

September 21, 2015

Mr. Vito Nuccio
Reactor Administrator
Department of the Interior
U.S. Geological Survey
P.O. Box 25046 MS 911
Denver Federal Center
Denver, CO 80225-0046

SUBJECT: U.S. GEOLOGICAL SURVEY - REQUEST FOR ADDITIONAL INFORMATION
RE: LICENSE AMENDMENT REQUEST TO MODIFY THE SOURCE,
BYPRODUCT AND SPECIAL NUCLEAR MATERIAL POSSESSION LIMITS
FOR FACILITY OPERATING LICENSE NO. R-113 FOR THE U.S.
GEOLOGICAL SURVEY TRIGA REACTOR (TAC NO. ME9424)

Dear Mr. Nuccio:

By letter dated June 26, 2012 (Agencywide Documents Access and Management System Accession No. ML12180A270), as supplemented, the U.S. Geological Survey (USGS) staff has requested an amendment to Facility Operating License No. R-113 for the USGS TRIGA Reactor to modify the source, byproduct, and special nuclear material possession limits. The U.S. Nuclear Regulatory Commission staff has reviewed the information provided to date, and determined that additional information is required. As such, a request for additional information (RAI) is provided in the enclosure. We request a response to the RAI within 30 days of the date of this letter.

In accordance with Title 10 of the *Code of Federal Regulations* (10 CFR), Section 50.30(b), you must execute your response in a signed original document under oath or affirmation. Your response must be submitted in accordance with 10 CFR 50.4, "Written communications." Information included in your response that is considered sensitive or proprietary, that you seek to have withheld from the public, must be marked in accordance with 10 CFR 2.390, "Public inspections, exemptions, requests for withholding." Information related to security should be submitted in accordance with 10 CFR 73.21, "Protection of Safeguards Information: Performance Requirements."

V. Nuccio

- 2 -

If you have any questions regarding this review, or need additional time to provide RAI responses, please contact Geoffrey Wertz at (301) 415-0893, or by electronic mail at Geoffrey.Wertz@nrc.gov.

Sincerely,

/RA/

Alexander Adams, Jr., Chief
Research and Test Reactors Licensing Branch
Division of Policy and Rulemaking
Office of Nuclear Reactor Regulation

Docket No. 50-274

Enclosure:
Request for Additional Information

cc: See next page

U.S. Geological Survey

Docket No. 50-274

cc:

Environmental Services
Manager
480 S. Allison Pkwy.
Lakewood, CO 80226

State of Colorado
Radiation Management Program
HMWM-RM-B2
4300 Cherry Creek Drive South
Denver, CO 80246

Mr. Timothy DeBey
Reactor Manager
U.S. Geological Survey
Box 25046 - Mail Stop 424
Denver Federal Center
Denver, CO 80225

Test, Research, and Training
Reactor Newsletter
Universities of Florida
202 Nuclear Sciences Center
Gainesville, FL 32611

V. Nuccio

- 2 -

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ADAMS Accession No.: ML15259A731; *concurring via e-mail

NRR-088

OFFICE	NRR/DPR/PRLB/PM*	NRR/DPR/LA	NRR/DPR/PRLB/BC	NRR/DPR/PRLB/PM
NAME	GWertz	NParker	AAdams	(AAdams for) GWertz
DATE	09/16/2015	09/17/2015	09/21/2015	09/21/2015

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REQUEST FOR ADDITIONAL INFORMATION
REGARDING LICENSE AMENDMENT REQUEST FOR
U.S. GEOLOGICAL SURVEY TRIGA RESEARCH REACTOR
DOCKET NO. 50-274
LICENSE NO. R-113

By letter dated June 26, 2012 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML12180A270), as supplemented, the U.S. Geological Survey (USGS) staff has requested an amendment to Facility Operating License No. R-113 for the USGS TRIGA Reactor to modify the source, byproduct, and special nuclear material possession limits. Based on the Nuclear Regulatory Commission (NRC) staffs' review of your response to our request for additional information (RAI), by USGS letter dated August 28, 2015 (ADAMS Accession No. ML15253A485), the NRC staff has determined that the following additional information is needed:

1. Your response to RAI No. 1, by letter dated August 28, 2015, provided proposed licensed material storage locations: Building 15, Rooms 149 through 152, 154, 157, 158, B10, B10B, and B11; and Building 10, Room 2. NUREG-1537, "Guidelines for Preparing and Reviewing Applications for the Licensing of Non-Power Reactors, Format and Content," Part 1, Section 9.5, "Possession and Use of Byproduct, Source, and Special Nuclear Material," provides guidance that licensees should "clearly state the materials and areas of the facility requested to be authorized by the reactor license. The reactor license and technical specifications (TSs) also will include regulatory conditions that apply to the management of such materials." The USGS license amendment request seeks to transfer non-USGS reactor produced source and byproduct material from the materials license to the reactor license and would allow material in the current reactor licensed area to be used in the new areas under the reactor license.
 - a. Provide a description of the source, byproduct, and special nuclear materials that are associated with each of the designated areas (by Building and Room) listed above, and if there are any associated material limits in these areas, by material type or quantity, or justify why this information is not needed.
 - b. Discuss how radiation protection and any material control or security requirements will be met for materials stored and used in these rooms. Any information related to security requirements should be submitted in accordance with 10 CFR 73.21, "Protection of Safeguards Information: Performance Requirements."

Enclosure

2. Your response to RAI No. 2, by letter dated August 28, 2015, provided a proposed TS definition of License Area: Rooms 149-152, 154, 157, 158, B10, B10B, B11 of Building 15, and Room 2 of Building 10. NUREG-1537, Part 1, Section 9.5, "Possession and Use of Byproduct, Source, and Special Nuclear Material," provides guidance that licensees should "clearly state the materials and areas of the facility requested to be authorized by the reactor license. The reactor license and technical specifications also will include regulatory conditions that apply to the management of such materials." Provide a justification for the proposed TS definition that you provided in your response to RAI No. 2, a markup of the proposed change in the current USGS TSs, and copy of the proposed TS, or justify why this information is not needed.

3. Your response to RAI No. 9, by letter dated March 14, 2014 (ADAMS Accession No. ML14083A398) indicated that two new sections would be added to the Radiation Protection Program associated with material license conditions for inventory of licensed material and periodic leak testing of sealed sources (the RAI response did not indicate the reason for the revision). The NRC staff has reviewed NRC Materials License No. 05-01399-08 for USGS and noted several license conditions associated with the materials at the USGS facility, in addition to the two conditions described above associated with inventory and leak testing. The NRC staff is requesting that USGS review Materials License No. 05-01399-08 and indicate if any additional license conditions from the Materials License need to be incorporated into procedures or other requirements within the scope of the USGS Reactor License, R-113, or justify why no review is needed.