



**UNITED STATES  
NUCLEAR REGULATORY COMMISSION**  
REGION IV  
1600 E. LAMAR BLVD  
ARLINGTON, TX 76011-4511

November 1, 2017

EA-17-087

Colonel Brant D. Hoskins,  
Commander  
U.S. Department of the Army  
Dugway Proving Grounds  
Dugway, UT 84002-5007

SUBJECT: NRC INSPECTION REPORT 030-36202/2017-001

Dear Colonel Hoskins:

This letter refers to the routine unannounced inspection conducted on March 24, 2017, and the announced inspection conducted on April 10-11, 2017, at your facility in Dugway, Utah. The purpose of the inspection was to examine activities conducted under your license as they relate to public health and safety and to confirm compliance with the U.S. Nuclear Regulatory Commission's (NRC) rules and regulations and the conditions of your license. Within these areas, the inspection consisted of an examination of selected procedures and representative records, observations of licensed activities, independent radiation measurements and interviews with personnel. On April 11, 2017, the preliminary inspection findings were discussed with Dr. Kenneth Gritton, Technical Director and other members of your staff. The inspectors continued an in-office review to obtain additional details and clarification of policies and procedures. A final exit meeting was conducted telephonically on October 5, 2017.

Based on the results of the inspection, a number of apparent violations were identified and are being considered for escalated enforcement action in accordance with the NRC Enforcement Policy. The current Enforcement Policy is included on the NRC Web site at <http://www.nrc.gov/about-nrc/regulatory/enforcement/enforce-pol.html>. One or more apparent violations involving security requirements are discussed in the non-public Enclosure 2. The circumstances surrounding these apparent violations, the significance of the issues, and the need for lasting and effective corrective action were discussed with members of your staff at the final exit meeting.

**Enclosure 2 contains Sensitive  
Unclassified Non-Safeguards  
Information. When separated from  
Enclosure 2, this cover letter and  
Enclosure 1 are decontrolled.**

COL Hoskins

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Before the NRC makes its enforcement decision, we are providing you an opportunity to either: (1) request a predecisional enforcement conference (PEC); or (2) request an Alternative Dispute Resolution (ADR). If a PEC is held, the NRC will issue a press release to announce the time and date of the conference; however, the PEC will be closed to public observation since security-related information will be discussed. If you decide to participate in a PEC or pursue ADR, please contact Mr. Michael Hay, Chief, Materials Licensing and Inspection Branch at 817-200-1455 within 10 days of the date of this letter to notify the NRC of your intended response. A PEC should be held within 30 days and an ADR session within 45 days of the date of this letter.

If you choose to request a PEC, the conference will afford you the opportunity to provide your perspective on these matters and any other information that you believe the NRC should take into consideration before making an enforcement decision. The decision to hold a PEC does not mean that the NRC has determined that a violation has occurred or that enforcement action will be taken. This conference would be conducted to obtain information to assist the NRC in making an enforcement decision. The topics discussed during the conference may include information to determine whether a violation occurred, information to determine the significance of a violation, information related to the identification of a violation, and information related to any corrective actions taken or planned. In presenting your corrective actions, you should be aware that the promptness and comprehensiveness of your actions will be considered in assessing any civil penalty for the apparent violations. The guidance in NRC Information Notice 96-28, "Suggested Guidance Relating to Development and Implementation of Corrective Action," may be helpful. You can find the Information Notice on the NRC Web site at <http://pbadupws.nrc.gov/docs/ML0612/ML061240509.pdf>.

In lieu of a PEC, you may also request ADR with the NRC in an attempt to resolve this issue. ADR is a general term encompassing various techniques for resolving conflicts using a third neutral party. The technique that the NRC has decided to employ is mediation. Mediation is a voluntary, informal process in which a trained neutral (the "mediator") works with parties to help them reach resolution. If the parties agree to use ADR, they select a mutually agreeable neutral mediator who has no stake in the outcome and no power to make decisions. Mediation gives parties an opportunity to discuss issues, clear up misunderstandings, be creative, find areas of agreement, and reach a final resolution of the issues. Additional information concerning the NRC's program can be found at <http://www.nrc.gov/about-nrc/regulatory/enforcement/adr.html>. The Institute on Conflict Resolution (ICR) at Cornell University has agreed to facilitate the NRC's program as a neutral third party. Please contact ICR at 877-733-9415 within 10 days of the date of this letter if you are interested in pursuing resolution of this issue through ADR.

In addition, please be advised that the number and characterization of apparent violations described in the enclosed inspection report may change as a result of further NRC review. You will be advised by separate correspondence of the results of our deliberations on this matter.

In accordance with 10 CFR 2.390, of the NRC's "Agency Rules of Practice and Procedure," a copy of this letter and Enclosure 1 will be made available electronically for public inspection in the NRC Public Document Room or in the NRC's Agencywide Documents Access and Management System (ADAMS), accessible from the NRC Web site at <http://www.nrc.gov/reading-rm/adams.html>.

COL Hoskins

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However, Enclosure 2 contains security-related information in accordance with 10 CFR 2.390(d)(1) and its disclosure to unauthorized individuals could present a security vulnerability. Therefore, the material in the Enclosure 2 will not be made available electronically for public inspection in the NRC Public Document Room or from the NRC's Agencywide Documents Access and Management System (ADAMS), accessible from the NRC Web site at <http://www.nrc.gov/reading-rm/adams.html>.

If you have any questions concerning this matter, please contact Mr. Michael Hay of my staff at 817-200-1455.

Sincerely,

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Mark R. Shaffer, Director  
Division of Nuclear Materials Safety

Docket: 030-36202  
License: 43-01316-10

Public Enclosure:  
NRC Inspection Report 030-36202/2017-001

Non-Public Enclosure:  
Enclosure 2 of the NRC Inspection Report 030-36202/2017-001

cc: w/ Enclosure: S. Anderson, DEQ

~~OFFICIAL USE ONLY – SECURITY RELATED INFORMATION~~

COL Hoskins

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NRC INSPECTION REPORT 030-36202/2017-001 – DATED NOVEMBER 1, 2017.

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RidsRgn1MailCenter Resource	RidsRgn3MailCenter Resource	

ADAMS ACCESSION NUMBER: ML17212B639

**Entire Report:** ADAMS:  Non-Publicly Available  Non-Sensitive Keyword:  
 SUNSI Review By: **MRP**  Yes  No  Publicly Available  Sensitive **MD 3.4 A.3**

ADAMS ACCESSION NUMBER: ML17305A520

**Cover Letter (w/o Encl 2):** ADAMS:  Non-Publicly Available  Non-Sensitive Keyword:  
 SUNSI Review By: **MRP**  Yes  No  Publicly Available  Sensitive **EA-17-087**

OFFICE	FCDB	MLIB	C:MLIB	AC:DNMS	D:DNMS		
NAME	MRPoston	MMHammond	VHCampbell	MCHay	MRShaffer		
SIGNATURE	/RA/	/RA/	/RA/	/RA/	/RA/		
DATE	10/05/17	10/05/17	10/18/17	10/30/17	11/01/17		

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

Docket: 030-36202

License: 43-01316-10

Report No: 030-36202/2017-001

EA No: EA-17-087

Licensee: Department of the Army

Facility: Dugway Proving Grounds  
Dugway, Utah

Inspection Dates: March 29, 2017 and April 10-11, 2017

Inspectors: Michelle M. Hammond  
Health Physicist  
Materials Licensing and Inspection Branch

Martha R. Poston-Brown  
Health Physicist  
Fuel Cycle and Decommissioning Branch

Approved by: Michael C. Hay, Chief  
Materials Licensing and Inspection Branch  
Division of Nuclear Materials Safety

Enclosure 1

**EXECUTIVE SUMMARY**

**Department of the Army  
Dugway Proving Grounds  
NRC Inspection Report 030-36202/2017-001**

Program Overview

The Department of the Army, Dugway Proving Ground (DPG) is authorized to possess and use byproduct material (Cobalt-60) in two self-shielded irradiators for the irradiation of biological agents at its facility in Dugway, Utah.

Inspection Findings

During the routine unannounced inspection conducted March 29, 2017, and the announced follow-up inspection conducted April 10-11, 2017, no violations of NRC requirements associated with health and safety were identified. The results of the health and safety inspection are provided below.

In addition, one or more apparent violations of the NRC's security requirements were identified. These apparent violations are discussed in the non-public enclosure to this report. (Enclosure 2)

Corrective Actions

The licensee's corrective actions related to the NRC's security requirements are described in the non-public enclosure to this report. (Enclosure 2, Section 3)

**REPORT DETAILS – Health and Safety**

**1 Program Overview (Inspection Procedure 87122)**

**1.1 Program Scope**

The Department of the Army is authorized under NRC license 43-01316-10 to possess and use Cobalt-60 in two self-shielded irradiators for the purposes of irradiation of biological agents. Licensed activities are authorized for use at the DPG in Dugway, Utah. During the inspection, it was revealed that one of the two irradiators on the radioactive material license is no longer in the possession of DPG. The radioactive material was removed from one of the irradiators and the radioactive material and irradiator were shipped to J.L. Shepherd and Associates on March 23, 2017. The licensee's records indicated the irradiator that was shipped offsite had not been used since March 5, 2012, and the irradiator that remains onsite has not been used since June 16, 2015. The licensee is keeping the NRC license and maintaining activities of the radiation safety program for potential projects in the future.

The licensee currently has one authorized user for the irradiator. The irradiator is used by the Edgewood Chemical and Biological Center (ECBC) for biological agents and toxin irradiation. Radiation safety support onsite is provided by a safety engineer detailed to the Army Test and Evaluation Command (ATEC), the Army organization responsible for the majority of the Dugway site. ATEC also supports the radiation safety program by providing a Radiation Safety Officer (RSO) detailed to the Aberdeen Proving Ground in Maryland for administration and oversight of the radioactive material license. The onsite safety engineer is not approved for unescorted access to the irradiator facility and conducts his surveys, leak tests, and other routine safety activities under the supervision of the authorized user.

**1.2 Inspection Scope**

The inspectors reviewed the licensee's operations, written procedures, and interviewed personnel regarding the use of the irradiator and radioactive materials as they relate to public health and safety to confirm compliance with the NRC's rules, regulations, and the conditions of the NRC license. Collectively, the activities observed and the documents reviewed involved the licensee's implementation of its radiation safety program.

The inspection included the following elements: access control, shielding, use and storage, dosimetry, instrumentation, radiation safety training, and program audits.

**2 Radiation Protection (Inspection Procedure 87122, 83822)**

**2.1 Radiation Safety Committee**

Dugway Proving Grounds established a Radiation Safety Committee (RSC) which meets quarterly in accordance with the requirements of the Army Radiation Safety Program (DA PAM 385-24) and the Army Safety Program (AR 385-10). Members include the Commander, RSC Chairman, Safety Manager/Site RSO, ATEC/DPG RSO, Operations, Fire Protection, Chemical Safety, Security, and the irradiator authorized user. Meeting minutes for CY2016 were reviewed and were deemed adequate.

**2.2 Dosimetry**

Personnel having unescorted access and individuals who are approved for escorted access to the irradiator are provided with dosimetry through the Army Dosimetry Center. These dosimeters are exchanged quarterly. Doses for the review period were reviewed and found to be de minimus (zero). Dosimetry for the individual having unescorted access is stored in a locked box.

**2.3 Instrumentation**

The inspectors reviewed the instrumentation available for use by the DPG staff for surveys and accident response. Instrumentation was available in sufficient quantities and type to cover the needs of the program. All radiation survey instruments were calibrated annually. The RSC recently approved the establishment of a count room. The equipment, instrumentation, and associated calibration/reference sources for the count room have been ordered but not received nor had the count room been established at the time of the inspection. The inspectors performed confirmatory surveys using a Thermo RadEye G, serial number 370, calibration due 11/4/2017 and a NDS Products RA-500, serial number 12360 calibration due 3/13/18. Posting (Caution, Radioactive Material) and the shielding integrity of the irradiator was adequate.

**2.4 Radiation Surveys, Inventories, and Leak Tests**

The DPG Safety Engineer is approved for access to the irradiator if escorted by the authorized user. This individual performs monthly surveys of the irradiator room and the adjacent laboratory and storage spaces. Physical inventories and leak tests of the sources were conducted as required. The irradiator that was removed prior to the inspection was leak tested before it was placed in storage and prior to offsite removal. Monthly surveys were reviewed and found to demonstrate doses to adjacent spaces were appropriate so workers in the adjacent areas were not exposed to radiation above levels appropriate for members of the public, specifically 2 mrem in any one hour and 100 mrem in a year.

**2.5 Annual Audits**

Annual audits for content and implementation of the radiation safety program were conducted during the review period in accordance with 10 CFR 20.1101. The audits were performed using a Department of the Army Checklist for Ionizing Radiation and a modified version of the checklist in NUREG-1556 Volume 5. These audits were reviewed and found to include all appropriate radiation safety elements.



2.6 Radiation Safety Training

The inspectors reviewed records pertaining to radiation safety training and conducted a performance-based review. Through discussion with personnel, the inspectors confirmed adequate knowledge of radiation safety techniques for keeping exposures as low as reasonable achievable, emergency procedures, exposure levels, types of protective equipment to be used, and the mechanism for raising safety concerns.

2.7 Transfer of Radioactive Material

The inspectors verified through record review and interviews that the licensee completed and submitted their annual National Source Tracking System inventory reports in accordance with 10 CFR 20.2207. The most current report was reviewed by the inspectors, and no discrepancies were identified when compared with the actual inventory.

2.8 Conclusion

Based on the inspectors' review, all elements of the radiation protection program discussed above were in compliance and no issues or items of concern were identified.

**3 Exit Meeting Summary**

On October 5, 2017, a final telephonic exit meeting was conducted with the licensee to discuss the results of the safety portion of the inspection. No violations were identified with the radiation safety portion of the inspection.

**SUPPLEMENTAL INFORMATION**

**PARTIAL LIST OF PERSONNEL CONTACTED**

Licensee Personnel

Anderson, Douglas, PhD, Liaison Officer, Dugway Proving Grounds  
Beard, Jeremy, Authorized User, ECBC  
Bennett, Brian, PhD, Deputy Division Chief, BioTesting Division, ECBC  
Davis, Gurvis, Radiation Safety Officer, ATEC Dugway Proving Grounds  
Hoskins, Brant, COL, Commander, Dugway Proving Grounds  
Kelly, Bill, Chief, Mission Support Branch, WDTC Operations  
Gritton, Kenneth, PhD, Technical Director, Dugway Proving Grounds  
Krippner, Phillip, Director, Installation Safety Manager, Dugway Proving Grounds  
Krischner, Shaun, COL, Commander, Dugway Proving Grounds  
Lawson, Don, Chief, Security Forces, WDTC Operations  
Marsh, Geoffrey, Safety Engineer, Dugway Proving Grounds  
Nichols, Brian, Physical Security Specialist, Dugway Proving Grounds  
Smith, Jedidiah, Supervisory Security Specialist Dugway Proving Grounds  
Sosa, Perry, Chief, Operations Division, WDTC

**INSPECTION PROCEDURES USED**

IP 83822      Radiation Protection  
IP 87122      Irradiator Programs

**ITEMS OPENED, CLOSED AND DISCUSSED**

Opened

None

Closed

None

Discussed

None

**LIST OF ACRONYMS AND ABBREVIATIONS USED**

ADAMS	Agencywide Documents Access and Management System
ADR	Alternative Dispute Resolution
ATEC	Army Test and Evaluation Command
CFR	Code of Federal Regulations
CY	Calendar Year
DPG	Dugway Proving Grounds
ECBC	Edgewood Chemical and Biological Center
IRC	Institute for Conflict Resolution
NRC	Nuclear Regulatory Commission
PEC	Pre-decisional Enforcement Conference
RSC	Radiation Safety Committee
RSO	Radiation Safety Officer
WDTC	West Desert Test Center