



**UNITED STATES
NUCLEAR REGULATORY COMMISSION**
WASHINGTON, D.C. 20555-0001

August 31, 2105

William Irwin, Sc.D., CHP, Chief
Office of Radiological Health
Vermont Department of Health
108 Cherry Street
P.O. Box 70
Burlington, VT 05402

Dear Dr. Irwin:

We have reviewed Vermont's "Ionizing and Nonionizing Radiation Control Act" contained in Vermont's Statute Title 18 Chapter 32 received by our office on August 7, 2015. The legislation was reviewed by comparison to the criteria in Section 4.1.1 of the Office of Nuclear Material Safety and Safeguards (NMSS) procedure SA-700 and Handbook "Processing an Agreement." (<https://scp.nrc.gov/procedures.html#stateagree>).

We appreciate the opportunity to perform an early review of your legislation and offer the following comments:

1. Vermont's definition of "Radioactive material" is not compatible with NRC regulations. The definition should read, "It includes accelerator produced, byproduct, naturally occurring, source, and special nuclear materials."
2. Vermont's definition of "Byproduct material" is not compatible with NRC regulations. The definition should read, "means (1) Any radioactive material (except special nuclear material) yielded in, or made radioactive by, exposure to the radiation incident to the process of producing or using special nuclear material; (2) The tailings or wastes produced by extraction or concentration of uranium or thorium from ore processed primarily for its source material content, including discrete surface wastes resulting from uranium solution extraction processes. Underground ore bodies depleted by these solution extraction operations do not constitute "byproduct material" within this definition; (3)(i) Any discrete source of radium-226 that is produced, extracted, or converted after extraction, for use for a commercial, medical, or research activity; or (ii) Any material that - (A) Has been made radioactive by use of a particle accelerator; and (B) Is, produced, extracted, or converted after extraction for use for a commercial, medical, or research activity; and (4) Any discrete source of naturally occurring radioactive material, other than source material, that - (i) Vermont, after determination by the United States Nuclear Regulatory Commission, or any successor thereto, determines would pose a threat similar to the threat posed by a discrete source of radium-226 to the public health and safety; and (ii) Is extracted or converted after extraction for use in commercial, medical, or research activities.

3. Vermont's definition of "Specific license" should read, "means a license issued to a named person, after application, to use, manufacture..." to be compatible with NRC regulations.
4. Vermont should change the definition of "Source material" to read, "means: (A) uranium, thorium, or any combination thereof, in any physical or chemical form, or any other material the governor declares by order to be source material after the United States Nuclear Regulatory Commission, or any successor thereto, has determined to be such; or (B) ores which contain by weight one-twentieth of one percent or more of: (i) Uranium, (ii) thorium, or (iii) any combination thereof; or in such concentration as the governor declares by order to be source material after the United States Nuclear Regulatory Commission, or any successor thereto, has determined the material in such concentration to be source material.
5. Vermont needs to change the definition of "Special nuclear material" to read "means: (A) plutonium, uranium 233, uranium enriched in the isotope 233 or in the isotope 235 ..."

For the definitions listed above, please refer to the Regulation Amendment Tracking Sheet (RATS) for the applicable NRC regulations at: https://scp.nrc.gov/regsumsheets_newregs.html.

6. Vermont has an incorrect reference in statute 1653(6). This statute should read, "The provisions of this section relating to the control of byproduct, source, and special nuclear materials shall become effective on the effective date of an agreement between the federal government and this state as provided in section 1653(a) of this title."
7. Vermont statute 1652(a) states: "The commissioner of health may designate the director of occupational health as the individual who shall perform the functions vested in the agency." In the organizational chart provided in your letter, your program is located under the Department of Environmental Health and not the Department of Occupational Health. If the designation is correct, please provide additional clarifying information with your draft application. Additionally the statutes do not define the structure of the Department. Please see SA-700 Handbook, Section 4.1.1.1(a) for information regarding this matter.
8. The Vermont statutes should authorize the use of license conditions/orders to address matters unique to the licensee. Although Vermont legislation does authorize the program to issue licenses, the Vermont legislation does not clearly authorize the program to:
 - impose additional license requirements; or
 - recognize the licenses issued in other jurisdictions (reciprocity).

Please see SA-700 4.1.1.1(b)(1) and (b)(3) and SA-700 4.1.1.2 (c) and (d) for information regarding this matter.

9. The Vermont legislation does not expressly authorize the program to require compliance with regulatory requirements by both licensees and unlicensed individuals. Please see SA-700 Handbook, Section 4.1.1.1(e) for information regarding this matter.

10. Although the Vermont legislation does not apply to nuclear reactors, the Vermont legislation does not explicitly exclude all materials or activities reserved to the U.S. Nuclear Regulatory Commission (NRC) under Section 274c of the Atomic Energy Act of 1954, as amended, or Title 10 of the *Code of Federal Regulations* Part 150. Please see SA-700 Handbook, Section 4.1.1.2(b) for information regarding this matter.
11. If Vermont plans to request low-level radioactive waste authority, the State should submit the law that authorizes the appropriate restrictions on land ownership and use of sites used for disposal of low-level radioactive waste for an indefinite period after closure of the site. Please see SA-700 Handbook, Section 4.1.1.3 for information regarding this matter.
12. If Vermont plans to request regulation of byproduct material as defined in Section 11e.(2) of the Act, the State should submit the law that authorizes the regulation of uranium and thorium recovery facilities including disposal of mill tailings. Please see SA-700 Handbook, Section 4.1.1.4 for information regarding this matter.

We recommend that you address these 12 comments above. If the comments can be addressed through other statutes, please provide this information in your request for an Agreement. If you would like us to review this information prior to the submittal of your request please let us know. For additional assistance in responding to these comments, the State can reference the 1983 Council of State Governments generic model of a Radiation Control Act in Suggested State Legislation Volume 42, which can be found at <http://www.crcpd.org/PDF/RadControl.PDF>.

The State of Vermont may also resolve these comments through interpretation of State law. The NRC will accept interpretations provided by the State Attorney General, or other attorneys designated as a legal advisor to the radioactive materials program.

If you have any questions regarding the comments, please contact Michelle Beardsley at 610-337-6942 (michelle.beardsley@nrc.gov) or Monica Ford at 610-337-5214 (monica.ford@nrc.gov).

Sincerely,

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Josephine M. Piccone, Director
Division of Material Safety, State, Tribal
and Rulemaking Programs
Office of Nuclear Material Safety
and Safeguards

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12. If Vermont plans to request regulation of byproduct material as defined in Section 11e.(2) of the Act, the State should submit the law that authorizes the regulation of uranium and thorium recovery facilities including disposal of mill tailings. Please see SA-700 Handbook, Section 4.1.1.4 for information regarding this matter.

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Sincerely,

Josephine M. Piccone, Director
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and Rulemaking Programs
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