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

Inspection Report

Protective Force MK-19 Grenade Launcher Use at the National Nuclear Security Administration's Pantex Facility

DOE/IG-0770 **July 2007**

Department of Energy

Washington, DC 20585

July 20, 2007

MEMORANDUM FOR THE SECRETARY

FROM: Gregory H. Friedman
Inspector General

SUBJECT: INFORMATION: Inspection Report on "Protective Force MK-19 Grenade Launcher Use at the National Nuclear Security Administration's Pantex Facility"

BACKGROUND

The National Nuclear Security Administration's (NNSA) Pantex Facility is this Nation's only nuclear weapons assembly and disassembly facility. The nature of such work necessitates the development and implementation of protection strategies based upon the Department of Energy's (Department) Design Basis Threat process. Facilities such as Pantex develop Site Safeguards and Security Plans to describe the physical protection programs, evaluations of risk, and identified facility targets associated with the threat.

In support of its protection strategy, Pantex utilizes a sizable protective force and it employs a number of technologies to increase the effectiveness of its security and response capabilities. Recently, Department sites such as Pantex have procured military weaponry to gain increased capabilities in countering the potential of a more robust and capable threat. In accordance with protective force guidelines, contractors responsible for protective force personnel must establish formal qualification programs, supported by formal training programs, which ensure protective force members are competent and fully prepared to perform assigned tasks.

The Office of Inspector General received allegations that the MK-19 40 millimeter Grenade Launcher (MK-19), procured for Pantex, was being utilized by protective force officers who (1) lacked adequate training on the weapon, to include night training and the firing of operational ammunition, and (2) had limited access to a training simulation system and that this simulation system was inoperable at the time. We initiated an inspection to review the facts and circumstances surrounding these allegations.

RESULTS OF INSPECTION

Our inspection substantiated the allegations and identified concerns with equipment, training, and qualification regarding the MK-19 at Pantex. Specifically, we found that:

- Although the MK-19 was to be utilized in darkness and during other reduced visibility conditions, it had been deployed without a night vision device or thermal imaging device compatible with the weapon's sighting system.

- The contractor's formal training program for the MK-19 did not provide protective force officers with the knowledge, skills, and abilities required to perform assigned tasks. Protective force officers assigned to utilize the MK-19 had not received formal training to engage targets at operational distances, under both daylight and reduced visibility conditions.

- The contractor's formal qualification program did not ensure protective force officers were fully competent to perform assigned tasks. Specifically, the Pantex qualification course did not cover site-specific deployment of the MK-19 and the required site-specific supplemental qualification courses for both daylight and reduced lighting had not been developed.

Further, we confirmed that Pantex had acquired a weapon training simulator that enhances the site's ability to train on the MK-19 and other weapons, though its use is not required by the Department. We confirmed that the simulator's MK-19 weapons had become inoperable in mid-November 2006, however these were referred to the manufacturer for repair in mid-December 2006. We observed that it was returned to service shortly thereafter.

In addition, beyond the specific scope of this review, we found that the site contractor had not provided its Security Police Officer-III's with certain mandatory site-specific refresher training during Fiscal Year 2006.

We made several recommendations to management designed to enhance MK-19 training and use at Pantex.

MANAGEMENT REACTION

In responding to our draft report, NNSA disagreed with our findings and recommendations. NNSA did not believe the allegations had been substantiated and asserted the actions taken in the training and deployment of the MK-19 at the Pantex Plant are appropriate and sustainable.

We found that NNSA's comments were not fully responsive as they did not address the cited instances of non-compliance with DOE policy, nor did NNSA cite Department policy to support its position. Additionally, and subsequent to our review of NNSA's non-concurrence with our draft report, we learned that BWXT Pantex and the Pantex Site Office have directed several actions with respect to the MK-19 that are consistent with our recommendations.

We recognize that certain constraints may exist at Pantex that inhibit the site's ability to acquire MK-19 compatible sighting systems, or to conduct range firing at operational distances and under reduced-visibility conditions. However, the Department has an established procedure to request variances, waivers or exceptions where safeguards and security program directive requirements cannot be fully met. Pantex officials informed us they had not requested any such deviations.

NNSA's comments are provided in their entirety in Appendix B of the report. In addition, the Management and Inspector Comments section of the report contains a detailed discussion of the comments.

Attachment

cc: Deputy Secretary
Acting Administrator, National Nuclear Security Administration
Chief of Staff
Chief Health, Safety and Security Officer
Manager, Pantex Site Office
Director, Policy and Internal Controls Management (NA-66)
Director, Office of Internal Review (CF-1.2)
Audit Liaison, Pantex Site Office

PROTECTIVE FORCE MK-19 GRENADE LAUNCHER USE AT THE NATIONAL NUCLEAR SECURITY ADMINISTRATION'S PANTEX FACILITY

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INTRODUCTION AND OBJECTIVE

The Department of Energy (DOE) mission includes highly sensitive work such as nuclear weapon research, design, and manufacturing. The nature of such work necessitates the implementation of formal security programs. Department facilities, including National Nuclear Security Administration (NNSA) sites such as the Pantex Facility, located in Amarillo, Texas, 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, evaluations of risk, and identified facility targets associated with the DBT.

Department facilities utilize protective forces as part of their protection strategy. In addition, the Department employs technologies to increase the effectiveness of its security and response capabilities. Recently, DOE sites have procured military weaponry to gain increased capabilities in countering the potential of a more robust and capable threat. In accordance with protective force guidelines, contractors responsible for protective force personnel must establish formal qualification programs, supported by formal training programs, which ensure protective force members are competent to perform assigned tasks. Protective force services at Pantex are provided by BWXT Pantex LLC (BWXT), which is the prime management and operating contractor for the site.

The Office of Inspector General received allegations that the MK-19 40 millimeter Grenade Launcher (MK-19), a military weapon system procured for NNSA's Pantex Facility was being utilized by protective force officers who (1) lacked adequate training on the weapon, to include night training and the firing of operational ammunition, and (2) had limited access to an electronic training simulation system and that this simulation system was inoperable at the time. We initiated an inspection to review the facts and circumstances surrounding these allegations.

OBSERVATIONS AND CONCLUSIONS

Our inspection substantiated the allegations and identified concerns with equipment, training, and qualification regarding the MK-19 at Pantex. Specifically, we found that:

- With respect to equipment, although the MK-19 was to be utilized in darkness and during other reduced visibility conditions, it had been deployed without a night vision device or thermal imaging device compatible with the weapon's sighting system. The two-person observation and firing procedures utilized at Pantex do not meet Department requirements for a compatible device. We learned that BWXT Pantex had placed an order for compatible weapon-mounted reduced visibility sighting systems in June 2005, but that this order was cancelled in June 2007 and has not been renewed.

- With respect to training, the contractor's formal program for the MK-19 did not provide protective force officers with the knowledge, skills, and abilities required to perform assigned tasks. Protective force officers assigned to utilize the MK-19 had not received formal training to engage targets at operational distances, under both daylight and reduced visibility conditions.

- With respect to qualification, the contractor's formal program did not ensure protective force officers were fully competent to perform assigned tasks. Specifically, the Pantex qualification course did not cover site-specific deployment of the MK-19 and the required site-specific supplemental qualification courses for both daylight and reduced lighting had not been developed.

Further, we confirmed that Pantex had acquired a weapon training simulator that enhances the site's ability to train on the MK-19 and other weapons, though its use is not required by the Department. We confirmed that the simulator's MK-19 weapons had become inoperable in mid-November 2006, however these were referred to the manufacturer for repair in mid-December 2006. We observed that it was returned to service shortly thereafter.

Beyond the specific scope of this review, we found that for Fiscal Year 2006, BWXT had not provided its Security Police Officer-III's (SPO-III's) with mandatory site-specific refresher training intended to maintain skills in:

- Handgun Shoot On-The-Move (required annually)

- Live Fire House Qualification (required every 6 months)
- SPO-III Maintenance Training Part II (required annually)
- AR-15 Shoot On-The-Move Qualification (required annually)

Management comments to a draft of this report did not address the lack of FY 2006 refresher training, but reflect that the contractor is providing SPO III refresher training in FY 2007.

As part of our inspection activities, we reviewed a May 2006 DOE Independent Oversight Safeguards and Security Inspection report of the "Pantex Plant and the Pantex Site Office," which cited findings and opportunities for improvement related to the MK-19. We also reviewed management's Corrective Action Plan (CAP) associated with the report, which indicated that the report's findings were the result of "inattention to detail," and closed the matter with a plan to "Implement [an] approved qualification range." The Office of Health, Safety and Security (HSS) subsequently found this CAP to be responsive in addressing the MK-19 related findings in the inspection report. However, during the course of our inspection fieldwork, we observed that multiple conditions similar to those previously identified by HSS continued to exist at Pantex.

NECESSARY EQUIPMENT

We found that, although the MK-19 was to be utilized in darkness and during other reduced visibility conditions, it was deployed without a night vision device or thermal imaging device compatible with the weapon's sighting system. DOE Manual 470.4-3, "Protective Force," requires that protective force officers be "equipped and provided with the necessary resources to effectively, efficiently, and safely perform both routine and emergency duties in daylight and under reduced visibility conditions. Equipment, specifically weapons and communication systems, must be tailored to effectively combat and defeat adversaries identified in the DBT and site-specific threat guidance or as specified in the . . . SSSP under all environmental and tactical conditions." In addition, the Manual states that ". . . [night vision devices] and/or thermal imaging devices compatible with weapon sighting systems must be available for protective force use . . ."

NNSA officials recently authorized the deployment of the MK-19 by the BWXT protective force. NNSA and contractor officials told us that protective force officers were expected to use the weapon on a "24/7" basis, including hours of darkness and other periods of reduced visibility such as fog. A contractor official said that the full capability of the weapon system was needed to meet facility protection requirements. However, we determined that when the MK-19 was deployed at the facility, protective force officers did not have a reduced visibility imaging device that was compatible with the weapon's sighting system.

BWXT officials explained that instead, MK-19 operators used a separate hand-held binocular-like night observation device to acquire a target during reduced visibility. After acquiring a target, the weapon operator handed that night observation device to a second protective force officer. The second officer, using the observation device, was relied upon to guide and direct the fire of the MK-19 operator, who could no longer observe the target. Contractor officials explained that during training, they equated target acquisition under this two-person process with a target hit by the weapon's operator. However, we determined this procedure had not been verified as part of the MK-19 weapon qualification program, and several protective force officers assigned to use the MK-19 told us this procedure did not allow them to effectively engage a target in darkness.

A mounted, low visibility sighting system compatible with the MK-19 would enable the weapon operator to acquire, identify and engage a target in darkness. However, Pantex established the two-

person procedure described above because MK-19 operators could not employ the hand-held observation device and operate the weapon simultaneously. Since the MK-19 operator was unable to effectively observe the target or to employ the weapon's sighting system while firing the weapon, we determined this non-sight technique does not meet Department requirements for reduced-light conditions.

We learned that in June 2005, BWXT placed an order for MK-19 compatible, weapon mounted, reduced visibility sighting systems. The fact that the contractor placed an order for these low-visibility sighting systems acknowledged a requirement for such equipment. In June 2007, the contractor cancelled the order, citing competing U.S. military priorities and production delays, and that the low-visibility sighting system that had been ordered was not compatible with the Pantex operating environment. The contractor told us there was no further need for the sighting system at that time. The official said that future employment of the weapon during periods of darkness or low visibility would rely upon the previously described two-person sighting method.

In a discussion subsequent to our review of management comments to a draft of this report, a BWXT official informed us that there are currently no sighting systems on order, but the contractor is evaluating available systems that meet the need for a reduced visibility sighting device.

TRAINING PROGRAM

We found that the contractor's formal training program for the MK-19 did not provide protective force officers with the knowledge, skills, and abilities (KSA) required to perform assigned tasks. The DOE Protective Force Manual requires that the qualification requirements will be supported by a formal training program that develops and maintains the knowledge, skills and abilities required to perform assigned tasks.

As stated previously, Pantex protective force officers were expected to use the MK-19 in darkness and during other periods of reduced visibility. In addition, it would be used at extended distances and against a moving adversary. However, interviews of site officials and our review of the site's training course disclosed that the weapon training program only provided for basic operator training at a firing range under favorable daylight and limited distance conditions. Protective force officers assigned to utilize the MK-19 did not receive formal training to engage targets at operational distances, under both daylight and reduced visibility conditions. Based on our review, MK-19 operator training

provided by BWXT did not address the full range of Pantex employment requirements.

Regarding the firing of operational ammunition, we determined that the training ammunition used in the MK-19 was different from the operational ammunition used in the weapon. BWXT management officials said that protective force officers had not fired operational ammunition because Pantex lacked the appropriate firing range. In management's view, the training ammunition in combination with the weapon system simulator were sufficient to replicate the effects of the operational ammunition, and did so at significant cost savings. Although we found that not firing the operational ammunition did not violate DOE policy, some protective force officers expressed concern to us that they lacked experience in the firing and effects of the operational ammunition they would be expected to use. As a result, some assigned operators expressed a lack of confidence in their full knowledge of the weapon and their ability to employ the MK-19 effectively against an actual threat.

Weapon Simulator

We observed that Pantex had acquired a weapon training simulator that enhances the site's ability to train on the MK-19 and other weapons, though its use is not required by the Department. We confirmed that the simulator's MK-19 weapons had become inoperable in mid-November 2006, however these were referred to the manufacturer for repair in mid-December 2006. We observed that it was returned to service shortly thereafter.

Pantex's Elite Force Training Facility (EFTF) simulator had the ability to replicate long range, maneuvering adversary and reduced visibility conditions that cannot currently be trained for on existing live-fire ranges at Pantex. A senior BWXT security official told us the priority for MK-19 training had been to send all security police officers through the EFTF for training. A Pantex site security official told us MK-19 training should be prioritized to assigned users.

Additionally, discussions with site officials indicated that the capabilities the simulator offered for more complex site-specific tasks were not part of the formal training program for assigned weapon operators. There was no formalized program in place to specify which officers should receive priority in specific MK-19 training tasks. BWXT management indicated that a dedicated training and relief cadre was recently reestablished to make simulator training more widely available to officers during their assigned shifts.

In a discussion subsequent to our review of management comments to a draft of this report, a BWXT official informed us that the BWXT Pantex Training Department has been tasked to develop a low-light moving target scenario in the EFTF simulator. The official added that the concept for EFTF use will be expanded to support qualification for moving targets under low-visibility conditions.

QUALIFICATION PROGRAM

We found that the contractor's formal qualification program did not ensure protective force officers were fully competent to perform assigned tasks. While training programs are intended to build proficiency in required skills, qualification is a validation of competency in those skills. Specifically, the Pantex qualification course did not cover site-specific deployment of the MK-19 and the required site-specific supplemental qualification courses for both daylight and reduced lighting had not been developed. The DOE Protective Force Manual requires that "Contractors responsible for protective force personnel must establish a formal qualification program to meet qualification requirements which ensure protective force members are competent to perform the tasks within their assigned responsibilities." The Manual also states that "Where DOE firearms qualification courses do not exist or do not cover site-specific deployment of a weapons system . . . both daylight and reduced lighting site-specific supplemental qualification courses must be developed by the cognizant security authority. . . "

We determined that BWXT's formal qualification program for the MK-19, which NNSA approved, did not assure that protective force personnel demonstrated competency under periods of reduced visibility or at distances at which an adversary could be potentially encountered. Our review revealed that protective force personnel were rated as qualified on the MK-19 after firing during daylight hours at a stationary target positioned at approximately 10 percent of the distance that an adversary was expected to be engaged and neutralized. Contractor and Federal officials at the site expressed differing opinions as to whether training and qualification for the weapon were constrained by the available firing ranges and whether standards had been lowered to meet facility constraints.

In a discussion subsequent to our review of management comments to a draft of this report, a BWXT official informed us that the Pantex Site Office is requiring that BWXT Pantex establish a low-light course of fire at the Pantex range facility.

ANNUAL REFRESHER TRAINING

Beyond the specific scope of this review, we found that for Fiscal Year 2006, BWXT had not provided its SPO-III's with mandatory refresher training intended to maintain their skill sets. The Code of Federal Regulations requires that each security police officer must successfully complete a course of refresher training at least every 12 months to maintain the minimum level of competency required for the successful performance of tasks associated with security officer job responsibilities. The type and intensity of training must be based on a site-specific job analysis and approved by NNSA. The contractor's Fiscal Year 2006 Training Plan required the following courses for SPO-III refresher training:

- Handgun Shoot On-The-Move (required annually)
- Live Fire House Qualification (required every 6 months)
- SPO-III Maintenance Training Part II (required annually)
- AR-15 Shoot On-The-Move Qualification (required annually)

Our review of Pantex training records revealed that only one of many SPO-III protective force officers had completed some of the above required training in FY 2006 and did not reflect that any of the required training had been completed by the other SPO III's. Management comments to a draft of this report did not address the lack of FY 2006 refresher training, but reflect that the contractor is providing SPO III refresher training in FY 2007.

RECOMMENDATIONS

We recommend that the Manager, Pantex Site Office:

1. Regarding the DOE requirement to have a low-visibility system that is compatible with the weapon sighting system: (1) Reassess the decision to cancel the order for an attached, compatible reduced visibility sighting system; (2) Continue efforts to acquire a compatible sighting device that allows optimal use of the weapon; and, (3) As an interim measure, seek a deviation from DOE requirements.

2. Ensure the MK-19 formal training program develops protective force officer proficiency in engaging targets at operational distances, and in the conduct of night operations. Consider formalizing simulator exercises for assigned MK-19 operators and establishing a uniform approach, based on priority of need, for access to the simulator.

3. Pursue improvements to Pantex MK-19 range facilities to enable qualification fire at operational distances, and during limited visibility. If such improvements are determined to be

infeasible, request an appropriate deviation from Department requirements.

4. Establish a system of internal controls to ensure that all SPO-III's consistently receive all required refresher training.

MANAGEMENT AND INSPECTOR COMMENTS

Management's verbatim comments regarding a draft version of this report are contained in their entirety at Appendix B. As appropriate, we made changes to our report to address management's comments. Below is a summary of management's comments, along with our response.

In general comments to the draft report, it was NNSA's position that the allegations that were the basis for the OIG review have not been substantiated, and NNSA did not agree with the OIG recommendations. NNSA stated that a review by NNSA and military subject matter experts did not support the OIG's assessments.

Inspector Comments: We found that NNSA's comments were not fully responsive to the report's findings and recommendations. Specifically, management's response did not address the cited instances of non-compliance with DOE policy, nor did NNSA cite Department policy to support its position.

In its response, NNSA referred to statements and opinions attributed to NNSA and "military subject matter experts" and to information from a Department of Defense (DOD) Field Manual (FM 3-22.27, MK-19, 40-mm Grenade Machine Gun). We fully considered this additional material and found the DOD Manual to be consistent with our position and that management's position was inconsistent with DOE policy.

Additionally, in discussions with BWXT security officials subsequent to our review of these management comments non-concurring with our report, we were told that BWXT Pantex and the Pantex Site Office have directed several actions with respect to the MK-19 that are consistent with our draft recommendations. Therefore, we stand by our findings and recommendations.

Recommendation 1

Management stated that the comment in the report on a shortage of low-visibility or night sights for the MK-19 is valid, but it's not known what Pantex can do about it. Management also stated that an effective sight for the system was developed only in the last

three years, and all available are going to the military. Management further cited an opinion that it is more effective for the MK-19 gunner to use head-worn night vision goggles.

Inspector Comments: The DOE Protective Force Manual requires that night vision or thermal imaging devices compatible with weapon sighting systems must be available for protective force use. NNSA's comments cite an opinion regarding the use of head-worn night vision goggles, but this is not the established Pantex sighting method. The Pantex two-person observation method employed at the site is not compatible with the weapon's sighting system. Further, since Pantex has not conducted qualification fire at night, neither of these two methods has been validated as ensuring protective officer competence.

BWXT previously submitted a requisition for weapon mounted reduced visibility sighting systems compatible with the MK-19, which acknowledged a requirement for such a system, though this order was subsequently cancelled. We confirmed that no such systems are currently on order. The Department requires that deviations from Safeguards and Security program directives require approval before implementation. Pantex has sought no such deviation.

Recommendation 2

Regarding MK-19 training, management stated that the MK-19 weapon is not aimed, but utilized in a depth and width (area fire) concept to provide suppressive fire at predetermined areas. The management response stated that understanding the following four areas is key to the effective use of the MK-19: (1) weapon cycling and functioning; (2) loading, unloading, stoppages, mis-fires and runaway gun; (3) the traverse and elevation mechanism; and (4) employing the shooter-spotter concept and demonstrating that concept in dry-fire (no ammunition) and live-fire training ammunition environments in daylight and reduced visibility conditions.

Inspector Comments: Management's position that the MK-19 is not aimed is inconsistent with the weapon's anti-armor capability. [Operational MK-19 ammunition can penetrate up to two inches of steel armor upon impact with a point target (e.g., a vehicle).] The probability of the ammunition disabling or defeating an armored vehicle decreases dramatically in an area fire mode. Management's position that the MK-19 is not aimed is also contradicted by the referenced DOD Field Manual, which cites the

MK-19 can be employed against a point target at up to 1,500 meters distance. In fact, the DOD qualification program requires operators of the MK-19 to demonstrate weapon system proficiency during qualification by hitting multiple point targets at various distances during both daylight and reduced visibility conditions.

NNSA cited one of its four key areas to the effective use of the MK-19 as demonstrating the shooter-spotter concept in a live-fire training ammunition environment under reduced visibility conditions. Our inspection activities previously determined that Pantex did not conduct reduced visibility live-fire training with the MK-19. Therefore, Pantex training practices were not supportive of demonstrated competency in this key area.

Recommendation 3

Management stated MK-19 training and qualification are accomplished through dry-fire and the use of training ammunition. Management also contended the weapon is not aimed, and cited an example of one military expert who claimed to have qualified over 8,000 Marines using area suppression procedures.

Inspector Comments: The DOE Protective Force Manual requires that formal qualification programs ensure that protective force members are competent to perform the tasks within their assigned responsibilities. Further, qualification is required under both daylight and reduced-lighting conditions. Contrary to DOE criteria and Pantex employment requirements, MK-19 qualification was conducted with 12 rounds of training ammunition, in daylight conditions, fired at one stationary target located at approximately 10 percent of the anticipated operational employment distance. As such, MK-19 qualification at Pantex was limited to the most basic tasks supported by the site's live fire range rather than all tasks under required conditions.

Management's position that the MK-19 is an area fire weapon is inconsistent with qualification criteria in the referenced DOD Field Manual. The DOD Manual specifies that multiple targets in its day/night qualification tables are point targets, and the MK-19 scoring standard requires that one or two rounds must strike the designated targets. Further, DOD qualification tables can require over 100 rounds of ammunition per MK-19 crew, per qualification cycle; this is far in excess of the 12 rounds fired at Pantex for qualification.

NNSA's response did not alter our finding that the MK-19 qualification program did not ensure protective force officers were fully competent to perform assigned tasks. Based on our analysis of DOE policy and the Pantex qualification program, the site has not validated proficiency in the full range of assigned tasks.

Recommendation 4

In its response, management stated that 100 SPO III's received site specific refresher training between October 2006 and March 2007. Additional refresher training is scheduled for the period April through September 2007.

Inspector Comments: Management did not address our finding regarding BWXT's failure to provide required annual refresher training to its SPO III's in Fiscal Year 2006. However, we consider their ongoing conduct of Fiscal Year 2007 refresher training an improvement and as responsive to our recommendation.

Appendix A

SCOPE AND METHODOLOGY

The fieldwork for this inspection was conducted in December 2006 and continued with additional interviews through July 2007. As part of this inspection, we visited the Pantex facility and met with DOE, NNSA, and contractor officials. We conducted a document review and analysis that included:

- An FY 2006 Contract Performance Evaluation Report;
- The facility Site Safeguards and Security Plan documentation;
- Facility protective force training records;
- Facility training plans;
- Procurement documentation;
- DOE Manual 470.4-2, "Physical Protection";
- DOE Manual 470.4-3, "Protective Force"; and,
- DOD FM 3-22.27, "MK 19, 40-mm Grenade Machine Gun, Mod 3".

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

Department of Energy
National Nuclear Security Administration
Washington, DC 20585

MAY 13 2007

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

FROM: Michael C. Kane
Associate Administrator
For Management and Administration

SUBJECT: Comments to Draft Inspection Report on MK-19 Use at Pantex; S07IS007/2007-02108

The National Nuclear Security Administration (NNSA) appreciates the opportunity to review the draft Inspector General (IG) report, "Protective Force MK-19 Grenade Launcher Use at the National Nuclear Security Administration's Pantex Facility." We understand that the IG received allegations related to the use of the MK-19 and other matters, and that the IG believes the allegations have been substantiated.

NNSA's position is that the allegations have not been substantiated, and we do not agree with the recommendations. Our own review by NNSA and military subject matter experts does not support the IG's assessments.

The attached narrative provides the basis for our disagreement with the conclusions and recommendations that appear in the draft IG report.

Should you have any questions about this response, please contact Richard Speidel, Director, Policy and Internal Controls Management.

Attachment

cc: Steven Erhahrt, Manager, Pantex Site Office
William Desmond, Associate Administrator for Defense Nuclear Security
Karen Boardman, Director, Service Center
David Boyd, Senior Procurement Executive

NNSA's Narrative to the IG's Draft Report

Protective Force MK-19 Grenada Launcher Use at the National Nuclear Security Administrations' Pantex Facility

The following comments justify non-concurrence with the report as well as describe actions taken by BWXT in training and deployment of the MK-19 at the Pantex Plant that are both appropriate and sustainable. In addition to information from the Field Manual (FW 3-22.27), some of which is theoretical in nature, practical application data was also obtained from a number of military experts who have actually commanded and trained military personnel on the proper use of the weapon system as well as very recently deployed the MK-19 in combat situations. This data is absolutely necessary when analyzing the training and deployment strategy of the MK-19 at the Pantex Plant.

One concern the report alleged was the stated non-compliance with Departmental policy that he MK-19 training did not provide PF officers with the knowledge, skills and abilities necessary to effectively perform assigned tasks as required to include firing operational ammunition used in the weapon. The key to effective use of the MK-19 is:

(1) understanding weapon cycle and functioning;
(2) understanding how to handle loading, unloading, miss-fires, stoppages, and runaway gun;
(3) understanding traverse and elevation mechanism (T&E) manipulation; and
(4) understanding how to employ the shooter-spotter concept and then demonstrating in a dry-fire and live-fire environment (using training practice (TP) rounds), under daylight and reduced visibility conditions.

This is very basic, but if an individual can do those things, then the weapon can effectively be employed. BWXT Pantex is currently training the assistant gunner/gunner concept and reduced-visibility operations in the Elite Force Training Facility (simulator). In addition, the Simulator provides the ability to train against realistic adversary threats such as aircraft, threat vehicles, and ground troops. This system is used to train America's fighting forces to defend this country against the same or very similar threats. No DOE Site has the capability to physically shoot down aircraft; engage vehicles moving at adversary threat speeds; or engage real personnel serving as adversary targets. The MK19 is a crew-served weapon system, designed to be employed by a minimum 2-man team--one shooter, one spotter. It is also an area-suppression weapon, designed to be fired using a T&E rear sight to give range, range card and TRPts (target reference points). The weapon is not aimed--it utilizes a search (depth) and traverse (width) concept by manipulation of the T&E across a given area defined by a range card. The mathematics of weapon characteristics, range and elevation combined with the T&E mean the weapon can be set to fire within the area defined by sighting and then "dry" traversing the T&E without having to fire a shot. TRPs are "triggers", once an adversary triggers the TRP, he is in the area to be suppressed, and the shooter starts shooting, the spotter observes impacts and movement of adversaries and gives T&E corrections to the

shooter, who then adjusts the T&E and range. In practice, this can be done day, night, rain, snow, dust all day without a low-visibility sight as long as the spotter or shooter know when the TRP is tripped and range cards are accurate. Always better if spotter has eyes on the entire area of course, but not necessary.

One military expert stated he qualified over 8,000 Marines on the MK-19 using the above concepts and without firing a single round of operational ammunition and they performed well in combat. Additionally, operational ammunition is extremely expensive and MK-19 ranges capable of supporting operational ammo are rare, very expensive, and require a great deal of support because of the high dud rate. Because of this, MK-19 ranges are rare on military bases. He stated: "It is nice, when possible, to provide personnel an opportunity to shoot live rounds, and it does give them confidence in the weapon, but the cost-benefit needs to be weighed closely before investing in a MK-19 range."
Tier-One special operations also did an independent review and concluded that the Pantex implementation of "the MK-19 program meets the minimum acceptable standards." They stated, "a cursory review of the MK-19 training and qualification program might lead to erroneous recommendations." Additionally, the team stated that success will mostly be determined by the site's "unhindered interest to implement the existing and proposed plans." The IG report also states Protective Force officers have not received adequate training in night operations for the weapon and the weapon was deployed without a reduced visibility sighting system that would effectively direct the weapon's fire under these conditions. The MK-19 was fully deployed in December 2005. Prior to December 2005, 212 SPO IIIs were trained to staff these positions. It is possible a portion of these SPOs IIIs, approximately 39%, did not initially train on the simulator, as it was not fully implemented at the time. Since this time, an additional 330 more SPOs have qualified on the MK-19 with all participating in the Simulator training prior to qualifying. However, given the numbers of SPOs who have trained in Simulator since it became operational, it is very likely that most of these 212 have since been in the simulator and received training on the MK-19. The Simulator became fully operational in January 2006. From that point through March 2007, more than 1,800 students have been trained on the Simulator with more than 110,000 MK- 19 simulator rounds fired. The MK-19s for the Simulator were operational during the time of the IG visit. The guns were operating and were functioning according to manufacturer specifications. From November 15 - December 14 (29 days), BWXT Pantex deadlined the simulator MK-19s pending a review from the Vendor regarding a potential safety issue. On December 14, the vendor negated the safety concern and training restarted. There were 16 training days during this 29-day period that no MK-19 simulator training occurred. Personnel did continue to train on the other primary firearms systems during this period. Outside the 29-day period in November and December, there were more than 12,000 MK-19 simulator rounds fire. The safety stand down caused little or no impact on the MK-19 simulator-training program.

The comment in the report on a shortage of low-visibility or night sights for the MK-19 is valid but it's not known what Pantex can do about it. An effective sight for the system was developed only in the last three years, and all available are going to the military. Use of a low-visibility/night sight on the MK-19 has always been problematic primarily

because the shooting positions required with the MK-19 are not conducive to keeping your eyes in the standing position, if the shooter puts their eyes up close to a sight, the recoil will likely knock them out. This explains the concept of the shooter shoots, and the spotter spots. One military expert stated "low-visibility/night sight on the MK-19 was important in Iraq because MK- 19 gunners in vehicles are up there without a spotter, so when contact is made, they could look through the sight, get initial range, then engage quickly. However, my SOP is that you always got a spotter into the turret as quickly as possible because the shooter can't keep eyes on the target and shoot. The two-person method used at Pantex appears to mirror this, and is in my opinion the only effective way to shoot the thing accurately under those conditions. That said, we effectively employed the MK-19 under all conditions without a low-visibility/night sight for almost 20 years, and used it pretty effectively in all conditions. In actual practice in Iraq, we seldom used the night sight because it is more a pain then help. Much more effective for the gunner to use PVS-18/19 [head-worn night vision goggles)". The Simulator Training Program provides the most realistic training opportunities for the full range of tactical and environmental conditions. The current lesson plans in place demonstrate these capabilities.

The report also alleged the weapon training simulator acquired to support training of the MK-19 was only available on a very limited basis and was inoperable at the time. As stated earlier BWXT Pantex has operated the simulator since January 2006 and has consistently increased the number of SPOs put through the familiarization. The system has not been down for long periods of time however various weapons used in the simulator have needed repair and/or maintenance. Military personnel familiar with the MK-19 have stated simulator training is a nice add-on, but is not a qualification requirement. Lastly, although beyond the scope of this review, the report alleges BWXT had not provided SPO 111s with mandatory site-specific annual refresher training. From October 2006 through March 2007, 100 SPO 111s received maintenance training that included handgun/rifle shoot on the move, tactical obstacle course, training on tactical entry using dye marking cartridge technology, and tactical team movement. The second session of this maintenance training is scheduled for April 2007 through September 2007.

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