

DOE/IG-0551

AUDIT  
REPORT



U.S. DEPARTMENT OF ENERGY  
OFFICE OF INSPECTOR GENERAL  
OFFICE OF AUDIT SERVICES

THE DEPARTMENT OF ENERGY'S  
PIT PRODUCTION PROJECT

APRIL 2002



U. S. DEPARTMENT OF ENERGY  
Washington, DC 20585

April 12, 2002

MEMORANDUM FOR THE SECRETARY

FROM: Gregory H. Friedman (Signed)  
Inspector General

SUBJECT: INFORMATION: Audit Report on "The Department of Energy's Pit Production Project"

BACKGROUND

The Department of Energy's National Nuclear Security Administration (NNSA) is responsible for maintaining the United States' nuclear weapons stockpile and ensuring that the weapons in the stockpile remain safe and reliable. The Department lost the capability to make plutonium pits, a key component of nuclear weapons systems, when its Rocky Flats Plant ceased production in 1989. NNSA is currently working to reestablish the Department's production capability so that pits removed from the weapons stockpile for testing or other purposes can be replaced. In 1996, the Department designated the Los Alamos National Laboratory as the interim site to produce pits for the nuclear stockpile.

The *Stockpile Stewardship Plan* (Stockpile Plan) describes NNSA's performance strategy for ensuring a high confidence in the safety and reliability of the nuclear weapons stockpile. This document, published annually, provides milestones for the production of "War Reserve" quality pits. In the Fiscal Year (FY) 2000 Stockpile Plan, a goal was established to produce a certifiable pit by the end of FY 2001. The following year the goal was revised. According to the May 2001 *W88 Pit Manufacturing and Certification Integrated Plan* (Pit Plan), the Department now plans to manufacture a certifiable pit in FY 2003 and provide a stockpile-suitable pit in FY 2009. We initiated this audit to determine if NNSA and Los Alamos, given the current status of the project, can produce a certifiable pit according to the schedule set forth in the Stockpile Plan and the Pit Plan.

RESULTS OF AUDIT

The Department's ability to produce a certifiable pit in accordance with its performance plans is at risk. As of December 2001, over half of the approximately 40 nuclear manufacturing processes that will be used to produce pits were behind schedule or had been delayed. While Los Alamos asserted that the delays occurred because the original schedule was too aggressive, we identified deficiencies in the management control process that make the on-time delivery of a certifiable pit highly questionable. Specifically, the program lacked a robust critical path linking required work to project milestones. If a certifiable pit is not delivered on time, the likelihood of an on-time delivery of a stockpile-ready pit is significantly reduced. Without a stockpile-ready pit, NNSA will be unable to conduct the destructive surveillance tests used to establish weapon reliability for the annual stockpile certification to the President. We recommended that NNSA implement a series of specific actions aimed at enhancing schedule controls over the pit production project.

## MANAGEMENT REACTION

NNSA's Deputy Administrator for Defense Programs concurred with our recommendations, noting the "urgent and compelling national security need" to complete the W88 pit project on schedule. The Deputy Administrator's comments are included, in their entirety, as Appendix 3.

In our December 2001 report on *Management Challenges at the Department of Energy* (DOE/IG-0538), we identified Stockpile Stewardship as one of the most significant challenges facing the Department. In that report, we noted that NNSA is confronted with a number of substantive and substantial challenges in carrying out its stockpile surveillance program, including testing backlogs and delays in resolving anomalies disclosed by weapons tests. In our judgment, these previously reported issues, taken together with the issues disclosed in this report, highlight the urgency with which the Department and NNSA must address the performance of the Stockpile Stewardship Program.

### Attachment

cc: Chief of Staff  
Administrator, National Nuclear Security Administration  
Deputy Administrator for Defense Programs  
Director, Policy and Internal Control Management, NA-66

**THE DEPARTMENT OF ENERGY'S PIT PRODUCTION PROJECT**

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## OVERVIEW

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### INTRODUCTION AND OBJECTIVE

Maintaining the United States' nuclear weapons stockpile and ensuring that the weapons in the stockpile remain safe and reliable is the primary responsibility of the Department of Energy's (Department) National Nuclear Security Administration (NNSA). Under NNSA's surveillance program, weapons are randomly selected for disassembly, inspection, and testing for defects and problems. This testing includes destructive analysis of nuclear components, including one key component called the "pit." The pit is made from plutonium and is needed to initiate a nuclear weapon.

The Department lost its capability to make pits in 1989 when the Rocky Flats Plant ceased production. However, in 1996, the Department designated the Los Alamos National Laboratory (Los Alamos) as the interim site to produce stockpile pits. NNSA has been reestablishing the Department's pit production capability so that pits removed from the weapons stockpile for testing or other purposes can be replaced. The pit production effort is currently focused on producing pits for the W88 warhead because only one W88 pit remains available for destructive surveillance evaluation.

Production of W88 pits for the stockpile involves three stages. First, a certifiable pit must be manufactured using qualified processes that are documented in work instructions so that the processes can be replicated. Second, engineering and physics tests must be successfully completed and the determination must be made that the pit will be able to perform equivalently to a pit produced at Rocky Flats. Once that is complete, the Department can use the tested processes to manufacture a certified pit. The third and final stage is production of pits for use in the stockpile.

The *Stockpile Stewardship Plan* (Stockpile Plan) describes NNSA's strategy for ensuring a high confidence in the safety and reliability of the nuclear weapons stockpile. This document, published annually, provides milestones for the production of "War Reserve" quality pits. In the Fiscal Year (FY) 2000 Stockpile Plan, a goal was established to produce a certifiable pit by the end of FY 2001. However, the FY 2001 Stockpile Plan, along with the May 2001 *W88 Pit Manufacturing and Certification Integrated Plan* (Pit Plan), revised that goal. Both plans now set a schedule to manufacture a certifiable pit in FY 2003 and Provide a stockpile-suitable certified pit during FY 2009<sup>1</sup>. If produced

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<sup>1</sup> This date was recently accelerated to 2007, as shown in a January 17, 2002, memo addressed to the Department of Defense by NNSA's Acting Deputy Administrator for Defense Programs.

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on target, the project is estimated to cost \$1.7 billion. We initiated this audit to determine if NNSA and Los Alamos would be able to produce a certifiable pit according to the schedule set forth in the Stockpile Plan and the Pit Plan.

## **CONCLUSIONS AND OBSERVATIONS**

The Department's ability to produce a certifiable pit on schedule was at risk. We determined that, as of December 2001, over half of the approximately 40 nuclear manufacturing processes that will be used to produce pits were behind schedule or had been delayed. While Los Alamos asserted that the delays occurred, in part, because the schedule was too aggressive, we also identified deficiencies in key schedule controls. Specifically, Los Alamos lacked an integrated critical path linking required work to the appropriate milestones. If a certifiable pit is not delivered on schedule, the likelihood of an on time delivery of a certified pit is reduced. Without a certified pit, NNSA is unable to conduct the destructive surveillance tests used to establish weapon reliability for the annual certification to the President.

NNSA officials stated that Los Alamos was taking action to reduce schedule delays to ensure that the goal of producing a certifiable pit by 2003 would be met. NNSA and Los Alamos officials also pointed out that some prior work had been completed on or before scheduled dates. In addition, the NNSA pit project manager stated that if a certified pit is not manufactured by 2007, new methods of acquiring data to confirm weapon performance would be needed.

The Office of Inspector General recently issued several related reports. In *Management of the Nuclear Weapons Production Infrastructure* (DOE/IG-0484, September 2000), we reported that a deteriorating infrastructure had contributed to delays in weapons modification, manufacture and dismantlement, and surveillance testing of weapon components. We subsequently noted in *Stockpile Surveillance Testing* (DOE/IG-0528, October 2001), that the Department had not met many of its internally generated milestones for component tests and other tests, which resulted in a lack of critical information on the reliability of nuclear weapon systems. Finally, in *Management of the Stockpile Surveillance Program's Significant Finding Investigations* (DOE/IG-0535, December 2001), we reported that the Department had not been meeting internally established timeframes for initiating and conducting investigations of defects and malfunctions in nuclear weapons. In our opinion, these previously reported issues, coupled with the issues disclosed in this report, suggest that the goals of the Stockpile Stewardship Program may be at risk for not being met in a timely manner.

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The audit identified issues that management should consider when preparing its year-end assurance memorandum on internal controls.

(Signed)  
Office of Inspector General

## **PIT PROJECT SCHEDULE**

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### **Schedule Delays**

Although Los Alamos met its FY 2001 interim project milestones, work that was critical to meeting later milestones was encountering delays. Specifically, completion dates for many of the activities associated with qualifying manufacturing processes were behind schedule or delayed, and detailed procedures required for manufacturing had not been completed.

As of November 2001, planned dates for several of the activities to qualify the processes were behind schedule or had been delayed for between 1 and 5 months. Processes with activities that were behind schedule included methods to:

- abrasively clean plutonium surfaces to remove oxides;
- machine and shape components of the pit's shell; and,
- inspect the circumference of a weld.

To be considered qualified, a manufacturing process must have been demonstrated to be within control limits, producing acceptable product, and approved by the design agency.

At the end of September 2001, nine of the approximately 40 nuclear manufacturing processes that will be used to produce pits were behind schedule or had been delayed. By December 1, 2001, this number had increased to 22. Because the schedule to produce a certifiable pit in FY 2003 is tight, any delay in meeting process completion dates has the potential to affect delivery of a certifiable pit on schedule.

In addition, detailed step-by-step procedures for manufacturing pits, called Work Instructions, had not been completed as planned. The Work Instructions must be completed and in place before a certifiable pit can be delivered. We found that, while 30 of the instructions were drafted, none of the approximately 40 required instructions were finalized in FY 2001 as originally planned. A July 2001 Baseline Change Request allowed for the delayed delivery of the Work Instructions until the second quarter of FY 2003.

Los Alamos' reports also showed that the project was behind schedule in other areas of work, such as manufacturing systems and equipment upgrades. According to the NNSA pit project manager, Los Alamos was taking action to reduce delays and such action was essential to reduce the risk that they would not deliver a certifiable pit in FY 2003.



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**Importance of Pit Project Success**

In 1993, the President and the Congress directed that a science-based Stockpile Stewardship Program be developed to maintain the United States stockpile of nuclear weapons without nuclear testing. The annual Stockpile Plan, developed to ensure the vitality and integrity of the Stockpile Stewardship Program, has evolved in response to that directive. The success of the program, according to the Stockpile Plan, rests on developing a set of scientific tools to better understand nuclear weapons, enhancing stockpile surveillance capabilities, and completing the manufacturing program needed to extend the life of our nuclear weapons. The performance of stockpile surveillance tests that depend, in part, on the manufacture of certified pits, is critical to the program.

The importance of Los Alamos' role in the success of the program is illustrated by the statement of the Los Alamos Director, in April 2001, that the Laboratory's highest priority was reestablishing the nation's capability to manufacture pits. Success in meeting project schedule depends upon program management and execution.

Consistent with the contract between Los Alamos and the Department, the pit project should be planned and executed based on clear work scope, milestones, and deliverables using appropriate project management principles and tools. Los Alamos has chosen to use a critical path as one of its key management tools. This type of detailed schedule links interdependent activities to milestone dates, thereby allowing management not only to forecast the earliest possible completion date, but also to identify single or multiple delays that may impact the entire schedule. For a critical path to be useful in managing a project's schedule, however, work activities need to be logically linked.

**Improvement in Schedule Controls Needed**

According to Los Alamos officials, delays were the result of an overly aggressive schedule that was developed without adequate consultation with those responsible for designing and implementing the processes. However, we also identified significant deficiencies in key schedule controls. Specifically, interdependent work activities were not always logically linked in Los Alamos' project management software, thus rendering the critical path produced by the software of questionable value for managing the project's schedule. For example, about 10,000 distinct work activities were identified in the FY 2001 pit project schedule. By the end of FY 2001, about 2,000 activity linkages had not been made in the project management software that is used to produce the project's critical path. A Los Alamos Technical Advisory Panel also questioned the usefulness of a critical path with missing schedule interdependencies.

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While Los Alamos finished linking all of the activities during the first quarter of FY 2002, some of the linkages appeared to be illogical. Several activities that needed to be completed before a certifiable pit could be produced, for instance, were erroneously linked to the project completion date of 2007. Because the activities were linked to the project's finish, the software used to create the critical path calculated that there were over 1,400 workdays available to do the work—at least 4 years beyond when they needed to be done. The concerns we identified regarding the logic and sequencing of the linkages of these activities made the usefulness of the critical path questionable for managing the project, forecasting the deliverance of a certifiable pit, and identifying the impact of delays. Los Alamos asserted that since the illogical linkages involved tasks having no significant impact on the critical path, its critical path schedule was valid. Those assertions, however, could not be verified while the flaws in linkages still existed.

In addition to weaknesses in the critical path, the FY 2001 work packages prepared by Los Alamos were of limited value for measuring schedule performance. To be useful, a work package should contain a results-oriented statement of work along with the promised deliverables, target milestones, resource requirements, planning assumptions, and requisite budgets. However, many of Los Alamos' packages lacked milestone dates showing when deliverables were due. Where milestones were lacking, line managers lacked an objective basis for reporting schedule variance.

Los Alamos acknowledged that the laboratory's work packages for FY 2001 were weak in certain matters. However, the Laboratory stated that its use of work packages was not mandated and attributed deficiencies in the work packages to the fact that they were prepared early in the year, well before the milestones in the *Pit Plan* were finalized. The Laboratory added that developing a fully integrated and comprehensive set of FY 2001 work packages would not have been a prudent investment in late FY 2001. Instead, the decision was made to focus on a comprehensive set of work packages for FY 2002.

We examined the FY 2002 work packages that existed in December 2001 and found them to be improved. However, some still lacked milestones and did not clearly relate work scope to deliverables. In addition, assumptions used in developing the work packages were not always stated.

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Another schedule control weakness involved target activity completion dates. During FY 2001, Los Alamos did not "lock in" the original target activity completion dates that were entered into the project management software, which allowed the dates to be altered indiscriminately. This practice, combined with the practice of not archiving the files containing target dates, made it difficult to track—for the thousands of work activities comprising the program—the work activities for which target dates had been pushed back, the frequency with which target dates were revised, and the amount of time by which target dates had been pushed back.

### **Annual Certification to the President**

If Los Alamos is unable to produce pits according to schedule, the Department's ability to conduct required tests in support of its stockpile surveillance program may be undermined. Weapon surveillance testing, a key component of NNSA's Stockpile Stewardship Program, has been characterized as the first line of defense for maintaining high confidence in the nuclear weapons stockpile and the linchpin between stewardship activities and the annual stockpile certification process. In the past, surveillance has included destructive testing of pits. Therefore, since only one W88 pit is available for destructive surveillance evaluation, any delay in delivery of a certified pit could affect, at some point, the capabilities of the nation's strategic forces. This was the conclusion of a Department of Defense official familiar with NNSA's pit project. In addition, the NNSA pit project manager acknowledged that, if destructive surveillance testing cannot be done because replacement pits are not available in FY 2007, new methods of acquiring the data required to establish weapon reliability would need to be developed.

### **RECOMMENDATIONS**

We recommend that the NNSA Pit Project Manager direct Los Alamos to:

1. Logically link all related work activities for manufacturing and certification within the critical path;
2. Periodically (at least quarterly) review for accuracy all changes entered into the project management software using approved baseline change procedures;
3. Ensure that all work packages have deliverables, milestones, and assumptions identified for the work scope described in the work packages; and,
4. "Lock in" the target dates for work completion that have been entered into the project management software.

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**MANAGEMENT  
COMMENTS**

In response to a draft of this report, NNSA's Deputy Administrator for Defense Programs stated that the report was generally accurate and concurred with the recommendations. The Deputy Administrator also noted the "urgent and compelling national security need" for NNSA and Los Alamos to complete the W88 pit project on schedule. The Deputy Administrator's comments are included in their entirety as Appendix 3.

**AUDITOR COMMENTS**

Management's current and planned corrective actions are responsive to the recommendations.

## Appendix 1

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### SCOPE

The audit was performed from May 2001, through December 2001, at Department Headquarters in Washington, D.C., and Germantown, Maryland; Albuquerque Operations Office in Albuquerque, New Mexico; and Los Alamos National Laboratory in Los Alamos, New Mexico. The audit scope included the manufacturing and certification programs; however, our audit work focused primarily on manufacturing because the majority of Los Alamos' work had been for manufacturing.

### METHODOLOGY

In order to accomplish the audit objective, we:

- Reviewed the *Pit Plan*, the FY 2000 and 2001 *Stockpile Stewardship Plans*, and earlier, related planning documents;
- Examined project schedule control documentation, including variance reports, the critical path schedule, timeline charts, work packages, baseline change requests, and the *Major Program Deliverables Document* and its related progress reports;
- Interviewed NNSA Headquarters, Albuquerque Operations Office, Los Alamos, and Department of Defense officials about pit project schedules and schedule controls; and,
- Reviewed Department policies and procedures related to project management.

We did not attempt to determine the number of work activities that were not logically linked. We subjectively selected a few activities for tracing linkages—as shown in the output of the project management software—from beginning to end.

The audit was conducted 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. Internal controls were assessed with respect to management of the pit project schedule. 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.

While we assessed the reliability of computer-processed data, we did not rely solely on such data to satisfy our audit objective. As noted in the body of the report, our review of computer-processed data revealed internal control deficiencies that failed to prevent, or to detect in a

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timely manner, the existence of corrupted or erroneous data in the project management software used by Los Alamos to establish the critical path.

We held an exit conference with the NNSA pit project manager on January 16, 2002.

### RELATED AUDIT REPORTS

#### Office of Inspector General

- *Management of the Stockpile Surveillance Program's Significant Finding Investigations* (DOE/IG-0535, December 2001). The Directors of the three Department nuclear weapons laboratories annually assess and report the condition of the weapons systems for which their laboratories are responsible. A critical event in this process is the identification of a weapon defect or malfunction during surveillance testing. The Department had not been meeting internally established timeframes for initiating and conducting investigations of defects and malfunctions.
- *Stockpile Surveillance Testing* (DOE/IG-0528, October 2001). The Department had not met many of its flight, laboratory, and component testing milestones. This resulted in a significant testing backlog that was projected to continue for several years. When tests are delayed or are not completed, the Department lacks critical information on the reliability of the specific weapons involved. Without needed test data, the Department's ability to assign valid reliability levels to some weapon systems is at risk.
- *Management of the Nuclear Weapons Production Infrastructure* (DOE/IG-0484, September 22, 2000). The audit disclosed that the nuclear weapons infrastructure had not been adequately maintained and current and future goals of the Stockpile Stewardship Program were at risk.

#### General Accounting Office

- *Nuclear Weapons: Improved Management Needed to Implement Stockpile Stewardship Program Effectively* (GAO-01-48, December 2000). Although the Office of Defense Programs had taken steps to address principal challenges facing the Stockpile Stewardship Program, additional improvements were needed. Specifically, improvements were needed in order to (1) remedy weaknesses in the program's planning process, (2) ensure that required budget information for effective cost management was available, (3) correct organizational and leadership deficiencies, and (4) develop an effective management process for overseeing the life extension program for nuclear weapons.
- *Nuclear Weapons: Key Nuclear Weapons Component Issues Are Unresolved* (GAO/RCED-99-1, November 1998). The Department's plans for reestablishing the production of pits at Los Alamos had changed and were still evolving. The Department expected to have only a limited capacity on-line by FY 2007. Managerial controls were still in their formative stages.

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## **Other Reports**

- *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.
- *Strategic Review of the Surveillance Program 150-Day Report* (January 2001). This strategic review was initiated by NNSA to define 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 needed in the program to meet the needs of an aging stockpile with limitations on testing and an increasing need to preserve stockpile assets.



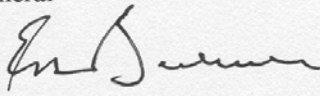
## Appendix 3



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

March 26, 2002

**MEMORANDUM FOR:** Frederick D. Doggett  
Deputy Assistant Inspector General  
for Audit Services  
Office of Inspector General

**FROM:** Everet H. Beckner   
Deputy Administrator  
for Defense Programs

**SUBJECT:** Comments on IG's draft report on "The Department of Energy's Pit Production Project"

I am pleased to provide Defense Programs' (DP) response to the draft report "The Department of Energy's Pit Production Project" as requested in a March 6, 2002 memorandum from Frederick Doggett, Deputy Assistant Inspector General for Audit Services, Office of Inspector General. The Inspector General's (IG) report is generally accurate and provides several recommendations that will be addressed in this response.

Several points of clarification are required to ensure completeness:

- 1) The purpose of the audit stated on page 1 is "...to determine if NNSA and Los Alamos [National Laboratory (LANL)] would be able to produce a certifiable pit according to the schedule set forth in the Stockpile Plan and the Pit Plan."

**Comment:** The draft report examines the details of the March 2001 W88 Pit Manufacturing and Certification Integrated Project Plan (PMCIPP) and accurately concludes that the projectization process for pit manufacturing and certification is improving but not yet complete. We agree with this conclusion and note that the projectization process for both pit manufacturing and certification is scheduled for completion in September 2002. A related issue is that the draft report does not indicate whether current management controls are sufficient to ensure that a certifiable pit will be manufactured in FY 2003. The current controls are being used to ensure that the FY 2003 milestone to manufacture a certifiable pit will be met. When management tools are fully in place, all work activities will be properly linked resulting in verifiable critical paths for both major and minor milestones.

- 2) The draft report states on page 2 that "In our opinion, these previously reported issues, coupled with the issues disclosed in this report suggest that the goals of the Stockpile Stewardship Program may be at risk for not being met in a timely manner."



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**Comment:** This opinion is apparently based, in part, on outdated reports by others outside the program. The scope of this audit and accompanying report were limited to the manufacture of a certifiable W88 pit. Based on this scope, the assertion that the “goals of the Stockpile Stewardship Program are at risk” needed to be evaluated by examining scientific and engineering advances that demonstrate that this program continues to meet its goals. The fact that the Secretaries of Energy and Defense continue to certify the stockpile is evidence the Stockpile Stewardship Program is working.

- 3) The draft report cites on page 3 that by December 2001, 22 nuclear manufacturing processes were behind schedule or delayed.

**Comment:** The number of processes behind schedule or delayed was reduced from 22 in December 2001 to 14 by February 2002. Schedule variances are a normal part of project management and the objective is to eliminate variances that will impede meeting major milestones.

**Specific Recommendations to the NNSA Pit Project Manager in Draft Report:**

(No monetary impact is expected to implement Recommendations 1-4.)

**Recommendation 1:**

**Logically link all related work activities for manufacturing and certification within the critical path.**

**Response:** The FY01 schedule that was reviewed by the OIG had a default mode that resulted in inadequate integration and incomplete logic linkages. This is being addressed by putting in place a fully integrated manufacturing and certification schedule at LANL consistent with a corrective action plan agreed to with NNSA. The FY01 default mode was corrected in early FY02 and the current schedule is a significant step improvement. Continued progress is being made according to the corrective action plan and integration will be completed by the fourth quarter of this fiscal year.

**Recommendation 2:**

**Periodically (at least quarterly) review for accuracy all changes entered into the project management software using approved baseline change procedures.**

**Response:** A number of administrative controls have been implemented within the project management system. These rigorous controls are in place for the baseline target file that provides a disciplined baseline change control process. Access to the target files is physically controlled and only made available to authorized individuals to allow status updates. The target files are fixed and cannot be changed in this status update. As a quality control check, LANL has initiated quarterly reviews of all approved baseline changes and put in place a process to verify correct implementation of these in the target file. NNSA will monitor the results of these reviews as well as continue to randomly spot check approved changes in detail.

**Recommendation 3:**

**Ensure that all work packages have deliverables, milestones, and assumptions identified for the work scope described in the work packages.**

**Response:** The work packages have been updated and with a significant improvement in quality to show appropriate detail in scope and include deliverables and milestones. There are improvements that show progress against the LANL corrective action plan as agreed to with NNSA. This effort will be ongoing and the first full rework of all work packages will be completed in the third quarter of this fiscal year. The progress and results of the effort will be reviewed by NNSA.

**Recommendation 4:**

**“Lock in” the target dates for work completion that have been entered into the project management software.**

**Response:** A process has been implemented that locks in the changes to the target file. This allows any and all target file changes (that have been approved in the formal change control process) to be recorded and tracked over time. A high fidelity record of project changes and progress is maintained and will be periodically reviewed by NNSA.

As pointed out in the IG draft report, there is an urgent and compelling national security need for the NNSA and LANL to complete the W88 pit project on schedule. Actions taken on the part of NNSA and LANL to ensure success include: 1) LANL is implementing a corrective action plan to address projectization issues including those issues delineated in the draft IG report, 2) biweekly meetings of the various Los Alamos teams that monitor pit manufacturing and certification have changed to weekly meetings, 3) NNSA has approved extending the workweek at the TA-55 pit manufacturing facility to expedite manufacturing process qualification activities, 4) the pit project is on the Los Alamos National Laboratory director’s watch-list to ensure institutional priority and to apply required resources, and 5) the NNSA Administrator has requested a monthly assessment of the metrics related to pit project performance.

Defense Programs wishes to thank the IG for their insightful comments relative to the W88 pit manufacturing and certification project.

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