

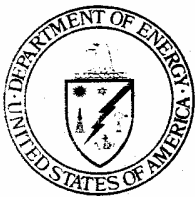


U.S. Department of Energy  
Office of Inspector General  
Office of Audit Operations

# Audit Report

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National Security Laboratories' Annual  
Reporting of the Nuclear Weapons  
Stockpile Assessment



## Department of Energy

Washington, DC 20585

September 14, 2004

MEMORANDUM FOR THE SECRETARY

FROM:

*Greg Friedman*  
Gregory H. Friedman  
Inspector General

SUBJECT:

INFORMATION: Audit Report on the "National Security Laboratories' Annual Reporting of the Nuclear Weapons Stockpile Assessment"

### BACKGROUND

In 1995, the President established an annual assessment and reporting requirement designed to help ensure that nuclear weapons remain safe and reliable without underground testing. This process, the Annual Stockpile Assessment, was codified by the Congress as part of the Fiscal Year 2003 National Defense Authorization Act (Defense Act). The Defense Act requires that the Department of Energy, in conjunction with the Nuclear Weapons Council and the Department of Defense, compile an Annual Stockpile Assessment package that is ultimately provided to the President for consideration.

The foundation for the Department's component of the Assessment package is a prescribed series of reports and letters that are prepared by the national security laboratories – Lawrence Livermore, Los Alamos, and Sandia. The reports address the safety, reliability, performance, and military effectiveness of each of the nuclear weapon types for which the laboratories are responsible. The letters, submitted to the Secretary of Energy individually by the laboratory directors, summarize the results of the assessment reports and, among other things, express the directors' conclusions regarding whether an underground nuclear test is needed and the adequacy of various tools and methods currently in use to evaluate the stockpile. These reports and letters are submitted to the Department by the laboratory directors and the letters are included in their entirety in the package to the President.

Because of their importance in the overall certification process, we initiated this audit to determine whether the annual assessment letters prepared by the laboratories were fulfilling statutory reporting requirements.

### RESULTS OF AUDIT

We found that all three of the laboratories complied with the basic requirements of the Defense Act when preparing their annual assessment letters to the Secretary. In particular,

- All letters were completed by September 30, 2003, prior to the Congressionally established deadline of December 1, 2003; and,



- While minor issues were noted, nothing came to our attention which would have undermined the validity of the assessment letters.

Although no material problems were identified, we did find that the procedures used by each of the weapons laboratories were somewhat inconsistent in terms of: (1) the content and presentation of the assessment letters; and, (2) the requirements of "red team" charters. The red teams are laboratory technical evaluators who perform independent reviews of the conclusions contained in the laboratory assessment reports. In addition, we found that the NNSA Stockpile Coordinator did not have access to the reports issued by the red teams. We concluded that the overall assessment process could be enhanced if these issues were addressed by NNSA. To its credit, NNSA had taken steps to resolve some of these issues and improve the overall quality of the next assessment package, which is due in December 2004.

Our observations regarding the representations made by the laboratory directors in their annual assessments were based solely on supporting documentation and interviews with responsible officials. We did not attempt to determine whether various science-based tools used to evaluate reliability of the stockpile were appropriate.

#### MANAGEMENT REACTION

Management partially concurred with the conclusions of the report and the intent of the recommendations. Although management agreed with the recommendation to enhance the guidance to ensure consistency of laboratory responses, they disagreed with the recommendation to have the NNSA Coordinator receive and review the laboratory red team reports. Management believed that the red teams are resources of the laboratory directors and their reports should remain at the laboratory level. Management stated that other information sources are sufficient to meet the needs of the Coordinator.

In our opinion, NNSA's efforts require the laboratories to specifically address content issues. This is a positive step towards improving consistency of the assessment letters. We do not, however, agree with the view that the NNSA Coordinator should be restricted from reviewing the red team reports. While not specifically required by statute, reviews of these reports would provide the Coordinator, a Federal official who is the focal point for the critically important assessment program, with insight into the overall process and the ability to ensure that issues raised by the red team reports are adequately resolved.

Management's comments are summarized beginning on page 3 and are included as Appendix 3.

Attachment

cc: Deputy Secretary  
Administrator, National Nuclear Security Administration

# REPORT ON NATIONAL SECURITY LABORATORIES' ANNUAL REPORTING OF THE NUCLEAR WEAPONS STOCKPILE ASSESSMENT

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# REPORTING OF THE ANNUAL ASSESSMENT OF THE WEAPONS STOCKPILE

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## Schedule and Scope

The National Defense Authorization Act (Defense Act) of Fiscal Year 2003 required that the directors of the national security laboratories – Lawrence Livermore, Los Alamos, and Sandia – provide the Secretary of Energy and the Nuclear Weapons Council with an assessment report for each of the nuclear weapon types within their area of responsibility by December 1, 2003. As part of the laboratory assessment process, the laboratories each maintain a team of technical evaluators, those known as “red teams,” to perform independent reviews of the conclusions contained in the laboratory assessment reports. Members of the teams are chosen from all of the laboratories and each team has at least one representative from each laboratory. The Secretaries of Energy and Defense are required to submit to the President the original assessment letters received from the laboratory directors together with their comments.

Our review showed that the national security laboratories had completed their annual assessment letters to the Secretary by the congressionally established deadline. In addition, based on our review and analyses of surveillance reports and interviews with weapons systems personnel, no issues were noted regarding the condition of the stockpile that, in our opinion, would have invalidated the annual assessment reports and the annual assessment letters. However, we identified some procedural issues, including inconsistencies between the laboratories in 1) the content of the assessment letters, and 2) the requirements of the red team charters. In addition, one practice, if implemented, could further enhance the Annual Stockpile Assessment process. Specifically, the NNSA Annual Stockpile Coordinator could better perform the responsibilities of overseeing the process by receiving and reviewing laboratory red team reports.

### Content of the Annual Assessment Letters

We found that the laboratories did not completely respond to all questions set forth in the Defense Act. For example, in Los Alamos' letter, the laboratory director stated that, if necessary, Los Alamos was prepared to resume weapons testing within the Stockpile Stewardship Program goals. Livermore made a similar determination, but with a less than clear qualification.

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In another instance, Los Alamos and Sandia met the requirements of the Defense Act by detailing the adequacy of the tools and methods used to perform the Annual Stockpile Assessment. Conversely, Livermore excluded a direct statement regarding the tools used for the Fiscal Year 2003 Annual Stockpile Assessment. Instead, it discussed the progress in developing future science-based tools such as the National Ignition Facility and the Advanced Simulation Computing Initiative.

Finally, Sandia met Congress' requirement that the letters contain a concise statement concerning the adequacy of the tools and methods employed by the manufacturing infrastructure. Livermore and Los Alamos considered the overall adequacy of the manufacturing tools to be outside their work scope and instead discussed the importance of the manufacturing complex and items of interest for the future. Congress also required that the letters contain a concise summary of the findings and recommendations made by the red teams. Livermore complied by including a list of red team findings in its letter. However, neither the Los Alamos nor the Sandia letters contain the required statements.

In our view, the addition of formalized guidance from NNSA could help the laboratories more closely address the Defense Act requirements and could enhance understanding of the letters.

#### Red Team Charter Language

The Defense Act also directed that laboratories use independent technical evaluators known as "red teams" to assist the laboratory directors in the Annual Stockpile Assessment. The Defense Act required each laboratory red team to include experts from each of the other national weapons laboratories. These teams produce reports for each laboratory director that contain challenges to and recommendations for each laboratory's annual assessment. Laboratory directors provide instructions to each of the red teams through a charter document.

We found that the FY 2003 Livermore Red Team Charter specifically prohibited the red team from performing original technical work, such as conducting calculations or experiments. Since the laboratories' red teams provide a valuable management control in the form of independent challenges to the weapons teams' assumptions and conclusions about the certification status of each warhead, this restriction could compromise the value of that tool. In addition, the University of California's National

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Certification Methodology for the Nuclear Weapons Stockpile encourages the red teams to initiate and do their own work. The FY 2003 charters for both Los Alamos and Sandia were fully compliant with the National Certification Methodology in that they were free of restrictive language. To its credit, NNSA required Livermore to remove the restrictive language from its FY 2004 Red Team Charter.

### Red Team Reports

In addition, our review determined that the NNSA Annual Stockpile Assessment Process Coordinator had not received the results of the red team reviews from the laboratories. Reviewing the red team reports could provide additional confidence that the Annual Stockpile Assessment process controls are functioning effectively. Specifically, the reviews conducted by the teams of the Annual Stockpile Assessment permit NNSA to determine whether all recommendations and challenges are addressed and ultimately provide a mechanism to assess and improve the effectiveness of its future annual execution plans. These plans provide NNSA interpretation of the Defense Act and establish guidance for each annual assessment cycle.

### **Enhancing Management Control**

During our review, the issues identified in this report were discussed with an NNSA certification official. We were told that steps had been initiated to improve the overall quality of the letters to the Secretary for FY 2004. Specifically, in its FY 2004 Annual Stockpile Assessment Execution Plan, NNSA has directed the laboratory directors to consistently respond to all questions posed by the Defense Act in their annual assessment letters to the Secretary. In making our observations and suggestions, we recognized that FY 2003 was the first year that the laboratories were required to issue annual assessment letters under the requirements of the new Defense Act. As such, NNSA and the laboratories should be commended for a credible first effort.

### **RECOMMENDATIONS**

To build upon the first-year certification efforts, we recommend that the Administrator, National Nuclear Security Administration:

1. Enhance guidance on the Annual Stockpile Assessment process to ensure consistency of responses from laboratory to laboratory.
2. Ensure that the Stockpile Assessment Coordinator receives and reviews the annual red team reports from each laboratory.

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**MANAGEMENT  
REACTION**

Management partially concurred with the recommendations. Specifically, management concurred with the first recommendation to enhance the guidance to ensure consistency of responses for the Annual Stockpile Assessment process. For this year's cycle, NNSA instructed the laboratory directors to pay special attention to the questions contained in the National Defense Act, which meets the intent of our recommendations.

However, management did not concur with the second recommendation to ensure that the Stockpile Assessment Coordinator receives and reviews the annual red team reports from each laboratory. Management's position is that the red teams are an asset of each of the laboratory directors and making their reports available to NNSA may affect the independence of the overall process. Further, having copies of each of the red team's charter and team membership; knowing that the laboratory directors are required to comment on their specific use of the red teams; and circulating and commenting on drafts of the assessment reports prior to final issuance, is sufficient and meets the intent of the recommendation.

**AUDITOR  
COMMENTS**

Management's efforts to provide additional guidance to the laboratories are responsive to the first recommendation in the report. However, we disagree with the premise that the NNSA Annual Assessment Coordinator should be denied access to the red team reports. We recognize that independent assessments by the laboratories are critical to the process; however, the Secretary, through the NNSA Assessment Coordinator, has a stewardship responsibility to ensure that issues raised by the red teams are adequately addressed and resolved. In our view, the review of red team charters, member lists, and comments made by the laboratory directors in the annual assessment letters are inadequate to ensure the adequacy of the process. Reviews of the red team reports would provide the added ability to ensure that concerns and recommendations made by the teams were adequately resolved and would be useful in formulating the Secretary's comments on the assessment letters. Based on our testing and interviews of red team members, the Coordinator's review should not interfere with team independence.



# Appendix 1

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## **OBJECTIVE**

The objective of the audit was to determine whether annual Assessment letters prepared by the laboratories were fulfilling statutory reporting requirements for the Annual Stockpile Assessment.

## **SCOPE**

The audit was performed from September 2003 until June 2004, at NNSA Headquarters in Washington, D.C.; Lawrence Livermore National Laboratory in Livermore, California; Los Alamos National Laboratory in Los Alamos, New Mexico; and Sandia National Laboratories in Albuquerque, New Mexico, and Livermore, California.

## **METHODOLOGY**

To accomplish the objective, we:

- Researched laws and regulations pertaining to the Annual Stockpile Assessment;
- Performed tests and data analysis on sampled weapons component surveillance data;
- Reviewed surveillance reports, Fiscal Year 2003 Annual Assessment Reports, Laboratory Directors' Annual Assessment Letters, and Los Alamos division memorandums to the Director;
- Assessed NNSA implementation plans and University of California National Certification Methodology for the Nuclear Weapon Stockpile;
- Reviewed related internal and external management reports; and,
- Interviewed NNSA, Livermore, Los Alamos, and Sandia officials.

The audit was conducted in accordance with the 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 related to the

## Appendix 1

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Annual Stockpile Assessment process. We also assessed the performance measures under the Government Performance and Results Act for 1993 and found that performance measures were in place related to our audit objective. We did not test computer-processed data since we did not rely on the data to satisfy the audit objective. 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 discussed the results of this audit with officials from NNSA on September 9, 2004.

## Appendix 2

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### RELATED AUDIT REPORTS AND INTERNAL REVIEWS

#### Office of Inspector General

- *The National Nuclear Security Administration's Enhanced Surveillance Campaign* (DOE/IG-0646, April 2004). The audit found that NNSA experienced delays in completing certain Enhanced Surveillance Campaign milestones and is at risk of missing some future milestones. The delays, some for as long as 23 months, were due primarily to weaknesses in project planning.
- *Resolution of Significant Finding Investigation Recommendations* (DOE/IG-0575, November 2002). The audit disclosed that 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.
- *National Nuclear Security Administration's Test Readiness Program* (DOE/IG-0566, September 2002). The audit disclosed that the Department'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 Department of Energy's Pit Production Project* (DOE/OIG-0551, April 2002). The audit disclosed that the Department's ability to produce a certifiable pit in accordance with its performance plans is at risk.
- *Management of the Stockpile Surveillance Program's Significant Finding Investigations* (DOE/IG-0535, December 2001). The audit found that the Department has not been meeting internally established time frames for initiating and conducting investigations of defects and malfunctions in nuclear weapons.
- *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.

#### Government Accountability Office

- *NNSA: Nuclear Weapon Reports Need to Be More Detailed and Comprehensive* (GAO-02-889R, July 2002). The Report stated that NNSA Nuclear Weapons Acquisition Reports are not comparable to DOD's Selected Acquisition Reports. In particular, the NWARs are less detailed and comprehensive.

## Appendix 2

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- *Nuclear Weapons: Improved Management Needed to Implement Stockpile Stewardship Program Effectively* (GAO-01-48, December 2000). The Report states that although the Office of Defense Programs has tried to address some of the challenges facing the Stockpile Stewardship Program, more improvements are needed. For example, Stockpile Stewardship Program plans are missing vital information.

### **Other Reports**

- *FY 2001 Report to Congress of the Panel to Assess the Reliability, Safety, and Security of the United States Nuclear Stockpile* (March 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 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 to Congress of the Panel to Assess the Reliability, Safety, and Security of the United States Nuclear Stockpile* (November 1999). The congressionally-appointed panel reported that effective execution of both the Stockpile Stewardship Program and 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.



Department of Energy  
National Nuclear Security Administration  
Washington, DC 20585



AUG 05 2004

MEMORANDUM FOR Rickey R. Hass  
Assistant Inspector General  
for Audit Operations

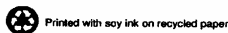
FROM: *for* Michael C. Kane *Casey Hibbits*  
Associate Administrator  
for Management and Administration

SUBJECT: Comments to Weapons Stockpile Assessment Draft  
Report, A03LL043, IDRMS 2004-22792

The National Nuclear Security Administration (NNSA) appreciates the opportunity to have reviewed the Inspector General's (IG) draft report, "National Laboratories' Annual Reporting of the Nuclear Weapons Stockpile Assessment." We understand that this audit was initiated to determine whether reports prepared by the laboratories were fulfilling statutory reporting requirements for the annual nuclear weapons stockpile assessment as codified by Congress with the Annual Stockpile Assessment Process contained in the National Defense Authorization Act of Fiscal Year 2003.

NNSA understands the IG's recommendation to enhance the guidance to ensure consistency of responses for the Assessment Process. It is NNSA's position that the guidance was provided for this year's assessment (Cycle 9). Specifically, we instructed the Laboratory Directors that "special attention needs to be paid to responding to the questions contained in Section 3141 of the FY2003 National Defense Authorization Act." If the IG's intent is something other than what we understand then, NNSA believes it would be inappropriate. The letters that are associated with the Annual Stockpile Assessment Process are the personal assessments of each of the laboratory directors. These assessments are to be made independent of Headquarters. That is one of the reasons that the law requires NNSA to pass these letter reports on to the President without change. We believe that, should NNSA start dictating how questions should be answered and the specific format in which the responses must be received, we potentially could lose some degree of the independent assessment we are looking for and which Congress intended.

Equally, if the IG's intent in the recommendation related to Red Teams is to provide expert feedback for NNSA to assess and improve the effectiveness of its



future annual execution plans, NNSA believes that having copies of each of the Team's Charter and team membership and, knowing that the laboratory directors are required to comment on their specific use of Red Teams meets the intent of the recommendation. We strongly note that the Red Teams are an asset of each of the laboratory directors. They are the third element in providing confidence in the accuracy of the reports. Making their reports available to NNSA may affect the intended independence of the overall process. Red Teams are designated and chartered by, and report to, the individual laboratory directors and as such should be considered an asset to the laboratory director alone.

Attached are technical comments to more accurately describe the process and/or to make minor corrections to the draft report. Should you have any questions related to this response, please contact Richard Speidel, Director, Policy and Internal Controls Management. He may be contacted at 202-586-5009.

Attachment

cc: Deputy Administrator for Defense Programs

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