laboratory [which]**that** analyzes samples for the presence of radon and/or radon [decay products] **progeny** in a facility separate from the location in which the sample was taken using stationary detection equipment, and holds a current valid certificate issued by the Department pursuant to N.J.A.C. 7:18 for radon analysis.

…

"Working level (WL)" means that concentration of short-lived radon [decay products] **progeny** that will result in 130,000 million electron volts of potential alpha particle energy per liter of air. Working level is a measure of radon [decay product] **progeny** concentration in air.

7:28-27.3 General provisions

(a)-(f) (No change.)

(g) A person who wishes to be certified in any or all of the categories described in this subchapter[,] shall submit an application and the appropriate fee to the [New Jersey Department of Environmental Protection, Division of Fiscal and Support Services, Bureau of Revenue, CN 402, Trenton, New Jersey, 08625, (609) 530-5767] **State of New Jersey, Department of Treasury, Division of Revenue, PO Box 417, Trenton, New Jersey, 08646-0417** prior to the

Department issuing the approved certification. A person who wishes to add a category to an existing certification shall submit an application to the [Bureau of Environmental Radiation, Radon Certification Program, New Jersey Department of Environmental Protection, CN 415, Trenton, New Jersey, 08625] **New Jersey Department of Environmental Protection, Bureau of Environmental Radiation, Radon Section, PO Box 415, Trenton, New Jersey, 08625-0415, (609) 984-5425**.

(h) (No change.)

(i) Unless otherwise specified, any questions concerning the requirements of this subchapter and requests for application forms should be directed to the [Bureau of Environmental Radiation, Radon Certification Program, New Jersey Department of Environmental Protection, CN 415, Trenton, New Jersey 08625, (609) 987-6396] **New Jersey Department of Environmental Protection, Bureau of Environmental Radiation, Radon Section, PO Box 415, Trenton, New Jersey, 08625-0415, (609) 984-5425**.

(j) It is the responsibility of the certified businesses to obtain the appropriate certificates, to maintain certified professionals in employment, to develop the quality assurance/quality control and radiological safety plan**s** required by and in accordance with N.J.A.C. 7:28-27.33 and [N.J.A.C. 7:28-] 27.34 and to report results of all measurement and/or mitigation activity to the Department.

7:28-27.6 Application requirements for a radon measurement business

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(a) A person applying for certification as a radon measurement business shall submit the following information on forms provided by the Department:

1.-8. (No change.)

9. Proof of successful completion of a proficiency test for each type of measurement equipment to be offered;

i. (No change.)

ii. Businesses which utilize portable instrumentation such as continuous working level monitors, continuous radon monitors, electret ion chambers, evacuated scintillation cells, pump-collapsible bag devices, flask grab samples, and radon [progency] **progeny** grab samples shall participate in an authorized proficiency program and demonstrate proficiency for each type of equipment utilized.

iii.-iv. (No change.)

10.-12. (No change.)

7:28-27.28 Reporting requirements

(a) A certified radon measurement business shall submit to the Department by the first day of each month the results of all radon and radon progeny measurements performed during the second previous month. For example, the results from May testing are to be submitted **by** July 1. Data shall be submitted in the format and the media required by the Department. For each test conducted, this data shall include, but not necessarily be limited to:

1. (No change.)

2. The type of equipment used for radon and/or radon [decay product] **progeny** testing according to the authorized measurement protocols, media tested, and conditions under which testing was performed;

3. (No change.)

4. The results of the test in picocuries/liter (pCi/l) of radon gas or working level (WL) of radon [decay products] **progeny**;

5.-10. (No change.)

(b) The certified radon measurement business shall report test results for radon and radon progeny directly to the owner of the building and the Department. Radon results shall be reported in picocuries per liter (pCi/l)[,]**.** [decay product] **Radon progeny** results shall be reported in working levels (WL). The report provided to the owner shall include the following statements:

"This notice is provided to you by an organization or individual certified by the New Jersey Department of Environmental Protection to perform radon and/or radon progeny measurements. N.J.S.A. 26:2D-73 requires that no certified person disclose to any individual, except the Department of Environmental Protection or the Department of Health **and Senior Services** the address or owner of a nonpublic building that the person has tested or treated for the presence of radon gas and radon progeny, 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 gas and/or 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, and any prospective buyer who contracts for the testing shall have the right to receive the results of that testing. Any questions, comments, or complaints regarding the persons performing these measurements, or related mitigation, or safeguarding services should be directed to the New Jersey Department of Environmental Protection. Attention: Radon Section, Bureau of Environmental Radiation (1-800-648-0394)."

1. (No change.)

(c) A certified radon measurement business and certified radon mitigation business, prior to any mitigation work, shall provide to each client [or his/her] a copy of the most recent version of the Department's publication titled ["Guidance on Performing Screening and Follow-up Measurement Tests."] "**Radon Testing and Mitigation: The Basics."**

(d) (No change.)

(e) A radon mitigation business shall submit to the Department by the first day of each month a report on all mitigation work performed during the second previous month. Reports shall be submitted on forms provided by the Department and shall include at a minimum:

1.-3. (No change.)

4. The certified radon mitigation business shall include in all mitigation contracts the following statement:

"This notice is provided to you by an organization or individual certified by the New Jersey Department of Environmental Protection to perform radon mitigation or safeguarding services.

At some time in the near future, a representative of the Department of Environmental Protection may contact you to ask your permission to visit your building. The purpose of this visit would be to inspect the recently installed mitigation system.

Any questions, comments or complaints regarding the persons performing these mitigation or safeguarding services should be directed to the New Jersey Department of Environmental Protection, Attention: Radon [Projects] Section, Bureau of Environmental Radiation (1-800-648-0394)."

(f) (No change.)

7:28-27.34 Minimum requirements for radiological safety plans

(a)-(c) (No change.)

(d) At a minimum, the practices identified below shall be followed by all radon testers and mitigation workers entering buildings where the radon level is unknown or above 4 pCi/l.

1. (No change.)

2. For radon mitigation work:

i. The pre-mitigation radon test result from the building in which a mitigation system is being installed shall be made known to all mitigation workers by the certified radon mitigation specialist prior to beginning mitigation work. The radon or radon progeny level from this test shall be entered on the Radon Exposure Tracking Form specified in [(n)] **(o)** below;

ii.-vii. (No change.)

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(e) – (o) (No change.)

SUBCHAPTER 41. MERCURY VAPOR LAMPS

7:28-41.2 Definitions

The following words and terms, when used in this subchapter, shall have the following meaning**s** unless the context clearly indicates otherwise.

…

"Shortwave ultraviolet radiation" means radiation with [wave-length] **wavelengths** shorter than 320 nanometers.

…

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. (No change.)

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.

(b) (No change.)

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. (No change.)

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)-(c) (No change.)

SUBCHAPTER 42. RADIO FREQUENCY RADIATION

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.

SUBCHAPTER 48. FEES FOR THE REGISTRATION OF NONIONIZING RADIATION-PRODUCING SOURCES

7:28-48.7 Initial registration fee and annual renewal fee for nonionizing radiation-producing sources

(a)-(b) (No change.)

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(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 [Environmental Protection] **Treasury**

[Bureau] **Division** of Revenue

[CN– 417]**PO Box 417**

Trenton, NJ [08625] **08646** – 0417

(d) (No change.)

(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. (No change.)

2. Requests for hearings shall be sent to the Office of Legal Affairs, ATTENTION: Adjudicatory Hearing Requests, Department of Environmental Protection, [CN 402] **PO Box 402**, Trenton, NJ 08625-0402.

(f)-(g) (No change.)