



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

# Inspection Report

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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

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# Overview

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## 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

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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

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### 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 <sup>1</sup>	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.

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<sup>1</sup> 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.

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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

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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.













