



UNITED STATES  
NUCLEAR REGULATORY COMMISSION  
REGION I  
475 ALLENDALE ROAD  
KING OF PRUSSIA, PENNSYLVANIA 19406-1415

April 5, 2012

EA-12-014

James Johnson  
Executive Director  
Department of the Army  
U.S. Army Aviation and Missile Command  
U.S. Army TMDE Activity  
AMSAM-TMD-SR, Building 5417  
Redstone Arsenal, AL 35898-5000

SUBJECT: DEPARTMENT OF THE ARMY, U.S. ARMY AVIATION AND MISSILE  
COMMAND - NOTICE OF VIOLATION – NRC Inspection Report No.  
03012630/2011002

Dear Mr. Johnson:

This letter provides you the U.S. Nuclear Regulatory Commission (NRC) enforcement decision for the apparent violations identified during the NRC inspection conducted between October 24, 2011, and January 25, 2012, of the Department of the Army (the Army) Test, Measurement, Diagnostic, and Equipment Activity at the U.S. Army Aviation and Missile Command in Redstone Arsenal, Alabama. The inspection consisted of an examination of the Army's licensed activities within NRC jurisdiction as they relate to radiation safety and to compliance with NRC regulations. In addition to the on-site review, the inspection also involved in-office review of additional information provided by the Army in correspondence dated November 4 and 21, 2011, December 7, 2011, January 11-17, 2012; and during a telephone conversation between Dennis Lawyer of my staff and Larry Tarr, Stephen Howard, and Dave Walsh of your organization on January 25, 2012. Mr. Lawyer and Judy Joustra of my staff also discussed the NRC findings during a telephonic exit meeting with Messrs. Tarr, Howard, and Walsh, on January 25, 2012. The findings were also described in the NRC inspection report sent to you with a letter dated February 16, 2012 (ML120481545<sup>1</sup>).

In the February 16, 2012, letter transmitting the inspection report, we informed you that one of the apparent violations was being considered for escalated enforcement. In the letter, we also provided you with the opportunity to address the apparent violations identified in the report by either attending a pre-decisional enforcement conference (PEC) or by providing a written response before we made our final enforcement decision. In an electronic mail message from Mr. Howard of your organization on March 1, 2012, Mr. Howard indicated that the Army planned to submit a written response. Your response, dated March 9, 2012, provided additional detail on the reasons for the violations and the corrective actions implemented by the Army to address the violations and prevent recurrence.

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<sup>1</sup> Designation in parentheses refers to an Agency-wide Documents Access and Management System (ADAMS) accession number. Documents referenced in this letter are publicly-available using the accession number in ADAMS.

Based on the information developed during the inspection and that Army provided in its March 9, 2012 response to the NRC inspection report, the NRC has determined that the violations of NRC requirements occurred. The violations are cited in the enclosed Notice of Violation (Notice) and the circumstances surrounding them are described in detail in the subject inspection report. The most significant violation involved the failure by the Army to integrate a radiation monitor with the personnel access door locks to its panoramic irradiator radiation room to prevent room access when radiation levels are high, as required by NRC regulations as described below.

At its Redstone Arsenal facility, the Army is authorized by its NRC license to utilize a panoramic irradiator to calibrate its radiation instruments and devices, including dosimetry. Title 10 of the Code of Federal Regulations (CFR), Part 36 contains the NRC radiation safety requirements for irradiators, including requirements to prevent inadvertent entry to the radiation room of a panoramic irradiator while the radiation sources are unshielded. One such requirement, specified in 10 CFR 36.23(c), is that a radiation monitor be provided to detect the presence of high radiation levels in the radiation room, and that the radiation monitor must be integrated with personnel access door locks to prevent room access when radiation levels are high (i.e., when the source is exposed). However, during the NRC inspection, the NRC identified that the Army's radiation room personnel access door was not integrated with the radiation monitor. Although the door was configured such that opening the door would cause the source to be returned to the shielded position, as required, it should also have been configured to prevent the door from even opening if the source was in an unshielded position.

Although the Army has not had any occurrences of unintended entry to the Redstone Arsenal facility irradiator radiation room while the irradiator source was exposed, the potential existed for personnel to inadvertently open the door and access the room with the source in the unshielded position. Therefore, this violation has been categorized in accordance with the NRC Enforcement Policy at Severity Level III (SL III).

In accordance with the NRC Enforcement Policy, a base civil penalty in the amount of \$7000 is considered for a SL III violation. Because your facility has not been the subject of escalated enforcement actions within the last two years or the last two inspections, 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 Enforcement Policy. The NRC has concluded that credit is warranted for the Army's corrective actions taken to address the violation. Namely, the Army implemented an interim action requiring irradiator operators to verify the source is retracted upon completion of irradiator activities by ensuring the radiation monitor reading is below background levels prior to unlocking the radiation room personnel access door. Additionally, as indicated in your March 9, 2012, letter, the Army completed installation of a mechanism that integrated the door lock with the radiation monitors in accordance with the regulation.

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 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 SL III violation constitutes escalated enforcement action that may subject you to increased inspection effort in the future.

Two additional violations, also documented in the attached Notice, have been categorized in accordance with the NRC Enforcement Policy at SL IV. These violations are being cited because they were identified by the NRC. The circumstances surrounding the violations are documented in detail in the aforementioned inspection report.

The NRC has concluded that information regarding: (1) the reasons for the violations; (2) the actions planned or already taken to correct the violations and prevent recurrence; and, (3) the date when full compliance was achieved, is already adequately addressed on the docket in this letter; in written correspondence from the Army dated November 4 and 21, 2011, December 7, 2011, January 11-17, 2012, February 22, 2012, and March 9, 2012; and in Inspection Report No. 03012630/2011002. Therefore, you are not required to respond to this letter unless the descriptions contained in the aforementioned correspondence do not accurately reflect 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 "Rules of Practice," a copy of this letter and its enclosure as well as 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 Agency-wide Documents Access and Management System (ADAMS), accessible from the NRC Web site at <http://www.nrc.gov/reading-rm/adams.html>. The NRC also includes significant enforcement actions on its Web site at <http://www.nrc.gov/reading-rm/doc-collections/enforcement/actions/>.

To the extent possible, your response, if you choose to provide one, should not include any personal privacy, proprietary, or safeguards information so that it can be made available to the public without redaction. If personal privacy or proprietary information is necessary to provide an acceptable response, 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 withholding of such information, you must specifically identify the portions of your response that you seek to have withheld and provide in detail the bases for your claim of withholding (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).

Sincerely,

***/RA David C. Lew Acting For/***

William M. Dean  
Regional Administrator

Docket No. 03012630  
License No. 01-00126-16

Enclosure: Notice of Violation

cc w/encl:  
Stephen V. Howard, Radiation Safety Officer  
State of Alabama

J. Johnson

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To the extent possible, your response, if you choose to provide one, should not include any personal privacy, proprietary, or safeguards information so that it can be made available to the public without redaction. If personal privacy or proprietary information is necessary to provide an acceptable response, 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 withholding of such information, you must specifically identify the portions of your response that you seek to have withheld and provide in detail the bases for your claim of withholding (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).

Sincerely,

**/RA David C. Lew Acting For/**

William M. Dean  
Regional Administrator

Docket No. 03012630  
License No. 01-00126-16

Enclosure: Notice of Violation

cc w/encl:  
Stephen V. Howard, Radiation Safety Officer  
State of Alabama

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\*HQ to perform a quick review. \*\* see previous concurrence page

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## NOTICE OF VIOLATION

Department of the Army  
Redstone Arsenal, Alabama

Docket No. 03012630  
License No. 01-00126-16  
EA-12-014

During an NRC inspection conducted between October 24, 2011, and January 25, 2012, as well as an in-office review of information provided by the Department of the Army (the Army) in a telephone conversation between the NRC inspector and Army staff on January 25, 2012; and in written correspondence from the Army dated November 4 and 21, 2011, December 7, 2011, January 11- 17, 2012, and February 22, 2012, violations of NRC requirements were identified. The violations were discussed during a telephonic exit meeting on January 25, 2012. In accordance with the NRC Enforcement Policy, the violations are listed below:

- A. 10 CFR 36.23(c) requires, in part, that a radiation monitor must be provided to detect the presence of high radiation levels in the radiation room of a panoramic irradiator before personnel entry. The monitor must be integrated with personnel access door locks to prevent room access when radiation levels are high.

Contrary to the above, from September 24, 1996, to February 17, 2012, the Army did not provide a radiation monitor that was equipped with personnel access door locks to prevent access, when radiation levels were high, to the radiation room of the panoramic irradiator at the Redstone Arsenal facility. Specifically, the Army's radiation room personnel access door was not integrated with the radiation monitor to prevent the door from opening when radiation levels were high, although the door was configured such that opening the door would cause the source to be returned to the shielded position.

This is a Severity Level III violation (Example 6.3).

- B. 10 CFR 36.31(a) requires, in part, that the key that actuates the mechanism that moves the sources to a panoramic irradiator, and that also unlocks the radiation room, must be attached to a portable radiation survey meter by a chain or cable.

Contrary to the above, on October 25, 2011, the Army did not have the key that actuated the mechanism that moves the sources to its panoramic irradiator at the Redstone Arsenal facility, and that also unlocked the radiation room to that irradiator, attached to a portable radiation survey meter by a chain or cable.

This is a Severity Level IV violation (Example 6.3)

- C. 10 CFR 36.67(a) requires that, upon first entering the radiation room of a panoramic irradiator after an irradiation, the irradiator operator shall use a survey meter to determine that the source has returned to its fully shielded position. The operator shall check the functioning of the survey meter with a radiation check source prior to entry.

Contrary to the above, as of October 25, 2011, personnel at the Army's Redstone Arsenal panoramic irradiator facility were not checking the functioning of their survey meters with a radiation check source prior to using the meter upon entering the radiation room after each

irradiation. The Army personnel were, instead, only checking the functioning of their survey meters once per day, even if there were more than one entry on any day.

This is a Severity Level IV violation (Example 6.3)

The NRC has concluded that information regarding: (1) the reasons for the violations; (2) the actions planned or already taken to correct the violations and prevent recurrence; and, (3) the date when full compliance was achieved, is already adequately addressed on the docket in this letter; in written correspondence from the Army dated November 4 and 21, 2011, December 7, 2011, January 11-17, 2012, February 22, 2012, and March 9, 2012; and in Inspection Report No. 03012630/2011002. However, you are required to submit a written statement or explanation pursuant to 10 CFR 2.201 if the description therein does not accurately reflect your corrective actions or your position. In that case, or if you choose to respond, clearly mark your response as a "Reply to a Notice of Violation, EA-12-014," 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, Region I, 2100 Renaissance Boulevard, Suite 100, King of Prussia, PA 19406, within 30 days of the date of the letter transmitting this Notice of Violation (Notice).

If you choose to respond, your response will be made available electronically for public inspection in the NRC Public Document Room and from the NRC's Agency-wide Documents Access and Management System (ADAMS), accessible from the NRC Web site at <http://www.nrc.gov/reading-rm/adams.html>. Therefore, to the extent possible, the response should not include any personal privacy, proprietary, or safeguards information so that it can be made available to the Public without redaction.

In accordance with 10 CFR 19.11, you may be required to post this Notice within two working days of receipt.

Dated this 5th day of April 2012