

Chapter 6 – Environmental Health

Subchapter 5 –

**Radioactive Materials Rule**

**Commented [IW1]:** This is revised to differentiate this rule from the Radiological Health Rule which currently regulates other ionizing radiation sources and the emissions at the site boundary from the Vermont Yankee Nuclear Power Station.

**Section I. OVERVIEW**

**1.0 General Provisions**

**1.1 Purpose.**

This rule establishes requirements for the protection of public health and safety as related to radioactive materials and implements the requirements of 18 V.S.A. §§ 1652 and 1653.

**1.2 Scope.**

1.2.1 This regulation, except as otherwise specifically provided, applies to persons who use, manufacture, produce, transport, transfer, receive, acquire, possess, own or dispose of radioactive materials.

1.2.2 A person, when required, shall obtain a license for radioactive materials in the possession or control of the person, and shall comply with the statute and this regulation.

1.2.3 As established in 18 V.S.A. § 1653 (c) this rule does not regulate materials or activities reserved to the Nuclear Regulatory Commission (NRC) under 42 U.S.C. § 2021 (c) and 10 C.F.R. Part 150. Similarly, this rule only regulates nonionizing radiation under state authority.

1.2.4 Notwithstanding the requirements incorporated by reference, nothing in this rule relieves or limits a person from complying with the laws of the State of Vermont, including Vermont Statutes Title 18: Chapter 32, Title 10: Chapter 161, Title 10: Chapter 162 and Title 18: Chapter 31.

1.2.5 Title 10 Chapter I (Nuclear Regulatory Commission) Parts 19, 20, 30, 31, 32, 33, 34, 35, 36, 37, 39, 40, 61.55, 61.56, 61.57, 70, 71, 150.1, 150.2, 150.3, 150.11, 150.20, 170, and 171 of the C.F.R. are incorporated by reference with the exceptions set forth in the relevant subsections, which either do not apply or are under the authority of the NRC. The unofficial version of these parts may be accessed at: <http://www.nrc.gov/>. An official version is also available by hard copy.

**Commented [IW2]:** Originally chose not to eliminate references to radiation sources, registrants of radiation-generating devices or registration of radiation-generating devices, but only to eliminate references to incorporating the CRCPD SSRs.

**Commented [IW3R2]:** Further consideration of public comments required elimination of all references to radiation-producing machines.

1.2.6 To reconcile differences between this regulation and the incorporated sections of Federal regulations and to effectuate their joint enforcement,

**Commented [IW4]:** Needed to add three subparts to Part 61 after conference call with NRC.

the following words and phrases shall be substituted for the language of the Federal regulations:

- 1.2.6.1 With the exception of 10 CFR 30.4 and in the definition of Special Nuclear Material in 10 CFR 20.1003 which are incorporated by reference, a reference to “NRC” or “Commission” means the Vermont Department of Health.
- 1.2.6.2 A reference to “NRC or agreement state” means the Vermont Department of Health, NRC, or agreement state.
- 1.2.6.3 A reference to “the Act” means a reference to Vermont statute 18 V.S.A. § 1651-1658.
- 1.2.6.4 The definition of “sealed source” means radioactive material that is permanently bonded or fixed in a capsule or matrix designed to prevent release and dispersal of the radioactive material under the most severe conditions which are likely to be encountered in normal use and handling.
- 1.2.6.5 A reference to “byproduct material” includes NARM. In 10 C.F.R. 40.4, the definition of “Byproduct Material” includes naturally occurring or accelerator-produced material (NARM).
- 1.2.6.6 In 10 CFR 40.4 the terms “Foreign Obligations” and Reconciliation” are not incorporated. In 10 CFR 40.4, in the definition of “Special Nuclear Material”, the sentence “and any other material which the Commission, pursuant to the provisions of section 51 of the Act, determines to be special nuclear material”, remains preserved.
- 1.2.6.7 With the exception of criminal history records required by 10 C.F.R. 37.27 (relating to requirements for criminal history checks of individuals granted unescorted access to category 1 or category 2 quantities of radioactive material), notifications, reports and correspondence referenced in the incorporated parts of 10 C.F.R. shall be directed to the Vermont Department of Health after agreement state status is in effect, and, for NRC licenses, to the NRC until agreement state status is in effect. Criminal history records required by 10 C.F.R. 37.27 are to be sent to the NRC. Communications and reports concerning these regulations and applications filed under it shall be addressed to the Radiological & Toxicological Sciences Program, Vermont Department of Health, 108 Cherry Street, Burlington, Vermont, 05401.
- 1.2.6.8 Instructions in 10 C.F.R. to use forms of the NRC means to use forms of the Department, which will be available on the Department website at <http://healthvermont.gov>

- 1.2.6.9 In 10 C.F.R. 30.18(d), 30.32(g), 31.5(b)(1)(ii), 31.5(c)(3)(ii), 31.5(c)(8)(i), 31.6, 31.7(a), 31.10(a), 31.10(b)(1), 31.12(c)(4), 32.13, 32.51(a), 32.51(c), 32.56, 32.59, 32.72(b)(5)(ii), 40.13(c)(10), 40.22(e), 40.25(b), 40.25(d)(3), 40.54, 40.55(c), (c)(1), (d)(1)(ii), (d)(2) and (d)(3), where a reference is made to “an Agreement State”, it means “an Agreement State or the NRC”.
- 1.2.6.10 In 10 C.F.R. 70.19(a) (1) and 70.19(c)(3), the terms “Commission or the Atomic Energy Commission” remains and does not mean the “Department”. In 10 CFR 70.42(b)(1) the word “Department” means the “US Department of Energy”.
- 1.2.6.11 In 10 CFR 150.20, where the words “non-agreement states”, “areas of exclusive federal jurisdiction within agreement states”, or “offshore waters” are used in 150.20(a)(1)(i), (ii), (iii), (b), (b)(3), and (b)(4) substitute the words “the State of Vermont”. Where the words “agreement state license” are used in 10 CFR 150.20, also add the words “Nuclear Regulatory Commission license”. Where the words “license issued by an agreement state” are used in 10 CFR 150.20 also add the words “license issued by the Nuclear Regulatory Commission”. Where the words “license from an agreement state” are used in 10 CFR 150.20 also add the words “license from the Nuclear Regulatory Commission”.
- 1.2.6.12 In 10 CFR 31, where the words “any non-agreement state” or “offshore waters” are used in 31.6 substitute the words “State of Vermont”.
- 1.2.7 This Rule does not regulate x-ray and other radiographic diagnostic or therapeutic equipment use by physicians, dentists, and other health professionals, occupational sources of radiation from machines and the radiation exposure values at the site boundary of the Vermont Yankee Nuclear Power Station.

### 1.3 Definitions

The definitions in 10 C.F.R. Chapter 1, Parts 19, 20, 30, 31, 32, 33, 34, 35, 36, 37, 39, 40, 61, 70, 71, 150, 170 and 171 are incorporated by reference in this rule unless indicated otherwise. In addition, the following words and terms, when used in this rule, have the following meanings, unless the context clearly indicates otherwise:

- 1.3.1 “Agreement State” means any State with which the Atomic Energy Commission or the Nuclear Regulatory Commission has entered into an effective agreement under subsection 274b. of the Atomic Energy Act of 1954, as amended.

**Commented [IW5]:** Added definitions of 10 CFR Part 61 as commented by NRC.

- 1.3.2 “Byproduct material” means the tailings or wastes produced by the extraction or concentration of uranium or thorium from any ore processed primarily for its source material content, including discrete surface wastes resulting from uranium solution extraction processes. Underground ore bodies depleted by such solution extraction operations do not constitute “byproduct material” within this definition.
- 1.3.3 “Department” means the Department of Health.
- 1.3.4 “Licensed practitioner of the healing arts” means an individual licensed by the State of Vermont pursuant to Title 26 to practice the healing arts, which for the purposes of this rule shall be limited to medicine, surgery, dentistry, osteopathy, podiatry and chiropractic.
- 1.3.5 “NARM” means a naturally occurring or accelerator-produced radioactive material. The term does not include by-product, source or special nuclear material. In 10 C.F.R. 40.4, the definition of “Byproduct Material” includes NARM.
- 1.3.6 “Regulated entity” means any individual, person, organization or corporation that is subject to the regulatory jurisdiction of the Department within the scope of this rule.
- 1.3.7 “Source material” means: (1) uranium or thorium, or any combination thereof, in any physical or chemical form or (2) ores which contain by weight one-twentieth of one percent (0.05%) or more of: (1) uranium, (ii) thorium or (iii) any combination thereof. Source materials does not include special nuclear material.
- 1.3.8 “Special nuclear material” means: (1) plutonium, uranium 233, uranium enriched in the isotope 233 or in the isotope 235, and any other material which the Commission, pursuant to the provisions of section 51 of the Act, determines to be special nuclear material; or (2) any material artificially enriched by any of the foregoing.
- 1.3.9 “Traceable to a National Standard” means a system which has been calibrated by the National Institute of Science and Technology or by a Regional Calibration Laboratory accredited by the American Association of Physicists in Medicine.
- 1.3.10 “Unrefined and unprocessed ore” means ore in its natural form prior to any processing, such as grinding, roasting or beneficiating, or refining. Processing does not include sieving or encapsulation of ore or preparation of samples for laboratory analysis.
- 1.3.11 The definition of regulated entities in 10 CFR 19.3 is not incorporated by reference.

## 2.0 Compliance Monitoring

## 2.1 Records

- 2.1.1 Licensees shall maintain records showing the receipt, transfer and disposal of radioactive material as described in 10 C.F.R. 30.51, relating to records.
- 2.1.2 Additional record requirements are specified elsewhere in these regulations.

## 2.2 Inspections and investigations

- 2.2.1 The Department may conduct inspections and investigations of the facilities and regulated activities of radioactive material necessary to demonstrate compliance with these regulations.
- 2.2.2 *Maintenance of records.* Licensees shall maintain records under this rule and have these records available for inspection by the Department at permanent sites or facilities of use identified in a license issued under this regulation.
- 2.2.3 Licensees will permit the Department to:
  - 2.2.3.1 Have access to, and require the production of, books, papers, documents and other records and physical evidence pertinent to a matter under inspection or investigation.
  - 2.2.3.2 Require a licensee to make reports and furnish information to the Department.
  - 2.2.3.3 Enter the premises of a licensee for the purpose of investigation or inspection of radioactive materials and the premises and facilities where radioactive materials are used or stored, necessary to ascertain the compliance or noncompliance with these regulations and this subsection and to protect health, safety and the environment.
- 2.2.4 The Department may conduct additional follow-up inspections and investigations if violations of the regulations promulgated thereunder were noted at the time of the original inspection, or if a person presents information, or circumstances arise, which give the Department reason to believe that the health and safety of a person is threatened or that these regulations are being violated.

## 2.3 Tests

- 2.3.1 Licensees, upon instruction from the Department, shall perform, or permit the Department to perform reasonable tests as the Department deems appropriate or necessary including, but not limited to, tests of:
  - 2.3.1.1 Radioactive materials.
  - 2.3.1.2 Facilities in which radioactive materials are used or stored.

- 2.3.1.3 Radiation detection and monitoring instruments.
- 2.3.1.4 Other equipment and devices in connection with utilization or storage of licensed radioactive materials.

2.4 The Department may impose upon a person, requirements additional to those established in these regulations which it may deem reasonable and necessary to protect the public health and safety. As an example, when necessary or desirable to determine the extent of an individual's exposure to concentrations of radioactive material, the Department may require a licensee to provide to the individual appropriate bioassay services, medical services and the services of a qualified expert and to furnish a copy of the reports of these services to the Department.

### 3.0 Prohibitions, Restrictions and Additional Requirements

#### 3.1 Sale of radioactive materials.

No person may sell within the State of Vermont radioactive materials which do not meet the requirements of these regulations.

#### 3.2 Human use

- 3.2.1 No use of radioactive materials on humans may be permitted except under this regulation, and limited to the following license or certificate holders under Vermont Statutes Annotated, Title 26 Professions and Occupations:  
Podiatry (Chapter 7); Chiropractic (Chapter 10); Dentists, Dental Hygienists, and Dental Assistants (Chapter 12); Medicine (Chapter 23); Physician Assistants (Chapter 31); Osteopathy (Chapter 33); Radiology (Chapter 51); Radiologist Assistants (Chapter 52).
- 3.2.2 Auxiliary personnel employed by a licensed practitioner of the healing arts at the location at which the licensed practitioner practices may use radioactive materials in the healing arts provided those individuals comply with the applicable requirements in 3.2.1.
- 3.2.3 Auxiliary personnel employed by a health care facility regulated by the Department of Health may only use radioactive materials in the healing arts in accordance with written job descriptions and employee qualifications.
- 3.2.4 Paragraphs 3.2.2 and 3.2.3 notwithstanding, human use of radioactive materials is permitted by individuals enrolled in clinical training programs that satisfy the related accreditation requirements of the boards in paragraph 3.2.1 and who are under the supervision of a licensed

practitioner of the healing arts or of auxiliary personnel authorized under paragraphs 3.2.2 and 3.2.3 to use radioactive materials sources in the healing arts.

### **3.3 Deliberate misconduct.**

The requirements under 10 C.F.R. 30.10 (relating to deliberate misconduct) are incorporated by reference. In 10 C.F.R. 30.10(b), the reference to 10 C.F.R. 2, relating to deliberate misconduct, is replaced with 18 VSA § 1651 – 1657 and Radioactive Material Program Procedure Section 2.5, Enforcement, Escalated Enforcement and Administrative Actions.

### **3.4 Employee protections.**

The requirements under 10 C.F.R. 30.7 (relating to employee protection) are incorporated by reference.

### **3.5 Vacating premises.**

In addition to the decommissioning requirements of 10 C.F.R. 30.36 (relating to expiration and termination of licenses and decommissioning of sites and separate buildings or outdoor areas) that are incorporated by reference under Subsection 11.0 (relating to licensing of radioactive material), a licensee shall notify the Department in writing of intent to vacate at least 30 days before vacating or relinquishing possession or control of premises which may have been contaminated with radioactive material as a result of the licensee's activities. When deemed necessary by the Department, the licensee shall decontaminate the premises as the Department may specify.

### **3.6 Improper use of a monitoring device.**

The deliberate exposure of, failure to use, or improper use of, an individual monitoring device or area monitoring device by an individual is prohibited.

### **3.7 Penalties.**

A person who violates this rule is subject to the civil and criminal penalties in the Atomic Energy Act (AEA) of 1954, as amended, and the Energy Reorganization Act (ERA) of 1974, as amended. At a minimum, civil penalties may be assessed in an amount sufficient to recover the costs expended by the Department in the correction of the violation or abatement of the resulting radiological nuisance.

## **4.0 Exemptions**

#### **4.1 Granting exemptions**

The Department may, upon application therefore or upon its own initiative, grant exemptions from this regulation when the Department makes a finding that the exemption(s) do not result in significant risk to the health and safety of the public and safeguards that provide equivalent levels of protection in this rule are implemented.

#### **4.2 Exemption Qualifications.**

The following sources, uses and types of users are exempt from this subchapter:

4.2.1 Federal government agencies

4.2.1 Electrical equipment

4.2.1.1 Equipment that produces radiation incidental to its operation for other purposes if the dose equivalent rate averaged over an area of 10 square centimeters does not exceed 0.005 mSv (0.5 mrem) per hour at 5 centimeters from an accessible surface.

4.2.1.2 The equipment is not exempt when operated without adequate shielding during testing and servicing if radiation levels exceed those specified. Electron beam welders and electron microscopes are not exempt.

4.2.3 A material, product or use specifically exempted from licensing requirements by the NRC, the Department or an agreement state or authorized for distribution to persons exempt from license requirements.

#### **5.0 Fees**

##### **5.1 Scope.**

5.1.1 This subsection establishes fees for licensing of radioactive materials and provides for their payment. The fee schedule for licensing materials is found at 18 V.S.A. § 1653 (b)(3).

5.1.2 For the purpose of this subsection, radioactive materials under the same administrative control in a single building are licensed as a single facility. Radioactive materials under the same administrative control at the same address or in a contiguous group of buildings may be licensed as a single facility if the Department determines that it is appropriate.

Except as otherwise specifically provided, this subsection applies to a person who: Is an applicant for or holder of a radioactive material license issued under Subsection 11.0 (relating to licensing of radioactive materials).

##### **5.2 Incorporation by reference.**

- 5.2.1 Notwithstanding the requirements incorporated by reference, Sections 170.2(d), 170.2(e), 170.2(g) through 170.2(p), 170.2(r), 170.2(t), 170.4, 170.5, 170.8, 170.11, 170.12(c)(1), 170.12(c)(3), 170.12(d) through 170.12(f), 170.21, 170.51, 171.8, 171.9, 171.11, 171.13, 171.15, 171.16(a)(1)(v), 171.17(a), 171.19, 171.23 and 171.25 are not incorporated by reference.
- 5.2.2 The following categories of materials licenses and types of fees are also not incorporated from 10 C.F.R. 170.31 and 171.16: 1.A, 1.B, 1.E, 1.F, 2.A.(1), 2.A.(2)(a) – 2.A.(2)(e), 2.A.(3), 2.A.(4), 2.C, 3.D, 3.H, 9, 10, 11, 12, 13, 15, 17 and 18.

### 5.3 Radioactive Materials fees.

- 5.3.1 Annual license fees for radioactive material are set forth in 10 C.F.R. 171. Other radioactive materials fees are described in 10 C.F.R. 170.
  - 5.3.1.1 No refund will be made for termination of a license.
  - 5.3.1.2 If, by amendment or otherwise, a license changes to another fee category, the fee for the new category will take effect on the anniversary date of the license.
- 5.3.2 An initial application for a license or reciprocity shall be accompanied by a check payable to the Department in accordance with the fee schedules in 10 C.F.R. 170 and 171. Thereafter, the Department will issue an annual fee invoice in accordance with the appropriate fee schedule at least 2 months prior to the license expiration. Fees are payable by the last day of the license expiration month as shown on the license fee invoice. This provision is not applicable to full cost recovery licenses.
- 5.3.3 The Department will not accept an initial application for a license prior to payment of the fees required by paragraphs 5.3.1 and 5.3.2.
- 5.3.4 If a license involves more than one of the categories in paragraph 5.3.2, the highest applicable fee applies.
- 5.3.5 Special provisions for calculating annual fees during agreement state transition period.
  - 5.3.5.1 The annual fees for the NRC licenses that are transferred to the State of Vermont on the date the State of Vermont becomes an agreement state will be invoiced on the license's next anniversary date.
  - 5.3.5.2 During the first year after the date the Department attains agreement state status, the annual fee for each NRC license transferred to the State of Vermont will include a proportional amount, based on the schedule of fees in 10 C.F.R. 171, for the period from the date agreement state status is attained until the

license's next anniversary date, in addition to the amount assessed for the year following the license's anniversary date.

## 6.0 Standards for Protection Against Radiation

### 6.1 Purpose and scope

- 6.1.1 This subsection establishes standards for protection against ionizing radiation resulting from activities conducted under licenses issued by the Department. Licensees shall comply with this subsection.
- 6.1.2 The requirements of this subsection are designed to control the receipt, possession, use, transfer and disposal of radioactive materials by a licensee so 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 subsection. This subsection does not limit actions that may be necessary to protect health and safety in an emergency. In the event of an emergency, the Department will provide temporary guidance for dose management and other health protections.
- 6.1.3 Except as specifically provided in other subsections of this rule, this subsection applies to persons licensed by the Department to receive, possess, use, transfer or dispose of radioactive materials..
- 6.1.4 The limits in this subsection 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 in accordance with Subsection 14.0 (related to medical use of byproduct material) or to voluntary participation in medical research programs.

### 6.2 Incorporation by reference

- 6.2.1 Except as provided in this subsection, the requirements of 10 C.F.R. Part 20 (relating to standards for protection against radiation) are incorporated by reference. An unofficial version can be accessed at <http://www.nrc.gov>. The official version is also available in hard copy.
- 6.2.2 Notwithstanding the requirements incorporated by reference, Sections 20.1006; 20.1009; 20.1405(b); 20.1406(b); 20.1905 (g); 20.2203(c); 20.2206(a)(1), (3), (4) and (5); 20.2401 and 20.2402 are not incorporated.
- 6.2.3 Effect of incorporation of 10 C.F.R. 20.1403 "Criteria for license termination under restricted conditions."

The Department will not terminate a license under the conditions of restricted release as provided for in 10 C.F.R. 20.1403 (relating to criteria for license termination under restricted conditions) until a license termination plan (LTP), approved by the Department, has been in effect for a period of time demonstrating to the Department that continued implementation of the plan will be effective in maintaining compliance with the required conditions of the plan. The Department may choose to implement the license termination process in one or more of the following steps:

- 6.2.3.1 The license is amended to authorize activities necessary to begin decommissioning under the LTP.
  - 6.2.3.2 After decommissioning activities are complete and the provisions of 10 C.F.R. 20.1403 are in effect under the LTP, the license may be amended to end authorization of licensed activities. The license shall remain in effect for up to 5 years being limited to ownership/possession of the decommissioned material.
  - 6.2.3.3 At the end of the period prescribed in paragraph 6.2.3.2, the Department will make a determination of the effectiveness of the established LTP. If the LTP has demonstrated the ability to maintain compliance with 10 C.F.R. 20.1403, the license will be terminated subject to the revisitation provision of 10 C.F.R. 20.1401(c) (relating to general provision and scope) regarding new evidence of a significant threat to health and safety. Otherwise, the licensee will be directed by the Department to take corrective actions as necessary to conform to 10 C.F.R. 20.1403 and the process shall revert back to paragraph 6.2.3.2.
- 6.2.4 *Reports of leaking or contaminated sealed sources.* If the test for leakage or contamination indicates a sealed source is leaking or contaminated, a report of the test shall be filed within 5 days with the Department describing the equipment involved, the test results and the corrective action taken.

## **7.0 Notices, Instructions and Reports to Workers; Inspections and Investigations**

### **7.1 Purpose and scope.**

- 7.1.1 This subsection establishes requirements for notices, instructions and reports by licensees to individuals engaged in activities under a license. This subsection also establishes options available to the individuals in connection with Department inspections of licensees to ascertain compliance with the provisions of the Vermont State Statutes

and regulations, orders and licenses issued thereunder regarding radiological working conditions.

- 7.1.2 This subsection applies to persons who receive, possess, use, own or transfer radioactive materials licensed by the Department under Subsection 11.0 (relating to licensing of radioactive material, services and associated healthcare professionals).

## 7.2 Incorporation by reference.

- 7.2.1 Except as provided in this subsection, the requirements of 10 C.F.R. Part 19 (relating to notices, instructions and reports to workers; inspections and investigations) are incorporated by reference. The unofficial version can be accessed at <http://www.nrc.gov/>. The official version is also available in hard copy.
- 7.2.2 Notwithstanding the requirements incorporated by reference, Sections 19.4; 19.5; 19.8; 19.11(a)(4), (b) and (c); 19.14(a); 19.30 and 19.40 are not incorporated. In 10 C.F.R. 19.13(a), where it says “Commission” and “Nuclear Regulatory Commission” this means the Department.

## 8.0 Reserved

## 9.0 Reserved

## 10.0 Enforcement

### 10.1 Purpose and Scope

- 10.1.1 Whenever the Department has reasonable grounds to believe that there has been a violation of any of the provisions of this rule, the Department may take appropriate action as provided in this subsection or otherwise provided in law at 18 V.S.A. Ch. 32, to protect the public health and safety.
- 10.1.2 If an inspection indicates that the regulated entity is not in compliance with the requirements of this rule, the Department shall notify the regulated entity in writing regarding any deficiencies.
- 10.1.3 The notice shall include specific required corrective actions necessary for the regulated entity to take to regain compliance with this rule and may include interim corrective actions, such as requiring further investigation of the circumstances giving rise to the notice, or ceasing use of radioactive materials until full compliance is restored, or such other action deemed necessary by the Department to protect the public health and safety is completed.

10.1.4 If the Department determines that an enforcement action is appropriate, or if timely and satisfactory compliance with a notice issued pursuant to paragraph 10.1.2 has not been achieved, the Department shall issue a notice of violation in writing.

**10.2 Denial, Amendment, Suspension, Revocation or Waiver.**

10.2.1 In any proceeding for granting denying, amending, suspending or revoking a license, determining compliance with, or granting exemptions from, rules or regulations of the Department the Department shall hold a public hearing upon the request of any person whose interest may be affected. Any such person shall become a party to the proceeding. Proceedings shall be conducted in accordance with 18 V.S.A. § 1655 and 3 V.S.A. § 814 (the Administrative Procedures Act).

10.2.2 Any final order entered in any proceeding under 10.2.1 may be appealed to the Civil Division of the Superior Court.

**10.3 Emergency Orders.**

If the Department finds that an emergency exists that requires immediate action to protect the public health and safety the Department may, without notice or hearing, issue an order requiring such action as is necessary to address the emergency in accordance with 18 V.S.A. § 1655 (b). Such orders must include a description of the nature of the emergency. Emergency orders take immediate effect and any person to whom the order is directed shall immediately comply. Any person(s) subject to such an order may make application to the Department for a hearing which shall be held within ten days. A decision shall be issued within ten days of the hearing that will continue, modify, or revoke the emergency order.

**10.4** Whenever, in the judgment of the Department, any person has engaged in or is about to engage in any acts or practices which constitute or will constitute a violation of this rule, or its authorizing statute, the Department will refer the matter to the Attorney General who can seek relief in accordance with 18 V.S.A. § 1656.

## Section II. Radioactive Material

### 11.0 Licensing of Radioactive Materials

#### 11.1 Purpose and scope.

11.1.1 This subsection establishes requirements for the licensing of radioactive material. A person may not manufacture, produce, receive, possess, use, transfer, own, dispose or acquire radioactive material except as authorized in a specific or general license issued under this subsection or otherwise provided in this subsection.

11.1.2 A licensee is also subject to Section I. Overview and other relevant subsections of Section II Radioactive Material.

11.2 The use of radioactive material in the State of Vermont under a license issued by the NRC is exempt from the licensing requirements of this subsection.

### 12.0 Rules of general applicability to licensing of radioactive materials.

12.1 Persons possessing a license for source, byproduct or special nuclear material in quantities not sufficient to form a critical mass on the date Vermont becomes an Agreement State as published in the *Federal Register*:

On the date the State of Vermont becomes an agreement state as published in the Federal Register, a person who possesses a general or specific license issued by the NRC for source, byproduct or special nuclear material in quantities not sufficient to form a critical mass, is deemed to possess a like license issued under this subsection and the statutes. The license shall expire either 90 days after receipt from the Department of a notice of expiration of the license, or on the date of expiration specified in the NRC license, whichever is earlier.

#### 12.2 Incorporation by reference.

12.2.1 Except as provided in this subsection, the requirements of 10 C.F.R. Part 30 (relating to rules of general applicability to domestic licensing of byproduct material) are incorporated by reference. The unofficial version can be accessed at <http://www.nrc.gov/>. The official version is also available in hard copy. In 10 C.F.R. 30.10(b), the reference to 10 C.F.R. 2 relating to deliberate misconduct is replaced with 18 VSA § 1651 – 1657 and Radioactive Material Program Procedure Section 2.5, Enforcement, Escalated Enforcement and Administrative Actions. In 10 C.F.R. 30.50(c)(1), a reference to “NRC Operations Center” means “Department”. In 10 C.F.R. 30.50(c)(2), reference to written reports means “Written reports must be sent to: Vermont Department

of Health, 108 Cherry Street, Suite 201, Burlington Vermont 05401, Attn: Radioactive Materials Program.”

- 12.2.2 Notwithstanding the requirements incorporated by reference, Sections 30.5; 30.6; 30.8; 30.21(c); 30.34(d) and (e)(1) and (3); 30.41(b)(6); 30.55; 30.63; 30.64 and the words “common defense and security” in the definitions for “Commencement of Construction” and “Construction” in 10 C.F.R. 30.4 are not incorporated. In 10 C.F.R. 30.10(b), the reference to 10 C.F.R. 2, relating to deliberate misconduct, is replaced with 18 V.S.A. § 1651 – 1657 and Radioactive Material Program Procedure Section 2.5, Enforcement, Escalated Enforcement and Administrative Actions. In 10 C.F.R. 30.50 (c)(1), a reference to “NRC Operations Center” means “Department.” In 10 C.F.R. 30.50(c)(2), reference to written reports means written reports must be sent to: Vermont Department of Health, 108 Cherry Street, Suite 201, Burlington, Vermont 05401, Attn: Radioactive Materials Program.
- 12.2.3 Only the NRC can issue a license under 10 C.F.R. 32.11, 32.22, 32.26 and 32.30.

### **12.3 Filing applications for specific license**

In addition to incorporation by reference, an application for a specific license shall be accompanied by the fee required under Subsection 5.0 (relating to fees).

### **12.4 Renewal of licenses.**

An application for renewal of a specific license shall be filed under Subsection 11.0 (relating to licensing of radioactive material).

- 12.4.1 If a renewal application is filed prior to 30 days before the expiration of a license, the existing license does not expire until definitive notice has been given by the Department of its action on the renewal application.
- 12.4.2 This paragraph also applies to new license applications incorporating other licenses.

### **12.5 General licenses for radioactive material**

#### *12.5.1 Incorporation by reference.*

- 12.5.1.1 Except as provided in this subsection, the requirements of 10 C.F.R. Part 31 (relating to general domestic licenses for byproduct material) are incorporated by reference. The unofficial version can be accessed at <http://www.nrc.gov/>. The official version is also available in hard copy.

- 12.5.1.2 Notwithstanding the requirements incorporated by reference, Sections 31.4, 31.22 and 31.23 are not incorporated. In 10 C.F.R. 31.5(c)(7), the phrase “part 110” is replaced by “10 C.F.R. part 110.” In 10 C.F.R. 31, the term “any non-agreement state” means “Vermont.”
- 12.5.2 *Certain measuring, gauging or controlling devices.*
- 12.5.2.1 In addition to the parts of 10 C.F.R. 31.5 (relating to certain detecting, measuring, gauging, or controlling devices and certain devices for producing light or an ionized atmosphere) incorporated by reference, general licensees subject to registration under 10 C.F.R. 31.5(c)(13)(i) or possessing general licensed devices containing 37 MBq (1 mCi) or more of accelerator-produced material, as determined on the date of manufacture, or 3.7 MBq (0.1 mCi) or more of radium-226 shall also comply with the following:
- 12.5.2.2 Conduct a physical inventory every six months to account for all sources or devices, or both, received and possessed under this subsection and do the following:
- 12.5.2.2.1 Maintain the physical inventory records for three years from the date of each inventory.
- 12.5.2.2.2 Furnish a report to the Department annually showing to the extent practicable, the make, model, serial number, isotope, source activity and location of each device. The report shall list an individual to contact regarding questions about this report.
- 12.5.3 *For portable devices, also comply with the following:*
- 12.5.3.1 A person who initiates acquisition, transfer or disposal of a portable device shall notify the Department within 15 days of the action. Sending a portable device for calibration, maintenance or source replacement does not constitute transfer.
- 12.5.3.2 Portable devices may only be used by or under the direct supervision of individuals who have been instructed in the operating and emergency procedures necessary to ensure safe use.
- 12.5.3.3 For each individual that the licensee permits to use a portable device, the licensee shall maintain a record showing the type of device use permitted and the basis, such as training certificates, for that authorization. An

- individual's record shall be kept for at least 3 years after the individual terminates association with the licensee.
- 12.5.3.4 Portable devices shall be secured from access by unauthorized personnel whenever the device is not under the direct surveillance of an individual authorized to use the device.
- 12.5.3.5 The licensee shall maintain a current sign out log at the permanent storage location of the portable device. Log entries shall be available for inspection by the Department for 3 years from the date of entry. The following information shall be recorded for each portable device:
- 12.5.3.5.1 The model and serial number of the device.
- 12.5.3.5.2 The name of the assigned user.
- 12.5.3.5.3 The locations and dates of use.
- 12.5.3.6 Emergency instructions shall accompany each portable device taken off the premises of the licensee.
- 12.5.4 *Incidental radioactive material produced by a particle accelerator*
- 12.5.4.1 A general license is issued to possess radioactive material produced incidentally to the operation of a particle accelerator. The general license is also subject to the applicable provisions of this subsection and Subsections 1.0, 6.0, and 7.0 (relating to general provisions; standards for protection against radiation; and notices, instructions and reports to workers; inspections and investigations).
- 12.5.4.2 A licensee may transfer this radioactive material only under Subsection 6.0 and Subsection 18.0 (relating to transfer of radioactive material; and packaging and transportation of radioactive material).
- 12.5.4.3 A licensee may dispose of this radioactive material only with Department approval.

## **12.6 Specific licenses to manufacture or transfer certain items containing radioactive material.**

### *12.6.1 Incorporation by reference*

- 12.6.1.1 Except as provided in this subsection, the requirements of 10 C.F.R. Part 32 (relating to specific domestic licenses to manufacture or transfer certain items containing byproduct material) are incorporated by reference. The unofficial version can be accessed at <http://www.nrc.gov/>. The official version is also available in hard copy.
- 12.6.1.2 Notwithstanding the requirements incorporated by reference, Sections 32.1(c)(1), 32.8, 32.11, 32.12, 32.14,

32.15, 32.16, 32.18, 32.19, 32.20, 32.21, 32.21a, 32.22, 32.23, 32.25, 32.26, 32.27, 32.28, 32.29, 32.30, 32.31 and 32.32 are not incorporated.

12.6.1.3 Only the NRC can issue a license under 10 CFR 32.11, 32.22, 32.26 and 32.30.

12.6.2 *Licensing the incorporation of NARM into gas and aerosol detectors.*

An application for a specific license authorizing the incorporation of NARM into gas and aerosol detectors to be distributed to persons exempt under Subchapter B (relating to general provisions for radioactive material) will be approved if the application satisfies requirements equivalent to those in 10 C.F.R. 32.26—32.29. The maximum quantity of radium-226 may not exceed 3.7 kBq (0.1 microcuries).

**12.7 Specific Domestic Licenses of Broad Scope for Radioactive Material.**

12.7.1 *Incorporation by reference*

12.7.1.1 Except as provided in this subsection, the requirements of 10 C.F.R. Part 33 (relating to specific domestic licenses of broad scope for byproduct material) are incorporated by reference. The unofficial version can be accessed at <http://www.nrc.gov/>. The official version is also available in hard copy.

12.7.1.2 Notwithstanding the requirements incorporated by reference, Sections 33.8, 33.21 and 33.23 are not incorporated.

12.7.2 *Inclusion of naturally occurring or accelerator-produced radioactive material (NARM)*

The requirements of 10 C.F.R. 33, relating to specific licenses of broad scope for radioactive material, also apply to NARM.

**12.8 Licensing of source material**

12.8.1 *Incorporation by reference.* Except as provided in this subsection, the requirements of 10 C.F.R. Part 40 (relating to domestic licensing of source material) are incorporated by reference. The unofficial version can be accessed at <http://www.nrc.gov/>. The official version is also available in hard copy.

12.8.2 Notwithstanding the requirements incorporated by reference, Sections 40.4; 40.6; 40.8; 40.12(b); 40.13 (c)(5)(iv), (j) and (m); 40.23; 40.27; 40.28; 40.31(j),(k),(l) and (m); 40.32(d) and (g) and those portions of paragraph (e) which apply to uranium enrichment and uranium hexafluoride facilities; 40.33; 40.38; 40.41(d), (e)(1), (e)(3), (g) and

(h); 40.51(b)(6); 40.52; 40.53; 40.56; 40.64; 40.66; 40.67; 40.81; and 40.82; Appendix A to Part 40; and the words “common defense and security” in the definitions for “Commencement of Construction” and “Construction” in 10 C.F.R. 40.4 are not incorporated. In 10 C.F.R. 40.4, the definition of “Byproduct Material” includes NARM. In 10 C.F.R. 40.10, the reference to 10 C.F.R. 2, relating to deliberate misconduct, is replaced with 18 V.S.A. § 1651-1657 and Radioactive Material Program Procedure Section 2.5, Enforcement, Escalated Enforcement and Administrative Actions. In 10 C.F.R. 40.4 the terms “Foreign Obligations” and “Reconciliation” are not incorporated. In 10 C.F.R. 40.4, the phrase “and any other material which the Commission, pursuant to the provision of section 51 of the Act, determines to be special nuclear material” is preserved without change. In 10 C.F.R. 40.10(b) the reference to 10 C.F.R. 2 subpart B is replaced by 18 V.S.A. § 130. In 10 CFR 40.60, reference to written reports means “Written reports must be sent to: Vermont Department of Health, 108 Cherry Street, Suite 201, Burlington, Vermont 05401, Attn: Radioactive Materials Program.”

12.8.3 Only the NRC can issue a license pursuant to 10 C.F.R. 40.52.

## 12.9 Licensing of special nuclear material

12.9.1 *Incorporation by reference.* Except as provided in this subsection, the requirements of 10 C.F.R. Part 70 (relating to domestic licensing of special nuclear material) are incorporated by reference. The unofficial version can be accessed at <http://www.nrc.gov/>. The official version is also available in hard copy. In section 70.10, the phrase “the procedures in 10 C.F.R. part 2 subpart B” is replaced with 18 V.S.A. § 130. In 70.19(a)(1), the terms Commission and Atomic Energy Commission remain.

12.9.2 Notwithstanding the requirements incorporated by reference, Sections 70.1(c), (d) and (e); 70.5; 70.6; 70.8; 70.13; 70.14; 70.20a; 70.20b; 70.21(a)(1), (c), (f), (g) and (h); 70.22(b), (c), (f), (g), (h), (i), (j), (k), (l), (m) and (n); 70.23(a)(6), (7), (8), (9), (10), (11) and (12) and (b); 70.23a; 70.24; 70.25(a)(1); 70.31(c), (d) and (e); 70.32(a)(1), (4), (5), (6) and (7); 70.32(b)(1), (3) and (4), (c), (d), (e), (f), (g), (h), (i), (j) and (k); 70.37; 70.40; 70.42(b)(6); 70.44; 70.51(c); 70.52; 70.55(c)(1), (2) and (3); 70.56(c) and (d); 70.59; 70.60; 70.61; 70.64; 70.65; 70.66; 70.72; 70.73; 70.74; 70.76; 70.82; Appendix A to Part 70 and the words “common defense and security” in the definitions for “Commencement of Construction” and “Construction” in 10 C.F.R. 70.4 are not incorporated. In 10 C.F.R. 70.10, the reference to 10 C.F.R. 2, relating to deliberate misconduct, is replaced with 18 V.S.A. § 1651-1657 and Radioactive Material Program Procedures Section 2.5, Enforcement, Escalated Enforcement and Administrative Action.

In 70.19(a)(1) and 70.19(c)(3), the terms “Commission or the Atomic Energy Commission” remains and does not mean the “Department.” In 10 C.F.R. 70.4, the phrase “and any other material which the Commission, pursuant to the provisions of section 51 of the Act, determines to be special nuclear material” is preserved without change. In 10 CFR 70.50(c), preparation and submission of reports, all communications are to be made to the Vermont Department of Health 108 Cherry Street, Suite 201, Attn: Radioactive Materials Program, Burlington Vermont 05401, and by telephone at 802-863-7200 for immediate and 24-hour reports.

12.9.3 In 10 C.F.R. 70.42(b)(1), the word “Department” means the “US Department of Energy.”

#### **12.10 Transfer of radioactive material**

The requirements of 10 C.F.R. 30.41 (relating to transfer of byproduct material) also apply to NARM.

12.10.1 *Incorporation by reference.* Except as provided in this subsection, the requirements of 10 C.F.R. 150.1, 150.2, 150.11 and 150.20 are incorporated by reference. The unofficial version may be accessed at <http://www.nrc.gov/>. An official hard copy version is also available.

12.10.2 The Department may withdraw, limit or qualify its acceptance of a specific license or equivalent licensing document issued by another agency, or product distributed under the licensing document, upon determining that the action is necessary to prevent a public health hazard as defined in 18 V.S.A. §2 (9).

12.10.3 Implementation of the requirements of this subsection regarding byproduct, source and special nuclear material is subject to paragraph 12.2 (relating to persons possessing a license for source, byproduct or special nuclear material in quantities not sufficient to form a critical mass on the date Vermont becomes an agreement state as published in the Federal Register).

### **13.0 Physical Protection of Category 1 and Category 2 Quantities of Radioactive Material**

#### **13.1 Purpose and scope**

13.1.1 This subsection establishes the requirements for the physical protection program for any licensee that possesses an aggregated category 1 or category 2 quantity of radioactive material listed in

Appendix A to 10 C.F.R. Part 37 Category 1 and Category 2  
Radioactive Materials.

13.1.2 No provision of this subsection authorizes possession of licensed material.

### **13.2 Incorporation by reference**

13.2.1 Except as provided in this subsection, the requirements of 10 C.F.R. Part 37 (relating to physical protection of category 1 and category 2 quantities of radioactive materials) are incorporated by reference. The unofficial version can be accessed at <http://www.nrc.gov>. The official version is also available in hard copy.

13.2.2 Notwithstanding the requirements incorporated by reference, Sections 37.3(b)(2), 37.13, 37.73(d) and (e), 37.107 and 37.109 are not incorporated.

## **14.0 Medical Use of Byproduct Material**

### **14.1 Purpose and scope**

14.1.1 This subsection prescribes requirements and provisions for the medical use of radioactive material and for issuance of specific licenses authorizing the medical use of radioactive material. These requirements and provisions provide for the protection of the public health and safety.

14.1.2 The requirements of this chapter are in addition to, and not in substitution for, other applicable requirements in these regulations.

### **14.2 Incorporation by reference.**

14.2.1 Except as provided in this subsection, the requirements of 10 C.F.R. Part 35 (relating to medical use of byproduct material) are incorporated by reference. The unofficial version can be accessed at <http://www.nrc.gov>. The official version is also available in hard copy.

14.2.2 Notwithstanding the requirements incorporated by reference, Sections 35.8, 35.11(c)(1), 35.13(a)(1), 35.4001 and 35.4002 are not incorporated.

### **14.3 Authorization for calibration, transmission and reference sources**

Notwithstanding the incorporation by reference of 10 C.F.R. 35.65 (relating to authorization for calibration, transmission, and reference sources), a licensee

authorized for medical use of radioactive materials may not receive, possess or use radium in total quantity of 3.7 MBq (100 µci) or more for check, calibration, transmission and reference use except as specifically authorized by the Department.

## **15.0 Licenses for Industrial Radiography and Radiation Safety Requirements for Industrial Radiographic Operations**

### **15.1 Purpose and Scope**

This subsection establishes radiation safety requirements for persons using radioactive materials for industrial radiography.

### **15.2 Incorporation by reference**

15.2.1 Except as provided in this subsection, the requirements of 10 C.F.R. Part 34 (relating to licenses for industrial radiography and radiation safety requirements for industrial radiographic operations) are incorporated by reference. The unofficial version can be accessed at <http://www.nrc.gov/>. The official version is also available in hard copy.

15.2.2 Notwithstanding the requirements incorporated by reference, Sections 34.5, 34.8, 34.121 and 34.123 are not incorporated.

### **15.3 Prohibitions**

Use of radiation sources covered under this subsection for diagnosis or therapy on humans or animals is not permitted.

## **16.0 Licenses and Radiation Safety Requirements for Well Logging**

### **16.1 Purpose and Scope.**

This subsection establishes radiation safety requirements for persons using radiation sources for well logging in a single well, radioactive markers, uranium sinker bars and subsurface tracer studies. Persons who use radiation sources for well logging operations shall comply with this subsection, which is in addition to and not in substitution for other applicable requirements of this rule.

### **16.2 Incorporation by reference**

16.2.1 Except as provided in this subsection, the requirements of 10 C.F.R. Part 39 (relating to licenses and radiation safety requirements for well logging) are incorporated by reference. The unofficial version can be

accessed at <http://www.nrc.gov/>. The official version is also available in hard copy.

- 16.2.2 Notwithstanding the requirements incorporated by reference, Sections 39.5, 39.8, 39.101 and 39.103 are not incorporated.

## **17.0 Licenses and Radiation Safety Requirements for Irradiators**

### **17.1 Purpose and scope**

- 17.1.1 This subsection contains the requirements for the issuance of a license authorizing the use of radioactive materials in sealed sources to irradiate objects or materials with gamma radiation.
- 17.1.2 The requirements of this subsection are in addition to, and not in substitution for, other applicable requirements in this regulation.

### **17.2 Incorporation by reference**

- 17.2.1 Except as provided in this subsection, the requirements of 10 C.F.R. Part 36 (relating to licenses and radiation safety requirements for irradiators) are incorporated by reference. The unofficial version can be accessed at <http://www.nrc.gov/>. The official version is also available in hard copy.
- 17.2.2 Notwithstanding the requirements incorporated by reference, Sections 36.5, 36.8, 36.91, 36.93 and the words “common defense and security” in the definitions for “Commencement of Construction” and “Construction” in 10 C.F.R. 36.2 are not incorporated.

## **18.0 Packaging and Transportation of Radioactive Material**

### **18.1 Purpose and scope**

This subsection establishes requirements for packaging, preparation for shipment and transportation of radioactive material. This subsection applies to a person who transports radioactive material or delivers radioactive material to a carrier for transport.

### **18.2 Incorporation by reference.**

- 18.2.1 Except as provided in this subsection, the requirements of 10 C.F.R. Part 71 (relating to packaging and transportation of radioactive material) are incorporated by reference. The unofficial version can be accessed at <http://www.nrc.gov/>. The official version is also available in hard copy.
- 18.2.2 Notwithstanding the requirements incorporated by reference, Sections 71.2; 71.6; 71.11; 71.14(b); 71.19; 71.31; 71.33; 71.35; 71.37; 71.38;

71.39; 71.41; 71.43; 71.45; 71.51; 71.55; 71.59; 71.61; 71.63; 71.64; 71.65; 71.70; 71.71; 71.73; 71.74; 71.75; 71.77; 71.85(a), (b) and (c); 71.91(b); 71.99; 71.100; 71.101(c)(2), (d) and (e); 71.107; 71.109; 71.111; 71.113; 71.115; 71.117; 71.119; 71.121; 71.123 and 71.125 are not incorporated. In 10 C.F.R. 71 Subpart H the terms “Certificate of Compliance,” “certificate holder,” and “applicant for CoC” apply only to the NRC. In 10 C.F.R. 71.17(c)(3), the submission required before the first use of an NRC approved package should be sent to the NRC, ATTN: Document Control Desk, Director, Division of Spent Fuel Storage and Transportation, Office of Nuclear Material Safety and Safeguards, using an appropriate method listed in § 71.1(a), the licensee’s name and license number and the package identification number specified in the package approval.

### **18.3 Transportation of licensed material**

In addition to the incorporation by reference of 10 C.F.R. Part 71 (relating to packaging and transportation of radioactive material), if VSA Title 23 (relating to interstate motor carrier safety requirements; intrastate motor carrier requirements; and hazardous materials transportation) or the regulations of the United States Department of Transportation in 49 C.F.R. Parts 171—180 and 388—397 do not apply to a shipment of licensed material, the licensee shall conform to the standards and requirements of those regulations to the same extent as if the shipment was subject to the regulations.

**19.0 Waste Classification, Characteristics and Labeling: The requirements of 10 C.F.R. 61.55, 61.56 and 61.57 (relating to classification characterization and labeling of radioactive wastes) are incorporated by reference. The official version can be accessed at <http://www.nrc.gov/>. The official version is also available in hard copy.**