OFFICE OF INSPECTOR GENERAL

U.S. Department of Energy

AUDIT REPORT

DOE-OIG-18-41 July 2018

SUPPLIER QUALITY MANAGEMENT AT NATIONAL NUCLEAR SECURITY ADMINISTRATION SITES

Department of Energy
Washington, DC 20585

July 18, 2018

MEMORANDUM FOR THE ACTING DEPUTY ADMINISTRATOR FOR DEFENSE PROGRAMS, NATIONAL NUCLEAR SECURITY ADMINISTRATION

FROM: Michelle Anderson
Deputy Inspector General
for Audits and Inspections
Office of Inspector General

SUBJECT: INFORMATION: Audit Report on "Supplier Quality Management at National Nuclear Security Administration Sites"

BACKGROUND

As part of its mission, the Department of Energy's National Nuclear Security Administration (NNSA) ensures the sustainment of a safe, secure, and effective nuclear deterrent through the application of science, technology, engineering, and manufacturing. NNSA's Management and Operating (M&O) contractors and suppliers support this mission by integrating quality requirements into management and work practices to build weapon components and procure materials so that the mission is accomplished and customer requirements are met.

NNSA's Weapon Quality Policy (NAP-24A) identifies requirements that increase NNSA's confidence that quality and performance requirements are met. In addition, NNSA uses the weapon quality assurance processes to ensure consistent and integrated implementation across its M&O contractor sites (NNSA sites). In November 2015, NNSA revised its policy to include more rigorous requirements. In particular, Nuclear Enterprise Assurance requirements were developed due to concerns about the increased trend toward a non-domestic procurement supply chain for nuclear weapon components, coupled with the reality of increasingly sophisticated adversaries.

Due to the importance of weapon supplier quality management and maintaining the nuclear weapons stockpile, we initiated this audit to determine whether NNSA sites were effectively managing external suppliers to ensure components were qualified for use in nuclear weapons. To achieve our objective, we assessed supplier quality management at four NNSA sites – Los Alamos National Laboratory (Los Alamos), Sandia National Laboratories (Sandia), the Kansas City National Security Campus (KC/NSC), and the Y-12 National Security Complex (Y-12) – and reviewed and approved supplier listing for one site (the Pantex Plant), which is managed under the same M&O contract as Y-12.

RESULTS OF AUDIT

Nothing came to our attention that would indicate that NNSA sites were not effectively managing external suppliers to ensure components were qualified for use in nuclear weapons. We noted that sites evaluated and approved suppliers on the basis of specified criteria, technical capabilities, and the rigor of their quality management system. In addition, the sites actively monitored product nonconformance issues.

During our review, we noted that NNSA could improve program efficiencies with the supplier evaluation process. In particular, we identified instances where NNSA sites were not fully utilizing an available database tool known as the Master Approved Supplier List (MASL). Although the use of MASL was not required by NNSA, it was designed, developed, and implemented to serve as a single master database of all suppliers, eliminate the duplication of supplier evaluation efforts, and achieve cost savings across NNSA. Sites were not always using MASL for weapons component procurements because the use of multiple and inconsistent supplier evaluation checklists and standards made it difficult for sites to share the results of supplier evaluations. In addition, KC/NSC raised legal concerns regarding nondisclosure agreements with suppliers, which had not been addressed. As a result, NNSA sites may be spending more than necessary for supplier evaluations.

NNSA and contractor officials projected that MASL would save about $1.5 million during the first 3 fiscal years (FYs) it was in use (FY 2011-FY 2013) by sharing supplier evaluations among eight NNSA sites for both nuclear weapons and nuclear facilities. The Energy Facilities Contractors Group (EFCOG), which includes NNSA's M&O contractors, reported that for the 3-year period, MASL exceeded the estimated savings with a reported actual cost savings of nearly $1.9 million. While MASL exceeded estimated cost savings, we concluded that more consistency with evaluations for weapon suppliers could help to achieve even more cost savings. We recognize that cost savings should be balanced with the need to effectively counter sophisticated adversaries. However, MASL is a starting point that could be used to reduce the amount of work needed to perform supplier evaluations and avoid the duplication of supplier evaluation efforts between sites.

Supplier Quality Evaluations

We identified instances where NNSA sites could improve efficiency by using MASL to help minimize the duplication of efforts between sites for weapon-related supplier evaluations. Specifically, we noted that sites performed their own supplier evaluations, rather than relying on the results of evaluations performed by other sites, and sites did not always update MASL with the results of their supplier evaluations to make them available to other sites.

Originally conceived by NNSA, the intent of MASL was to create a single master database of all suppliers that have been qualified to provide items and services for both nuclear weapons and nuclear facilities throughout NNSA. NNSA incurred about $200,000 to design, develop, and implement MASL. Although use of MASL has not been a requirement, it provides a standard platform for sharing information, including supplier evaluation checklists and reports, the name of the person who completed the evaluation, the approval date, and the evaluation standards

used. In December 2009, NNSA's Business Management Advisory Council issued an "Enterprise Strategic Approach for the Institutionalization of a NNSA Master Qualified Suppliers List." This document identified several benefits to developing and maintaining a single master database of all approved suppliers. Most notably, the identified benefits included cost savings due to being able to rely on evaluations performed by other sites in the complex, reduced lead times because finding and qualifying a new supplier's quality process will have already occurred, and minimized impact and disruption on suppliers caused by multiple evaluations from various NNSA sites. An example of this impact and disruption on a supplier occurred when one supplier charged $43,672 for meetings in support of a supplier evaluation conducted by Sandia in 2016. Although Sandia indicated that charging for an evaluation was a rare occurrence, this incident demonstrated the impact that an evaluation can have on a supplier.

Our review of approved supplier data and listings obtained from KC/NSC, Los Alamos, Sandia, Y-12 and the Pantex Plant identified 69 suppliers that were common to more than one site. All four sites we visited had an internal policy requiring that suppliers be evaluated every 3 years. Further review of the data and listings revealed duplication of seven on-site supplier evaluations during 2013 through 2016. For example, in August 2016, we accompanied a supplier evaluation performed by Sandia for a company located in Albuquerque, New Mexico. However, the data and listings on approved suppliers obtained from other sites showed that the supplier had already been evaluated by Pantex in February 2015. In another example, Los Alamos performed a supplier evaluation in August 2015 for a supplier located in Farmington, Connecticut. However, that supplier had already been evaluated by KC/NSC in August 2014.

In addition, sites did not always make use of MASL's capabilities to document and share supplier evaluation results and documentation with other sites. We performed a limited review of the sites' use of the MASL database for 5 of the 69 suppliers that were common to more than one site. For two of the five suppliers, we found that the sites made entries in MASL but had not uploaded any supplier evaluation documents (e.g., checklists or reports) and that one supplier did not have a MASL entry at all. Only one of the suppliers' MASL records showed evidence that a site relied on a previous supplier evaluation that had been performed by another site. The remaining supplier was assessed by three sites, but only one site had uploaded evaluation documents to MASL.

Supplier Recertifications

We also noted differences between NNSA sites' supplier evaluation processes regarding the level of reliance on industry standard certifications in the re-evaluation of suppliers. As noted above, the sites' internal policies required that suppliers be evaluated every 3 years. NNSA noted that industry standard certifications may be utilized for a portion of the recertification process. For example, Y-12 accepted industry standard certifications as a major component in the acceptance of several calibration activity suppliers. Sandia's policy had even more flexibility in the re-evaluation process. Within Sandia, there were two organizations responsible for managing suppliers – Sandia External Production, which was responsible for suppliers that manufacture products, components, and microelectronics; and Sandia Internal Production, which was responsible for suppliers providing materials and supplies for Sandia's internal production efforts. Under certain circumstances, Sandia Internal Production would accept an industry

standard certification multiple times in lieu of performing a full re-evaluation of the supplier's quality management system. Specifically, Sandia's Internal Production would accept an International Organization for Standardization (ISO) 9001 certification, which demonstrated a supplier's commitment to quality, customer satisfaction, and continuous improvement; or an aerospace industry (AS9100) certification, which was based on ISO 9001 and additional aerospace quality system requirements. According to Sandia, suppliers may be recertified multiple times based on the industry standards, except for dormant and poor performing suppliers. However, due to differences between industry and NAP-24A requirements, we believe this approach may not provide sufficient assurance that the supplier continues to meet NNSA quality requirements. NAP-24A requires sites to evaluate and select suppliers on the basis of specified criteria, technical capabilities, and rigor of the suppliers' quality management system. The NNSA Weapon Quality Division director stated that he needed to discuss with Sandia their approach and rationale for extending re-approval. In contrast to Sandia, Los Alamos did not accept industry standard certifications to re-evaluate suppliers, and KC/NSC has revised its policy to no longer accept the certifications.

Documenting and Sharing Evaluation Results

Although nothing came to our attention that would indicate that NNSA sites were not meeting the NAP-24A requirements, continuous improvement may be gained by evaluating and adopting tools developed by NNSA and EFCOG. To ensure consistent and integrated implementation of weapon quality processes across sites, NAP-24A requires that suppliers be evaluated and selected on the basis of specified criteria, technical capabilities, and rigor of their Quality Management System. However, sites used multiple evaluation checklists and standards to conduct weapon supplier evaluations, which made it difficult for sites to share the results of supplier evaluations. Los Alamos had one supplier evaluation checklist that mirrored Attachment 2 of NAP-24A to perform weapon supplier evaluations, and Y-12 adopted the same checklist in January 2016. In contrast, Sandia Internal Production and KC/NSC used a combination of KC/NSC's Product Quality Requirement checklist and/or the industry standards (ISO 9001 or AS9100), and Sandia External Production used a supplier evaluation process that incorporated KC/NSC's Product Quality Requirements, industry standards, supplier specific requirements from NAP-24A, and other Department of Energy requirements. In addition, we noted a difference between the sites' approaches to using product Subject Matter Experts (SMEs) for supplier evaluations. Specifically, Los Alamos and Sandia officials informed us that they include SMEs on higher rigor supplier evaluations, and we noted that Y-12 also uses SMEs on some evaluations, while KC/NSC relies on the auditors' experience and training on industry standards. Finally, Sandia also identified challenges with the inconsistent terminology used in supplier evaluations for documenting whether an identified issue is a finding, observation, or remark. Although NAP-24A defines remarks and three levels of findings, we noted that sites also used other terms, such as "incidental findings" and "opportunities for improvement," which were not defined in the policy.

According to NNSA, NAP-24A allows differences in evaluation approaches. Specifically, with a graded approach to the product complexity, sites have the ability to decide on the applicability of quality elements. However, we believe that consistent documentation based on product complexity could help sites to use MASL more effectively. Since at least 2011, EFCOG

recognized the inconsistent supplier evaluation criteria as an issue. Specifically, an October 2011 EFCOG presentation titled "Supplier Evaluation" identified common program goals of reducing cost and providing access to supplier evaluation information, including ensuring that the information is consistent and useable. In addition, a 2016 EFCOG supply chain working group workshop on weapons quality assurance reiterated the challenge sites have with inconsistent supplier evaluation criteria. A MASL administrator informed us that Los Alamos developed a NAP-24A checklist in response to this concern but that it was not being used by Sandia and KC/NSC. However, Sandia supplier evaluation officials informed us that they were not aware of this checklist.

In addition to the lack of consistency between multiple checklists and industry standards, some of the NNSA supplier quality requirements were not always included in the supplier evaluation criteria. For example, in a May 2016 Quality Assurance Survey, NNSA's Weapons Quality Division found that KC/NSC had gaps in the flow-down of multiple NAP-24[1] supplier quality requirements into supplier evaluation criteria. Specifically, the KC/NSC supplier evaluation process did not require that suppliers use metrics for continuous improvement, have continuing training, and perform work in accordance with controlled documents. However, this does not mean that products were not qualified for use. To its credit, KC/NSC performed a gap analysis which compared the NAP-24 requirements with its supplier evaluation criteria. The gap analysis identified corrective actions to close some of the 29 gaps identified for highest rigor (PQR-1060) evaluations, but the gap analysis also noted that KC/NSC took exception with 13 of the gaps that they believed did not apply to the suppliers or were adequately addressed by other standards. When we discussed this issue with KC/NSC officials, they stated that not all of the requirements are applicable to suppliers and that NAP-24A states that the contractor must not flow down requirements to subcontractors unnecessarily or imprudently. However, we believe that if all sites used consistent supplier evaluation standards with the same information shown in a more compatible format, they would be better able to rely on the results of evaluations performed by another site.

Finally, in an attempt to help sites share evaluation results and achieve additional cost savings, EFCOG's Supply Chain Quality Task Team proposed a modification to the MASL database to provide the ability to allow sites to have an automated interface for importing and exporting supplier evaluation data. According to a January 2017 EFCOG presentation, sites were maintaining their existing approved supplier lists apart from MASL. However, questions concerning the proposed project's implementation remain unanswered. In particular, we noted that the KC/NSC Quality Audits manager was not sure how the project would be implemented, in light of KC/NSC legal office's direction not to share supplier evaluations with other sites (discussed below). As of September 2017, the proposed system modifications were completed, and EFCOG selected a site to test for the pilot project.

Legal Concerns

[1] As of May 2016, some of the sites were still in the process of implementing the revised NAP-24A policy. While there were some changes to the NAP-24A Attachment 2 weapon quality requirements, the changes were minimal in many cases.

We also noted that KC/NSC raised legal concerns regarding nondisclosure agreements with suppliers, which had not been addressed. As a result, KC/NSC had not been updating MASL with the results of their supplier evaluations. A legal counsel for KC/NSC informed us that the main concern that suppliers had was with the potential disclosure of labor rates to other NNSA sites. The legal counsel also stated that nondisclosure agreements for the protection of proprietary information varied between suppliers. The standard nondisclosure agreement states that proprietary information is "…any information, technical data or know-how in whatever form that is not generally known and is clearly identified as being confidential, proprietary or a trade secret." However, we determined that the KC/NSC legal concerns regarded information that was not a part of the supplier evaluation process or reports. Specifically, based on our review of selected supplier evaluations and corresponding reports, we concluded that the scope of supplier evaluations did not cover information that would normally be considered confidential, proprietary, or a trade secret. Rather than focusing on product qualification, according to Sandia supplier quality auditors, the supplier evaluations are intended to ensure that the supplier has a quality management system in place and that it will be able to meet the requirements of NAP-24.

After a supplier evaluation approval, to ensure the supplier met the product quality requirements, Sandia used Product Realization Teams to ensure that a product met requirements during development and production. Similarly, KC/NSC had a department dedicated to conducting product inspections. Sandia and KC/NSC supplier evaluation reports identified the purpose of conducting a supplier evaluation as determining the adequacy and effectiveness of the supplier's quality program to furnish material in accordance with the requirements of the supplier quality program. A counsel for NNSA's Kansas City Field Office stated he was not very familiar with this issue, but given the purpose of supplier evaluations, he noted that KC/NSC's legal position seemed very conservative. He also believed that the issue could be resolved. In July 2017, the NNSA Weapon Quality Division director informed us that during an April 2017 supply chain workshop, he was assigned an action item regarding this issue. The action involves meeting with legal and procurement personnel to understand the legal and policy barriers that are preventing the routine sharing of supply chain risk management information. The expectation is to accomplish this action over the year leading to the next annual workshop.

Implications and Potential Cost Savings

Due to the potential duplication of supplier evaluations between NNSA sites, the sites may not be achieving some potential cost savings and may be spending more than necessary for supplier evaluations. While there may be instances, due to product type and application, when sites need to review a supplier on-site, we identified opportunities to achieve additional cost savings based on minimizing the duplicate efforts and the costs associated with multiple weapon supplier evaluations. Actual cost savings would depend on the extent to which the sites share their evaluation results and are able to incorporate other sites' results into their own reviews.

The need to minimize the duplication of efforts is even more important when we consider the additional demands on production related to upcoming weapon refurbishment efforts. This is expected to increase the number of supplier quality auditors needed by KC/NSC.

Other Matter

We determined that from June 2014 to March 2017, only 15 percent of all personnel in Los Alamos' weapons design and production related organizations had taken the 2-hour training course to help detect suspect and counterfeit items (S/CI). Although Los Alamos officials stated that the intent of the training requirement did not include management and administrative workers, they did not have a listing of workers required to take the training. We noted that sites were working to improve the implementation of policies on S/CI training for all relevant employees, including the identification and participation of appropriate individuals for this training. Department of Energy regulation (DOE Order 414.1D, *Quality Assurance*) requires that organizations provide for training and informing managers, supervisors, and workers on S/CI processes and controls, including prevention, detection, and disposition of S/CIs. While an NNSA official informed us that NNSA had not issued specific guidance on who should be required to take S/CI training, Los Alamos required that any workers performing receipt inspections, engineers (excluding weapon research and development engineers) and their supervisors, and certain quality workers complete an S/CI overview course. The Los Alamos S/CI coordinator believed that support from managers is needed to get the weapons engineers to take the training. The need for S/CI training to improve awareness and detection of suspect and counterfeit items becomes more significant with the Nuclear Enterprise Assurance requirements of NAP-24A, which add rigor within the supply chain.

RECOMMENDATIONS

To maximize efficiencies and effectiveness, we recommend that the Acting Deputy Administrator for Defense Programs for NNSA work with M&O contractors to:

1. Ensure the timely completion of actions to address the legal concerns regarding nondisclosure agreements and sharing supplier evaluation results;

2. Assess ways to improve the efficiency of supply chain management activities, such as:

    a. Implementing a shared approach for supplier evaluations that includes, at a minimum, the sharing of supplier approval date, standards used, and lead evaluator name and contact information;

    b. Establishing greater consistency with supplier evaluation formats and terminology to facilitate the sharing of evaluation results;

    c. Determining when sites should use SMEs for supplier evaluations; and

    d. Clarifying the acceptable use of industry certifications for supplier evaluations.

In addition, we recommend that the Los Alamos Field Office Manager direct Los Alamos to:

3. Ensure that all relevant weapons staff take the required S/CI training.

MANAGEMENT RESPONSE

Management concurred with the report's recommendations and indicated that corrective actions will be taken to address the issues identified in the report. To address our recommendations, management stated that NNSA is working with the M&O contractors to understand and resolve legal questions related to nondisclosure agreements and sharing supplier quality evaluations. In addition, management stated that it will refer the Office of Inspector General's suggestions on evaluating ways to improve the efficiency of supply chain management activities to the Energy Facilities Contractors Group for consideration across the Department and NNSA. Further, management stated that the Los Alamos M&O contractor has updated its internal procedure to require S/CI training for personnel who perform engineering functions related to procured items. Management also stated that it will evaluate this recommendation for closure by September 30, 2018, upon verification that the training has been completed under the revised procedure.

While management agreed in principle with the potential for additional cost savings, they did not agree with our reported cost savings estimate of $216,000 over a 3-year period. Specifically, management did not agree that all of the evaluation costs incurred could have been avoided because an evaluation of a particular supplier had been previously conducted. Management noted that differences between requirements, product type, and product use are extremely important in determining the extent of evaluation that takes place at a site. Management's formal comments are included in Attachment 3.

AUDITOR COMMENTS

Management's proposed actions are responsive to our recommendations. Regarding the specific cost savings contained in the official draft audit report, we agree that differences between requirements, product type, and product use are indeed important in determining the extent or rigor level of a supplier evaluation and that this impacts the potential cost savings. We appreciate NNSA sharing information related to the cost savings during the official draft report process, and upon further review, we have removed the specific cost savings from the final report as it is too difficult to quantify potential savings across NNSA due to a number of variables involved in the process.

Attachments

cc: Deputy Secretary
Chief of Staff
Administrator, National Nuclear Security Administration

OBJECTIVE, SCOPE, AND METHODOLOGY

OBJECTIVE

We conducted this audit to determine whether NNSA sites are effectively managing external suppliers to ensure components are qualified for use in nuclear weapons.

SCOPE

This audit was performed from August 2016 through July 2018 at the National Nuclear Security Administration (NNSA) Albuquerque Complex and Sandia National Laboratories (Sandia) located in Albuquerque, New Mexico; the Los Alamos National Laboratory (Los Alamos) located in Los Alamos, New Mexico; the Kansas City National Security Campus (KC/NSC), located near Kansas City, Missouri; and the Y-12 National Security Complex located in Oak Ridge, Tennessee. In addition, we obtained and reviewed a supplier evaluation list for the Pantex Plant, located in Amarillo, Texas. The scope of the audit covered supplier quality management during fiscal years 2011 through 2016. The audit was conducted under Office of Audits general project number Al6AL054.

METHODOLOGY

To accomplish the audit objective, we:

- Reviewed applicable laws and regulations, and Department of Energy policies related to weapon supplier quality management;
- Reviewed and analyzed site processes and procedures for performing supplier quality evaluations, monitoring, and product acceptance;
- Analyzed nonconformance reporting;
- Reviewed processes for identifying and reporting suspect and counterfeit items;
- Evaluated NNSA field office assessments and oversight; and
- Interviewed key NNSA and Site personnel.

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 objective. We believe the evidence obtained provides a reasonable basis for our findings and conclusions based on our audit objective. The audit included tests of controls and compliance with laws and regulations to the extent necessary to satisfy the objective. We assessed the implementation of the *GPRA Modernization Act of 2010* as necessary to accomplish the objective and determined that performance measures related to surveillance testing were established. 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. Finally, we relied on computer-processed data on a limited basis to achieve our audit objective. Site officials provided documents that were generated from reporting systems, and we found the data to be sufficiently reliable for the purposes of this audit.

Management waived an exit conference on June 20, 2018.

RELATED REPORTS

Office of Inspector General

- Audit Report on *Kansas City Plant's Vendor Quality Assurance* (OAS-L-14-08, May 2014). Honeywell Federal Manufacturing & Technologies, the National Nuclear Security Administration's Management and Operating contractor for the Kansas City Plant (now known as the Kansas City National Security Campus) had implemented a quality assurance program to ensure that the Design Agency requirements were met. Products inspections were completed; however, vendor substituted parts were not immediately identified because the program plan did not require the materials, adhesives, and coatings used in manufactured parts to be inspected due to the Design Agency not considering those items significant enough to require individual testing. Given Honeywell's actions to address the substitution issue and planned vendor quality assurance program enhancements, the report did not make any formal recommendations.

- Audit Report on *National Nuclear Security Administration Nuclear Weapons Systems Configuration Management* (DOE/IG-0902, March 2014). NNSA had not ensured that the process being used for acceptance of nonconforming parts in nuclear weapons was effective. Although NNSA procedures required formal justification for using nonconforming parts, the Office of Inspector General found that both Los Alamos National Laboratory and Sandia National Laboratories had not always included justifications as required on its nonconformance reports. In addition, certain externally supplied parts and components were not adequately verified to the proper specifications in the product definition. Ultimately, these parts and components were found to have unacceptable deviations and were subsequently used or made available for use in the production of nuclear weapons. These part and component deviations had a negative impact on the form, fit, or function of the weapon systems. The report made six recommendations, all of which have been closed.

Government Accountability Office

- Audit Report on *Nuclear Supply Chain: DOE Should Assess Circumstances for Using Enhanced Procurement Authority to Manage Risk* (GAO-16-710, August 2016). The National Defense Authorization Act for fiscal year 2014 provides the Secretary of Energy (Secretary) with enhanced procurement authority which allows the Secretary to exclude from certain procurements a supply that does not comply with quality assurance requirements or fails to achieve an acceptable rating for its supply chain risk management activities. The authority allows the Secretary to withhold consent for a contractor to use a supplier or direct that the supplier be excluded. The Department of Energy had not examined whether adequate resources were in place for using the enhanced procurement authority. Department officials stated that there were some resources in place, such as information and trained personnel that could be important in using the authority. However, the Department had not examined whether these resources were adequate, consistent with federal standards for internal control. Department officials and NNSA's Management and Operating (M&O) contractors expressed a range of opinions about

whether the resources in place were adequate to support using the authority if needed. For example, while officials in the Department's Office of the Chief Information Officer said that they did not anticipate a need for more resources, some M&O contractor representatives said that they might need more trained personnel. However, M&O contractor representatives stated that they could not assess the need without a requirement to do so in their M&O contracts and that the Department had not established such requirements. Examining whether adequate resources are in place, consistent with internal control standards, can help provide assurance that resources are available to support using the authority in accordance with any processes that the Department develops.

The Government Accountability Office recommended that the Department assess the circumstances that might warrant using the enhanced procurement authority and take additional actions based on the results, such as developing processes to use the authority, if needed, and examining whether resources for doing so are adequate. The Department concurred with the recommendation.

MANAGEMENT COMMENTS

Department of Energy
Under Secretary for Nuclear Security
Administrator, National Nuclear Security Administration
Washington, DC 20585

April 16, 2018

MEMORANDUM FOR APRIL G. STEPHENSON
PRINCIPAL DEPUTY INSPECTOR GENERAL

FROM: LISA E. GORDON-HAGERTY

SUBJECT: Comments on the Office of Inspector General Draft Report "Supplier Quality Management at National Nuclear Security Administration Sites" (A16AL054)

Thank you for the opportunity to review and comment on the subject draft report. The National Nuclear Security Administration (NNSA) appreciates the Office of Inspector General's recognition that NNSA sites were effectively managing suppliers to ensure nuclear weapons components met safety and quality standards. Specifically, sites evaluated and approved suppliers on the basis of specified criteria, including technical capabilities and the rigor of their quality management systems; actively monitored and addressed product nonconformance issues; and pursued efficiency opportunities.

In support of continuous improvement and pursuit of potential efficiencies, NNSA established the Master Approved Supplier List (MASL), a database of suppliers for nuclear weapons components, which provides the capability to share the results of supplier evaluations. Through fiscal year 2013, MASL reported actual cost savings of nearly $1.9 million (a 950 percent return on investment). Use of MASL is just one tool and is not intended to replace the sites' internal processes and accountability for supplier evaluation under NNSA Policy Letter 24A (NAP-24A), *Weapon Quality Policy.* The unique product specifications at each site, as well as the differences between nuclear and non-nuclear components, require sites to determine the most effective and efficient method for supplier evaluation, and to determine the propriety of including supporting assessments into MASL. Further, as the auditors note, there are certain legal considerations that further impact use of MASL.

Overall, the report reflects the effectiveness of NNSA's supplier quality management program, and our ongoing commitment to continuous program improvement. The attachment to this memorandum details the specific actions taken and planned to address the report's recommendations, as well as estimated timelines for completion. If you have any questions regarding this response, please contact Mr. Dean Childs, Director, Audits and Internal Affairs, at (301) 903-1341.

Attachment

Attachment

NATIONAL NUCLEAR SECURITY ADMINISTRATION
Response to Report Recommendations

Supplier Quality Management at NNSA (A16AL054)

Recommendation 1: Ensure the timely completion of actions to address the KC/NSC legal concerns regarding nondisclosure agreements and sharing supplier evaluation results.

Management Response: Concur with Comment - NNSA is working with the Management and Operating contractors (M&Os) to understand and resolve legal questions related to nondisclosure agreements and sharing supplier quality evaluations. This recognizes that the nondisclosure issues, although raised by Kansas City, are relevant to all M&Os, and the recommendation should be revised to remove specific reference to Kansas City National Security Campus (KCNSC). The estimated completion date for this action is September 30, 2018.

Recommendation 2: Assess ways to improve the efficiency of supply chain management activities, such as:

a. Implementing a shared approach for supplier evaluations that includes, at a minimum, the sharing of supplier approval date, standards used, and lead evaluator name and contact information;

b. Establishing greater consistency with supplier evaluation formats and terminology to facilitate the sharing of evaluation results;

c. Determining when sites should use Subject Matter Experts for supplier evaluations; and

d. Clarifying the acceptable use of industry certifications for supplier evaluations.

Management Response: Concur in Principle – As exemplified in the report, NNSA is a leader in pursuing supply chain management efficiencies, which is evidenced clearly by the introduction of the Master Approved Supplier List (MASL). NNSA has achieved significant cost savings, and sites' current processes are compliant with all requirements. We are continuously evaluating ways to improve the supply chain as required by NNSA Policy Letter 24A (NAP-24A), *Weapon Quality Policy*. We appreciate the OIG's input and within 90 days of receiving the final report, NNSA will refer the OIG's suggestions to the Energy Facilities Contractors Group (EFCOG) for proper consideration across the Department of Energy and NNSA.

Recommendation 3: Ensure that all relevant weapons staff [at Los Alamos National Laboratory] take the required S/CI training.

Management Response: Concur - Since the time of audit, Los Alamos National Laboratory (LANL) updated its internal procedure, *Suspect/Counterfeit Items (S/CI),* and added Section 6.3, *Suspect/Counterfeit Items (S/CI) Training for Engineering Functions* (effective September 6, 2017). The new policy states, "LANL personnel who perform the engineering functions related to procured items, as described below, must complete either the formal classroom training Course #39907, *Suspect/Counterfeit Items (S/CI) Overview,* and/or a locally developed training course which has been approved by the S/CI Office. These personnel include:

- Personnel who develop designs, specifications, or requirements to be used to procure items.
- Personnel who develop inspection and testing plans for the inspection and/or testing of procured items, except QPA Receipt Inspection Plans (Form 1952, *Receipt Inspection Plan and Requirements*)."

NNSA will evaluate this recommendation for closure by September 30, 2018, upon verification that training has been completed under the revised procedure.

Evaluation of Monetary Impacts

NNSA does not agree with the OIG's reported cost savings estimate of $72,000 per year (or $216,000 over a 3-year period). This estimate simply computes the average cost expended over a 3-year period for supplier evaluations at four sites, and makes the unsupported assumption that the total cost for these evaluations could have been avoided had the sites relied on data in MASL, and that these proposed savings would be repeated every three years.

This estimate, however, does not reflect the level of expert analysis required to make such an assertion. First, the estimate assumes that all of the costs incurred could have been avoided simply because an evaluation of the particular supplier had been previously conducted. This is a flawed assumption. While the report states "...there may be instances, due to product type and application, when sites need to review a supplier on-site,..." as if it is a minor factor, this is in fact a significant consideration. The differences between requirements, product type, and product use are extremely important in determining what extent of evaluation takes place at a site. Further, as noted in NNSA's response memorandum, the unique product specifications at each site, as well as the differences between nuclear and non-nuclear components, require sites to determine the most effective and efficient method for supplier evaluation, and to determine the propriety of including supporting assessments into MASL.

Use of MASL is just one tool to help evaluate suppliers, and it is not intended to replace the sites' internal processes and accountability for supplier evaluation under NAP 24A. While cost savings may be, and have been, realized by use of MASL, the generalizations used in the report's estimate are not valid. The expertise and specific circumstances of each site's needs would have to be factored into the development of such an estimate. Without a more detailed, product by product analysis, which would take the expertise of the supplier evaluation groups to conduct, NNSA cannot validate or support the conclusion of $216,000 in cost avoidance.

FEEDBACK

The Office of Inspector General has a continuing interest in improving the usefulness of its products. We aim to make our reports as responsive as possible and ask you to consider sharing your thoughts with us.

Please send your comments, suggestions, and feedback to OIG.Reports@hq.doe.gov and include your name, contact information, and the report number. Comments may also be mailed to:

Office of Inspector General (IG-12)
Department of Energy
Washington, DC 20585

If you want to discuss this report or your comments with a member of the Office of Inspector General staff, please contact our office at (202) 253-2162.