



**UNITED STATES
NUCLEAR REGULATORY COMMISSION**
WASHINGTON, D.C. 20555-0001

May 31, 2018

EA-18-046

Ms. Sherry J. Davis
Director, ESOH Department
Acquisition, Finance, & Logistics
Defense Threat Reduction Agency
8725 John J. Kingman Road, Stop 6201
Fort Belvoir, VA 22060-6201

SUBJECT: DEFENSE THREAT REDUCTION AGENCY (DTRA) - NRC INSPECTION
REPORT NO. 71-0958/2018-201

Dear Ms. Davis,

This letter refers to the inspection conducted on April 17, 2018, at your Fort Belvoir, Virginia facility, with continued in office review through April 19, 2018. The purpose of this initial programmatic inspection was to assess DTRA's compliance to the quality assurance requirements of Title 10 of the Code of Federal Regulations (CFR) Part 71, Subpart H and its NRC-approved Part 71 Quality Assurance Program (QAP). The inspection activities focused on management controls because DTRA is a user only of transportation packagings and does not design or fabricate them. The inspection consisted of examination of procedures, representative records, and interviews with personnel.

Based on the results of this inspection, one apparent violation involving the failure to document and carry out your QAP in accordance with written procedures or instructions, was identified and is described in the enclosed report. The apparent violation is being considered for escalated enforcement action in accordance with the NRC Enforcement Policy. The current Enforcement Policy is included on the NRC's Web site at <https://www.nrc.gov/about-nrc/regulatory/enforcement/enforce-pol.html>.

The failure to carry out the QAP in accordance with written procedures throughout the period you performed shipments per the requirements of 10 CFR 71.22 is significant. This is because it was a programmatic breakdown that resulted in the shipment of fissile materials in an improper package that did not ensure adequate safety during transportation activities. This resulted in a violation and enforcement action under your NRC Part 30 license in February 2018. In addition, since your QAP approval in December 2015, adequate safety during transportation activities was not assured and the licensed material that has been shipped was at risk to be inadequately protected from transportation hazards.

The circumstances surrounding this apparent violation, the significance of the issue, and the need for lasting and effective corrections are described in the enclosed inspection report and were discussed with you and members of your staff during the inspection exit teleconference on April 19, 2018. As a result, it may not be necessary to conduct a pre-decisional enforcement

conference (PEC) in order to enable the NRC to make an enforcement decision. The NRC considered whether the February 2018 enforcement action for the Part 30 license should be considered as history for the current Part 71 apparent violation. Given the related nature of the two violations, and the fact that this apparent violation was concurrent with the Part 30 violation, you would not have had the opportunity to correct the Part 30 failure prior to engaging in the current Part 71 failure. In addition, the inspections were performed by two different organizations within the NRC, otherwise, the violations would have been identified in the same inspection, and therefore neither would have constituted history for the other case. Therefore, based on no prior history and our understanding of your corrective actions, a civil penalty may not be warranted in accordance with Section 2.3.4 of the Enforcement Policy.

Before the NRC makes its enforcement decision, we are providing you an opportunity to either (1) respond to the apparent violations in writing, (2) request a PEC, or (3) accept the violations as characterized in this letter and its enclosure (in which case the NRC will proceed with its enforcement decision). Please contact Meraj Rahimi, Acting Chief, Inspections and Operations Branch at (301) 415-6802 within 10 days of the date of this letter to notify the NRC whether you are interested in providing a written response, attending a PEC, or accepting the violations.

If you choose to provide a written response, it should be sent to the NRC within 30 days of the date of this letter. Your response may reference or include previously docketed correspondence. It should be clearly marked as a "Response to Apparent Violations in Inspection Report No. 71-0958/2018-201; EA 18-046" and sent to the U.S. Nuclear Regulatory Commission, ATTN: Document Control Desk, Washington, DC 20555-0001 with a copy mailed to Mr. Michael Layton, Director, Division of Spent Fuel Management, Office of Nuclear Material Safety and Safeguards, 11555 Rockville Pike, Rockville, MD 20852.

If you choose to request a PEC, you must contact Mr. Meraj Rahimi at 301-415-6802 within 10 calendar days of the date of this letter. The PEC will afford you the opportunity to provide your perspective on the apparent violations and any other information that you believe the NRC should take into consideration before making an enforcement decision. The topics discussed during the conference may include the following: information to determine whether the violations occurred, information to determine the significance of the violations, information related to the identification of the violations, and information related to any corrective actions taken or planned to be taken. The guidance in NRC Information Notice 96-28, "Suggested Guidance Relating to Development and Implementation of Corrective Action," is included on the NRC's Web site at: <http://www.nrc.gov/reading-rm/doc-collections/gen-comm/info-notices/1996/in96028.html>, may be helpful. If a PEC is held, it will be open to public observation, and NRC may issue a press release to announce the time and date of this open conference.

In addition, please be advised that the number and characterization of apparent violations described in the enclosure 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 "Rules of Practice," a copy of this letter, its enclosure(s), and your response, if you choose to provide one, will 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>. To the extent possible, your response should not include any personal privacy, proprietary, or safeguards information so that it can be made available to the Public without redaction. Any information forwarded to NRC should be clearly labeled on the first page with the case reference number: EA-18-046.

Should you have any questions, please contact Mr. Jeremy Tapp of my staff at (301) 415-8047.

Sincerely,

/RA/

Michael Layton, Director
Division of Spent Fuel Management
Office of Nuclear Material Safety
and Safeguards

Docket No. 07100958

Enclosure:
Inspection Report No. 71-0958/2018-201

cc w/Encl: Brian J. Stroh, RSO

SUBJECT: DEFENSE THREAT REDUCTION AGENCY (DTRA) - NRC INSPECTION
REPORT NO. 71-0958/2018-201, DOCUMENT DATE: May 31, 2018

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**U.S. NUCLEAR REGULATORY COMMISSION
Office of Nuclear Material Safety and Safeguards
Division of Spent Fuel Management**

Inspection Report

Docket No. 71-0958

Report No. 71-0958/2018-201

Part 71 General Licensee: Defense Threat Reduction Agency
8725 John J. Kingman Road
Fort Belvoir, VA 22060-6201

Inspection Location: Defense Threat Reduction Agency
8725 John J. Kingman Road
Fort Belvoir, VA 22060-6201

Inspection Dates: April 17 – 19, 2018

Inspection Team: Jeremy Tapp, Team Leader, Safety Inspector, DSFM, IOB
Jon Woodfield, Safety Inspector, DSFM, IOB

Approved by: Meraj Rahimi, Acting Branch Chief
Inspections and Operations Branch
Division of Spent Fuel Management
Office of Nuclear Material Safety and Safeguards

**U.S. NUCLEAR REGULATORY COMMISSION
Office of Nuclear Material Safety and Safeguards
Division of Spent Fuel Management**

EXECUTIVE SUMMARY

Defense Threat Reduction Agency
NRC Inspection Report 71-0958/2018-201

From April 17 through 19, 2018, the U.S. Nuclear Regulatory Commission (NRC) performed an announced inspection of the Defense Threat Reduction Agency (DTRA), at its office in Fort Belvoir, Virginia. The team inspected DTRA's activities associated with transportation of radioactive material to determine if they were executed in accordance with the requirements of Title 10 of the Code of Federal Regulations (CFR) Part 71, and DTRA's NRC-approved quality assurance program (QAP). This was the initial inspection of DTRA's QAP following its approval in December 2015. Therefore, the NRC reviewed DTRA's suite of implementing procedures to ensure they were adequate to implement the requirements in the approved QAP and 10 CFR Part 71. Because DTRA's QAP allows only use of transportation packagings, the scope was limited to DTRA's management and operational controls.

Management and Operational Controls

The team assessed the adequacy of management and operational controls in the following areas: QAP implementation, indoctrination and training, internal inspections, nonconformance controls, corrective actions, document controls, record controls, audit program, procurement controls, control of purchased items and services, identification and control of materials and components, measuring and test equipment controls, handling, storage, shipping controls, and operating status controls. The team reviewed DTRA's practices and procedures, including implementation, to determine their effectiveness.

One apparent violation of NRC regulations in the area of QAP procedures was identified and is being considered for escalated enforcement action. The team determined that DTRA failed to document and carry out its NRC-approved QAP by written procedures and then performed shipments of fissile material under its Part 71 general license. The team concluded that this failure was a programmatic breakdown and constituted an inadequate QAP, thus not ensuring adequate safety during transportation activities. DTRA took prompt corrective actions to suspend shipments of fissile material under its Part 71 general license until the QAP is fully implemented.

Overall

The team assessed that DTRA's overall implementation of its NRC-approved QAP was inadequate.

REPORT DETAILS

1.0 Inspection Scope

The purpose of this initial programmatic inspection was to assess DTRA's compliance to its NRC approved QAP and the quality assurance (QA) requirements of 10 CFR Part 71, Subpart H. The inspection activities focused on DTRA's implementing procedures which are limited to management and operational controls. The team reviewed documentation and interviewed personnel.

1.1 Inspection Procedures/Guidance Documents Used

IP 86001, "Design, Fabrication, Testing, and Maintenance of Transportation Packagings"
NUREG/CR-6314, "Quality Assurance Inspections for Shipping and Storage Containers"

1.2 List of Acronyms Used

ASME	American Society of Mechanical Engineers
CFR	Code of Federal Regulations
DTRA	Defense Threat Reduction Agency
ESOH	Environmental, Safety, and Occupational Health
NRC	U.S. Nuclear Regulatory Commission
QA	Quality Assurance
QAP	Quality Assurance Program
RSO	Radiation Safety Officer
SOP	Standard Operating Procedure

1.3 Persons Contacted

The team held an entrance meeting with DTRA on the morning of April 17, 2018, to present the scope and objectives of the NRC inspection. On the afternoon of April 17, 2018, the team held an on-site debrief, and continued with in-office inspection until the morning of April 19, 2018, when the team presented the preliminary results of the inspection during an exit teleconference. Individuals present at the entrance meeting and exit teleconference are listed in Table 1.

Table 1

Entrance Meeting and Exit Teleconference Attendees

Name	Affiliation	Entrance	Exit
Meraj Rahimi	NRC		X
Jon Woodfield	NRC	X	X
Jeremy Tapp	NRC	X	X
Sherry J. Davis	DTRA	X	X
Mike Hinton	DTRA	X	X
Brian Stroh	DTRA	X	X
Stephanie Rush	DTRA	X	

2.0 Management and Operational Controls

2.1 Scope

The team assessed the adequacy of management controls in the areas of DTRA's QAP implementation, indoctrination and training, internal inspections, nonconformance controls, corrective actions, document controls, record controls, and audit program. In addition, the team assessed the adequacy of operational controls in the areas of procurement controls, control of purchased items and services, identification and control of materials and components, measuring and test equipment controls, handling, storage, and shipping controls, and operating status controls. The team reviewed DTRA's practices and procedures, and their implementation, to determine their effectiveness.

2.2 Observations and Findings

The team requested DTRA's suite of implementing procedures. DTRA provided the team with one specific standard operating procedure (SOP) for the Part 71 QAP for fissile materials: ESOH SOP RAD-001, dated May 2, 2017. This procedure described the responsibilities of DTRA's management personnel responsible for implementation of the Part 71 QAP. It also described an annual/spot inspection process that implements the requirements for internal inspection of transportation activities to verify conformance with the documented procedures for accomplishing the activity. Results of a sample of spot inspections performed by DTRA were also reviewed by the team. The inspections primarily focused on the assembly and disassembly of the fissile material packages.

DTRA also provided the team with the Radiation Safety Program Guide; DTRA I-6055.8, "Radiation Safety Program," dated September 28, 2017; the Radiation Safety Standard Operating Procedure, dated February 11, 2015; and DTRA/SCC SOP J4E-001, "Environmental, Safety, and Occupational Health (ESOH) Inspection Program," dated October 16, 2013. The Radiation Safety Program Guide is the overall programmatic document for radiation safety. The document briefly states that transportation packaging assembly vendor instructions be followed, components inspected, and issues identified be reported to the appropriate personnel. The team found that these items pertain to the process for performing transportation shipping activities but do not describe nor implement the management or operational controls required by the QAP. This document also does not reference the Part 71 QAP as an applicable reference document that it implements. In addition, the team found that the Radiation Safety Standard Operating Procedure described the procedures for use of radioactive sources, material accountability, shipment of sources, receipt of sources, recordkeeping, and special nuclear material security, receipt, and storage; but did not implement any of the required Part 71 QAP controls. The ESOH Inspection Program SOP was also silent to Part 71 QAP controls and had not been updated since the Part 71 QAP was approved in December 2015.

The team noted that DTRA performed an assessment of the Part 71 QAP before the team performed the inspection. DTRA identified some deficiencies but the results were not yet finalized and no formal corrective actions had been documented as of the time of the inspection. In addition, DTRA stated that a few additional procedures specific to the

Part 71 QAP were being drafted at the time of the inspection but were not yet approved for use. Therefore, the team did not review this information as it was still in draft form.

Based on the above information, the team found that DTRA did not have implementing procedures for all applicable areas of the Part 71 QAP except in the area of internal inspection, which was being controlled by ESOH SOP RAD-001. In addition, the required implementing procedures have not been in place since the Part 71 QAP was approved by the NRC in December 2015. The team requested shipment documentation since December 2015 to determine if shipments had been performed under DTRA's Part 71 general license and therefore, the procedures were required to be in place. DTRA could not find records of shipments performed except in one case, but verbally stated that more shipments occurred. Therefore, the implementing procedures were required to perform the shipment activities. The team noted the one shipment that was documented was also described in detail in a Notice of Violation to DTRA, dated February 15, 2018. (ML18045A046)

The team determined that an apparent violation of NRC requirements occurred. 10 CFR 71.105(a) states, in part, that "[t]he licensee...shall document the quality assurance program by written procedures or instructions and shall carry out the program in accordance with those procedures throughout the period during which the packaging is used." Contrary to the above, DTRA did not document nor carry out the QAP by procedures for the applicable criteria of its program, except in the area of internal inspection. Specifically, since the first transportation activities were performed from December 2015 through April 2018, under the provisions of 10 CFR 71.22 for fissile material, DTRA performed shipments without quality assurance procedures in place. This failure was a programmatic breakdown and constituted an inadequate QAP in order to ensure adequate safety during transportation activities.

DTRA took prompt corrective action after identification of the issue and suspended shipments of fissile material performed under DTRA's Part 71 general license until the following actions have been taken:

- Draft the required implementing procedures for each applicable criteria of the QAP,
- Quality Assurance Manager, who is also the Radiation Safety Officer (RSO), to attend American Society of Mechanical Engineers (ASME) Lead Auditor Training in May 2018,
- Perform QAP training for all users of the Part 71 QAP, and
- Implement a robust internal audit schedule to ensure QAP compliance

2.3 Conclusions

One apparent violation of NRC regulations in the area of QAP procedures was identified and is being considered for escalated enforcement action. The team determined that DTRA failed to document and carry out its NRC-approved QAP by written procedures and then performed shipments of fissile material under the Part 71 general license. The team concluded that this failure was a programmatic breakdown and constituted an inadequate QAP thus not ensuring adequate safety during transportation activities. DTRA took prompt corrective actions to suspend shipments of fissile material under the Part 71 general license until full implementation of the QAP is achieved.