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TITLE 216 – DEPARTMENT OF HEALTH

CHAPTER 40 – PROFESSIONAL LICENSING & FACILITIES REGULATION

SUBCHAPTER 20 - RADIATION

PART 1 – GENERAL PROVISIONS AND STANDARDS FOR PROTECTION AGAINST RADIATION

1.1 Authority

A. This Part is promulgated pursuant to the authority conferred under R.I. Gen. Laws § 23-1.3-5(f), as amended.

B. This Part establishes generally applicable provisions, including standards for protection against radiation hazards. Except as otherwise specifically provided, this Part applies to persons licensed or registered by the Agency to receive, possess, use, transfer, or dispose of any source of radiation; provided, however, that nothing in this Part shall apply to any person to the extent such person is subject to regulation by the U.S. Nuclear Regulatory Commission. The limits in this Part 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 § 9.5.16 of this Subchapter, or to voluntary participation in medical research programs.

C. The requirements of this Part are designed to control the receipt, possession, use, transfer, and disposal of sources of radiation by any licensee or registrant in such a manner that the total dose to an individual, including doses resulting from all sources of radiation other than background radiation, does not exceed the standards for protection against radiation prescribed in this Part. However, nothing in this Part shall be construed as limiting actions that may be necessary to protect health and safety.

1.2 Incorporated Material

A. Except as provided in this Part, the requirements of 10 CFR Part 20 (2018) https://www.nrc.gov/reading-rm/doc-collections/cfr/part020/ are incorporated by reference, not including any further editions or amendments thereof and only to the extent that the provisions therein are not inconsistent with this Part.

B. Notwithstanding the provisions of § 1.2(A) of this Part, §§ 20.1001, 20.1002, 20.1006, 20.1007, 20.1008, 20.1009, 20.1205, 20.1401, 20.1406(b), 20.2109, 20.2202, 20.2206(a)(1), (3), (4) and (5), 20.2205, 20.2206, 20.2301, 20.2302, 20.2401, 20.2402, Appendix D to Part 20 and Appendix F to Part 20 are not incorporated by reference.

C. Effect of incorporation of 10 CFR Part 20. To reconcile differences between this Part and the incorporated sections of 10 CFR Part 20, the following words and phrases shall be substituted for the language in 10 CFR Part 20 as follows:

1. Any reference to NRC or Commission shall be deemed to be a reference to the Agency.

2. Any reference to NRC or agreement state shall be deemed to be a reference to the Agency, NRC or agreement state.

3. Any reference to byproduct material shall be deemed to be a reference to radioactive material.

4. Any notifications, reports or correspondence referenced in the incorporated sections of 10 CFR Part 20 shall be directed to the Agency using contact information specified in § 1.4 of this Part.

5. Any reference to licensee shall be deemed to include registrant.

6. Any reference to license shall be deemed to include registration.

7. Any reference to licensed shall be deemed to include registered.

8. Any requirement to utilize NRC Form 4 may also be satisfied by use of Agency Form RCA-2.

9. Any requirement to utilize NRC Form 5 may also be satisfied by use of Agency Form RCA-3.

10. 10 CFR Part 20 notwithstanding, exposures involving the use of X-rays may be weighted, in a manner specified by the Agency, so that, with Agency approval, the effective dose equivalent may be substituted for the deep dose equivalent in determining compliance with occupational exposure limits for specified groups of individuals.

1.3 Definitions

A. In addition to the definitions contained in 10 CFR 20.1003, whenever used in this Part, the following terms shall be construed as follows:

"Act" means Title 23, Chapter 1.3 of the General Laws of the State of Rhode Island entitled "Radiation Control".

"Agency" means Rhode Island Radiation Control Agency (RCA), Center for Health Facilities Regulation - Radiation Control Program, Rhode Island Department of Health.

"Annual" means an interval not to exceed twelve (12) months.

"NARM" means any naturally occurring or accelerator-produced radioactive material. It does not include byproduct, source, or special nuclear material.

"Radioactive material" means any material (solid, liquid, or gas) which emits radiation spontaneously.

"Registrant" means any person who is registered with the Agency and is legally obligated to register with the Agency pursuant to this Subchapter and the Act.

"Registration" means registration with the Agency pursuant to this Subchapter and the Act.

"R.I. Gen. Laws" means the General Laws of Rhode Island, as amended

1.4 Communications

A. All communications and reports concerning this Subchapter, and applications filed thereunder, should be addressed to the Agency at its office located at:

Rhode Island Department of Health
Center for Health Facilities Regulation
Radiation Control Program
Three Capitol Hill - Room 305
Providence, RI 02908-5097

B. During normal business hours, the Agency may be contacted at (401) 222-2566. At other times, this number will allow you to leave a message on the answering machine. In case of an emergency when it is necessary to immediately contact the Agency, utilize the RI Department of Health's 24-hour number [(401) 272-5952] and indicate the nature of your emergency. FAX communications may be sent 24 hours a day to (401) 222-3999. For non-emergency situations, any required report or other routine correspondence may also be submitted via e-mail to doh.radhealth@health.ri.gov.

1.5 General Provisions

1.5.1 Implementation

A. Any existing license or registration condition that is more restrictive than this Part remains in force until there is an amendment or renewal of the license or registration.

B. If a license or registration condition exempts a licensee or registrant from a provision of this Part in effect on or before 1 January 1994, it also exempts the licensee or registrant from the corresponding provision of this Part.

C. If a license or registration condition cites provisions of this Part in effect prior to 1 January 1994, which do not correspond to any provisions of this Part, the license

or registration condition remains in force until there is an amendment or renewal of the license or registration that modifies or removes this condition.

1.5.2 Exemptions and Additional Requirements

A. The Agency may, upon application by a licensee or registrant or upon its own initiative, grant an exemption from the requirements of this Subchapter if it determines the exemption is authorized by law and would not result in undue hazard to life or property.

B. The Agency may, by rule, regulation, or order, impose requirements on a licensee or registrant, in addition to those established in this Subchapter, as it deems appropriate or necessary to protect health or to minimize danger to life or property.

1.5.3 Inspections

A. Each licensee and registrant shall afford the Agency at all reasonable times the opportunity to inspect sources of radiation and the premises and facilities wherein such sources of radiation are used or stored, and the cooperation and assistance of the registrant or licensee, or his staff, if needed.

B. Each licensee and registrant shall make available to the Agency for inspection, upon reasonable notice, records maintained pursuant to this Subchapter.

1.5.4 Tests

A. Each licensee and registrant shall perform upon instructions from the Agency, or shall permit the Agency to perform such reasonable tests as the Agency deems appropriate or necessary including, but not limited to, tests of:

1. Sources of radiation;

2. Facilities wherein sources of radiation are used or stored;

3. Radiation detection and monitoring instruments; and

4. Other equipment and devices used in connection with utilization or storage of licensed or registered sources of radiation.

1.5.5 Violations

An injunction or other court order may be obtained prohibiting any violation of any provision of the Act or any regulation or order issued thereunder. Any person who willfully violates any provision of the Act or any regulation or order issued thereunder may be guilty of a misdemeanor and upon conviction, may be punished by fine or imprisonment or both, as provided by law.

1.5.6 Units of Radiation Dose

For the purpose of this Part, the units of radiation dose are defined by 10 CFR § 20.1004.

1.5.7 Units of Radioactivity

For the purpose of this Part, the units of radioactivity are defined by 10 CFR § 20.1005.

1.5.8 Deliberate Misconduct

A. Any licensee, certificate of registration holder, applicant for a license or certificate of registration, employee of a licensee, certificate of registration holder or applicant; or any contractor (including a supplier or consultant), subcontractor, employee of a contractor or subcontractor of any licensee or certificate of registration holder or applicant for a license or certificate of registration, who knowingly provides to any licensee, applicant, certificate holder, contractor, or subcontractor, any components, equipment, materials, or other goods or services that relate to a licensee's, certificate holder's or applicant's activities in this part, may not:

1. Engage in deliberate misconduct that causes or would have caused, if not detected, a licensee, certificate of registration holder, or applicant to be in violation of any rule, regulation, or order; or any term, condition, or limitation of any license issued by the Agency; or

2. Deliberately submit to the Agency, a licensee, certificate of registration holder, an applicant, or a licensee's, certificate holder's or applicant's, contractor or subcontractor, information that the person submitting the information knows to be incomplete or inaccurate in some respect material to the Agency.

B. A person who violates §§ 1.5.8(A)(1) or (A)(2) of this Part may be subject to enforcement action in accordance with the procedures in § 2.11 of this Subchapter.

C. For the purposes of § 1.5.8(A)(1) of this Part, deliberate misconduct by a person means an intentional act or omission that the person knows:

1. Would cause a licensee, certificate of registration holder or applicant to be in violation of any rule, regulation, or order; or any term, condition, or limitation, of any license issued by the Agency; or

2. Constitutes a violation of a requirement, procedure, instruction, contract, purchase order, or policy of a licensee, certificate of registration holder, applicant, contractor, or subcontractor.

1.6 Radiation Protection Programs

For the purpose of this Part, the required radiation protection program is defined by 10 CFR § 20.1101.

1.7 Occupational Dose Limits

1.7.1 Occupational Dose Limits for Adults

A. For the purpose of this Part, the occupational dose limits for adults are defined by 10 CFR § 20.1201.

B. For sources of radiation other than radioactive material, when a protective apron is worn and monitoring is conducted as specified in § 1.10.3(B) of this Part, the effective dose equivalent for external radiation shall be determined as follows:

1. When only one individual monitoring device is used and it is located at the neck outside the protective apron, and the reported dose exceeds 25 percent of the limit specified in § 1.7.1(A) of this Part, the reported deep dose equivalent value multiplied by 0.3 shall be the effective dose equivalent for external radiation; or

2. When individual monitoring devices are worn, both under the protective apron at the waist and outside the protective apron at the neck, the effective dose equivalent for external radiation shall be assigned the value of the sum of the deep dose equivalent reported for the individual monitoring device located at the waist under the protective apron multiplied by 1.5 and the deep dose equivalent reported for the individual monitoring device located at the neck outside the protective apron multiplied by 0.04.

1.7.2 Compliance with Requirements for Summation of External and Internal Doses

For the purpose of this Part, compliance with requirements for summation of external and internal doses is defined by 10 CFR § 20.1202.

1.7.3 Determination of External Dose from Airborne Radioactive Material

For the purpose of this Part, determination of external dose from airborne radioactive material is defined by 10 CFR § 20.1203.

1.7.4 Determination of Internal Exposure

For the purpose of this Part, determination of internal exposure is defined by 10 CFR § 20.1204.

1.7.5 Determination of Prior Occupational Dose

A. For the purpose of this Part, determination of prior occupational dose is defined by 10 CFR § 20.2104.

B. The licensee or registrant shall retain the records of prior occupational dose and exposure history as specified in §1.7.5(A) on Agency Form RCA-2 or equivalent until the Agency terminates each pertinent license or registration requiring this record. The licensee or registrant shall retain records used in preparing Agency Form RCA-2 or equivalent for three (3) years after the record is made.

C. Upon termination of the license or registration, the licensee or registrant shall make arrangements, satisfactory to the Agency, for permanent storage of records contained on Agency Form RCA-2 or equivalent.

1.7.6 Planned Special Exposures

For the purpose of this Part, planned special exposures are defined by 10 CFR § 20.1206.

1.7.7 Occupational Dose Limits for Minors

For the purpose of this Part, occupational dose limits for minors are defined by 10 CFR § 20.1207.

1.7.8 Dose Equivalent to an Embryo/Fetus

For the purpose of this Part, dose equivalent to an embryo/fetus is defined by 10 CFR § 20.1208.

1.8 Radiation Dose Limits for Individual Members of the Public

1.8.1 Dose Limits for Individual Members of the Public

A. For the purpose of this Part, dose limits for individual members of the public are defined by 10 CFR § 20.1301.

B. Each registrant shall conduct operations so that the total effective dose equivalent to individual members of the public does not exceed the original design criteria of 5 mSv (0.5 rem) in a year at locations within registered facilities where only radiation machines were installed prior to 1 January 1994 and which continue to meet the original design criteria (e.g. workload, type and use of radiation machine, room configuration, etc.) on or after 1 January 1994.

1.8.2 Compliance with Dose Limits for Individual Members of the Public

For the purpose of this Part, compliance with dose limits for individual members of the public is defined by 10 CFR § 20.1302.

1.9 Radiological Criteria for License Termination

1.9.1 General Provisions and Scope

A. **Applicability.** The criteria in §§ 1.9.1 through 1.9.6 of this Part apply to the decommissioning of facilities licensed under Parts 7, 9, 10 and 11 of this Subchapter, as well as other facilities subject to the Agency's jurisdiction.

B. After a site has been decommissioned and the license terminated in accordance with the criteria in §§ 1.9.1 through 1.9.6 of this Part, the Agency will require additional cleanup only if, based on new information, it determines that the criteria in §§ 1.9.1 through 1.9.6 of this Part were not met and residual radioactivity remaining at the site could result in significant threat to public health and safety.

C. When calculating TEDE to the average member of the critical group the licensee shall determine the peak annual TEDE dose expected within the first 1000 years after decommissioning.

1.9.2 Radiological Criteria for Unrestricted Use

For the purpose of this Part, compliance with radiological criteria for unrestricted use is defined by 10 CFR § 20.1402.

1.9.3 Criteria for License Termination Under Restricted Conditions

For the purpose of this Part, criteria for license termination under restricted conditions is defined by 10 CFR § 20.1403.

1.9.4 Alternate Criteria for License Termination

For the purpose of this Part, alternate criteria for license termination is defined by 10 CFR § 20.1404.

1.9.5 Public Notification and Public Participation

For the purpose of this Part, requirements for public notification and public participation are defined by 10 CFR § 20.1405.

1.9.6 Minimization of Contamination

For the purpose of this Part, requirements for minimization of contamination are defined by 10 CFR § 20.1406.

1.10 Surveys and Monitoring

1.10.1 Testing for Leakage or Contamination of Sealed Sources

A. The licensee in possession of any sealed source shall assure that:

1. Each sealed source, except as specified in § 1.10.1(B) of this Part, is tested for leakage or contamination and the test results are received before the sealed source is put into use unless the licensee has a certificate from the transferor indicating that the sealed source was tested within six (6) months before transfer to the licensee.

2. Each sealed source that is not designed to emit alpha particles is tested for leakage or contamination at intervals not to exceed six (6) months or at alternative intervals approved by the Agency, after evaluation of information specified by § 7.6.17 of this Subchapter, another Agreement State or the U.S. Nuclear Regulatory Commission.

3. Each sealed source that is designed to emit alpha particles is tested for leakage or contamination at intervals not to exceed three (3) months or at alternative intervals approved by the Agency, after evaluation of information specified by § 7.6.17 of this Subchapter, another Agreement State or the U.S. Nuclear Regulatory Commission.

4. For each sealed source that is required to be tested for leakage or contamination, at any other time there is reason to suspect that the sealed source might have been damaged or might be leaking, the licensee shall assure that the sealed source is tested for leakage or contamination before further use.

5. Tests for leakage for all sealed sources, except brachytherapy sources manufactured to contain radium, shall be capable of detecting the presence of 185 Bq (0.005 µCi) of radioactive material on a test sample. Test samples shall be taken from the sealed source or from the surfaces of the container in which the sealed source is stored or mounted on which one might expect contamination to accumulate. For a sealed source contained in a device, test samples are obtained when the source is in the "off" position.

6. The test for leakage for brachytherapy sources manufactured to contain radium shall be capable of detecting an absolute leakage rate of 37 Bq (0.001 µCi) of radon-222 in a twenty-four (24) hour period when the collection efficiency for radon-222 and its daughters has been determined with respect to collection method, volume and time.

7. Tests for contamination from radium daughters shall be taken on the interior surface of brachytherapy source storage containers and shall be

capable of detecting the presence of 185 Bq (0.005 µCi) of a radium daughter which has a half-life greater than four (4) days.

B. A licensee need not perform test for leakage or contamination on the following sealed sources:

1. Sealed sources containing only radioactive material with a half-life of less than thirty (30) days;

2. Sealed sources containing only radioactive material as a gas;

3. Sealed sources containing 3.7 MBq (100 µCi) or less of beta or photon-emitting material or 370 kBq (10 µCi) or less of alpha-emitting material;

4. Sealed sources containing only hydrogen-3;

5. Seeds of iridium-192 encased in nylon ribbon; and

6. Sealed sources, except teletherapy and brachytherapy sources, which are stored, not being used and identified as in storage. The licensee shall, however, test each such sealed source for leakage or contamination and receive the test results before any use or transfer unless it has been tested for leakage or contamination within six (6) months before the date of use or transfer. No sealed source shall be stored for a period of more than ten (10) years without being tested for leakage and/or contamination.

C. Tests for leakage or contamination from sealed sources shall be performed by persons specifically authorized by the Agency, another Agreement State or the U.S. Nuclear Regulatory Commission to perform such services.

D. Records of tests for leakage or contamination of sealed sources required by A.3.1 shall be kept in units of becquerel or microcurie and maintained for inspection by the Agency for five (5) years after the records are made.

E. The following shall be considered evidence that a sealed source is leaking:

1. The presence of 185 Bq (0.005 µCi) or more of removable contamination on any test sample; or

2. Leakage of 37 Bq (0.001 µCi) of radon-222 per twenty-four (24) hours for brachytherapy sources manufactured to contain radium.

F. The licensee shall immediately withdraw a leaking sealed source from use and shall take action to prevent the spread of contamination. The leaking sealed source shall be repaired or disposed of in accordance with this Part.

G. The licensee shall file a report within five (5) working days with the Agency if the test for leakage or contamination indicates a sealed source is leaking or

contaminated. The report shall include the equipment involved, the test results and the corrective action taken.

1.10.2 General Survey and Monitoring Requirements

A. For the purpose of this Part, general survey and monitoring requirements are defined by 10 CFR § 20.1501.

B. Exposure of a personnel monitoring device to deceptively indicate a dose delivered to an individual is prohibited.

1.10.3 Conditions Requiring Individual Monitoring of External and Internal Occupational Dose

A. For the purpose of this Part, conditions requiring individual monitoring of external and internal occupational dose are defined by 10 CFR § 20.1502.

B. Individuals wearing a protective apron, when personnel monitoring is otherwise required by this Subchapter, shall position their individual monitoring devices as follows:

1. An individual monitoring device used for the dose to an embryo/fetus of a declared pregnant woman, pursuant to § 1.7.8 of this Part, shall be located under the protective apron at the waist.

    a. It is recognized that, in the specific work environment of medical fluoroscopic equipment, the dose to the embryo/fetus is overestimated by the individual monitoring device because of the overlying tissue of the pregnant individual. A medical physicist who is registered with the Agency pursuant to § 3.6 of this Subchapter as a Provider of Diagnostic X-Ray Physics Services should be consulted to determine the dose to the embryo/fetus for the rare occasion in which this individual monitoring device has a monthly reported dose equivalent value in excess of 0.5 mSv (50 mrem). Therefore, for purposes of this Part, the value to be used for determining the dose to an embryo/fetus pursuant to § 1.7.8 of this Part for occupational exposure to radiation from medical fluoroscopic equipment may be the value reported by the individual monitoring device worn at the waist underneath the protective apron which has been corrected for the particular individual and her work environment by the above referenced medical physicist.

2. An individual monitoring device used for eye dose equivalent shall be located at the neck, or an unshielded location closer to the eye, outside the protective apron.

3. When only one individual monitoring device is used to determine the effective dose equivalent for external radiation pursuant to § 1.7.1(B) of

this Part, it shall be located at the neck outside the protective apron. When a second individual monitoring device is used, for the same purpose, it shall be located under the protective apron at the waist. The second individual monitoring device is required for a declared pregnant woman.

C. An individual monitoring device used for monitoring the dose to the extremities, to demonstrate compliance with § 1.7.1(A) of this Part, shall be worn on the extremity likely to receive the highest exposure. Each individual monitoring device shall be oriented to measure the highest dose to the extremity being monitored.

1.11 Control of Exposure from External Sources in Restricted Areas

1.11.1 Control of Access to High Radiation Areas

A. For the purpose of this Part, control of access to high radiation areas is defined by 10 CFR § 20.1601.

B. The registrant is not required to control entrance or access to rooms or other areas containing sources of radiation capable of producing a high radiation area as described in § 1.11.1(A) of this Part if the registrant has met all the specific requirements for access and control specified in other applicable Parts of this Subchapter.

1.11.2 Control of Access to Very High Radiation Areas

A. For the purpose of this Part, control of access to very high radiation areas is defined by 10 CFR § 20.1602.

B. The registrant is not required to control entrance or access to rooms or other areas containing sources of radiation capable of producing a very high radiation area as described in § 1.11.2(A) of this Part if the registrant has met all the specific requirements for access and control specified in other applicable Parts of this Subchapter.

1.12 Respiratory Protection and Controls to Restrict Internal Exposure in Restricted Areas

1.12.1 Use of Process or Other Engineering Controls

For the purpose of this Part, use of process or other engineering controls is defined by 10 CFR § 20.1701.

1.12.2 Use of Other Controls

For the purpose of this Part, use of other controls is defined by 10 CFR § 20.1702.

1.12.3 Use of Individual Respiratory Protection Equipment

A. For the purpose of this Part, use of individual respiratory protection equipment is defined by 10 CFR § 20.1703.

B. For the purpose of this Part, further restrictions on the use of respiratory protection equipment are defined by 10 CFR § 20.1704.

C. For the purpose of this Part, authorization for use of higher assigned protection factors is required by 10 CFR § 20.1705.

1.13 Storage and Control of Licensed Material

1.13.1 Security of Stored Material

For the purpose of this Part, security of stored material is defined by 10 CFR § 20.1801.

1.13.2 Control of Material Not in Storage

A. For the purpose of this Part, control of material not in storage is defined by 10 CFR § 20.1802.

B. The registrant shall maintain control of radiation machines that are in an unrestricted area and that are not in storage.

1.14 Precautionary Procedures

1.14.1 Caution Signs

For the purpose of this Part, caution signs ae defined by 10 CFR § 20.1901.

1.14.2 Posting Requirements

For the purpose of this Part, posting requirements are defined by 10 CFR § 20.1902.

1.14.3 Exceptions to Posting Requirements

A. For the purpose of this Part, exceptions to posting requirements are defined by 10 CFR § 20.1903.

B. A room or area is not required to be posted with a caution sign because of the presence of radiation machines used solely for diagnosis in the healing arts.

1.14.4 Labeling Containers and Radiation Machines

A. For the purpose of this Part, labeling of containers is defined by 10 CFR § 20.1904.

B. Each registrant shall ensure that each radiation machine is labeled in a conspicuous manner which cautions individuals that radiation is produced when it is energized.

1.14.5 Exemptions to Labeling Requirements

For the purpose of this Part, exemptions to labeling requirements are defined by 10 CFR § 20.1905.

1.14.6 Procedures for Receiving and Opening Packages

For the purpose of this Part, procedures for receiving and opening packages are defined by 10 CFR § 20.1906.

1.15 Waste Disposal

1.15.1 General Requirements for Waste Disposal

For the purpose of this Part, general requirements for waste disposal are defined by 10 CFR § 20.2001.

1.15.2 Method for Obtaining Approval of Proposed Disposal Procedures

For the purpose of this Part, the method for obtaining approval of proposed disposal procedures is defined by 10 CFR § 20.2002.

1.15.3 Disposal by Release into Sanitary Sewerage

For the purpose of this Part, disposal by release into sanitary sewerage is defined by 10 CFR § 20.2003.

1.15.4 Treatment or Disposal by Incineration

For the purpose of this Part, treatment or disposal by incineration is defined by 10 CFR § 20.2004.

1.15.5 Disposal of Specific Wastes

For the purpose of this Part, disposal of specific wastes is defined by 10 CFR § 20.2005.

1.15.6 Transfer for Disposal and Manifests

For the purpose of this Part, transfer for disposal and manifests are defined by 10 CFR § 20.2006.

1.15.7 Compliance with Environmental and Health Protection Regulations

For the purpose of this Part, compliance with environmental and health protection regulations is defined by 10 CFR § 20.2007.

1.15.8 Disposal of 11e(3) and 11e(4) Byproduct Material

For the purpose of this Part, disposal of 11e(3) and 11e(4) Byproduct Material is defined by 10 CFR § 20.2008.

1.16 Records

1.16.1 General Provisions

A. For the purpose of this Part, general recordkeeping provisions are defined by 10 CFR § 20.2101.

B. Each licensee and registrant shall maintain records showing the receipt, transfer, and disposal of all sources of radiation. All records required by this Subchapter shall be maintained indefinitely unless otherwise specified in this Subchapter.

1.16.2 Records of Radiation Protection Programs

For the purpose of this Part, requirements for maintenance of records of radiation protection programs are defined by 10 CFR § 20.2102.

1.16.3 Records of Surveys

For the purpose of this Part, requirements for maintenance of records of surveys are defined by 10 CFR § 20.2103.

1.16.4 Records of Tests for Leakage or Contamination of Sealed Sources

Records of tests for leakage or contamination of sealed sources required by § 1.26 of this Part shall be kept in units of becquerel or microcurie and maintained for inspection by the Agency for five (5) years after the records are made.

1.16.5 Records of Planned Special Exposures

For the purpose of this Part, requirements for maintenance of records of planned special exposures are defined by 10 CFR § 20.2105.

1.16.6 Records of Individual Monitoring Results

For the purpose of this Part, requirements for maintenance of records of individual monitoring results are defined by 10 CFR § 20.2106.

1.16.7 Records of Dose to Individual Members of the Public

For the purpose of this Part, requirements for maintenance of records of dose to individual members of the public are defined by 10 CFR § 20.2107.

1.16.8 Records of Waste Disposal

For the purpose of this Part, requirements for maintenance of records of waste disposal are defined by 10 CFR § 20.2108.

1.16.9 Form of Records

For the purpose of this Part, requirements regarding the form of records are defined by 10 CFR § 20.2110.

1.17 Reports

1.17.1 Reports of Theft or Loss of Licensed Material

For the purpose of this Part, requirements regarding reports of theft or loss of licensed material are defined by 10 CFR § 20.2201.

1.17.2 Notification of Incidents

A. Immediate Notification. Notwithstanding other requirements for notification, each licensee or registrant shall immediately report each event involving a source of radiation possessed by the licensee or registrant that may have caused or threatens to cause any of the following conditions:

1. Immediately notify the Agency of each event involving a source of radiation possessed by the licensee or registrant that may have caused or threatens to cause any of the following conditions:

    a. An individual to receive:

        (1) A total effective dose equivalent of 0.25 Sv (25 rem) or more; or

        (2) A lens dose equivalent of 0.75 Sv (75 rem) or more; or

        (3) A shallow dose equivalent to the skin or extremities or a total organ dose equivalent of 2.5 Gy (250 rad) or more; or

    b. The release of radioactive material, inside or outside of a restricted area, so that, had an individual been present for twenty-four (24) hours, the individual could have received an intake five times the occupational ALI. This provision does not apply to locations where

personnel are not normally stationed during routine operations, such as hot-cells or process enclosures.

2. Immediately notify the Agency as soon as possible, but not later than four (4) hours after the discovery, of an event (e.g., fire, explosion toxic gas release, etc.) that prevents immediate protective actions necessary to avoid exposures to radiation or radioactive materials that could exceed regulatory limits or releases of licensed material that could exceed regulatory limits.

B. Twenty-Four Hour Notification. Each licensee or registrant shall, within twenty-four (24) hours of discovery of the event, report to the Agency each event involving loss of control of a licensed or registered source of radiation possessed by the licensee or registrant that may have caused, or threatens to cause, any of the following conditions:

1. An individual to receive, in a period of twenty-four (24) hours:

a. A total effective dose equivalent exceeding 0.05 Sv (5 rem); or

b. A lens dose equivalent exceeding 0.15 Sv (15 rem); or

c. A shallow dose equivalent to the skin or extremities or a total organ dose equivalent exceeding 0.5 Sv (50 rem); or

2. The release of radioactive material, inside or outside of a restricted area, so that, had an individual been present for twenty-four (24) hours, the individual could have received an intake in excess of one occupational ALI. This provision does not apply to locations where personnel are not normally stationed during routine operations, such as hot-cells or process enclosures.

3. An unplanned contamination event that:

a. Requires access to the contaminated area, by workers or the public, to be restricted for more than twenty-four (24) hours by imposing additional radiological controls or by prohibiting entry into the area; and

b. Involves a quantity of material greater than five times the lowest annual limit on intake specified for the material in § 1.19 of this Part; and

c. Has access to the area restricted for a reason other than to allow isotopes with a half-life of less than twenty-four (24) hours to decay prior to decontamination.

4. An event in which equipment is disabled or fails to function as designed when:

   a. The equipment is required by regulation or license/registration condition to prevent releases exceeding regulatory limits, to prevent exposures to radiation and/or radioactive materials exceeding regulatory limits, or to mitigate the consequences of an accident; and

   b. The equipment is required to be available and operable when it is disabled or fails to function; and

   c. No redundant equipment is available and operable to perform the required safety function.

5. An event that requires unplanned medical treatment at a medical facility of an individual with spreadable radioactive contamination on the individual's clothing or body.

6. An unplanned fire or explosion damaging any licensed material or any device, container, or equipment containing licensed material when:

   a. The quantity of material involved is greater than five times the lowest annual limit on intake specified for the material in § 1.19 of this Part; and

   b. The damage affects the integrity of the licensed material or its container.

C. The licensee or registrant shall prepare each report filed with the Agency pursuant to § 1.17.2 of this Part so that names of individuals who have received exposure to sources of radiation are stated in a separate and detachable portion of the report.

D. Licensees or registrants shall make the reports required by §§ 1.17.2(A) and (B) of this Part to the Agency by telephone, telegram, mailgram, or facsimile to the Agency. To the extent that the information is available at the time of notification, the information provided in these reports shall include:

1. The name of the person making the report and their call-back telephone number;

2. A description of the event, including time and date;

3. The exact location of the event;

4. The levels of radiation and the isotopes, quantities, and chemical and physical form of the licensed material involved; and

5. Any personnel radiation exposure data available.

E. The provisions of § 1.17.2 of this Part. do not apply to doses that result from planned special exposures, provided such doses are within the limits for planned special exposures and are reported pursuant to § 1.17.4 of this Part.

1.17.3 Reports of Exposures, Radiation Levels, and Concentrations of Radioactive Material Exceeding the Constraints or Limits

For the purpose of this Part, requirements regarding reports of exposures, radiation levels, and concentrations of radioactive material exceeding the constraints or limits are defined by 10 CFR § 20.2203.

1.17.4 Reports of Planned Special Exposures

For the purpose of this Part, requirements regarding reports of planned special exposures are defined by 10 CFR § 20.2204.

1.17.5 Notifications and Reports to Individuals

When a licensee or registrant is required pursuant to § 1.17.3 or § 1.17.4 of this Part to report to the Agency any exposure of an individual to radiation or radioactive material, the licensee or registrant shall also notify the individual. Such notice shall be transmitted at a time not later than the transmittal to the Agency, and shall comply with the provisions of A.6.4(a).

1.17.6 Reports of Transactions Involving Nationally Tracked Sources

For the purpose of this Part, requirements regarding reports of transactions involving nationally tracked sources are defined by 10 CFR § 20.2207.

1.17.7 Vacating Premises

Each specific licensee shall, no less than thirty (30) days before vacating or relinquishing possession or control of premises which may have been contaminated with radioactive material as a result of his activities, notify the Agency in writing of intent to vacate. When deemed necessary by the Agency, the licensee shall decontaminate the premises in such a manner as the Agency may specify.

1.18 Assigned Protection Factors for Respirators

For the purpose of this Part, assigned protection factors for respirators are defined in Appendix A to 10 CFR Part 20.

1.19 Annual Limits on Intake (ALIs) and Derived Air Concentrations (DACs) of Radionuclides for Occupational Exposure; Effluent Concentrations; Concentrations for Release to Sewerage

For the purpose of this Part, Annual Limits on Intake (ALIs) and Derived Air Concentrations (DACs) of radionuclides for occupational exposure; effluent concentrations; and concentrations for release to sewerage are defined in Appendix B to 10 CFR Part 20.

1.20 Quantities of Licensed Material Requiring Labeling

For the purpose of this Part, quantities of licensed material requiring labeling are defined in Appendix C to 10 CFR Part 20.

1.21 Requirements for Transfers of Low-Level Radioactive Waste Intended for Disposal at Licensed Land Disposal Facilities and Manifests

For the purpose of this Part, requirements for transfers of low-level radioactive waste intended for disposal at licensed land disposal facilities and manifests are defined in Appendix G to 10 CFR Part 20.

1.22 Nationally Tracked Source Thresholds

For the purpose of this Part, requirements for nationally tracked source thresholds are defined in Appendix E to 10 CFR Part 20.