



U.S. Department of Energy
Office of Inspector General
Office of Inspections and Special Inquiries

Inspection Report

40 MM Grenade Launcher Qualification
Requirements at Department of Energy
Sites



Department of Energy

Washington, DC 20585

November 25, 2008

MEMORANDUM FOR THE SECRETARY

FROM:

Greg Friedman
Gregory H. Friedman
Inspector General

SUBJECT:

INFORMATION: Inspection Report on "40 mm Grenade Launcher Qualification Requirements at Department of Energy Sites"

BACKGROUND

The Department of Energy and its National Nuclear Security Administration (NNSA), operate some of the most sensitive Federal facilities in the United States. Because of the mission requirements, safeguards and security is a top priority at these sites. As part of its security regime, the Department maintains a cadre of armed protective force officers to prevent and defend against malevolent acts. In recent years, the Department has worked to enhance security by increasing the capabilities of weapon systems used by the protective force officers. One such weapon is the 40 mm grenade launcher, which utilizes high explosive ammunition to defeat adversary personnel and equipment. A number of Department sites have procured these weapons.

Department elements and contractors responsible for security must establish formal training and qualification programs. These programs ensure that protective force officers are competent to safely and effectively perform assigned tasks, including defending protected facilities under all environmental conditions, such as reduced visibility. We initiated this inspection to gain a broader perspective on Department qualification programs for the use of 40 mm grenade launchers and to ascertain if the qualification courses were consistent with Department policy. We inspected six sites, four that report to NNSA and two that report to other Department organizations. Due to security concerns, the six sites are not specifically identified in this report.

RESULTS OF INSPECTION

During the course of our fieldwork, we concluded that three of the six sites did not conduct 40 mm grenade launcher qualification courses in accordance with Department policy. Specifically, we found that:

- Despite Department policy requirements, three sites (two NNSA and one non-NNSA) had not conducted protective force officer qualification under reduced visibility conditions (night qualification) for their 40 mm weapons. The lack of night qualification called into question the ability of the protective force officers to effectively utilize the 40 mm grenade launcher to protect the site under all environmental conditions, as required.



- The three noncompliant sites had not submitted requests for approval of a deviation from the Department's officer night qualification requirements, per Department policy. Following the prescribed deviation process ensures that appropriate compensatory measures are in place to: (i) alleviate security vulnerabilities; and, (ii) to meet Department site protection requirements.

The 40 mm grenade launcher is a powerful defensive weapon. Any reductions in the capabilities of the protective force to make maximum use of the weapon are of concern. As a consequence, we recommended that personnel qualification requirements for the 40 mm be fully implemented.

MANAGEMENT REACTION

In responding to a draft of this report, management generally concurred with our findings and identified corrective actions taken or planned to address our recommendations. Management comments are provided in their entirety in Appendix B of the report.

Attachment

cc: Acting Deputy Secretary
Chief of Staff
Under Secretary for Energy
Administrator, National Nuclear Security Administration
Assistant Secretary for Environmental Management
Assistant Secretary for Nuclear Energy
Chief Health, Safety and Security Officer
Director, Policy and Internal Controls Management (NA-66)
Director, Office of Internal Review (CF-1.2)

40 MM GRENADE LAUNCHER QUALIFICATION REQUIREMENTS AT DEPARTMENT OF ENERGY SITES

TABLE OF CONTENTS

OVERVIEW

Introduction and Objective 1

Observations and Conclusions 2

DETAILS OF FINDINGS

Reduced Visibility Qualification 3

Deviation Process 4

RECOMMENDATIONS 6

MANAGEMENT COMMENTS 6

INSPECTOR COMMENTS 6

APPENDICES

A. Scope and Methodology 7

B. Management Comments 8

Overview

INTRODUCTION AND OBJECTIVE

The U.S. Department of Energy (Department), a multi-faceted agency, supports diversified scientific, engineering, environmental and national security activities. The National Nuclear Security Administration (NNSA), a separately organized agency within the Department, supports science and technology and is responsible for maintaining the safety, security, reliability and performance of the United States' nuclear weapons stockpile.

Department facilities, including those managed by the NNSA, are required to develop and implement protection strategies based upon the Department's Design Basis Threat (DBT). The DBT describes threats that are postulated for the purpose of analyzing safeguards and security programs, systems, components, equipment, information, or material. In addition, Department facilities that maintain special nuclear materials and other items of significant national security interest must develop a Site Safeguards and Security Plan (SSSP) to describe the physical protection programs, evaluate risk, and identify facility targets associated with the DBT.

The nature of this security environment necessitates the implementation of formal security programs with increased emphasis on the protection of critical assets. To successfully defend its sites, the Department maintains a cadre of armed protective force officers to prevent and defend against malevolent acts. A critical part of the Department's effort to enhance security has been to increase the capabilities of weapon systems used by officers. One such category of weapon is the 40 mm grenade launcher, which utilizes high explosive ammunition to defeat adversary personnel and equipment. A number of Department sites have procured these weapons.

In accordance with the Department's safeguards and security policy, Department elements and contractors responsible for security must establish formal training and qualification programs. These programs ensure that officers are competent to safely and effectively perform assigned tasks, including defending assigned areas under all environmental conditions, such as reduced visibility. Department and contractor entities unable to comply with safeguards and security regulations are required to follow the Department's formal deviation process to correct, alleviate, or eliminate the deviant condition. In correcting non-compliant

conditions, Department policy also requires departmental elements to monitor compensatory measures, establish schedules of actions needed to correct the non-compliant conditions, ensure that funding is effectively managed to address safeguards and security interests, and monitor compliance with schedules when applicable.

In a prior inspection, we found that an NNSA site utilized 40 mm grenade launchers in a manner that was inconsistent with Department policy. Subsequently, we initiated this inspection to gain a broader perspective on Department qualification programs for the use of 40 mm grenade launchers. The objective of this inspection was to ascertain if 40 mm grenade launcher qualification courses at Department sites were conducted in accordance with Department policy. We inspected six sites: four report to NNSA, and two report to other Department organizations. Due to security concerns, the six sites are not specifically identified in this report.

OBSERVATIONS AND CONCLUSIONS

During the course of our fieldwork, we concluded that three of the six sites did not conduct 40 mm grenade launcher qualification courses in accordance with Department policy. Specifically, we found that:

- Despite Department policy requirements, three sites did not conduct protective force officer qualification under reduced visibility conditions (night qualification) for their 40 mm weapons. The lack of night qualification calls into question the ability of the protective force officers to protect the site under all environmental conditions.
- The three noncompliant sites had not submitted requests for approval of a deviation from the Department's officer qualification requirements, per Department policy. Following the prescribed deviation process ensures that appropriate compensatory measures are in place to alleviate vulnerabilities and meet Department site protection requirements.

Details of Findings

REDUCED VISIBILITY QUALIFICATION

We found that three sites (one Department and two NNSA) did not conduct protective force officer qualification under reduced visibility conditions (night qualification) for their 40 mm weapons, as required by Department policy. Consequently, protective force officer proficiency with these weapons could not be assured under all environmental conditions. Table 1 provides a summary regarding 40 mm grenade launcher reduced visibility qualification at the six sites.

**Reduced Visibility Qualification and Deviations for
40 mm Grenade Launchers**

Site	Year Acquired	Year Fielded ¹	Night Qualification	Deviation Obtained
1	1992	1993	No	No
2	2006	2006	Yes	N/A
3	2005	2005	No	No
4	1998	1998	Yes	N/A
5	2006	2007	Yes	N/A
6	2005	2006	No	No

Table 1

Department Manual 470.4-3, "Protective Force," establishes requirements for weapon qualification to validate user proficiency. The Manual states that where departmental firearms qualification courses do not exist or do not cover site-specific deployment of a weapons system (e.g., grenade launchers), both daylight and reduced lighting site-specific supplemental qualification courses must be developed by the cognizant security authority and submitted to the Director, Office of Security Policy (for Department sites), or the Associate Administrator for Defense Nuclear Security (for NNSA sites) for review and approval. The reduced visibility qualification course is required for protective force officers to demonstrate full capabilities and skill levels under all environmental conditions. As noted previously, three of the six sites reviewed did not have reduced visibility qualification courses for grenade launchers to validate user skills under such conditions.

¹ We noted that the sites had not conducted night qualification nor had the Department authorized a deviation from that requirement since the weapons were fielded.

Officials at the three sites provided us with various reasons why their sites were not in compliance with the Department's weapons qualification policy. An official at one site said they could not qualify during periods of reduced visibility because they did not possess appropriate night vision sighting systems, nor did they have such systems on order. An official at another site said they could not accurately grade a reduced visibility qualification course because their grenade launcher range was also an impact range for high explosive rounds and they were prohibited from walking out to the targets to confirm hits. Additionally, that official stated it was too difficult for qualification course graders to use night vision devices due to the inability to accurately confirm when targets were hit. An official at the third site, which began using grenade launchers in June 2006, said they did not currently conduct night qualification, but they were in the process of having a proposed night qualification course validated.

We noted that the three sites that were conducting reduced visibility training were using innovative methods that potentially could be applied to the other sites. One site used the standard iron sights that come with the weapons and illuminated the firing range with the appropriate candle power as prescribed by the Manual. Additionally, the site modified its targets so that the chalk training rounds would have a more evident explosion when a round impacted the target. The other two sites qualified using a combination of electro-optical and iron sight systems aimed at a slightly illuminated target.

DEVIATION PROCESS

We found that the three sites not conducting reduced visibility qualification had not submitted requests for deviations from the Department's officer qualification requirements, per Department policy. Following the prescribed deviation process ensures that appropriate compensatory measures are in place to alleviate vulnerabilities and meet Department site protection requirements.

Per Department Manual 470.4-1, "Safeguards and Security Program Planning and Management," a formal request for deviation must include: 1) a specific description of the deviation and the rationale for the deviation request; 2) a description of the current measures used for protection and an evaluation of their effectiveness; 3) a description of alternate or compensatory measures or levels of protection to be provided as an alternative to the directive requirements; 4) the expected duration of the condition for which the deviation is requested, including milestones for correcting, alleviating, or eliminating the deviant condition; and 5) an evaluation of risks associated with the

deviation, if approved. The results of vulnerability analyses and performance tests conducted on the proposed alternatives must be included as well. Deviation requests must be submitted to the Director, Office of Security Policy (for Department sites), or the Associate Administrator for Defense Nuclear Security (for NNSA sites) for review and approval. Officials at the three sites without night qualification courses acknowledged they had not submitted the required deviation requests. This was also confirmed by Department and NNSA officials responsible for those sites.

We interviewed a senior Department Headquarters Safeguards and Security official regarding the lack of a deviation request for the Department site. The official said the site is required by Department Order to establish approved day and night qualification courses for their weapon systems and that if the site were not complying with the Order, they need to follow the deviation process.

We also interviewed a senior NNSA Headquarters Safeguards and Security official regarding the NNSA sites. Despite the lack of deviation requests, NNSA Headquarters had approved their grenade launcher qualification courses without the reduced visibility requirement. The official told us it was NNSA's position that their approval of the qualification courses without a reduced visibility requirement included was "tantamount to approving the deviation from policy" for each site. As noted previously, the required deviation process includes a rigorous examination of the rationale for the deviation; current protection measures; compensatory measures to be employed as alternatives; the duration of the deviation; and a risk assessment. Approvals of deviation requests are to be based on analyses of these factors. We could find no evidence that NNSA, in approving the courses in what it termed as tantamount to a formal deviation, considered such factors with respect to the 40mm grenade launchers. Under the circumstances, we cannot be sure that NNSA fully considered the security implications of the lack of qualification in a reduced visibility environment.

Subsequent to the completion of our fieldwork, we were advised by contractor officials that the Department site and one of the two NNSA sites had taken actions to address the lack of night qualification. Therefore, our recommendations include that the Department review these corrective actions for adequacy in addressing departmental requirements.

RECOMMENDATIONS

We recommend that the Assistant Secretary for Environmental Management:

1. Ensure the Department site that was not conforming to grenade launcher reduced visibility qualification requirements has taken corrective actions to comply with applicable Department requirements. If such actions are determined to be incomplete, direct the site to request an appropriate deviation in accordance with Department safeguards and security requirements.

We recommend that NNSA's Principal Deputy Administrator:

2. Ensure the NNSA sites that were not conforming to grenade launcher reduced visibility qualification requirements take corrective actions to comply with the applicable Department requirements. As an interim measure if corrective actions have not been completed, direct the site(s) to request an appropriate deviation in accordance with Department safeguards and security requirements.

**MANAGEMENT
COMMENTS**

In comments on a draft of this report, the Office of Environmental Management agreed that the Environmental Management site addressed in this report had not conducted 40 mm grenade launcher qualification courses consistent with Department policy and stated that the deficiency has since been corrected by implementing an approved course.

In its comments, NNSA generally agreed with the report and its recommendations. In a subsequent conversation with a senior NNSA official, the official said that one of the NNSA sites addressed in the report is now in compliance with Department qualification policy, while the other site is in the process of correcting issues related to 40 mm reduced lighting qualification requirements.

**INSPECTOR
COMMENTS**

We found management's comments to be responsive to our report recommendations.

Appendix A

SCOPE AND METHODOLOGY

The fieldwork for this inspection was conducted between June 2007 and January 2008. As part of this inspection, we conducted interviews, document reviews and analysis that included:

- 10 Code of Federal Regulations, Part 1046, “Physical Protection of Security Interests”;
- DOE Order 470.4, “Safeguards and Security Program”;
- DOE Manual 470.4-3, “Protective Force”;
- DOE Manual (Draft) 470.4-3A, “Contractor Protective Force”;
- DOE Manual 470.4-1, “Safeguards and Security Program Planning and Management”; and,
- Grenade launcher qualification courses for the six sites included in this review.

This inspection was conducted in accordance with the “Quality Standards for Inspections” issued by the President’s Council on Integrity and Efficiency.

Appendix B



Department of Energy
Washington, DC 20585

September 22, 2008

MEMORANDUM FOR CHRISTOPHER R. SHARPLEY
DEPUTY INSPECTOR GENERAL
FOR INVESTIGATIONS AND INSPECTIONS

FROM: KARLE E. GOODWIN *Karl E. Goodwin*
DIRECTOR
SAFEGUARDS AND SECURITY/
EMERGENCY MANAGEMENT
OFFICE OF ENVIRONMENTAL MANAGEMENT

SUBJECT: Inspector General Draft Report on "40 mm Grenade Launcher
Qualification Requirements at Department of Energy Sites"

The Office of Environmental Management (EM) has reviewed the draft report, "40 mm Grenade Launcher Qualification Requirements at Department of Energy Site" by the Office of Inspector General. We agree with the observation that an EM site did not conduct 40 mm grenade qualification courses consistent with Departmental policy. EM has corrected this deficiency by implementing the course, "40 mm Grenade Launcher Low Light Qualification Course" which was approved by the Office of Health, Safety and Security.

If you have any questions, please contact me at (301) 903-5498, or Mr. Josh Williams of my staff, at (202) 586-2988.

cc: Tim C. Harms, US
James M. Owendoff, EM-3
Joni E. Boone, EM-6



Printed with soy ink on recycled paper.

Appendix B (continued)

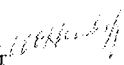


Department of Energy
National Nuclear Security Administration
Washington, DC 20585

October 2, 2008

OFFICE OF THE ADMINISTRATOR

MEMORANDUM FOR: Christopher R. Sharpley
Deputy Inspector General
for Investigations and Inspections

FROM: William C. Ostendorff 
Principal Deputy Administrator

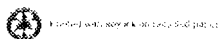
SUBJECT: Comments to Draft Inspection Report on 40mm
Grenade Launcher Qualification; Job Code
S07IS033; IDRMS No. 2008-02740

The National Nuclear Security Administration (NNSA) appreciates the opportunity to review the Inspector General's (IG) draft report, *40 MM Grenade Launcher Qualification Requirements at Department of Energy Sites*. We understand that this inspection was initiated in order for the IG to gain a broader perspective on qualification programs for the use of 40mm grenade launchers and to ascertain if the qualification courses were conducted in accordance with policy.

The NNSA generally agrees with the report and its recommendations. To that end, we offer the following comments as they relate to the report in general and to the recommendation directed towards NNSA's Principal Deputy Administrator.

During the period of the field work for this inspection and as noted in the report, three NNSA sites were found to be not fully compliant with policies requiring grenade launcher qualification programs "under all environmental conditions, such as reduced visibility." Since the time that the IG conducted its field work, one of our sites has eliminated the 40mm grenade launcher from its protection strategy, and the other two have replaced their night familiarization courses with qualification courses that include a scored component for reduced lighting conditions. All NNSA fixed sites that use 40mm grenade launchers now have approved qualification courses for both day and low light conditions.

As the draft IG report points out, there are no Departmental criteria specific to grenade launcher qualification courses. This lack of guidance required our sites to develop the courses based on the intended site-specific application of the weapons system, relying heavily on military doctrine and resident subject matter expertise. We also encourage inter-site collaboration when establishing non-standard weapons training and



Appendix B (continued)

2

qualifications standards; therefore, this issue - as well as others - will be discussed in an upcoming Protective Force Firearms Working Group meeting in order to determine best practices and establish commonality.

The NNSA believes that we have already met the intention of the recommendation. Should you have any questions about this response, please contact Richard Speidel, Director, Policy and Internal Controls Management at 202-586-5009.

cc: Bradley Peterson, Chief, Defense Nuclear Security
David Boyd, Senior Procurement Executive
Karen Boardman, Director, Service Center

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2. What additional information related to findings and recommendations could have been included in the report to assist management in implementing corrective actions?
3. What format, stylistic, or organizational changes might have made this report's overall message more clear to the reader?
4. What additional actions could the Office of Inspector General have taken on the issues discussed in this report which would have been helpful?
5. Please include your name and telephone number so that we may contact you should we have any questions about your comments.

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