

A04YT028

United States Government

Department of Energy

memorandum

DATE: January 22, 2004

Audit Report No. OAS-L-04-08

REPLY TO: IG-35 (A04YT028)

SUBJECT: Maintenance Activities at the Y-12 National Security Complex

TO: Richard Speidel, Director, Policy and Internal Controls Management, NA-66



INTRODUCTION AND OBJECTIVE

In October 2003, the Office of Inspector General initiated an audit at the Y-12 National Security Complex, in part, to determine if management officials had adequately addressed problems cited in an earlier report, ER-B-99-07, *Maintenance Activities at the Y-12 Plant (Y-12)*. During the first audit we found inefficiencies in the maintenance program and recommended corrective actions. The primary purpose of this audit was to determine if inefficiencies still existed in the Y-12 maintenance program.

CONCLUSIONS AND OBSERVATIONS

In the current audit, we found that management had not implemented a site-wide preventive maintenance program. Y-12's current maintenance program is focused on performing resource intensive corrective maintenance rather than the more efficient preventive maintenance. Specifically, Y-12 spent 80 percent of its time on corrective maintenance versus 20 percent on preventive maintenance. Also, the maintenance backlog had increased by more than 20 percent over the past two years. At the end of Fiscal Year 2002, the maintenance backlog totaled about 198,000 hours. However, at the end of Fiscal Year 2003, the backlog had increased to over 240,000 hours. This backlog consisted of all maintenance activities including service type work such as roads and grounds. Unless Y-12 revises its approach to maintenance, it will continue to allocate a disproportionate share of its scarce resources on corrective maintenance activities. In addition, resources being spent on the Facilities and Infrastructure Revitalization Program and other modernization projects, may be jeopardized. Specifically, the new assets' life cycle costs may not be minimized and their useful operating lives may be shortened.

According to a Department of Energy report "Operations and Maintenance Best Practices: A Guide to Achieving Operational Efficiency," the average maintenance program spends more than 55 percent of its time on corrective maintenance. The amount of time spent on corrective maintenance at Y-12 was at least four times greater than the amount spent on preventive maintenance actions during the past two years.

We found that although a preventative maintenance improvement initiative was developed following the first audit, it has not been implemented. Specifically, in November 2001 the contractor prepared a "Preventive Maintenance Program Improvement Initiative" which outlined the steps necessary to implement a comprehensive preventive maintenance program for the 13 critical Y-12 facilities and their associated systems, structures, and components. The initiative estimated that it would require about \$16 million over a 5-year period to fully implement a preventive maintenance program for these facilities. However, to date, the contractor has not taken any action to implement this initiative.

During discussions with contractor personnel, we were informed that preventive maintenance has not been a priority for upper management. The general philosophy has been to run equipment until it fails before requesting maintenance services. Accordingly, corrective maintenance activities have taken precedence over preventive maintenance tasks.

During the course of this audit, however, the Y-12 Site Office recognized the significance of these issues and initiated corrective actions. A letter dated December 19, 2003, was issued to the contractor directing the development of a comprehensive Reliability Centered Maintenance Program Implementation Plan to address the concerns identified during the audit. Accordingly, we are terminating the audit work at the present time. However, follow-up work may be performed in the future to evaluate the progress of the new implementation plan.

SCOPE AND METHODOLOGY

The audit was performed from October 2003 to January 2004 at the Y-12 National Security Complex in Oak Ridge, Tennessee. The scope of the audit included maintenance activities conducted by BWXT Y-12 LLC. To accomplish the audit objective we reviewed maintenance activities at Y-12 and discussed maintenance activities with Department and contractor personnel.

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. Because our review was limited, it would not necessarily have disclosed all internal control deficiencies that may have existed. Also, since the audit did not disclose a finding with recommendations, we did not conduct a data reliability assessment.

The Government Performance and Results Act (GPRA) of 1993 was enacted to improve Federal program effectiveness and public accountability by promoting a new focus on results-oriented management. Accordingly, the Department developed performance measures to assess the effectiveness of the maintenance program at Y-12. We did not identify any instances where the Department was in noncompliance with GPRA.

We coordinated this letter with Department and contractor personnel on January 15, 2004. Since no formal recommendations are being made in this letter report, a formal response is not required. We appreciate the cooperation of your staff throughout the audit.

Lawrence R. Ackerly, Director
NNSA Audits Division
Office of Inspector General

cc: Team Leader, Audit Liaison Team, ME1.1
Audit Liaison, Y-12 Site Office
Audit Liaison, Oak Ridge Operations Office

bcc: DPA (2)
AIG for Investigations, HQ
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Library
Y-12 Audit Group
NNSA Audits Project File - A04YT028

memorandum

DATE: January 22, 2004

REPLY TO
ATTN OF: IG-35 (A04YT028)

SUBJECT: Final Report Package for "Maintenance Activities at the Y-12 National Security Complex"

TO: Director for Performance Audits and Administration

Attached is the required final report package on the subject audit. The pertinent details are:

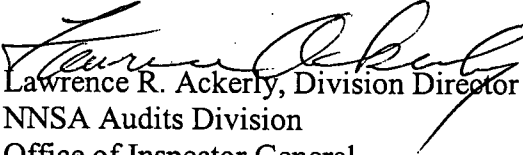
1. Actual Staff days: 147

Actual Elapsed days: 111

2. Names of OIG audit staff:

Assistant Director: Tara Elmore
Team Leader: Dawnya Hathaway
Auditor-in-Charge: Eric Fowler
Audit Staff: Laura Slatton and Aaron Webb

3. Coordination with Investigations and Inspections: The final report was sent to Walt Warren, Investigations and Geoffrey Gray, Inspections on January 12, 2004. Our audit report will not impact any ongoing or planned investigations or inspections per Walt Warren and Geoffrey Gray, respectively.


Lawrence R. Ackerly, Division Director
NNSA Audits Division
Office of Inspector General

Attachments:

1. Final Report (2)
2. Monetary Impact Report
3. Audit Project Summary Report
4. Audit Database Information Sheet

MONETARY IMPACT OF REPORT NO.: OAS-L-04-08

1. Title of Audit: Maintenance Activities at the Y-12 National Security Complex

2. Division: NNSA Audits Division/Y-12 Audit Group

3. Project No.: A04YT028

4. Type of Audit:

Financial: _____ Performance: X
 Financial Statement _____ Economy and Efficiency X
 Financial Related _____ Program Results _____
 Other (specify type): _____

5.

| FINDING | | COST AVOIDANCE | | QUESTIONED COSTS | | | | MGT. POSITION | POTENTIAL BUDGET IMPACT |
|----------------------|------------------------|----------------|-------------------------------|------------------|-----------------|----------------|-----------------------|-------------------------------------|-------------------------|
| (A) | (B) Title | (C) One Time | (D) Recurring Amount Per Year | (E) Questioned | (F) Unsupported | (G) Unresolved | (H) Total (E)+(F)+(G) | (I) C=Concur N=Noncon U=Undec | (J) Y=Yes N=No |
| | Preventive Maintenance | \$0 | \$0 | \$0 | | | | | |
| TOTALS--ALL FINDINGS | | \$0 | \$0 | \$0 | | | | | |

6. Remarks:

We found that management had not implemented a site-wide preventive maintenance program. Y-12's current maintenance program is focused on performing resource intensive corrective maintenance rather than the more efficient preventive maintenance. Unless Y-12 revises its approach to maintenance it will continue to allocate a disproportionate share of its scarce resources on corrective maintenance activities. In addition, resources being spent on the Facilities and Infrastructure Revitalization Program and other modernization projects, may be jeopardized. Specifically, the new assets' life-cycle costs may not be minimized and their useful operating lives may be shortened.

7. Contractor: None

8. Contract No.: None

9. Task Order No.: None

10. Approvals:

Division Director & Date: *F. Alinsky* 1/22/04
 Technical Advisor & Date: *SM*

AUDIT DATABASE INFORMATION SHEET

1. Project No.: A04YT028
2. Title of Audit: Maintenance Activities at the Y-12 National Security Complex
3. Report No./Date: OAS-L-04-28/January 22, 2004
4. Management Challenge Area: Performance Management, Worker Safety
5. Presidential Mgmt Initiative: Budget and Performance Integration
6. Secretary Priority/Initiative: Protecting our Critical Energy Infrastructure
7. Program Code: DP
8. Location/Sites: Y-12 National Security Complex
9. Finding Summary: In the current audit we found that management had not implemented a site-wide preventive maintenance program. Y-12's current maintenance program is focused on performing resource intensive corrective maintenance rather than the more efficient preventive maintenance. Specifically, Y-12 spent 80 percent of its time on corrective maintenance verses 20 percent on preventive maintenance. Also, the maintenance backlog has increased by more than 20 percent over the past two years. At the end of Fiscal Year 2002, the maintenance backlog totaled about 198,000 hours. However, at the end of Fiscal Year 2003, the backlog had increased to over 240,000 hours. This back log consisted of all maintenance activities including service type work such as roads and grounds. Unless Y-12 revises its approach to maintenance it will continue to allocate a disproportionate share of its scarce resources on corrective maintenance activities. In addition, resources being spent on the Facilities and Infrastructure Revitalization Program and other modernization projects, may be jeopardized. Specifically, the new assets' life cycle costs may not be minimized and their useful operating lives may be shortened.
10. Keywords:

| | |
|--------------------------------|--|
| Y-12 National Security Complex | |
| Maintenance program | |
| Backlog | |
| Corrective Maintenance | |
| NNSA | |
| Preventive Maintenance | |
| Y-12 Plant | |
| Oak Ridge | |
| BWXT Y-12 LLC | |
| | |