



UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION IV
1600 EAST LAMAR BOULEVARD
ARLINGTON, TEXAS 76011-4511

July 17, 2023

EA-23-051

Colonel Andrew DeRosa, Commander
Air Force Test Center
Tonopah Test Range Operations
Las Vegas, Nevada 89191

SUBJECT: DEPARTMENT OF THE AIR FORCE – NOTICE OF VIOLATION,
NRC INSPECTION REPORT 999-00004/2023-001

Dear Col. DeRosa:

This letter refers to the U.S. Nuclear Regulatory Commission (NRC) reactive inspection, conducted from March 15 through June 2, 2023, regarding an incident identified by the State of Arizona Bureau of Radiation Control in September 2022. The inspection examined the incident involving the improper disposal of generally licensed tritium exit signs and radium-226 luminous devices from your facility near Las Vegas, Nevada. Within these areas, the inspection consisted of an examination of relevant procedures and records and interviews with you and your staff. The enclosed report presents the results of this inspection. A final exit meeting was conducted with you and your staff on June 2, 2023.

During the exit meeting, NRC staff explained how it considered escalated enforcement for the apparent violation of disposing of the tritium exit signs and radium-226 luminous devices to an entity not authorized to receive or dispose of radioactive materials. The NRC staff has determined that it has enough information regarding the apparent violation and your corrective actions to make an enforcement decision without a need for a predecisional enforcement conference (PEC) or an additional written response. You indicated that a PEC or additional written correspondence was not needed and that you accepted the violation on behalf of the Air Force Test Center during the exit meeting on June 2, 2023.

Based on the information developed during the inspection and the information you provided in your letter dated March 23, 2023, Agencywide Documents Access and Management System (ADAMS) Accession No. ML23083B377, the NRC has determined that a violation of NRC requirements occurred. The violation is cited in Enclosure 1, Notice of Violation (Notice), and the circumstances surrounding it are described in detail in the inspection report (Enclosure 2).

The NRC considers the violation to be significant because the failure to maintain control over the generally licensed materials created the potential for unknown exposures to members of the public from its misuse or unintentional recycling. Therefore, this violation has been categorized in accordance with the NRC Enforcement Policy at Severity Level III. The Enforcement Policy can be found on the NRC's website at <http://www.nrc.gov/about-nrc/regulatory/enforcement/enforce-pol.html>.

In accordance with the NRC Enforcement Policy, a base civil penalty in the amount of \$8,750 is considered for a Severity Level III violation.

Because the Air Force Test Center has not been the subject of a previous escalated enforcement action, the NRC considered whether credit was warranted for *Corrective Action* in accordance with the civil penalty assessment process in Section 2.3.4 of the NRC Enforcement Policy. The NRC staff has determined that *Corrective Action* credit is warranted based on the prompt and comprehensive corrective actions you implemented. Your corrective actions to address the violation are documented in the inspection report in Enclosure 2 and in your letter dated March 23, 2023.

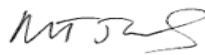
Therefore, to encourage prompt and comprehensive correction of violations and in recognition of the absence of previous escalated enforcement action, I have been authorized, after my staff's consultation with the Director, Office of Enforcement, not to propose a civil penalty in this case. However, significant violations in the future could result in a civil penalty. In addition, issuance of this Severity Level III violation constitutes escalated enforcement action that may subject you to increased inspection effort.

The NRC has concluded that information regarding: (1) the reason for the violation; (2) the corrective actions that have been taken and the results achieved; and (3) the date when full compliance was achieved is already adequately addressed on the docket in the inspection report in Enclosure 2 and in your letter dated March 23, 2023. Therefore, you are not required to respond to this letter unless the description therein does not accurately reflect your corrective actions or your position. In that case, or if you choose to provide additional information, you should follow the instructions specified in the enclosed Notice.

In accordance with 10 CFR 2.390 of the NRC's "Agency Rules of Practice and Procedure," a copy of this letter, the enclosure, and your response, if you choose to provide one, will be made available electronically for public inspection in the NRC Public Document Room and from the NRC's ADAMS, accessible from the NRC website at <http://www.nrc.gov/reading-rm/adams.html>. To the extent possible, your response should not include any personal privacy or proprietary information so that it can be made available to the public without redaction. The NRC also includes significant enforcement actions on its website at <http://www.nrc.gov/reading-rm/doc-collections/enforcement/actions>.

If you have any questions concerning this matter, please contact Neil O'Keefe of my staff at 817-200-1156.

Sincerely,



Signed by Lewis, Robert
on 07/17/23

Robert J. Lewis
Regional Administrator (Acting)
Region IV

Docket No. 999-00004
License No. General License

Enclosures:

1. Notice of Violation (Notice)
2. Inspection Report 999-00004/2023-001

cc w/enclosures:

Brian Goretzki, Bureau Chief
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John Follette, Manager
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DEPARTMENT OF THE AIR FORCE – NOTICE OF VIOLATION, NRC INSPECTION REPORT
999-00004/2023-001 - DATED JULY 17, 2023

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ADAMS ACCESSION NUMBER: **ML23166B139**

SUNSI Review: ADAMS: Non-Publicly Available Non-Sensitive Keyword:
By: JCD Yes No Publicly Available Sensitive EA-23-051

OFFICE	MIB	NMSS	C:MLB	ACES	RC
NAME	JDykert	ABolger	NO'Keefe	JKramer	DCylkowski
SIGNATURE	/RA/ E	/RA/ E	/RA/ E	/RA/ E	/RA/ E
DATE	06/02/23	06/20/23	06/09/23	06/20/23	06/20/23
OFFICE	OE	NMSS	D:DRSS	RA	
NAME	JPeralta	MBurgess	GMiller	RLewis	
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DATE	06/29/23	07/06/23	07/07/23	07/17/23	

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NOTICE OF VIOLATION

Department of the Air Force
Las Vegas, Nevada

Docket No. 999-00004
License No. General License
EA-23-051

During an NRC inspection conducted from March 15 through June 2, 2023, a violation of NRC requirements was identified. In accordance with the NRC Enforcement Policy, the violation is listed below:

10 CFR 31.5(c)(8)(i) requires, in part, that any person who transfers byproduct material in a device pursuant to the general license in 10 CFR 31.5(a) shall transfer or dispose of the device containing byproduct material by export as provided in 10 CFR 31.5(c)(7), or by transfer to another general licensee as authorized in 10 CFR 31.5(c)(9), or to a person authorized to receive the device by a specific license issued under 10 CFR Parts 30 and 32, or 10 CFR Part 30 that authorizes waste collection, or equivalent regulations of an Agreement State, or as otherwise approved under 10 CFR 31.5(c)(8)(iii).

10 CFR 31.12(c)(4) requires, in part, that any person who transfers byproduct material in accordance with the general license in 10 CFR 31.12(a) shall dispose of products containing radium-226 at a disposal facility authorized to dispose of radioactive material in accordance with any Federal or State solid or hazardous waste law, or by transfer to a person authorized to receive radium-226 by a specific license issued under 10 CFR Part 30, or equivalent regulations of an Agreement State, or as otherwise approved by the NRC.

Contrary to the above, in September 2021, the Air Force Test Center transferred and disposed of generally licensed devices containing byproduct material, and products containing radium-226 to persons not authorized in accordance with 10 CFR 31.5(c)(8)(i) and 10 CFR 31.12(c)(4) to receive the radioactive materials. Specifically, the Air Force Test Center disposed of 42 tritium exit signs and 236 luminous products containing radium-226 (switch breakers, switches, and dials) as waste to a scrap metal facility in Tucson, Arizona, that was not authorized to receive or dispose of the radioactive materials.

This is a Severity Level III violation (Enforcement Policy Section 6.7.c.10).

The NRC has concluded that information regarding: (1) the reason for the violation; (2) the corrective actions that have been taken and the results achieved; and (3) the date when full compliance was achieved is already adequately addressed on the docket in the inspection report in Enclosure 2 and in your letter dated March 23, 2023.

However, if the description therein does not accurately reflect your position or your corrective actions, you are required to submit a written statement or explanation pursuant to 10 CFR 2.201 within 30 days of the date of the letter transmitting this Notice of Violation. In that case, or if you choose to respond, clearly mark your response as a "Reply to a Notice of Violation; EA-23-051," and send it to the U.S. Nuclear Regulatory Commission, ATTN: Document Control Desk, Washington, DC 20555-0001 with a copy to the Regional Administrator, U.S. Nuclear Regulatory Commission, Region IV, 1600 East Lamar Blvd., Arlington, Texas 76011-4511, and email it to R4Enforcement@nrc.gov.

If personal privacy or proprietary information is necessary to provide an acceptable response, then please provide a bracketed copy of your response that identifies the information that should be protected and a redacted copy of your response that deletes such information. If you request that such material is withheld from public disclosure, you must specifically identify the portions of your response that you seek to have withheld and provide in detail the bases for your claim (e.g., explain why the disclosure of information will create an unwarranted invasion of personal privacy or provide the information required by 10 CFR 2.390(b) to support a request for withholding confidential commercial or financial information).

Dated this 17th day of July 2023

**U.S. NUCLEAR REGULATORY COMMISSION
REGION IV**

Docket No.: 999-00004

License No.: General License pursuant to 10 CFR 31.5 and 31.12

Inspection Report No.: 999-00004/2023-001

EA No.: EA-23-51

Licensee: Department of the Air Force - Air Force Test Center -
Tonopah Test Range Operations

Location Inspected: Remote Inspection

Inspection Dates: March 15 through June 2, 2023

Exit Meeting Date: June 2, 2023

Inspectors: Jason Dykert
Health Physicist
Materials Inspection Branch
Division of Radiological Safety & Security

Allyce Bolger
Health Physicist
Materials Inspection Branch
Division of Radiological Safety & Security

Approved by: Neil O'Keefe
Branch Chief
Materials Licensing Branch
Division of Radiological Safety & Security

Attachment: Supplemental Inspection Information

NRC Inspection Report 999-00004/2023-001
Department of the Air Force - Air Force Test Center - Tonopah Test Range Operations

1. Incident Overview and Reactive Inspection (Inspection Procedure 87103)

In September 2022, the program director for the Arizona Bureau of Radiation Control, during a tour of a non-licensed Tucson company's facility, identified that the company possessed five drums of radioactive waste without authorization. This was unexpected, so the Arizona program director began an incident inspection and identified that the waste had originated from the U.S. Air Force (USAF). The Arizona program director then notified the NRC of the incident, for follow-up of activities conducted or that occurred under Federal jurisdiction.

The NRC began seeking a responsible contact and requested specific information regarding the incident from the USAF's Radioisotope Committee, the organization responsible for civilian use of radioactive materials in the Air Force. It was determined that the responsible division was the Air Force Test Center (AFTC), Tonopah Test Range Operations. The division's commander was contacted in March 2023 to review the sequence of events, ensure that no other similar disposals had occurred, determine the cause of the event, and understand the corrective actions taken to prevent recurrence.

The inspection determined that the AFTC had received and possessed tritium exit signs and radium-226 luminous devices under a general license (GL) granted to Federal Agencies in Title 10 of the *Code of Federal Regulations* (10 CFR) 31.5 and 10 CFR 31.12. A GL requires that a responsible person is designated to manage the items, that the items are properly labeled, that instructions for use and proper storage are provided, and that the items are disposed of only to persons authorized to dispose of radioactive material.

In September 2021, the AFTC decided to dispose of the GL items, but the AFTC did not have a functioning program for the management of GL items. The staff member assigned to manage and dispose of the devices utilized the USAF procedure for managing radioactive materials, Air Force Instruction (AFI) 40-201, "Managing Radioactive Materials in the US Air Force." However, the staff member erroneously characterized the GL items as "Military Operational Use" items. This mischaracterization is attributed as causing the individual to incorrectly consider the items as exempt from NRC and State license requirements. Because the items were incorrectly considered exempt, the AFTC staff disposed of the GL items as though they were regular scrap material.

The five drums were properly labeled and had documented measured dose rates. There was one 30-gallon drum containing a total of approximately 27 microcuries of radium-226, in 236 GL luminous switches and dials. The highest documented dose rate was about 1.4 milli-Roentgen per hour (mR/hour) at 30 centimeters away. There were four 55-gallon drums containing approximately 232 curies of hydrogen-3, in 42 GL tritium exit signs, and 254 exempt americium-241 smoke detectors. The highest dose rate around these drums was near background, around 9 micro-Roentgen per hour at contact. The dose rate near all the stored drums was below 2 mR/hour, and they were stored in a fenced in area that was only accessible to personnel working at the Tucson, Arizona, facility. The NRC has estimated that no doses were received based upon the measured dose rates, the low occupancy factor, and that the area where the devices were stored at the Tucson facility was fenced off from general access.

The AFTC did not have any other generally licensed materials and did not plan on possessing any other radioactive materials in the future. Additionally, AFTC had not disposed of any other radioactive material. However, corrective actions to prevent recurrence have been put in place as described in Section 3.

2. Inspection Findings

One Severity Level III violation was identified for the disposal of generally licensed devices:

10 CFR 31.5(c)(8)(i) requires, in part, that any person who transfers byproduct material in a device pursuant to the general license in 10 CFR 31.5(a) shall transfer or dispose of the device containing byproduct material by export as provided in 10 CFR 31.5(c)(7), or by transfer to another general licensee as authorized in 10 CFR 31.5(c)(9), or to a person authorized to receive the device by a specific license issued under 10 CFR Parts 30 and 32, or 10 CFR Part 30 that authorizes waste collection, or equivalent regulations of an Agreement State, or as otherwise approved under 10 CFR 31.5(c)(8)(iii).

10 CFR 31.12(c)(4) requires, in part, that any person who transfers byproduct material in accordance with the general license in 10 CFR 31.12(a) shall dispose of products containing radium-226 at a disposal facility authorized to dispose of radioactive material in accordance with any Federal or State solid or hazardous waste law, or by transfer to a person authorized to receive radium-226 by a specific license issued under 10 CFR Part 30, or equivalent regulations of an Agreement State, or as otherwise approved by the NRC.

Contrary to the above, in September 2021, the Air Force Test Center transferred and disposed of generally licensed devices containing byproduct material, and products containing radium-226 to persons not authorized in accordance with 10 CFR 31.5(c)(8)(i) and 10 CFR 31.12(c)(4) to receive the radioactive materials. Specifically, the Air Force Test Center disposed of 42 tritium exit signs and 236 luminous products containing radium-226 (switch breakers, switches, and dials) as waste to a scrap metal facility in Tucson, Arizona, that was not authorized to receive or dispose of the radioactive materials.
(999-00004/2023-001-01)

3. Corrective Actions

After the NRC informed the USAF of the incident, AFTC recovered the improperly disposed of items from the Tucson company, and properly disposed of them through the USAF's licensed waste handler. The Radioisotope Committee (RIC) has looked for similar USAF divisions that could have other GL waste items, and none have been identified. For any future disposals by AFTC or any other similar USAF divisions, the RIC must be consulted in advance regarding the radioactive material disposal.

The existing AFTC operating procedures were updated to reflect the new process for disposing of radioactive waste, and training was provided to the AFTC staff for radioactive disposals. The new formal process was incorporated into the AFTC procedures, whose staff will coordinate with the RIC for disposal of any radioactive waste. The RIC has notified all the Air Force's base Installation Radiation Safety Officers of the details regarding this improper disposal during an "All Call" to ensure "Military Operational Use" material is clearly understood at each USAF base by any staff with access to radioactive materials. The items improperly disposed of were associated with legacy activities that no longer take place, and is viewed as an isolated incident, such that similar waste will not be generated again.

4. Exit Meeting Summary

On June 2, 2023, a telephonic exit meeting was conducted with staff from AFTC. The licensee agreed that the violation occurred and did not dispute any of the inspection details presented during the exit meeting.

Supplemental Inspection Information

PARTIAL LIST OF PERSONS CONTACTED

Colonel Andrew DeRosa, Commander
William Kudzia, Deputy Director
Major Matthew Freeman, Project Specialist

INSPECTION PROCEDURES USED

Inspection Procedure 87103, "Inspection of Material Licensees Involved in an Incident or
Bankruptcy Filing"

ITEMS OPENED, CLOSED, AND DISCUSSED

Opened

999-00004/2023-001-01 NOV Failure to properly dispose of generally licensed items;
10 CFR 31.5(c)(8)(i) and 10 CFR 31.12(c)(4)

Closed

None

Discussed

None

LIST OF ACRONYMS USED

10 CFR	Title 10 of the <i>Code of Federal Regulations</i>
ADAMS	Agencywide Documents Access and Management System
AFI	Air Force Instruction
AFTC	Air Force Test Center
GL	Generally Licensed
IP	Inspection Procedure
mR	milli-Roentgen
NRC	U.S. Nuclear Regulatory Commission
PEC	Predecisional Enforcement Conference
RIC	Radioisotope Committee