



CONVERSATION RECORD

5/22/2015

NAME OF PERSON(S) CONTACTED OR IN CONTACT WITH YOU Vineet K. Singh, Ph.D., Radiation Safety Officer (RSO)		DATE OF CONTACT 05/22/2015	TYPE OF CONVERSATION <input type="checkbox"/> E-MAIL <input checked="" type="checkbox"/> TELEPHONE <input type="checkbox"/> INCOMING <input checked="" type="checkbox"/> OUTGOING
E-MAIL ADDRESS vsingh@atsu.edu		TELEPHONE NUMBER → (660) 626-2459 Fax → (660) 626-2523	

ORGANIZATION Kirksville College of Osteopathic Medicine A.T. Still University of Health Sciences	DOCKET NUMBER(S) 030-12369
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LICENSE NUMBER(S) 24-17210-01	CONTROL NUMBER(S) 586441
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SUBJECT
Our review of your March 31, 2015, license renewal application. Additional information is requested by June 21, 2015. Please email your response as pdf attachment to sara.forster@nrc.gov, or send via FAX to (630) 515-1078.
Email ↗ *Fax ↗*

SUMMARY AND ACTION REQUIRED:
Please provide information noted below. Respond via a signed & dated cover letter, using typed 8.5" x 11" sheets. Refer to NUREG 1556, Vol. 7, "Program-Specific Guidance About Academic, Research and Development, and other Licenses of Limited Scope," at <http://www.nrc.gov/reading-rm/doc-collections/nuregs/staff/sr1556/v7/>, when responding. Please call or email me with any questions.

ADDITIONAL INFORMATION NEEDED:

- UNSEALED MATERIALS:** The application, p. 13, indicated possible use and possession of cobalt-57 and manganese-54. Note that, since 2008 (for Missouri), under 10 CFR 30.3(c)(2), any use of these radionuclides now requires an NRC license. Based on possession limits listed in the application, the licensee would also be required to submit a copy of a Decommissioning Funding Plan (DFP) in support of the authorizations. Please provide possession limits requested and needed for cobalt-57, manganese-54, carbon-14, hydrogen-3, and gadolinium-153. For removed radionuclides, provide the last date of use/storage and final disposition.
- SEALED MATERIALS:** The application, p. 4, listed two cesium-137 sources contained in Liquid Scintillation Counting (LSC) devices, which are not currently listed on the license. Please clarify whether the renewal includes adding the sources to the license.

ACTION REQUIRED (IF ANY)

- RADIATION SAFETY OFFICER (RSO):** Please provide a current written memorandum of understanding/delegation of authority (MOU/DOA), signed by both you and a management representative, including specific duties, as included in the model MOU/DOA, taken from the draft NUREG 1556, Vol.4, rev.1, Appendix E, attached.
- AUTHORIZED USERS (AUs):** Concerning the addition of cobalt-57 and/or manganese-54 to the license, please list AUs to be authorized for the research and development use of those radionuclides, together with applicable training and experience. Please also provide at least one AU for the cesium-137 sources in the LSC devices, if those materials are being added to the license.

NAME OF PERSON DOCUMENTING CONVERSATION
Sara A. Forster, Materials Licensing Branch, Region III Office, 2443 Warrenville Road, Suite 210, Lisle, IL 60532; Phone ↗ (630) 829-9892

SIGNATURE
Sara A. Forster *05/22/2015*

CONVERSATION RECORD (continued)

V. Singh

SUMMARY AND ACTION REQUIRED - ADDITIONAL INFORMATION NEEDED (Continued from page 1):

5. **TRAINING:** Your application described your radiation safety training program but was unclear as to the training criteria for "Lab personnel" as defined in the application. Please provide initial training criteria for Lab personnel - including training topics, how training adequacy is evaluated, and training method(s) - as outlined and discussed in NUREG 1556, Vol. 7, pp. 8-18 to 8-19 and in Appendix J, pp. J-1 to J-5.
6. **FACILITIES:** Your application included specific diagrams for waste and the north wing storeroom, but was ambiguous as to the specific areas of use authorized under the license. Please provide the following additional facility information:
 - (6.1) All room numbers to be authorized for radioactive materials use under the license, as well as an overall facility diagram, with dimensions or drawn to scale, showing all authorized radioactive materials use and storage areas.
 - (6.2) For an authorization to use radioactive materials in animal studies, please provide a facility diagram for any radioactive materials use area where animals may be housed or otherwise used. Refer to NUREG 1556, Vol. 7, Appendix H, pp. H-1 to H-5 for additional considerations for laboratory use of animals.
7. **OCCUPATIONAL DOSIMETRY:** Confirm that any provided dosimetry provided will also be processed and evaluated by a NVLAP-approved processor that is exchanged at a frequency recommended by the processor. Confirm that such dosimetry will be provided and processed if required under 10 CFR Part 20.
8. **SAFE USE, EMERGENCY, and WASTE PROCEDURES:** Note that, based on the March 31, 2015, application, the NRC will require an amendment request to modify any included procedure. No response is required for this item, generally. However, please provide the following clarifications concerning the sections entitled "Incineration" and "Transports to an Authorized Dumpsite" noted on pages 11 and 12 of the application:
 - (8.1) **INCINERATION:** Certain incineration disposal of low level concentrations of carbon-14 and tritium, such as in liquid scintillation media and animal tissues, is permitted without specific NRC review and approval. Please confirm that all radioactive materials authorized by this license and disposed by incineration will meet the requirements specified in 10 CFR 20.2005. In the alternative, for an authorization to dispose of licensed materials by incineration, provide additional information requested in the "Model Procedure for Incineration" found in NUREG 1556, Vol. 11, "Program-Specific Guidance About Licenses of Broad Scope," Appendix V, pp. V-4 to V-5, attached.
 - (8.2) **TRANSPORTS TO AN AUTHORIZED DUMPSITE:** Please confirm that any transfers of radioactive waste will be completed using an entity possessing an NRC radioactive materials license to do so. Please also confirm that the licensee will only transfer its radioactive waste to a radioactive waste storage site listed on an NRC or an Agreement State license.

Please provide a signed copy of a model MOU/DOA document. You may use the sample, below, taken from the draft NUREG 1556, Vol. 4, rev. 1, volume (available at the NRC website), or create

Model Delegation of Authority to RSO a custom document specific to your organization.

Memo To: Radiation Safety Officer
From: Chief Executive Officer
Subject: Delegation of Authority

You, _____, have been appointed radiation safety officer and are responsible for ensuring the safe use of radiation. You are responsible for managing the Radiation Protection Program, identifying radiation protection problems, initiating, recommending, or providing corrective actions, verifying implementation of corrective actions, stopping unsafe activities, and ensuring compliance with regulations. You are hereby delegated the authority necessary to meet those responsibilities, including prohibiting the use of byproduct material by employees who do not meet the necessary requirements and shutting down operations, when justified, to maintain radiation safety. You are required to notify management if staff does not cooperate and does not address radiation safety issues. In addition, you are free to raise issues with the U.S. Nuclear Regulatory Commission at any time. It is estimated that you will spend _____ hours per week conducting radiation protection activities.

Signature of Management Representative

Date

I accept the above responsibilities,

Signature of Radiation Safety Officer

Date

cc: Affected department heads

APPENDIX V

Model Procedure for Incineration

These guidelines apply to noncommercial waste disposal, i.e., incineration of a licensee's own waste. You do not need specific NRC approval in order to incinerate certain categories of radioactive waste. For example, 10 CFR 20.2005 provides that tritium and carbon-14 in low level concentrations in liquid scintillation media and animal tissue may be disposed of without regard to radioactivity. After you review your program and confirm that you have waste that requires specific NRC approval for incineration, please provide the following information.

1. Describe the training and experience of the person who will be responsible for the on-site and day-to-day supervision of incinerator operations.
2. Describe the waste that is proposed to be incinerated, to include: the chemical and/or physical form of the waste containing licensed material and a description of how the waste is segregated, packaged and labeled for transfer from the generation site to the incinerator; the name of the radioisotope; concentration of radioactivity averaged over the weight of the material to be incinerated (microcuries per gram of waste medium) for each isotope to be incinerated; and the total radioactivity of each isotope per burn and the total number of burns per year. Describe procedures for ensuring that these frequencies and activities will not be exceeded.
3. Describe the procedures for packaging, handling, securing and monitoring of waste to prevent contamination and/or unnecessary exposure to personnel or property during the waste life cycle.
4. Describe your method for measuring or estimating the concentration of radioactive material remaining in the ash residue. Describe your procedures for collection, handling and disposal of the ash residue.
5. Describe the recordkeeping procedures for the waste incineration program. Records must be adequate to document all receipts, incinerations, environmental releases of effluents, and any disposals of ash generated in the incineration process. These records must be maintained in the same units as applicable regulations.
6. Describe the characteristics of the incinerator and site location, including: height of the stack, rated air flow (cubic feet per hour or similar units), proximity of the stack or other discharge to occupied areas (e.g., residences, school, hospital), and distance to the nearest air intake ducts of adjacent buildings. Describe any scrubbers, filters, or air cleaning equipment that is present.
7. State how the concentration of radionuclides released, both as airborne effluent and as any liquid effluent from scrubbers, condensers, or associated systems, will be measured or otherwise determined. Describe any stack monitoring that is planned.

8. Provide a copy of the written safety analysis that demonstrates the applicant will be able to incinerate the types and quantities of radioactivity specified in the application without exceeding the environmental release limits specified in 10 CFR 20.
9. Provide a written commitment that the applicant has coordinated with appropriate State and local authorities and that such permits and other authorizations as may be necessary have been obtained.
10. Provide a copy of the radiation safety procedures for monitoring personnel involved in incineration operations and for monitoring all effluent generated by the incineration process. The procedures must ensure that regulatory limits for environmental releases of radioactivity will not be exceeded. The applicant must describe how any ash generated exceeding regulatory limits will be disposed of.

Model Procedure for Compaction

The following information should be provided from licensees who propose to compact waste.

1. Describe the compactor to demonstrate that it is adequately designed and manufactured to safely compact the type and quantity of waste generated during licensed operations (e.g., manufacturer's specifications, annotated sketches, photographs, etc.).
2. Describe the type, quantities, and concentrations of waste to be compacted.
3. Provide an analysis of the potential for airborne release of radioactive material during compaction activities.
4. State the location of the compactor(s) within the waste processing area(s), as well as a description of the ventilation and filtering systems used in conjunction with the compactors. Include a description of the procedures for monitoring filter blockage and exchange.
5. Discuss the methods used to monitor worker breathing zones and/or exhaust systems.
6. Discuss the types and frequencies of surveys that will be performed for contamination control in the compactor area.
7. Discuss the instruction provided to compactor operators, including instructions for protective clothing, checks for proper functioning of equipment, method of handling uncompact waste, and examining containers for defects.

Forster, Sara

From: Forster, Sara
Sent: Friday, May 22, 2015 12:52 PM
To: 'vsingh@atsu.edu'
Subject: Additional Information Request for Kirksville College of Osteopathic Medicine, NRC Lic. No. 24-17210-01
Attachments: 03620.586441.24-17210-01 teleconsigned.pdf

Dear Dr. Singh,

See the attached file for additional information needed to complete the review of the renewal application for NRC Lic. No. 24-17210-01. Note that the attached conversation record requests additional information on or before close of business on June 21, 2015. However, please call me at your earliest convenience to follow up and discuss the requested responses. Additional guidance may be found in NUREG 1556, Vol. 7, "Program Program-Specific Guidance About Academic, Research and Development, and other Licenses of Limited Scope," which may be found at:

<http://www.nrc.gov/reading-rm/doc-collections/nuregs/staff/sr1556/v7/>

Submission of your response as a pdf file attached to an email or via facsimile will allow for the quickest processing. Do not hesitate to call me with any questions you may have, or if you will need additional time to complete your response.

Sincerely,

Sara A. Forster, Health Physicist Licensing Reviewer
U.S. Nuclear Regulatory Commission - Region III
Division of Nuclear Materials Safety
2443 Warrenville Rd. - Ste. 210
Lisle, IL 60532-4352
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