



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

Audit Report

Resolution of Significant Finding
Investigation Recommendations



U. S. DEPARTMENT OF ENERGY
Washington, DC 20585

November 18, 2002

MEMORANDUM FOR THE SECRETARY

FROM: Gregory H. Friedman (Signed)
Inspector General

SUBJECT: Information: Audit Report on "Resolution of Significant Finding Investigation Recommendations"

BACKGROUND

Since 1992, the Department of Energy (Department) and the National Nuclear Security Administration (NNSA) have carried out an analytically-based Stockpile Surveillance Program to help ensure the safety, reliability, and performance of the nuclear weapons in the Nation's stockpile. On a continuing basis, NNSA randomly selects weapons from the active inventory for disassembly, inspection, and testing for defects and problems. Test results serve, in part, as a basis for certifying to the President that there is no need to resume underground nuclear testing.

When the surveillance program identifies a suspected problem, NNSA must determine if further testing and analysis is warranted. If so, a Significant Finding Investigation (SFI) is opened. Weapons experts at one of the Department's defense laboratories generally conduct the SFI and are charged with determining the severity of the problem and whether further action is required.

The objective of this audit was to determine whether NNSA took action to resolve recommendations that result from SFIs.

RESULTS OF AUDIT

While NNSA could account for the resolution of the 26 most serious SFI recommendations related to problems affecting weapon safety, reliability, or performance, the status of 74 additional recommendations, each with a potential consequence for the surveillance program's operations and processes, was not tracked. We found that no action had been taken on 23 of the recommendations and that most were not assigned to any specific individual or organization for follow-up. NNSA did not have controls in place to ensure that such assignments were made and that follow-up actions were completed. In our view, the failure to routinely track and resolve numerous SFI recommendations, admittedly those that may have been determined to be of a lower risk and/or priority, has the potential to undermine the credibility of the Department's testing regime.

As a result of discussions with responsible management officials during the verification phase of the audit, we truncated the audit so that NNSA could devote attention to this matter. Specifically, NNSA initiated action to develop a tracking system for all SFI recommendations, and to modify its policy and procedures to better account for their resolution. With the completion of these actions, the intent of our audit recommendations, as detailed on page 3, will be satisfied.

In our report on *Management Challenges at the Department of Energy* (DOE/OIG-0538, December 2001), the Office of Inspector General noted that successful implementation of the Stockpile Stewardship Program, of which the surveillance testing is a key component, is one of the most daunting tasks the Department faces. We have also issued two recent reports on other aspects of surveillance testing. Our report on *Stockpile Surveillance Testing* (DOE/OIG-0528, October 2001), disclosed that NNSA had not met many of its flight, laboratory, and component testing milestones. In *Management of the Stockpile Surveillance Program's Significant Finding Investigations* (DOE/OIG-0535, December 2001), we noted that NNSA was not meeting its timeframes for initiating and completing SFIs.

MANAGEMENT REACTION

NNSA agreed with the finding and recommendations, but did not provide a formal action plan to address the recommendations.

Attachment

cc: Chief of Staff
Administrator, National Nuclear Security Administration
Director, Policy and Internal Controls Management, NA-66

RESOLUTION OF SIGNIFICANT FINDING INVESTIGATION RECOMMENDATIONS

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SIGNIFICANT FINDING INVESTIGATION CORRECTIVE ACTIONS

Accounting for Significant Finding Investigation Recommendations

The National Nuclear Security Administration (NNSA) has two broad categories into which recommendations arising from completed Significant Finding Investigations (SFIs) are segregated. Recommendations that address a weapon system's safety, reliability, or performance are considered more serious. These recommendations, of which there were 26 in calendar years 2000 and 2001, generally involve repairs or retrofits. Their resolution is monitored by the Nuclear Weapons Council, a group consisting of representatives from the Departments of Energy and Defense and the Joint Chiefs of Staff. NNSA readily provided us with documentation as to the status of the issues and corrective actions undertaken.

In contrast, our audit disclosed that NNSA could not readily account for the resolution of 74 recommendations in the second category, dealing with actions needed to improve weapon system operations and processes. To determine the status of these recommendations, we met with NNSA weapon program engineers assigned to each of the nine weapons systems. Based on extensive discussions with these engineers, and further research they conducted at our request, we determined that NNSA had not taken action on 23 of the 74 recommendations, some of which had been made more than 24 months prior to our audit.

For example, NNSA did not take action on a recommended leak check of a weapon system's pit, or on a related records review. In this case, a non-war reserve pit failed to meet leak check criteria while being prepared for shipment. Although the SFI found no current impact to safety, reliability, or performance, a recommendation was made that similar weapon system pits be leak-tested during surveillance. According to the SFI, without the leak check, the integrity of the pit could not be conclusively determined. The SFI also recommended a records check for 10 percent of the active stockpile of the weapon to determine if any notations had been made reflecting similar problems. When we informed management at NNSA that these matters had not been addressed, they, and the cognizant laboratory, acknowledged that the recommendations, initially made in June 2001, still needed to be carried out.

In another instance, NNSA did not take action on a December 2001 recommendation to inspect certain weapon components for loose bolts after a problem was noted during surveillance testing. Laboratory officials decided not to address the recommendation because, in their

view, it would cause more harm than good to the component. However, NNSA was not made aware of this decision until we requested the status of the recommendation from an NNSA weapons program engineer. The engineer was surprised that NNSA was not made aware of the decision earlier.

We also noted that 30 of the 74 recommendations impacted one weapon system. By definition, none of the 30 recommendations, considered separately, is likely to have a significant impact on the weapon system. However, it is not clear to us how NNSA can assess the cumulative impact of the 30 issues identified unless the specific recommendations are tracked to resolution.

Management Controls

Although NNSA developed and implemented a database in 2002 to ensure that SFIs were performed, it did not have procedures in place to ensure that all SFI recommendations were assigned and resolved. In fact, we found that 64 recommendations had not been assigned to a specific organization for action. For example, one SFI recommendation was to incorporate value modifications into core surveillance. However, no one was assigned responsibility to address this recommendation and NNSA weapon program engineers could not determine whether the recommendation was resolved. NNSA also did not have policies or procedures that addressed how SFI recommendations would be resolved. Finally, although NNSA had overall performance goals for maintaining stockpile confidence, it had not established performance measures to address the resolution of SFI recommendations.

Tracking and Resolution

Without a tracking system to document the resolution of all SFI recommendations, problems with the potential to affect weapons operations and processes could go unresolved. In addition, NNSA may not be able to evaluate the effectiveness of the various weapons systems if adequate historical data on the resolution of SFI recommendations is not kept. Given that the life of the nuclear weapons stockpile is continually being extended, NNSA should, in our judgment, take all reasonable precautions to ensure that potential problems are fully accounted for and resolved.

We presented our preliminary findings to NNSA management in July 2002. At that time, NNSA officials acknowledged the importance of accounting for the resolution of all SFI recommendations. Based on the information we developed and presented to management, NNSA took initial steps to 1) assign responsibility for the resolution of all SFI

recommendations, 2) modify its *Development and Production Manual* to include appropriate procedures for SFI recommendation follow-up, and 3) develop a tracking system to account for all SFI recommendations. If NNSA completes these actions, it will have met the intent of the following recommendations.

RECOMMENDATIONS

We recommend that the Acting Administrator, NNSA:

1. Ensure that the *Development and Production Manual* and related policies and procedures are modified to address the resolution of all SFI recommendations;
2. Complete the development and implementation of a system to formally document and track the resolution of SFI recommendations;
3. Assign responsibility for resolution of all SFI recommendations, including previously unresolved recommendations; and,
4. Establish performance measures to resolve SFI recommendations as part of the overall performance goals on maintaining stockpile confidence.

MANAGEMENT REACTION

Management concurred with the finding and corresponding recommendations and is working to correct the deficiencies noted.

AUDITOR COMMENTS

We appreciate management's commitment to correcting the deficiencies and noted the initial actions NNSA is taking to resolve SFI recommendations. However, NNSA did not provide a formal plan on the actions already underway. We have included management's comments in their entirety as Appendix 1.



Department of Energy
National Nuclear Security Administration
Washington, DC 20585

OCT 28 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 on Resolution of
Significant Finding Investigation Recommendations

NNSA appreciates the opportunity to have reviewed the Inspector General's draft report "Resolution of Significant Finding Investigation Recommendations." We understand that the objective of the audit was to determine whether NNSA took action to resolve recommendations that result from Significant Finding Investigations (SFI). During the course of your audit, NNSA acknowledged that it could not provide assurance that it took action to resolve all SFI recommendations, as you stated in the draft report. We appreciate the cooperative effort of the auditors and the program employees. As you are aware, NNSA has established a tracking system at Sandia National Laboratory for all SFI recommendations. The database tracks the date of discovery of the anomaly; Significant Findings Notification (SFN) date; SFN number (if applicable); the test activity during which the anomaly was observed; the applicable weapon system/component; SFI number (once opened); SFI opening date; laboratory responsible for the investigation; cause; reliability of impact, if any; safety impact, if any, and the SFI closing date (once closed). NNSA has also taken steps to modify its policy and procedures to better account for their resolution. We agree with the report and the corresponding recommendations and are working to correct the deficiencies noted.

cc: Deputy Administrator for Defense Programs, NA-10



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Appendix 2

OBJECTIVE

The objective of the audit was to determine whether NNSA took action to resolve recommendations that result from SFIs.

SCOPE

The audit was performed from March 2002 to August 2002 at the Albuquerque Operations Office and at Sandia National Laboratories in Albuquerque, NM. We also had discussions NNSA/Headquarters and Lawrence Livermore National Laboratory personnel.

METHODOLOGY

To accomplish the audit objective, we:

- Interviewed NNSA/Headquarters, Albuquerque Operations Office, Lawrence Livermore National Laboratory, and Sandia National Laboratories personnel;
- Reviewed all SFI reports issued during calendar years 2000 and 2001;
- Analyzed supporting documents for various recommendations;
- Evaluated policies, procedures, and other documents related to Significant Finding Investigation recommendations;
- Determined the number of recommendations issued during calendar years 2000 and 2001;
- Reviewed prior audit reports related to the audit objective; and,
- Examined NNSA's performance plan to determine whether performance measures were established.

We conducted the audit according to 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 internal controls with regard to NNSA Significant Finding Investigation recommendations. Because our review was limited, it would not necessarily have disclosed all internal control deficiencies that may have existed at the time of our audit. We did not rely on information processed on automated data processing equipment to accomplish our audit objectives.

NNSA waived the exit conference.

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