

**PRELIMINARY DECISION ON ACCEPTANCE/REJECTION OF CONCERNS**  
**UNDER THE**  
**10 CFR 2.206 PROCESS**

**SUBJECT**

**Petitioner's Request:** Reconsider approval of license SUC-1593 (Agencywide Documents Access and Management System (ADAMS) ML16342A164) for the Pohakuloa Training Area (PTA) (four ranges of 38 total ranges with depleted uranium (DU) among 16 military installations located across the U.S.), with particular attention to environmental radiation monitoring. The petitioner is concerned about the adequacy of the Environmental Radiation Monitoring Program for the licensed DU that is located in the radiation control areas at the PTA. The petitioner believes that air monitoring and soil sampling should be required and identifies various concerns about sediment sampling protocols, among other things, as summarized below to support his request to reconsider the approval of the license for the PTA.

**Ticket No.:** OEDO-17-00396-NMSS

**PETITIONER** Dr. Michael Reimer

**DATE OF PETITION** March 16, 2017 (ADAMS Accession No. ML17110A308), with supplements dated April 10 (ADAMS Accession No. ML17250A247; May 21 (ADAMS Accession No. ML17143A165; June 25 (ADAMS Accession No. ML17177A703); July 24 (ADAMS Accession No. ML17249A091), August 16 (ADAMS Accession No. ML17248A524, and August 18, 2017 (ADAMS Accession No. ML17249A075).

**IS THERE A NEED FOR IMMEDIATE ACTION**

The petition review board (PRB) determined that there is not a need to take immediate action for any of the concerns.

**CONCERNS AND PROPOSED DISPOSITION** The petitioner's concerns are summarized below along with the PRB's preliminary disposition of the concerns. For each concern that is preliminarily accepted for further evaluation under the 2.206 process, the PRB has determined that the specific request meets all the criteria for reviewing petitions in the 10 CFR 2.206 process, as stated in Management Directive (MD) 8.11, criteria (1)(a)(i) through (iii), and that the none of the criteria for rejecting petitions under 10 CFR 2.206, as stated in MD 8.11, criteria (2)(a) through (d), applies. For each concern that the PRB preliminarily rejected for further review in the 10 CFR 2.206 process, the PRB has determined that at least one of the criteria for rejecting petitions under the 10 CFR 2.206 process applies.

**Technical:**

- Lack of air monitoring and soil sampling. All explosions at the PTA should trigger air and soil sampling.

**Reject concern for evaluation under the 2.206 process per MD 8.11, criterion (2)(b):**

“The petitioner raises issues that have already been the subject of NRC [U.S. Nuclear Regulatory Commission] staff review and evaluation either on that facility, other similar facilities, or on a generic basis, for which a resolution has been achieved, the issues have been resolved, and the resolution is applicable to the facility in question.”

The petitioner's concern regarding air monitoring and soil sampling meets the criteria for rejection in accordance with MD 8.11 on the basis that this issue has already been reviewed, evaluated, and resolved by the NRC staff for this license (SUC-1593). The NRC staff evaluated these concerns in safety evaluation reports (SERs) in connection with previous license amendment applications for the license (amendments 1 (ADAMS Accession No. ML16039A230) and 2 (ADAMS Accession No. ML16343A163)).

In its SER for amendment 1, the NRC staff evaluated the inventory of DU assuming that all of it aerosolized. On page 48 of the NRC staff's SER for amendment 1 (ADAMS Accession No. ML16039A230), it states:

"The NRC staff finds that, due to the small doses anticipated from environmental transport pathways, a limited environmental monitoring program is justified. Dose from airborne contamination is considered to be highly unlikely to exceed 1 mrem/yr. Dose from all other environmental pathways, as bounded by a resident farmer pathways analysis using RESRAD, are projected to be less than 4 mrem/yr. Only direct radiation exposure from ground contaminants exceeded a 1 mrem/yr potential, as modeled using RESRAD; however, even that remains far below any monitoring requirements and would be further limited because actual exposure durations are expected to be far less than subsistence farming residence times. The NRC staff independently verified the RESRAD calculations provided by the licensee and finds the use of scenarios, parameters, and assumptions to be reasonable and appropriate. The results from the RESRAD analysis support the NRC staff's decision to not require environmental monitoring within the RCA. It also supports a limited amount of environmental monitoring outside of the RCA [radiological controlled area] (surface water, sediment, soil depositions, and ground water). The proposed frequency, analysis, and actions are sufficient to ensure DU migration outside of the RCA is adequately monitored while not exposing personnel to undue risk due to accessing unexploded ordinance areas."

The licensee evaluated the potential exposure to aerosolized DU from PTA (i.e., using the DU inventory and meteorological parameters specific to PTA as discussed in Attachment 8 of its application (ADAMS Accession No. ML15294A276) and found that, despite conservative modeling assumptions, the exposure at the site boundary was less than U.S. Agency for Toxic Substances and Disease Registry (ASTDR) guidelines. The licensee concluded that the historical use of DU at PTA has not previously and does not currently pose any inhalation hazard to off-site residents. The NRC staff referenced this evaluation with the ASTDR study in its SER for amendment 2 (ADAMS Accession No. ML16343A163). The NRC staff found the Army's evaluation acceptable and approved the site-specific Environmental Radiation Monitoring Plans (ERMPs) through amendment 2. Also, the NRC staff previously addressed the petitioner's February 3, 2017 (non-petition) concerns regarding environmental radiation monitoring and specifically the issue of why air monitoring is not conducted at the PTA (ML17055A471 (Pkg)).

- Inappropriate sediment sampling protocols (composite sampling design, analysis, and evaluation):
  - INAPPROPRIATENESS OF THE LOCATION - recent lava flows present a formidable barrier to flow. **Reject concern for evaluation under the 2.206 process** per MD 8.11, criterion (1)(a)(iii):

"There is no NRC proceeding available in which the petitioner is or could be a party and through which the petitioner's concerns could be addressed."

The petitioner's concern regarding the location of sediment sampling does not meet the criteria for acceptance in accordance with MD 8.11 because an NRC licensing proceeding exists in which the petitioner could be a party and through which the petitioner's concerns could be addressed. The NRC staff is currently evaluating a request by the licensee to, in

part, amend the site-specific ERMP annexes for Fort Polk, Fort Riley, and the PTA to correct figure sizing/scaling errors in these ERMP annexes (amendment 3 (ADAMS Accession No. ML17158B356)). The petitioner's concern regarding the sediment sampling location at the PTA is under NRC staff's consideration as part of its review of this license amendment request.

As indicated in the NRC staff's acceptance review letter to the licensee regarding the licensee's amendment request (ADAMS Accession No. ML17226A205), the NRC staff has begun its detailed technical review of the requested changes to correct figure sizing/scaling errors in the site-specific ERMP annexes for Fort Polk, Fort Riley, and PTA, and has provided the licensee with 30 calendar days in which to supplement the other portion of the licensee's request (a request for a change process). If supplementary information is not received within 30 calendar days of the issuance of this letter, the NRC staff will continue to process the license amendment request, to include docketing, without further consideration of the change process portion. When the application is docketed, an opportunity for hearing will be noticed in the *Federal Register* and the petitioner and Hawaiian Stakeholders will also be specifically notified by email of the existence of a licensing proceeding associated with the PTA and an associated opportunity to submit a petition to intervene and a request for a hearing.

The NRC staff will inform the petitioner of the outcome of this licensing review.

- INAPPROPRIATENESS OF NUMBER OF SEDIMENT SAMPLES  
**Accept concern for evaluation under the 2.206 process.**
- INAPPROPRIATENESS OF FREQUENCY OF SEDIMENT SAMPLING  
**Accept concern for evaluation under the 2.206 process.**
- INAPPROPRIATE AND POORLY-DESCRIBED ANALYTICAL TECHNIQUES  
**Accept concern regarding inappropriate analytical techniques for evaluation under the 2.206 process.**

**Reject concern regarding poorly described analytical techniques for evaluation under the 2.206 process** per MD 8.11, criterion (2)(b):

“The petitioner raises issues that have already been the subject of NRC staff review and evaluation either on that facility, other similar facilities, or on a generic basis, for which a resolution has been achieved, the issues have been resolved, and the resolution is applicable to the facility in question.”

and per MD 8.11, criterion (2)(d):

“The request addresses deficiencies within existing NRC rules. This type of request should be addressed as a petition for rulemaking.”

The petitioner's concern regarding poorly described analytical techniques meets the criteria for rejection in accordance with MD 8.11 on the basis that this issue has already been reviewed, evaluated, and resolved by the NRC staff for this license. The NRC staff evaluated analytical methods to be used by the licensee as part of its review of a previous

license amendment application (amendment 2) and approved them, tying these methods, described in the licensee's Quality Assurance Plan for Environmental Radiation Monitoring Plans (Final Environmental Radiation Monitoring Program, Programmatic Uniform Federal Policy-Quality Assurance Project Plan (UFP-QAPP), Annex 19), to the license. The NRC licensing staff reviews do not typically require evaluation of a licensee's detailed procedures, which are normally evaluated during the inspection process. However, the NRC staff will request and review procedures when necessary to ensure safety and regulatory compliance. Accordingly, this concern also meets the criteria for rejection on the basis that the concern challenges the NRC's regulatory process.

- INAPPROPRIATE GEOLOGICAL SAMPLING PROCEDURES FOR SEDIMENT COLLECTION AND INAPPROPRIATE DATA EVALUATION METHODS (LEADING TO DILUTION OF SAMPLES) TO DETERMINE THE PRESENCE OF DEPLETED URANIUM (DU) OUTSIDE THE RANGES.

**Accept concern for evaluation under the 2.206 process.**

- INAPPROPRIATE SAMPLE ANALYSIS METHODS

**Accept concern for evaluation under the 2.206 process.** The NRC staff addresses the underlying concern about the type of analytical techniques above, under the disposition of the concern categorized as "poorly described analytical techniques."

- INAPPLICABILITY OF A KEY GUIDANCE DOCUMENT USED TO EVALUATE WHERE TO COLLECT SEDIMENT SAMPLES AND HOW OFTEN TO COLLECT THEM.

**Reject concern regarding where to collect samples under the 2.206 process.** This concern is related to the concern categorized as "inappropriateness of the location," which the NRC has preliminarily determined should not be accepted for review under the 2.206 process, for the reasons described above.

**Accept concern regarding sample frequency under the 2.206 process.** This concern is related to the concern categorized as "inappropriateness of frequency of sediment sampling," which the NRC has preliminarily determined should be accepted for review under the 2.206 process, as described above.

- Insufficient Davy Crockett DU inventory.

**Reject concern for evaluation under the 2.206 process** per MD 8.11, criterion (2)(b):

"The petitioner raises issues that have already been the subject of NRC staff review and evaluation either on that facility, other similar facilities, or on a generic basis, for which a resolution has been achieved, the issues have been resolved, and the resolution is applicable to the facility in question."

The petitioner's concern regarding the sufficiency of the Davy Crockett DU inventory meets the criteria for rejection in accordance with MD 8.11 on the basis that this issue has already been reviewed, evaluated, and resolved by the NRC staff for this license. The sufficiency of the Davy Crockett DU inventory was addressed in a previous application and SER (amendment 1). The NRC staff evaluated the licensee's estimate of the DU inventory in the NRC staff's SERs for the initial licensing of the ranges with DU at the two military installations located in the Hawaiian Islands and for amendment 1 recognizing the "Project Archive Search Report Use of Cartridge, 20mm Spotting M101 Davy Crockett Light Weapon M28 On US Army Installations January 2008 Revised, June 2011" in both SERs. As applicable to the current license, the NRC staff found in the SER for amendment 1 that the licensee's DU inventory estimate is acceptable.

- Lack of evaluation of DU oxides.  
**Reject concern for evaluation under the 2.206 process per MD 8.11, criterion (2)(b):**

“The petitioner raises issues that have already been the subject of NRC staff review and evaluation either on that facility, other similar facilities, or on a generic basis, for which a resolution has been achieved, the issues have been resolved, and the resolution is applicable to the facility in question.”

The petitioner’s concern regarding the evaluation of DU oxides meets the criteria for rejection in accordance with MD 8.11 on the basis that this issue has already been reviewed, evaluated, and resolved by the NRC staff for this license. The licensee addressed DU oxides in its technical safety evaluation submitted as part of its application for license amendment 1. Through the NRC’s staff independent assessment, as documented in the NRC’s staff’s SER for amendment 1 (ADAMS Accession No. ML16039A230) (pages 16, 24, 40, 43- 44, and 49), the NRC staff evaluated the information provided by the licensee and determined that the licensee’s submittal was acceptable. The NRC staff evaluated the methods that the licensee used to estimate DU, the type of material, its chemical and physical form, and the mass of DU at each installation. The NRC staff evaluated the licensee’s dose evaluation and determined that the licensee appropriately addressed DU oxides by using conservative parameter values appropriate for DU oxides. The NRC staff also evaluated the potential for migration of DU oxide/metal and determined that environmental sampling would not occur within the RCAs and only to a limited extent outside the RCAs.

In addition, the licensee submitted its site-specific dose assessments, as required by license condition 19, in its application for amendment 2. The NRC staff confirmed that the licensee’s site-specific dose assessments were acceptable, as documented in the NRC’s staff’s SER for amendment 2 (ADAMS Accession No. ML16343A163) (page 6). As part of the NRC staff’s independent assessment of the licensee’s submittal, the NRC staff confirmed that the licensee’s dose evaluation appropriately addressed DU oxides by using conservative parameters values appropriate for DU oxides.

- Lack of transparency in the implementation and reporting the licensee’s environmental radiation monitoring results for the licensed DU

- LACK OF TRANSPARENCY IN HOW ENVIRONMENTAL RADIATION MONITORING REQUIREMENTS ARE REQUIRED TO BE IMPLEMENTED FOR EACH SITE.

**Reject concern for evaluation under the 2.206 process per MD 8.11, criterion (2)(b):**

“The petitioner raises issues that have already been the subject of NRC staff review and evaluation either on that facility, other similar facilities, or on a generic basis, for which a resolution has been achieved, the issues have been resolved, and the resolution is applicable to the facility in question.”

The petitioner’s concern regarding the lack of transparency in the implementation of the licensee’s environmental radiation monitoring for licensed DU meets the criteria for rejection in accordance with MD 8.11 on the basis that this issue has already been reviewed, evaluated, and resolved by the NRC staff for this license. In its SER for license amendment 2, the NRC staff approved the licensee’s site-specific ERMPs for each Army installation with sites or RCAs where Davy Crockett M101 DU spotting rounds are present, and incorporated these site-specific ERMPs into the license. Each site-specific ERMP, to include the PTA ERMP, describes how the licensee must conduct environmental radiation monitoring at the installation.

- LACK OF TRANSPARENCY IN THE LICENSEE’S REPORTING ITS ENVIRONMENTAL RADIATION MONITORING RESULTS  
**Reject concern for evaluation under the 2.206 process** per MD 8.11, criterion (2)(a):

“The incoming correspondence does not ask for an enforcement-related action or fails to provide sufficient facts to support the petition but simply alleges wrongdoing, violations of NRC regulations, or existence of safety concerns.”

and per MD 8.11, criterion (2)(d):

“The request addresses deficiencies within existing NRC rules. This type of request should be addressed as a petition for rulemaking.”

The petitioner’s concern regarding lack of transparency in the licensee’s reporting of environmental radiation monitoring results meets the criteria for rejection in accordance with MD 8.11 on the grounds that it does not provide a basis for taking enforcement-related action against the licensee under 10 CFR 2.206. The NRC’s regulations do not require this type of licensee to report or submit to the NRC environmental monitoring results. Accordingly, this issue does not provide a basis for enforcement action against the licensee. For the same reason, this concern also meets the criteria for rejection on the basis that the concern challenges the NRC’s regulatory process.

Nevertheless, data related to environmental radiation monitoring results and associated evaluations are subject to NRC oversight through inspection, and these inspection reports are made publicly available.

#### **Non-Technical:**

- Lack of transparency in NRC licensing of Davy Crockett DU on the ranges at the PTA.  
**Reject concern for evaluation under the 2.206 process** per MD 8.11, criterion (2)(a):

“The incoming correspondence does not ask for an enforcement-related action or fails to provide sufficient facts to support the petition but simply alleges wrongdoing, violations of NRC regulations, or existence of safety concerns.”

The petitioner’s concern meets the criteria for rejection in accordance with MD 8.11 on the grounds that it does not provide a basis for taking enforcement-related action against the licensee under 10 CFR 2.206. The petitioner’s concern purports to raise a challenge to the actions of the NRC staff, not those of the licensee. Accordingly, it does not provide a basis for taking enforcement-related action against the licensee.

Further, it is the NRC staff’s position that the past licensing proceedings were transparent. The pre-amendment meetings were publicly noticed, meeting summaries were made publicly available, the licensing submittals were made publicly available in the NRC’s document management system (ADAMS), the licensing proceedings were noticed in the *Federal Register* with an opportunity to intervene, and the licensing proceedings were posted on the public NRC web site under NRC licensing actions. Also, in response to a special request from Hawaiian stakeholders after SUC-1593 was issued, the NRC staff provides information via email to the stakeholders about SUC-1593 licensing proceedings associated with the ranges containing Davy Crockett DU located on the two military installations on the Hawaiian Islands. These email notifications go beyond the NRC’s primary means to communicate licensing actions. The petitioner is on this distribution list.

Transparency in future SUC-1593 licensing proceedings will continue as described above.

- The licensee used the ranges for high explosive (HE) fire against U.S. Department of Defense (DoD) Directive 4715.11 requiring HE not to be used in DU areas before the License Condition (LC) requiring the licensee to inform the NRC of use of HE fire on the ranges.

**Reject concern for evaluation under the 2.206 process** per MD 8.11 criterion (2)(a):

“The incoming correspondence does not ask for an enforcement-related action or fails to provide sufficient facts to support the petition but simply alleges wrongdoing, violations of NRC regulations, or existence of safety concerns.”

The petitioner’s concern meets the criteria for rejection in accordance with MD 8.11 on the grounds that it does not provide a basis for taking enforcement-related action against the licensee under 10 CFR 2.206. The DoD Directive that is the subject of this concern was never tied to SUC-1593, and is not and has not been a requirement under the license. Accordingly, the petitioner’s concern does not provide a basis for taking enforcement-related action against the licensee.

#### **NEXT STEPS – in the following order**

- Inform the petitioner of the PRB’s preliminary decision about the petitioner’s concerns that will be evaluated under the 2.206 process with rationale for those concerns that the PRB recommends should not be evaluated under the 10 CFR 2.206 process, based on the 10 CFR 2.206 petition criteria in Management Directive (M.D.) 8.11 (via phone and follow-up with email).
- Determine if the petitioner wants a public meeting or a teleconference to address the PRB regarding its preliminary decision. Process, accordingly.
- Concurrent with the above, evaluate the concerns accepted in the 10 CFR 2.206 process.
- The Nuclear Material Safety and Safeguards (NMSS) Office Director is to issue Acknowledgment Letter (identifying the concerns that will be evaluated in the 10 CFR 2.206 process) addressed to the petitioner by October 23, 2017 with *Federal Register* Notice (FRN).
- Develop preliminary Office Director’s decision and provide it the petitioner and the licensee for comment.
- Evaluate comments.
- Issue Final Director’s Decision and FRN.