

**From:** [Lawyer, Dennis](#)  
**To:** [Firsick, Michael](#)  
**Cc:** [Cassata, James](#)  
**Subject:** STATE OF CONNECTICUT, REQUEST FOR ADDITIONAL INFORMATION, MAIL CONTROL NO. 610083  
**Date:** Monday, February 04, 2019 8:25:00 AM

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Dear Mr. Firsick:

This is in reference to your application dated September 26, 2018, requesting to renew NRC License No. 06-27895-02. In order to continue our review, we need a reply to the following additional information in the form of a signed and dated letter.

1. Regarding your list of material and quantities, on page 1, please confirm that there is a unit error for the statement, "Any byproduct material with Atomic Numbers 84-103, any chemical and/or physical form, 100 millicuries per radionuclide and 1 millicurie total." The "100 millicuries per radionuclide" should be stated "100 microcuries per radionuclide".
2. In accordance with Section 8.5.1 of NUREG 1556 Volume 17, Revision 1, Consolidated Guidance About Materials Licenses, Program-Specific Guidance About Special Nuclear Material of Less Than Critical Mass Licenses (NUREG 1556-v17-r1), the applicant should identify the quantities of special nuclear materials (SNM) in milligrams or grams and microcuries. Since your application stated the quantities of SNM in millicuries versus microcuries and there were no indications of milligrams or grams, please confirm that the quantity requested are 50 microcuries (or approximately 22.8 grams) of U-235 and 2 microcuries (or approximately 0.032 mg) of Pu-239.
3. In accordance with Section 8.5.2 of NUREG 1556-v17-r1, regarding financial assurance (FA), please state that you plan to maintain current FA obligations as provided by your Statement of Intent (SI) dated May 16, 2012 [ML12165A169] and Certification of Financial Assurance (CFA) dated July 9, 2012 [ML12198A459]. Further, also please commit and state that you will continue to restrict the possession of unsealed byproduct material to quantities less than  $10^5$  of the applicable limits in Appendix B of 10 CFR Part 30 and for sealed byproduct material to quantities less than  $10^{10}$  of the applicable limits in Appendix B of 10 CFR Part 30.

Please note that it is recommended, but not required, that you update your SI dated May 16, 2012 [ML12165A169] and CFA dated July 9, 2012 [ML12198A459] as both of these documents reference additional locations that are no longer on your license for storage of licensed material.

4. In accordance with Section 8.5.2 of NUREG 1556 Volume 7, Revision 1, Consolidated Guidance About Materials Licenses, Program-Specific Guidance About Academic, Research and Development, and Other Licenses of Limited Scope (NUREG 1556-v7-r1), regarding financial assurance (FA) record keeping, please commit and state that pursuant to 10 CFR 30.35(g), 10 CFR 70.25(g), and 10 CFR 70.51(b)(3), you will maintain records important to decommissioning and transfer these records to an NRC or Agreement State licensee before licensed activities are

transferred or assigned, in accordance with 10 CFR 30.34(b) and 10 CFR 70.36. Furthermore, pursuant to 10 CFR 30.51(f) and 10 CFR 70.51(a)(3), prior to license termination, we will forward the records required by 10 CFR 30.35(g) and 10 CFR 70.25(g), to the appropriate NRC Regional Office.

5. In accordance with Section 8.8 of NUREG 1556-v-7-r1, regarding training for individuals working in or frequenting restricted areas (i.e., instructions to occupationally exposed workers and ancillary personnel beyond authorized users), please submit the following additional information to include; (a) a description of the radiation safety training program, (b) topics covered, (c) list of groups of workers/ personnel (beyond authorized users) who would need this training, (d) how training effectiveness is assessed, (e) qualifications of instructors (such as training is provided by RSO and/ or authorized users or if others provide training list their qualifications), (f) the method of training (such as lectures, online training, etc.), and (g) restate the frequency of training and refresher training.
6. In accordance with Sections 8.10.2 of NUREG 1556-v-7-r1 and NUREG 1556-v-17-r1, regarding radiation monitoring instruments, please commit to and state that you will use instruments that meet the radiation monitoring instrument specifications published in Appendix I in NUREG 1556-v-7-r1 and appendix F in NUREG 1556-v-17-r1". Also, state that you reserve the right to upgrade our survey instruments as necessary.
7. In accordance with Sections 8.10.2 of NUREG 1556-v-7-r1 and NUREG 1556-v-17-r1, regarding radiation instrument calibration, please commit to and state that you will implement the model radiation survey meter calibration program published in Appendix I in NUREG 1556-v-7-r1 and appendix F in NUREG 1556-v-17-r1".
8. In accordance with Sections 8.10.3 of NUREG 1556-v-7-r1 and NUREG 1556-v-17-r1, regarding material receipt and accountability, please commit and state that you will; (a) develop, implement, and maintain procedures for ensuring accountability of licensed materials at all times, (b) physical inventories will be conducted at intervals not to exceed 6 months, to account for all sealed sources and devices received and possessed under the license, (c) records of inventory will be maintained for a period of 3 years from the date of each inventory, and will include the radionuclides, quantities, manufacturer's name and model numbers, and the date of the inventory."
9. In accordance with Sections 8.10.6 of NUREG 1556-v-7-r1, regarding safe use of radionuclides, security and emergency procedures, please commit to and state that you will either:
  - (A) restrict the possession of licensed material at a single location to quantities below the minimum limit specified in 10 CFR 30.32(i)(1)(i) and that you will develop, implement and maintain procedures for safe use, security, and emergencies; or
  - (B) submit a either; (1) an evaluation showing that the maximum dose to a person offsite due to a release of radioactive materials would not exceed 1 mrem effective dose equivalent or 5 rems to the thyroid, or (2) an emergency plan for responding to a release to a release of material in accordance with 10 CFR 30.32(i)(3).

10. In accordance with Sections 8.10.7 of NUREG 1556-v-7-r1, regarding surveys and leak tests, please commit to and state that you will survey your facility and maintain contamination levels in accordance with the survey frequencies and contamination levels published in Appendix M in NUREG 1556-v-7-r1.
11. In accordance with Sections 8.10.7 of NUREG 1556-v-7-r1, regarding surveys and leak tests, please commit to and state that leak tests will be performed at the intervals approved by the NRC or an Agreement State and specified in the SSD registration certificate and that you will either: (A) implement the model leak test program published in Appendix N in NUREG 1556-v-7-r1, or alternatively, (B) submit as part of your reply a written description of alternate equipment and procedures to evaluate a radiological hazard and for determining whether there is radioactive leakage from sealed sources or plated foils
12. In accordance with Sections 8.11 of NUREG 1556-v-7-r1, regarding waste management, please commit to and state that you will use the decay-in-storage model waste procedures that are published in Appendix P in NUREG 1556-v-7-r1.
13. In accordance with 10 CFR 30.32(g), and with respect to your sealed source material requested (byproduct material with atomic numbers 1-83, 84-103 in sealed plated or foil sources, H-3 in sealed, plated or foil form), you must provide the information required in 10 CFR 30.32(g)(1) or be subject to one or more of the exceptions provided by (g)(2), (g)(3), or (g)(4) for each group. You provided a list of sealed source as an inventory. It would appear that use of the exception provided by 10 CFR 30.32(g)(4) would be the most applicable.
- A. Please confirm that you are proposing to use the exception provided for by 10 CFR 30.32(g)(4) because it is not feasible to identify each sealed source and device individually.
- B. You have provided the conditions under which the sealed sources will be used as required and you have proposed constraints on the number and type of sealed sources/ devices to be used for some but not all of the sealed sources requested. Therefore, please provide the information missing from the following table.

Radionuclide	Form	Constraints on the number and type of sealed sources to be used.	What's Missing?
Byproduct material with atomic number 84-103	In sealed plated or foil sources.	10 microcuries per radionuclide and 1 millicuries total	Please provide the number of sources you wish to maintain.
H-3	In sealed, plated or foil form.	500 curies total	Provide maximum curies per any one source and the number of sources.

			For sources greater than 1 millicure, provide the manufacturer and model number.
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14. In accordance with Section 8.8.1 of NUREG 1556-v-7-r1, regarding authorized users, please indicate if Jeffery Semancik is to remain as an authorized user on the license. Jeffery Semancik had been listed as authorized user on the old license but in your application he is only listed as the management contact.

Your reply must be an originally signed and dated letter. The letter may be scanned and submitted as a pdf document attached to an email and send it by email to [james.cassata@nrc.gov](mailto:james.cassata@nrc.gov); or it may be transmitted by facsimile to (610) 337-5269; or it may be sent by regular mail to:

James Cassata  
Mail Control No. 609785  
USNRC, Region I  
Division of Nuclear Materials Safety  
2100 Renaissance Boulevard  
King of Prussia, PA 19406

In order to continue prompt review of your application, we request that you submit your response to this letter as soon as possible but not later than 30 calendar days from the date of this letter.

An electronic version of the NRC's regulations is available on the NRC Web Site at: [www.nrc.gov](http://www.nrc.gov). Additional information regarding use of radioactive materials may be obtained on the NRC Web Site at: <http://www.nrc.gov/materials/miau/mat-toolkits.html>. This site also provides the link to the toolbox for updated information on the revised regulations for naturally-occurring and accelerator-produced radioactive materials (NARM).

NRC's Regulatory Issue Summary (RIS) 2005-31 provides criteria to identify security-related sensitive information and guidance for handling and marking of such documents. This ensures that potentially sensitive information is not made publicly available through ADAMS, the NRC's electronic document system. Pursuant to NRC's RIS 2005-31, and in accordance with 10 CFR 2.390, this letter is exempt from public disclosure because its disclosure to unauthorized individuals could present a security vulnerability. The RIS may be located on the NRC Web Site at: <http://www.nrc.gov/reading-rm/doc-collections/gen-comm/reg-issues/2005/ri200531.pdf> and the link for frequently asked questions regarding protection of security-related sensitive information may be located at: <http://www.nrc.gov/reading-rm/sensitive-info/faq.html>.

If you have any questions regarding this request for additional information, please contact James Cassata at 610-337-5303 or via electronic mail at [james.cassata@nrc.gov](mailto:james.cassata@nrc.gov).

U.S. NRC Region 1  
Health Physicist  
610-337-5366