

Memorandum

DATE: September 8, 2010

Audit Report Number: OAS-L-10-10

REPLY TO

ATTN OF: IG-321 (A09AL040)

SUBJECT: Report on "The Audit of Precious Metals at NNSA Sites"

TO: Associate Administrator for Infrastructure and Environment, NA-50
Senior Procurement Executive, NA-63

INTRODUCTION AND OBJECTIVE

The National Nuclear Security Administration (NNSA), a semi-autonomous organization within the Department of Energy (Department), uses precious metals, such as gold, silver, and platinum at its National Laboratories and production sites for research and development and to construct weapon components. Due to their value, Federal Regulation 41 CFR 109-27.51 (Regulation), *Management of Precious Metals*, requires Department organizations and contractors to establish effective procedures and practices for their administrative and physical control. Sites are also required to conduct annual reviews of precious metals holdings to determine if the quantities on-hand are in excess of program requirements, and if so, return the excess to the Department's precious metals pool for recycling. The Business Center for Precious Metals Sales and Recovery (Business Center), located in Oak Ridge, Tennessee, operates the Department's precious metals pool. The Regulation also requires that precious metals custodians provide justifications for further retention of idle metals and that the justifications be approved by the custodian's supervisor.

Historically, the Business Center sent precious metals that were radiologically contaminated to a refiner to be decontaminated and recycled for use by the sites. However, in July 2000, a previous Secretary of Energy (Secretary) suspended the release of scrap metals, including precious metals, from radiological areas within Department facilities for recycling. The suspension applies to precious metals regardless of the contamination level of the metals.

The objective of this audit was to determine whether NNSA sites had effectively and efficiently managed precious metal resources. To accomplish our objective, we reviewed the management of precious metals during Fiscal Years (FY) 2008 and 2009 at NNSA's Y-12 National Security Complex (Y-12) and Lawrence Livermore National Laboratory (Livermore).

CONCLUSIONS AND OBSERVATIONS

The controls we examined at the NNSA sites we visited provided reasonable assurance that precious metals were adequately accounted for and safeguarded. We performed

inventories of Y-12's and Livermore's precious metals holdings and were able to account for their precious metals to within one percent of their recorded inventory. The difference was attributable to rounding. However, we noted that the sites did not always efficiently manage their precious metal resources. Specifically:

- Y-12 and Livermore did not always identify idle and excess precious metals; holding approximately \$848,000 of uncontaminated idle¹ and excess precious metals, some for as long as 40 years without appropriate justifications; and,
- Y-12 disposed of, as waste, \$1.2 million of contaminated precious metals held under the Secretary's July 2000 suspension that could have been held for future decontamination and recycling.

Idle and Excess Precious Metals

Our reviews at Y-12 and Livermore found that both sites were not adequately identifying idle and excess precious metals that should have been sent to the Business Center for recycling. Specifically, Y-12 possessed 78,761 grams of precious metals that had been idle for at least five years. These metals, which included gold, platinum, and silver, had a market value of \$93,305 as of January 2010. For example, our review identified precious metals with a market value of \$14,637 that, according to the custodian, had been idle for at least 17 years. At Livermore, we identified 45,086 grams of precious metals with a market value of \$754,531 as of January 2010 that had not been used for at least five years. The metals were stored in containers with Tamper Indicated Device (TID) seals. Livermore places TID seals on inventory items that precious metals custodians do not intend to use for an unknown period of time. For example, one Livermore custodian had precious metals with a market value of \$1,048 that had not been used after more than 40 years of storage. The metals were in the original packaging with TID seals dated as early as 1965.

Y-12 and Livermore did not perform required annual reviews of the quantity on hand to determine if any precious metals were in excess of program requirements. In addition, management could not provide any justifications or management approvals for retaining idle and excess precious metals, as required by the Regulation. At Livermore, we found that its precious metals policy did not comply with the Regulation. Specifically, Livermore's policy is discretionary, in that it states that justifications and management approvals for retaining idle and excess metals may be required; whereas the Regulation states it shall be required. At Y-12, a program official commented that the precious metals control officer position was downgraded to a part-time position and; therefore, the site had not fully implemented the Regulation by performing what the site viewed as procedural requirements. During our review, Y-12 recognized the need for obtaining justifications and management approvals. The precious metals control officer subsequently provided an example of the site obtaining such justifications in FY 2010.

¹ The Federal regulations for precious metals do not define idle; therefore, we used a period of five years of inactivity as an indication of materials being idle.

The issue of not identifying excess quantities of precious metals on hand has been a long standing problem. A prior Office of Inspector General report, *Audit of the Department of Energy's Management of Precious Metals* (DOE/IG-0375, June 1995), concluded that Departmental organizations were not adequately identifying and disposing of excess precious metals. The report recommended that organizations ensure that required annual reviews are conducted to determine excess quantities of precious metals on hand. In response, management stated that it would re-emphasize the mandatory performance of annual reviews determining excess amounts of precious metals while requiring all excess metals to be immediately returned to the precious metals pool.

By retaining idle precious metals that could be used to meet other sites' needs, NNSA could incur unnecessary costs related to purchasing additional precious metals instead of recycling what is already on hand. For example, the Business Center informed one NNSA site that it would only be able to provide a portion of the 4,050 grams of platinum requested in the site's FY 2010 estimated forecast. Our review identified a total of 6,223 grams of platinum that has been idle for at least five years at Y-12 and Livermore, which potentially could have been returned to the Business Center and used to help meet the other site's needs.

As a result of our audit, a Livermore Site Office Contracting Officer acknowledged that the current Livermore policy is in conflict with the Regulation and needs to be revised to reflect the required justifications and management approvals. In addition, Y-12 issued a request on July 29, 2010, to its precious metals custodians, asking for idle uncontaminated metals to be specifically identified and listed for disposition. This action is expected to be completed by the end of FY 2010.

Disposal of Contaminated Precious Metals

Our review at Y-12 disclosed that the site had disposed as waste, \$1.2 million of contaminated precious metals encumbered by the then Secretary's July 2000 suspension that, according to NNSA, could have been processed through decontamination and refining to satisfy new mission requirements. Prior to the suspension in 2000, Y-12 planned to send these contaminated precious metals to a refiner for decontamination and recycling. After 2000, the site made several unsuccessful attempts to reuse the precious metals while maintaining compliance with the policy, including transferring them to another program or Department site for reuse. Finally, in 2008, Y-12 disposed of 24,565 grams of precious metals with a market value of \$1.2 million. According to an NNSA official, there are currently only two options available for the disposition of precious metals taken from a radiological area – storage or disposal as waste. In response to a July 2008 NNSA data call, Y-12 and Livermore reported that they had accumulated approximately 1,113,425 grams of precious metals which are restricted from being recycled due to the July 2000 suspension on the release of scrap metals, including precious metals, from radiological areas within Department facilities. We determined that the market value for these metals, as of January 2010, was approximately \$23.2 million.

NNSA had not established comprehensive guidance to help sites determine whether radiologically contaminated precious metals should be held for decontamination and recycling, or disposed of as waste. As a result, sites were on their own to determine a course of action related to precious metals held by the suspension. To its credit, in May 2010, NNSA issued an evaluation report on Radiological Clearance of Scrap and Personal Property at NNSA Sites. The report concluded that the lack of progress in resolving the suspension issues has led to large accumulations of inventories of radiologically clean, but policy encumbered materials at sites. The report further stated that management of these inventories as waste is a significant unbudgeted expense for the sites and is contradictory to Departmental waste minimization and pollution prevention efforts. Further, according to Y-12 management, it has suspended all disposal activities associated with contaminated precious metals in order to develop a process that will address the disposition of contaminated precious metals.

According to management officials, as of July 2010, NNSA was in the process of drafting an action memorandum for senior Department officials that will include the May 2010 evaluation report and propose alternative courses of actions regarding management of scrap metals, including precious metals, covered by the suspension.

SUGGESTED ACTIONS

As previously discussed, NNSA's investment in precious metals is significant and is likely to increase in the future. NNSA could potentially recover significant amounts of additional precious metals when it dismantles retired weapons. According to the Department, as of September 30, 2009, several thousand nuclear weapons were retired and awaiting dismantlement. For example, according to an NNSA official, one pending project has the potential to yield over \$30 million in precious metals. Without efficient management of precious metal inventories, NNSA is at increased risk of incurring unnecessary costs by purchasing precious metals when sufficient quantities already exist in inventories, and by prematurely disposing of metals that could be recycled in the future.

Because of the high market value of precious metals, we suggest that the Associate Administrator for Infrastructure and Environment, NNSA, develop guidance for NNSA site offices to follow in determining whether to store or dispose of precious metals held under the Secretary's July 2000 suspension.

We further suggest that the Senior Procurement Executive, NNSA, direct NNSA site offices to enforce requirements for conducting annual reviews to determine idle and excess quantities on hand and obtaining justifications and management approval for the retention of precious metals.

Since no recommendations are being made in this report, a formal response is not required. We appreciated the cooperation of your staff during the conduct of this review.



David Sedillo, Director
NNSA and Science Audits Division
Office of Inspector General

Attachment

cc: Director, Office of Internal Controls, NA-66
Director, Office of Risk Management, CF-80
Team Leader, Office of Risk Management, CF-80
Audit Resolution Specialist, Office of Risk Management, CF-80

SCOPE AND METHODOLOGY

We performed the audit between September 2009 and August 2010 at the National Nuclear Security Administration (NNSA) Service Center, located in Albuquerque, New Mexico; Lawrence Livermore National Laboratory (Livermore), located in Livermore, California; and the Y-12 National Security Complex (Y-12), in Oak Ridge, Tennessee. Our review covered precious metals held in inventory during Fiscal Years 2008 and 2009.

To accomplish the audit objective, we:

- Interviewed personnel from NNSA Headquarters, the NNSA Service Center, Livermore, the Livermore Site Office, Y-12, and Y-12 Site Office;
- Reviewed applicable federal laws and internal policies and procedures relevant to the management of precious metals;
- Reviewed prior audits, inspections, and internal assessments related to the audit objective;
- Judgmentally and statistically selected precious metals from the available inventory at Livermore using U.S. Army Audit Agency Statistical Sampling System;
- Performed inventories of selected precious metals custodians at Livermore; and,
- Performed a 100 percent inventory of Y-12's precious metals.

We conducted this performance audit in accordance with generally accepted Government auditing standards. Those standards require that we plan and perform the audit to obtain sufficient, appropriate evidence to provide a reasonable basis for our findings and conclusions based on our audit objectives. We believe the evidence obtained provides a reasonable basis for our findings and conclusions based on our audit objectives. The audit 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 at the time of our audit. We also reviewed performance measures in accordance with the *Government Performance and Results Act of 1993* relevant to accountability of precious metals. We found that Livermore and Y-12 did not have performance measures specifically relating to the administrative and physical control of precious metals. We did not rely on computer-processed data to satisfy our audit objective.

Management waived an exit conference.

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