



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

April 19, 2022

Lt Col Christina Peace, Chief
Radioisotope Committee Secretariat
Department of the Air Force
Air Force Medical Readiness Agency/SG3PB
7700 Arlington Blvd
Falls Church, VA 22042

SUBJECT: AIR FORCE MASTER MATERIAL LICENSE - NRC REVIEW OF LICENSEE-
IDENTIFIED POTENTIALLY ESCALATED PERMITTEE VIOLATION

During an inspection conducted on December 13- 20, 2021, of Kirtland Air Force Base Permit No. NM-00602-02/00AFP, the Department of the Air Force Inspection Agency (DAFIA) identified an apparent violation of Title 10 of the *Code of Federal Regulations* (10 CFR) 20.1801.

In a memo dated February 4, 2022, (NRC's Agencywide Documents Access and Management System (ADAMS) Accession No. ML22108A305) you provided information regarding the specifics of the apparent violation. Specifically, the DAFIA inspector observed that the gate access in the fencing for Training Site (TS) 3 had warped to the point that there was an opening wide enough for a person to fit through, therefore potentially allowing access to the restricted area. The cause of this warping was identified to be environmental factors (i.e., strong winds blowing dirt and debris against the fence). This permittee was authorized to possess Brazilian thorium (thorium-232) oxide sludge in a total quantity of 1774 kilograms (193 millicuries) which has been distributed over four locations (TS1, TS2, TS3, and TS4) and tilled into the soil.

The NRC has reviewed this information against Enforcement Policy Section 6.7, *Health Physics*. Specifically, Example c.10, specifies that a Severity Level (SL) III violation regarding the failure to control and secure material occurs when the violation:

- a) Involves licensed material in a quantity greater than 1000 times the quantity specified in Appendix C to 10 CFR Part 20;
- b) Involves licensed material in a quantity greater than 10 times the quantity specified in Appendix C to 10 CFR Part 20, where the failure was accompanied by the absence of a functional program to detect and deter security violations; or
- c) Results in a substantial potential for exposures or release in excess of the applicable limits in 10 CFR Part 20.

The quantity for thorium-232 in Appendix C to 10 CFR Part 20 is 100 microCi and the threshold for 1000 times that quantity is 100 milliCi. While the total permitted quantity of thorium-232 exceeds this value, the specific quantity of thorium-232 tilled into the soil of TS3 is unknown. However, all four training sites were created for the same purpose and are of relatively similar sizes and its unlikely that most of the thorium was dispersed over one training site.

In an email dated February 22, 2022, you concurred that it was a reasonable assumption that TS3 did not contain more than half of the total quantity, and therefore did not exceed 100 milliCi of thorium-232.

Additionally, we concluded that the failure was not accompanied by the absence of a functional program to detect and deter security violation, nor does it result in a substantial potential for exposures in excess of the limits in 10 CFR Part 20.

Based on the facts described above, the NRC determined this violation is more appropriately characterized as a Severity Level IV violation. No further NRC action is planned.

Sincerely,

A handwritten signature in cursive script that reads "Allyce Bolger".

Signed by Bolger, Allyce
on 04/19/22

Allyce Bolger, Project Manager,
Air Force Master Materials License
Division of Radiological Safety and Security

Docket: 030-28641

License: 42-23539-01AF

AIR FORCE MASTER MATERIAL LICENSE - NRC REVIEW OF LICENSEE-IDENTIFIED
POTENTIALLY ESCALATED PERMITTEE VIOLATION DATED – APRIL 19, 2022

ADAMS ACCESSION NUMBER: ML22108A308

<input checked="" type="checkbox"/> SUNSI Review By: NFO	ADAMS: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Sensitive <input checked="" type="checkbox"/> Non-Sensitive	<input type="checkbox"/> Non-Publicly Available <input checked="" type="checkbox"/> Publicly Available	Keyword NRC-002
OFFICE	HP:MIB	C:MLB	HP:MIB	
NAME	ABBolger	NO'Keefe	ABBolger	
SIGNATURE	/RA/	/RA/	/RA/	
DATE	4/19/2022	4/19/2022	4/19/2022	

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