



U.S. Department of Energy  
Office of Inspector General  
Office of Audit Services

# Audit Report

National Nuclear Security  
Administration's Nuclear Explosive  
Safety Study Program

DOE/IG-0581

January 2003



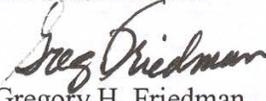
## Department of Energy

Washington, DC 20585

January 2, 2003

### MEMORANDUM FOR THE SECRETARY

FROM:

  
Gregory H. Friedman  
Inspector General

SUBJECT:

INFORMATION: Audit Report on the "National Nuclear Security Administration's Nuclear Explosive Safety Study Program"

### BACKGROUND

The Department of Energy's National Nuclear Security Administration (NNSA) is responsible for designing, testing, and maintaining the Nation's nuclear weapons. Many of the activities related to this mission, including the assembly, disassembly, refurbishment, modification, and retirement of nuclear weapons, are performed at the Department's contractor-operated Pantex Plant near Amarillo, Texas. Pantex also develops and tests the high explosives used to detonate the nuclear weapons.

The work at Pantex is challenging and the Department must take positive measures to reduce the likelihood that accidental nuclear and high explosive detonations could occur. In this context, it is Department policy that an approved Nuclear Explosive Safety (NES) study be performed before any nuclear explosive operation is conducted. NES studies, completed by independent teams of nuclear explosive safety experts, evaluate the adequacy of controls in place to ensure that all potential hazards have been identified, mitigated, or controlled, to prevent inadvertent or accidental detonations or fissile material dispersals. The NES studies are based on individual weapons systems in the U.S. inventory.

Historically, NES studies were required every five years but could be extended for an additional five years based on a revalidation review of major changes that had occurred since the last study. Under current Department policy, newly conducted NES studies do not expire, but must be updated no more than five years after initial approval.

The objective of this audit was to determine whether the Department was conducting scheduled safety reviews and evaluations of nuclear explosive operations.

### RESULTS OF AUDIT

The audit disclosed that comprehensive NES studies had been delayed for six of the nine nuclear weapon types currently active in the Nation's stockpile. Although revalidation reviews had been conducted for these weapon types, most of the revalidations were also late, causing, in some cases, work delays at Pantex. Under the Department's current plan, the actual time between comprehensive NES studies will range from 11 to 16 years, despite the standard to conduct a comprehensive safety study at least once every ten years.



The studies were overdue because required safety initiatives had not been fully implemented and safety basis documents, integral to the NES review process, had not been completed. Delays in obtaining necessary weapons response information from supporting laboratories and a shortage of technical personnel familiar with the nuclear explosive systems and skilled in safety practices further impacted the study schedule.

To its credit, NNSA had recognized this problem and had essentially completed NES studies for two of the six weapon types in the delinquent status. With regard to another, Pantex implemented safety enhancements for conducting disassembly and inspection activities. Under current Department policy, these operations do not require a new NES study.

Delayed NES studies can mean that the most up-to-date safety processes and procedures, with implications for plant workers and the environment, are not in place. Further, resulting disruptions to surveillance testing and dismantlement activities can impact the Stockpile Surveillance Program. Surveillance test data is a critical component in the annual certification of the reliability, safety, and performance of the nuclear weapons stockpile. We recommended a series of specific actions intended to assist the Department in completing all NES studies as expeditiously as possible.

Safety concerns at Pantex have been an ongoing priority of the Defense Nuclear Facilities Safety Board. In 1998, the Board issued *Safety Management at the Pantex Plant*, addressing the need to accelerate safety improvements for nuclear explosive operations. In October 2002, the Board sent the Department a number of recommendations focused on enhancing the level and availability of safety expertise for the Pantex Plant.

The Office of Inspector General also has an ongoing review of explosives security at selected Department sites.

#### MANAGEMENT REACTION

NNSA generally agreed with our finding and recommendations and advised that a number of actions had been initiated to expedite the completion of NES studies. These included instituting strict performance accountability for parties involved in fulfilling this responsibility and rebuilding and retaining a highly skilled workforce for the nuclear explosive weapons program. Management also noted that all weapon systems continue to be certified by their design laboratories as meeting their military characteristics.

Attachment

cc: Deputy Secretary  
Administrator, National Nuclear Security Administration  
Director, Policy and Internal Controls Management, NA-66

# NATIONAL NUCLEAR SECURITY ADMINISTRATION'S NUCLEAR EXPLOSIVE SAFETY STUDY PROGRAM

---

## TABLE OF CONTENTS

### **Nuclear Explosive Safety Studies**

Details of Finding.....	1
Recommendations and Comments .....	5

### **Appendices**

Status of Nuclear Explosive Safety Studies .....	7
Related Audit Reports and Internal Reviews.....	8
Objective, Scope, and Methodology.....	10
Management Comments .....	12

# NUCLEAR EXPLOSIVE SAFETY STUDIES

---

## Background

To ensure the protection of the public, employees, facilities, and the environment from nuclear explosive accidents, Department of Energy (Department) policy specifies that a team of nuclear explosive safety experts must independently review nuclear explosive operations<sup>1</sup> every five years. This review process is called a Nuclear Explosive Safety (NES) study. To conduct the NES study, experts rely on a variety of data including safety basis documentation. Various reports provide comprehensive evaluations of the potential hazards inherent to nuclear explosive operations, such as weapons being dropped, and processes developed to mitigate or eliminate these hazards.

NES studies completed before 1997 were valid for five years, but could be extended for an additional five years based on a limited revalidation review. Revalidations entailed reviewing changes to the operation since the initial NES study and were not as comprehensive as the initial study. NES studies completed after January 1997 generally do not expire, but are subject to review every four to five years to ensure that nuclear safety standards continue to be met. NES reviews and revalidations should be scheduled in such a manner to ensure that mission-essential work can continue without interruption. Department policy requires that if no approved NES study exists, the related nuclear explosive operation for that specific weapon system cannot be initiated unless senior National Nuclear Security Administration (NNSA) management grants an extension.

## Conduct of Scheduled Safety Studies

Our audit disclosed that for all nine active nuclear weapon types, NES studies and/or NES revalidations had not been conducted when required and nuclear explosive operations had, at various times, been suspended. Under the Department's current schedule, NES studies will be up to 6 years late, as illustrated in Appendix 1. Similar situations existed for some inactive weapon types. If NES studies are conducted when projected, some weapons will not have had a NES study conducted in as many as 16 years. To NNSA's credit, NES studies have since been completed for two of the active weapon types; however, the studies did not cover all operations.

Several examples highlight the problems the Department has faced in maintaining up-to-date safety studies.

---

<sup>1</sup> A nuclear explosive operation is defined as an activity involving a nuclear explosive, including activities in which the main charge high-explosive parts and pit are co-located.

- 
- The B61-3/4 NES study, initially approved in June 1989, expired in June 1994. Almost two years lapsed before the NES study was revalidated, during which time operations were suspended. Since its expiration in 1999, the study has been extended twice, and a third request to extend the study until 2005 is pending. If granted, it will have been 16 years since the initial safety review.
  - Similarly, operations for the W76 were suspended twice since 1989 – once for 24 months and then again for 18 months – after the initial NES and revalidation expired. A new NES study was completed in September 2000; however, it did not cover reassembly operations.
  - The initial NES study for the W84, an inactive weapon system, expired in April 1998. Management approved an extension in April 1999, but operations were suspended during the intervening 12 months.
  - The NES study for the B53, a retired weapon system, expired in May 1999. While operations have been suspended since that time, a number of weapons remain to be dismantled as part of the Department's dismantlement program.

## **NES Study Schedule**

NES studies had not been completed or had been delayed because safety initiatives had not been fully implemented; safety basis documents integral to the NES review process had not been completed; necessary weapons response information from supporting laboratories was delayed; and, the number of technical personnel familiar with nuclear explosive systems was limited.

### Safety Initiative Implementation

In 1993, the Department initiated a process to reduce or eliminate hazards in assembly, disassembly, and testing of nuclear explosives through the reengineering of tooling (testers and equipment) and procedures. Under this process, for example, devices for handling nuclear explosives are to be developed. Such devices will eliminate the majority of manual lifting operations thereby significantly reducing the risk that a weapon will be accidentally dropped. However, the improvement initiative, called Seamless Safety for the 21<sup>st</sup> Century (SS-21), had only been fully implemented for the W76 disassembly and inspection operation and partially implemented for some W78 and W88 processes. It had also been partially implemented for one inactive

---

weapon system. Department officials advised that until the SS-21 initiative has been fully implemented and the processes to reduce or eliminate hazards have been put in place as required, the NES studies will not be completed.

Department officials acknowledged that SS-21 implementation has been slow. They attributed the lengthy execution to the failure to formally assign primary responsibility and accountability to one key Headquarters management official. Officials also noted that many unexpected technical issues had been encountered with SS-21 implementation. Resolving these issues caused considerable delays. At least four weapon types are in the beginning phases of SS-21 implementation and the remaining are scheduled to start over the next several fiscal years. Department officials project that the safety process will be completely implemented by the end of Fiscal Year (FY) 2006.

#### Safety Basis Documentation

NES studies also rely on a number of comprehensive input documents to assess the safety of operations. One such report, the Hazard Analysis Report (HAR) evaluates hazards to workers, the public, and the environment for a specific nuclear explosive operation. Similarly, the Safety Analysis Report (SAR) assesses potential hazards to a facility, such as earthquakes, floods, or fire. In a large number of cases, these safety documents either had not been completed or did not meet current requirements. For instance, the HARs for at least six weapon types did not meet current safety requirements because they did not contain an evaluation to identify changes to the process and/or tooling that could eliminate hazards. To meet current requirements, safety basis documents should, among other things, reflect tooling and operating procedures identified during the SS-21 process. Because SS-21 had not been fully implemented, these safety documents did not contain the required information needed for the NES reviews. In this regard, management told us that the Department is currently in the midst of a major upgrade of these documents.

#### Weapons Response Information

Departmental laboratories that support Pantex operations did not always provide weapons response information to various accident scenarios in a timely manner. This information is needed to predict how weapons will respond, to identify and develop controls to mitigate or prevent nuclear accidents, and to prepare current safety basis documents. For example, a weapon response document needed for a transportation

---

safety analysis was provided to Pantex eight months behind schedule. In another example, information requested for a staging facility safety analysis was provided three months behind schedule. According to Pantex's Fiscal Year 2001 appraisal, late responses from laboratories significantly contributed to delays in meeting some safety deliverable schedules. Further, a senior Federal manager commented that the laboratories did not emphasize the importance of providing weapon response information in a timely manner.

#### Technical Personnel

Department officials advised that a shortage of Department and contractor technical personnel familiar with the nuclear explosive systems and skilled in safety practices had affected the implementation of SS-21, the preparation of safety basis documentation, and the completion of weapon response information. More specifically, several management officials commented that it is very difficult to retain employees who are familiar with preparing and evaluating safety study documentation. To illustrate, Pantex lost three key weapon managers to the national laboratories during the last year. Shortage of technical staff was confirmed in the *FY 2001 Report to Congress of the Panel to Assess the Reliability, Safety, and Security of the United States Nuclear Stockpile*, which cited similar problems at other Departmental sites. The Panel concluded that the ability of the laboratories, plants, and the government to hire and retain top quality personnel remains a serious challenge.

#### **Importance of NES Studies**

Failure to perform scheduled NES studies contributed to delays in mission activities, such as surveillance testing and dismantlement operations. Surveillance testing data provides leading-edge knowledge on nuclear weapons and is critical for the annual certification to the President of the safety, reliability and performance of the nuclear weapons stockpile. In addition, plant safety could also have been impacted by delayed NES studies.

In order to meet requirements set in the Stockpile Stewardship Program, NNSA relies on statistical samples to devise appropriate surveillance testing schedules. However, we found that, in several instances, surveillance schedules had been completed a year early in anticipation of expiring NES studies. As a result, since the statistically based testing cycle was not adhered to, the validity of the underlying test data may have been compromised. In addition, about 12 weapons (pertaining to three different weapon types) could not be disassembled, inspected, or tested in FY 2000 as planned and at least 16 laboratory

---

tests, scheduled over a four-year period for these weapon types, were not conducted because safety studies had expired. Moreover, dismantlement activities for some inactive weapons, such as the B-53, could not be performed due to expired NES studies. NNSA asserted that in spite of delayed or expired NES studies, the national laboratories were provided sufficient information to allow the certification of all active stockpile weapons. As we have noted in previous reports on various aspects of surveillance testing and testing follow-up actions, however, there are potential long-term consequences of not getting this data when needed.

Consistent with our conclusions, the Department's *Strategic Review of the Surveillance Program 150-Day Report* found that because of safety basis issues, surveillance cycles of some weapon types had to be accelerated (completed a year early) or delayed (doubling the following year). In addition, certain component evaluations had slipped and specific requirements for evaluations had been waived. The study group concluded that the underlying data was compromised relative to completing the cycle as scheduled and that it was difficult to provide a clear and unambiguous assessment of the system.

Delayed or expired NES studies could also impact plant safety. Department officials stated that periodic reviews of nuclear explosive operations often provide a better understanding of the risks posed by weapons work and aid in the identification of needed safety improvements. Periodic reviews are needed to ensure that operations continue to meet safety standards, which change over time. During the course of the audit, officials informed us of several instances where NES studies found safety deficiencies not previously identified. When studies are delayed or not conducted, such safety concerns may go undetected for many years.

## **RECOMMENDATIONS**

To assist in completing all NES studies as expeditiously as possible, we recommend the Deputy Administrator for Defense Programs:

1. Designate a Departmental official to be responsible and accountable for implementation of SS-21;
2. Require rigorous performance measures and evaluations of the national laboratories' and management and operating contractors' performance in meeting safety requirements, including preparing Safety and Hazard Analysis Reports and the completion of all NES reviews;

- 
3. Ensure the national laboratories supporting Pantex's authorization basis development provide timely and accurate weapons response information; and,
  4. Use available human resource tools and other means to rebuild and retain a highly skilled scientific workforce for nuclear explosive operations.

**MANAGEMENT  
COMMENTS**

NNSA's Associate Administrator for Management and Administration concurred with the report's findings and recommendations, and stated that several actions have been initiated to expedite the completion of Nuclear Explosive Safety studies. Specifically, the contractor at Pantex has formalized its interactions with laboratories and instituted strict performance accountability for the parties involved. In 2002, Federal site managers initiated similar changes. In addition, management stated that the NNSA Critical Skills Program (labs and Pantex, both Federal and contractor) is rebuilding and retaining a highly skilled workforce for the nuclear explosive weapons programs.

Management further commented that decisions to allow certain NES studies to expire on several weapon systems were made so that limited resources could be focused on implementing SS-21 for conventional high explosive systems. The schedule and scope of the work to be performed for all weapon systems are contained on the Integrated Weapons Activity Plan. Management's verbatim comments are in Appendix 4.

**AUDITOR COMMENTS**

We consider management's comments and actions to be responsive.

## Appendix 1

---

### STATUS OF NES STUDIES FOR ACTIVE WEAPON TYPES (As of September 2002)

Weapon Type	Latest NES Study Date	NES Revalidation Date	Projected Date for Next NES Study	Years Delayed	Years Since Latest NES Study <sup>2</sup>
B61-3/4 <sup>3</sup>	6/89	5/96	5/05	6	16
B61-10	3/90	5/96	5/05	5	15
B61-7/11	4/92	7/97	5/05	3	13
B83	12/91	11/96	7/04	3	13
W80	5/91	4/97	2/03	2	12
W87	3/92	2/97	7/04	2	12
W62	8/92	12/99	1/03	1	11
W88	9/94	12/00	9/04	0	10
W76 <sup>4</sup>	9/00				
W78 <sup>5</sup>	1/02				

<sup>2</sup>Based on NES occurring at the projected study date.

<sup>3</sup>The B61-3/4 – is considered one weapon system.

<sup>4</sup>The NES study completed in September 2000 was delayed a year and did not cover reassembly operations.

<sup>5</sup>The NES study completed in January 2002 was delayed two and a half years and did not cover reassembly operations.

## Appendix 2

---

### RELATED AUDIT REPORTS AND INTERNAL REVIEWS

#### Office of Inspector General

- *National Nuclear Security Administration's Test Readiness Program* (DOE/IG-0566, September 2002). The audit disclosed that Nevada's ability to conduct an underground nuclear test is at risk. Nevada and its support organization did not have adequate experienced staff, equipment, or facilities to carry out this requirement within the established timeframe. The ability to test was made even more difficult because the Department did not have a comprehensive plan or methodology to fill key and critical positions, validate aging assets, incorporate technology advances, and update Nuclear Explosive Safety studies.
- *Management Challenges at the Department of Energy* (DOE/IG-0538, December 2001). The audit found that the resolution of safety problems is an urgent need that ranks among the most serious challenges facing the Department.
- *Stockpile Surveillance Testing* (DOE/IG-0528, October 2001). The audit found that surveillance testing backlogs existed in flight, laboratory, and component testing and when tests are delayed or not completed, the Department lacks essential information on the operating characteristics and reliability of the weapon.
- *Management of the Nuclear Weapons Production Infrastructure* (DOE/IG-0484, September 2000). The audit found that the nuclear weapons production infrastructure has not been adequately maintained and current and future goals of the Stockpile Stewardship Plan are at risk.

#### National Nuclear Security Administration Defense Programs

- *Strategic Review of the Surveillance Program 150-Day Report* (January 1, 2001). Initiated by NNSA, this strategic review focused on defining the surveillance approach that would be most appropriate to assure the continued safety and reliability of the nation's nuclear stockpile. The team identified possible changes and improvements in the program to meet the needs of an aging stockpile with limitations on testing and an increasing need to preserve stockpile assets.
- *Federal Managers' Financial Integrity Act Assessment* (September 2001). This FY 2001 internal assessment found that the expiration of NES studies had placed the Department in the position of not being able to work on nuclear weapons as needed.

## Appendix 2 (Continued)

---

### Other Reports

- *Defense Nuclear Facilities Safety Board* (February 1999). Among other issues the Board found that the overall program of work planning and safety planning that had been developed by the Department for nuclear explosive operations at the Pantex Plant in Texas, had been structured in such a complex manner that it was beginning to be undoable.
- *FY 2001 Report to Congress of the Panel to Assess the Reliability, Safety, and Security of the United States Nuclear Stockpile* (March 15, 2002). This Congressionally-established panel concluded that redirection of the Stockpile Stewardship program is needed to maintain confidence in our nuclear stockpile.
- *FY 2000 Report to Congress of the Panel to Assess the Reliability, Safety, and Security of the United States Nuclear Stockpile* (February 1, 2001). This Congressionally-established panel found a disturbing gap between the nation's declaratory policy that maintenance of a safe and reliable nuclear stockpile is a supreme national interest and the actions taken to support this policy.
- *FY 1999 Report of the Panel to Assess the Reliability, Safety, and Security of the United States Nuclear Stockpile* (November 8, 1999). The Congressionally-appointed panel reported that effective execution of both the Stockpile Stewardship Program and the Annual Certification Process offered the best hope for sustaining confidence in the nuclear stockpile, and its deterrent capabilities, into the future. The panel recommended strengthening and broadening the Annual Certification Process to provide assurance that potential problems are being sought out and reported.

## Appendix 3

---

### OBJECTIVE

We conducted this audit to determine whether the Department was conducting scheduled safety reviews and evaluations of nuclear explosive operations.

### SCOPE

The audit was performed from November 2001 to August 2002 at the National Nuclear Security Administration (NNSA), Germantown, MD; Department of Energy Headquarters, Washington, DC; and the Pantex Plant located near Amarillo, Texas. The scope of the audit was limited to determining whether the Department was conducting scheduled safety reviews and evaluations of nuclear explosive operations. Due to nuclear safety concerns, management should consider the matters discussed in this report when preparing its yearend assurance memorandum of internal controls.

### METHODOLOGY

To accomplish the audit objective, we:

- Reviewed Federal and Departmental requirements related to the conduct of nuclear explosive safety studies;
- Reviewed prior external and internal reports regarding the conduct of NES studies including the Federal Managers' Financial Integrity Act;
- Examined NES studies;
- Determined whether NES studies were current and up-to-date;
- Determined if prior safety studies disclosed prestart findings;
- Determined the elapsed time between the prior and planned NES study dates contained in the Integrated Weapons Activity Plan;
- Discussed NES studies with officials from Department Headquarters, Pantex Plant, and the Defense Nuclear Facilities Safety Board; and,
- Reviewed performance measures established in accordance with the Government Performance and Results Act.

## Appendix 3 (Continued)

---

The audit was performed in accordance with generally accepted Government auditing standards for performance audits, and included tests of internal controls and compliance with laws and regulations to the extent necessary to satisfy the audit objective. Accordingly, we assessed the significant internal controls related to the NES studies. Because our review was limited, it would not necessarily have identified all internal control deficiencies that may have existed. Additionally, we did not rely on computer-processed data. In addition, we reviewed the implementation of the Government Performance and Results Act of 1993, as it related to NES studies. Performance objectives had been established for integrated weapons activities plan and safety management at Pantex.

We held an exit conference with NNSA officials on December 2, 2002.



**Department of Energy**  
**National Nuclear Security Administration**  
Washington, DC 20585

November 22, 2002

MEMORANDUM FOR Frederick D. Doggett  
Deputy Assistant Inspector General  
for Audit Services

FROM: Anthony R. Lane *Anthony R. Lane*  
Associate Administrator for  
Management and Administration

SUBJECT: Comments to Draft Report "National Nuclear Security  
Administration's Nuclear Explosive Safety Study Program"

In Recommendation 98-2 the Defense Nuclear Facilities Safety Board (DNFSB) formally outlined its views on the issues identified in your report. Defense Programs developed a two-step Integrated Safety Management (ISM) strategy for their resolution. The first step, which further reduces the risk posed by lightning, fire, transportation, and other hazards relevant to all weapons, is nearing completion. From this solid foundation we have initiated the second step to further reduce risks unique to individual weapons, and have completed two systems. While this course of action has delayed specific Nuclear Explosive Safety Studies (NESSs), it has reduced the risk posed by hazards to which nuclear explosives are exposed more quickly than a weapon-by-weapon implementation. Throughout the development, planning, and implementation of this strategy, the DNFSB has exercised active oversight. The DNFSB maintains a full-time, on-site presence and its technical experts review program progress on a monthly and quarterly basis.

We incorporated our concerns and strategy into the selection criteria for recompetition of the Pantex contract. Major factors in the selection of BWXT Pantex were its safety record, management expertise and demonstrated ability to deliver projects on time. Since taking over in February 2001, BWXT Pantex has applied high standards of project management to nuclear safety enhancements and has met its milestones. The contractor has formalized its interactions with the labs and instituted strict performance accountability for the parties involved. In 2002, new site federal management initiated similar changes in how it fulfills the government responsibilities. The current federal-contractor management team is meeting the nuclear safety commitments identified in the Integrated Weapons Activity Plan.

The NNSA Critical Skills Program (labs and Pantex, both federal and contractor) is rebuilding and retaining a highly skilled workforce for nuclear explosive weapons programs. We will monitor progress to ensure its continued success.



Printed with soy ink on recycled paper

## Appendix 4 (Continued)

---

2

In summary, the safety record at Pantex has been exemplary; our strategy is reducing the safety risks even further. Safety improvements are, and will always be, a major goal.

The attached redline version of the draft report provides several factual changes. Comments on each recommendation are also attached. Should you have questions related to our response, please contact Mr. Ed Cassidy at 301-903-7559 or Mr. Richard Speidel at 202-586-5009.

Attachments

cc: Deputy Administrator for Defense Programs, NA-10

## Appendix 4 (Continued)

**Comments to  
Draft IG Report  
“National Nuclear Security Administration’s  
Nuclear Explosive Safety Study Program”**

### RECOMMENDATIONS

**“To assist in completing all NES studies as expeditiously as possible, we recommend the Deputy Administrator for Defense Programs: . . .”**

#### **Recommendation 1**

**Designate a Departmental official to be responsible and accountable for implementation of SS-21.**

#### **Management Comment**

Concur

The Assistant Deputy Administrator for Military Application and Stockpile Operations (NA-12) has been the designated official accountable for SS-21 for the past three years. The management vehicles used for tracking SS-21 implementation are (1) the Integrated Weapon Activity Plan (IWAP) which identifies scope, schedule and costs for each milestone required for SS-21 program and facility implementation and (2) periodic meetings with both the Office of Amarillo Site Operations and the Pantex operating contractor to monitor performance. As the accountable official, NA-12 has notified the Manager, Pantex Plant, that if the IWAP schedule is not met, it will have an effect on the contractors performance evaluation. Examples of management decisions that have been taken by NA-12 to implement SS-21 on active systems based on limited available assets are the B53 and W84 systems NESSs which were allowed to expire. The B53 is a retired system awaiting dismantlement of the very small quantity that remain. When B53 dismantlement funding becomes available, the SS-21 process will be implemented and a new NESS will be performed and approved prior to planned operations. The W84 is an inactive system with planned surveillance operations. The W84 NESS was extended in accordance with Departmental Directives so that an approved NESS is in place prior to planned operations. An SS-21 W84 NESS will be conducted as scheduled in the IWAP. We believe this meets the intent of the recommendation.

### Recommendation 2

**Require aggressive monitoring of the national laboratories' and management and operating contractors' performance in meeting safety requirements, including preparing Safety and Hazard Analysis Reports.**

### Management Comment

Concur.

We recommend that this recommendation be revised to read: **“Require rigorous performance measures and evaluation of the national laboratories and management and operating contractors’ performance in meeting safety requirements, including Safety and Hazard Analysis Reports.”**

On October 10, 2001, 10CFR830, Nuclear Safety Management, removed a previous exclusion for nuclear explosive operations. By law, Safety and Hazard Analysis Reports are required to be prepared and approved by April 10, 2003 and updated on an annual basis. All Safety Analysis Reports for Pantex facilities will be submitted by the operating contractor during or before February 2003 with approvals scheduled no later than June 2003. As per the IWAP, Hazard Analysis Reports (HARs) for specific nuclear explosive operations are also being prepared for new SS-21 NESSs for Conventional High Explosive systems. NNSA and the operating contractor have agreed that HARs for both Conventional High Explosives (CHE) and Insensitive High Explosive (IHE) active systems could not be prepared in time to meet the rule deadline due to shortage in resources (personnel and funding). In accordance with 10CFR830, an exemption request is being submitted to approve both the CHE and IHE HAR dates that are aligned with the IWAP SS-21 schedule. NA-12 (Assistant Deputy Administrator for Military Application and Stockpile Operations) has approved NESS extensions for IHE systems, to concentrate resources on implementing SS-21 for CHE systems to achieve the greatest safety improvement as soon as possible from the SS-21 process. When SS-21 is implemented for IHE systems, few additional safety controls should be required since most will be already be in place from the SS-21 based Safety Analysis Reports. We believe this meets the intent of the recommendation.

### Recommendation 3

**Ensure the national laboratories supporting Pantex's authorization basis development provide timely and accurate weapons response information.**

### Management Comment

Concur

We believe that this recommendation should be incorporated into our proposed Recommendation 2. Therefore, our comments for Recommendation 2 are also appropriate for this recommendation.

### Recommendation 4

**Use available human resource tools and other means to rebuild and retain a highly skilled scientific workforce for nuclear explosive operations.**

### Management Comment

Concur

The same concern was addressed by the Defense Nuclear Facilities Safety Board (DNFSB) in their memorandum to the Secretary of Energy, dated October 3, 2002. A departmental response, including an Implementation Plan for corrective actions, is being prepared and will be forwarded by the Secretary to the DNFSB. Similarly, NNSA addressed the same concerns regarding hiring and training of personnel to fill key and critical personnel to support nuclear explosive operations associated with the test readiness program (Recommendation #1, DOE/IG-0566, Audit Report, National Nuclear Security Administration's Test Readiness Program, dated September 2002).

### Recommendation 5

**Establish specific performance measures for the completion of all NES reviews.**

### Management Comment

We do not believe that this recommendation is necessary based on our

**Appendix 4 (Continued)**

---

comments to Recommendation 2.

**CUSTOMER RESPONSE FORM**

The Office of Inspector General has a continuing interest in improving the usefulness of its products. We wish to make our reports as responsive as possible to our customers' requirements, and, therefore, ask that you consider sharing your thoughts with us. On the back of this form, you may suggest improvements to enhance the effectiveness of future reports. Please include answers to the following questions if they are applicable to you:

1. What additional background information about the selection, scheduling, scope, or procedures of the audit would have been helpful to the reader in understanding this report?
2. What additional information related to findings and recommendations could have been included in this 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?

Please include your name and telephone number so that we may contact you should we have any questions about your comments.

Name \_\_\_\_\_ Date \_\_\_\_\_

Telephone \_\_\_\_\_ Organization \_\_\_\_\_

When you have completed this form, you may telefax it to the Office of Inspector General at (202) 586-0948, or you may mail it to:

Office of Inspector General (IG-1)  
Department of Energy  
Washington, DC 20585

ATTN: Customer Relations

If you wish to discuss this report or your comments with a staff member of the Office of Inspector General, please contact Wilma Slaughter at (202) 586-1924.

The Office of Inspector General wants to make the distribution of its reports as customer friendly and cost effective as possible. Therefore, this report will be available electronically through the Internet at the following address:

U.S. Department of Energy, Office of Inspector General, Home Page  
<http://www.ig.doe.gov>

Your comments would be appreciated and can be provided on the Customer Response Form attached to the report.