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Audit Report

Fire Protection Deficiencies at Los Alamos National Laboratory

DOE/IG-0816 June 2009

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Department of Energy
Washington, DC 20585
June 23, 2009

MEMORANDUM FOR THE SECRETARY

FROM: Gregory H. Friedman
Inspector General

SUBJECT: INFORMATION: Audit Report on "Fire Protection Deficiencies at Los Alamos National Laboratory"

BACKGROUND

The Department of Energy's Los Alamos National Laboratory (Los Alamos) maintains some of the Nation's most important national security assets, including nuclear materials. Many of Los Alamos' facilities are located in close proximity to one another, are occupied by large numbers of contract and Federal employees, and support activities ranging from nuclear weapons design to science-related activities. Safeguarding against fires, regardless of origin, is essential to protecting employees, surrounding communities, and national security assets.

On June 1, 2006, Los Alamos National Security, LLC (LANS), became the managing and operating contractor for Los Alamos, under contract with the Department's National Nuclear Security Administration (NNSA). In preparation for assuming its management responsibilities at Los Alamos, LANS conducted walk-downs of the Laboratory's facilities to identify pre-existing deficiencies that could give rise to liability, obligation, loss or damage. The walk-downs, which identified 812 pre-existing fire protection deficiencies, were conducted by subject matter professionals, including fire protection experts.

While the Los Alamos Site Office has overall responsibility for the effectiveness of the fire protection program, LANS, as the Laboratory's operating contractor, has a major, day-to-day role in minimizing fire-related risks. The issue of fire protection at Los Alamos is more than theoretical. In May 2000, the "Cerro Grande" fire burned about 43,000 acres, including 7,700 acres of Laboratory property. Due to the risk posed by fire to the Laboratory's facilities, workforce, and surrounding communities, we initiated this audit to determine whether pre-existing fire protection deficiencies had been addressed.

RESULTS OF AUDIT

Our review disclosed that LANS had not resolved many of the fire protection deficiencies that had been identified in early 2006:

- Of the 296 pre-existing deficiencies we selected for audit, 174 (59 percent) had not been corrected; and,

- A substantial portion of the uncorrected deficiencies, 86 (49 percent) were considered by the walk-down teams to be significant enough to warrant compensatory actions until

the deficiency was corrected or was tracked to closure through implementation of corrective actions.

Further, we found that 32 of the significant deficiencies had been closed by the previous Los Alamos contractor, prior to LANS assuming responsibility for operation of the Laboratory, even though the deficiencies had not been corrected.

A fire protection expert provided technical support during the audit.

As an example of uncorrected problems, LANS had not resolved, by performing periodic tests, a deficiency identified in 2006 regarding a kitchen hood fire suppression system in a facility located within the Los Alamos Neutron Science Center. Such systems are required to be tested twice a year by the National Fire Protection Association standard, a standard that had been adopted by Department of Energy under DOE Order 420.1B. Yet, in 2006, the LANS walk-down team recognized that this system had not been inspected since May 2004 and noted that deficient suppression systems could result in significantly high levels of property damage and loss. After we brought this issue to management's attention on February 6, 2009, LANS officials stated that the Laboratory would correct this deficiency.

As with the problems involving the fire suppression system, we observed that LANS had not always corrected life safety deficiencies involving building exits at one of its primary facilities. This included providing a secondary emergency exit for a building with occupants on multiple floor levels. LANS had removed personnel from the third floor and improved the sprinkler system of the facility, but it had still not provided a secondary exit for personnel on the second floor by the time we completed our review. NNSA has since stated that this fire protection issue will be completely addressed by relocating personnel from the second floor.

Perhaps most serious, our testing revealed that a number of deficiencies were formally closed even though actual corrective action had not been completed. Notably, we observed that action had not been taken to resolve a recommendation to replace a fire alarm panel found to be unreliable. After the walk-down was conducted but prior to contract transition, the former contractor closed the recommendation in its action tracking database even though the panel had not been replaced. The walk-down team had categorized the fire alarm system as requiring replacement since it had been modified many times, was old and obsolete, and had very limited available spare parts. In fact, the walk-down team concluded that the panel "...must be considered to be unreliable and should have a very high priority for replacement."

We concluded that the uncorrected fire protection deficiencies identified by the LANS walk-down team had not been properly resolved because the Department's Site Office had not effectively administered the Los Alamos contract. Specifically, the Site Office had not ensured that LANS and the former Los Alamos contractor made the necessary improvements to correct identified fire protection deficiencies nor had it validated the efficacy of corrective actions. Further, the Site Office had not established expectations for LANS to correct deficiencies, including properly structured contract incentives to achieve that goal.

Absent strong fire protection leadership by Federal officials, LANS had not fully evaluated the most significant deficiencies identified by the walk-down team to determine whether they had

been corrected or if additional actions were needed. In particular, LANS had not tracked nor verified that corrective actions had actually been taken to remedy deficiencies.

We noted that the Defense Nuclear Facilities Safety Board, in a December 2008 report to the NNSA Administrator, expressed concerns regarding the progress made in resolving protection issues at Los Alamos. Specifically, the Board reported that inadequate staffing of Los Alamos' fire protection function had impeded progress in correcting previously identified fire protection issues, including timely completion of required inspections and maintenance of fire protection equipment.

The failure to correct fire protection deficiencies increased the risk of injury or loss of life. Further, there are increased risks associated with fire-related events, such as the release of hazardous or radiological material. If such an event were to occur, not only would the safety and health of employees and the public be impacted but the environment could be damaged as well. Accordingly, we made a number of recommendations to help improve fire protection at Los Alamos.

As part of our continuing focus on safety, the Office of the Inspector General is also currently conducting an inspection to determine whether fire suppression and related services for Los Alamos National Laboratory are assured through agreements with Los Alamos County.

MANAGEMENT REACTION

Management disagreed with conclusions, specifically, regarding the potential impact of the fire protection deficiencies. However, Management expressed its agreement with the proposed corrective actions and recommendations, and, during the course of audit field work, informed the audit team of corrective actions that it planned to take. As noted in the report, despite its stated disagreements with the audit conclusions, after we pointed out unresolved deficiencies both contractor and NNSA officials initiated action to reassess and/or correct individual fire protection problems. NNSA's completed and planned actions, when combined with our recommendations to adequately incentivize contractor performance, should, if completely implemented, help reduce the health, safety, and property risks associated with fire protection weaknesses at the Los Alamos National Laboratory.

Attachment

cc: Deputy Secretary
Administrator, National Nuclear Security Administration
Chief of Staff
Manager, Los Alamos Site Office

AUDIT REPORT ON FIRE PROTECTION DEFICIENCIES AT LOS ALAMOS NATIONAL LABORATORY

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Fire Protection Deficiencies

Los Alamos National Laboratory (Los Alamos) had not corrected a majority of the pre-existing fire protection deficiencies identified by Los Alamos National Security, LLC (LANS), in 2006. We reviewed a sample of 296 of 812 fire protection deficiencies identified by LANS prior to assuming management of the Laboratory from the University of California, the previous management and operating contractor. Although the LANS walk-down teams had not provided a detailed risk assessment of identified fire protection deficiencies, they did identify deficiencies that they considered to be significant. We evaluated the status of those deficiencies, with the support of a Los Alamos fire protection expert, and determined that 174 deficiencies (59 percent) had not been corrected, despite having been identified between March and April 2006. These deficiencies were located in a variety of areas, including nuclear and chemical facilities, office buildings, and other facilities containing hazardous materials. Notably, we determined that:

- Eighty-six of the 174 uncorrected deficiencies (49 percent) were considered significant enough by the walk-down team to require either compensatory action or tracking until the deficiency was corrected because they represented areas of non-compliance with fire protection standards and requirements; and,

- Even though they had not actually been corrected, 32 of the significant deficiencies had been closed by the previous Los Alamos contractor prior to LANS assuming responsibility for the Laboratory.

Our examination disclosed that even though they had been identified more than two years prior to the commencement of our review, LANS had not taken action to address many significant deficiencies. For example, LANS had not:

- Tested a kitchen hood fire suppression system (located within the Los Alamos Neutron Science Center) in over four years. Such systems are required to be tested twice a year by the National Fire Protection Association (NFPA) standard, a standard that had been adopted by Department of Energy Order 420.1B. In 2006, the LANS walk-down team recognized that this system had not been inspected since May 2004 and noted that deficient

systems could result in significantly high levels of property damage and loss. After we brought this issue to management's attention on February 6, 2009, LANS officials stated that the Laboratory would correct this deficiency.

- Provided a secondary exit for the Administration Building in Technical Area-16. This three story office building had only a single exit stairwell from the second and third floors. The 2006 LANS walk-down team identified the absence of an additional exit stairwell as a significant life safety deficiency. The team also noted that the absence of a second exit violated a NFPA requirement that a facility's design must allow occupants to promptly escape. In 2007, LANS removed all personnel from the third floor and made modifications to the sprinkler system. The National Nuclear Security Administration (NNSA) management indicated that this fire protection issue will be completely addressed by relocating personnel from the second floor, an action that it planned to complete in the near term.

Fire Protection Deficiencies Reported as Closed Were Not Corrected

At the time of our observation, a LANS subject matter expert verified that 32 of the significant deficiencies classified as "Issue Closed" in a stand-alone database, developed to track pre-existing conditions, remained uncorrected. Our testing revealed, for example, that the contractor responsible for managing the Laboratory prior to LANS had closed the deficiencies even though corrective actions had not been completed or were ineffective. In particular, the former Los Alamos contractor had not:

- Replaced a fire alarm panel that the walk-down team found to be unreliable. The alarm panel was located in a facility that housed and processed plutonium. Plutonium is a nuclear material that will burn and which, if not handled properly, has the potential to reach nuclear criticality and/or contaminate the site and workforce. The walk-down team had categorized the fire alarm system as requiring replacement since it had been modified many times, was old and obsolete, and had very limited available spare parts. In fact, the walk-down team concluded that the panel "...must be considered to be unreliable and should have a very high

priority for replacement." While LANS located spare parts for the system after it assumed responsibility for management, it had not replaced the system as recommended by the walk-down team. NNSA management acknowledged that the alarm panel is antiquated but considered it functional and reliable, contrary to the walk-down report finding. NNSA management also stated that Los Alamos had secured and qualified an inventory of spare parts and will repair or replace the system if reliability deteriorates. Finally, NNSA plans to replace the part in the future. Actions that NNSA undertook after we notified it of problems with the fire panel are promising, and if fully implemented, should help resolve a significant weakness in the plutonium processing facility which this panel protects/monitors.

- Corrected impediments to the effective operation of sprinklers in a facility within the Los Alamos Neutron Science Center. The LANS walk-down team observed that curtains and valances obstructed the flow of sprinklers and also noted that missing ceiling tiles could delay the operation of the sprinklers. The team recommended the removal of the curtains and valances and replacement of tiles. As a result of our audit, LANS created a work order in February 2009 to correct this deficiency. Similar to other actions taken after our field audit work was finished, officials told us that the work to address this problem had been completed.

- Provided fire protection to an enclosed structure within a technical shop that the walk-down team determined was not protected by the existing sprinkler system. LANS officials told us that as a result of our audit work, it plans to take corrective actions in this area.

Contract Administration and Project Management

The Los Alamos Site Office (LASO) had not effectively administered the Los Alamos facility operation contract to ensure that the fire protection deficiencies were corrected. Further, LANS did not follow its own requirements for project management related to correcting fire protection deficiencies.

Contract Administration

Although safety is one of the Department of Energy's priorities, LASO had not ensured that fire protection deficiencies were

corrected. LASO had not required either LANS or the previous Los Alamos managing contractor to validate the status of the fire protection deficiencies and it had not verified the status of those deficiencies. Further, LASO had not effectively used Performance Based Incentives (PBIs) to establish expectations for LANS to correct fire protection deficiencies identified in 2006. Specifically, LASO had not provided incentives related to the 2006 deficiencies until 2008. At that time, it established an expectation that LANS develop a milestone schedule for closure or other disposition of all fire protection deficiencies expected to cost $50,000 or more. According to NNSA, LANS has developed such a schedule but had limited success in resolving the identified deficiencies. NNSA recognized that it had limited success during 2008 in correcting fire protection deficiencies and carried forward the PBI for correcting the deficiencies into Fiscal Year (FY) 2009.

Deficiency Resolution Efforts

LANS had not fully evaluated the most significant fire protection deficiencies, those requiring compensatory action or tracking until closure, to determine whether they had been corrected or if additional actions were needed. In particular, LANS had not verified that corrective actions had actually been taken to remedy deficiencies. According to Laboratory officials, the former Laboratory contractor reportedly addressed the deficiencies identified by the walk-down team. However, LANS had not verified that the deficiencies identified as resolved by the former contractor had actually been corrected.

Further, LANS had not tracked 68 of the 86 significant deficiencies in either its maintenance management system (PassPort) or the Los Alamos Issues Tracking System (LIMTS). According to officials, when LANS assumed responsibility for the Laboratory, the deficiencies in the former contractor's action/tracking database were transferred into either PassPort and/or LIMTS. We noted that 18 of the significant deficiencies were tracked in either PassPort and/or LIMTS at the start of our audit. However, LANS did not capture all outstanding deficiencies in PassPort or LIMTS when it transferred the deficiencies. For example, we determined that LANS had not transferred 42 significant deficiencies that were identified in the former contractor's tracking database as requiring corrective actions. As a result of our audit, LANS entered and began to track an additional 20 deficiencies in PassPort and/or LIMTS. Finally, LANS officials told us that they had resolved six deficiencies that had not been tracked in either system.

LANS also could not demonstrate that it had always allocated resources or developed projected completion dates for fire protection deficiencies. LANS officials told us that based on issues identified during our review they had initiated actions to correct a number of deficiencies. LANS officials, however, could not always identify the funding allocated to correcting the deficiencies and the schedule established for completing the corrective actions.

Consistent with our findings, we also noted that the Defense Nuclear Facilities Safety Board reported to the Administrator, NNSA, in December 2008, that inadequate staffing of Los Alamos' fire protection function had impeded progress in correcting previously identified fire protection issues. Problem areas included timely completion of required inspections and maintenance of fire protection equipment.

To its credit, LANS plans to implement a number of important actions based on the results of our audit. In particular, LANS plans to:

- Direct Facility Operation Directors to document the disposition of all significant walk-down issues (after rescreening) and verify that each has been properly closed or is being tracked in LIMTS;
- Perform a management self-assessment, with the results tracked in LIMTS, on the efficacy of action taken to disposition fire protection deficiencies;
- Conduct a corporate oversight assessment of LANS management of its fire protection deficiencies;
- Ensure that PBIs on fire protection will be met in FY 2009; and,
- Evaluate existing fire protection program performance metrics to determine if they are sufficient. If they are not, revise or augment them as necessary to provide sufficient visibility to support priority decisions.

Potential Impacts

The failure to correct a majority of fire protection deficiencies increased the risks of injury or loss of life had a fire occurred at Los Alamos. If such a fire did occur, and was not quickly suppressed, there could be a risk that hazardous or radiological

material could be released, continuity of operations disrupted, and a loss of structures and components. Ensuring that known fire protection deficiencies are promptly and properly resolved would help ensure that employee safety and health is protected, the impact on the public is minimized, and that damage to the environment is prevented or minimized.

RECOMMENDATIONS

To help ensure that fire protection deficiencies are corrected, we recommend that the Manager, Los Alamos Site Office:

1. Structure PBI's that establish the clear expectation that LANS correct existing fire protection deficiencies; and,

2. Verify the efficacy of LANS' corrective actions, including those previously reported as closed.

Additionally, we recommend that the Manager, Los Alamos Site Office, ensure that LANS:

3. Establish funding plans and schedules for correcting all significant fire protection deficiencies;

4. Track the status of the individual highly significant fire protection deficiencies; and,

5. Validate the efficacy of corrective actions before closing the deficiency.

MANAGEMENT COMMENTS

Management agreed with the recommendations and stated that actions that have been taken or that are being implemented are providing confidence in the programmatic and management structure and are in the best interests of the NNSA. Management also noted that the deficiencies identified in this report were not nuclear safety issues which are its primary focus.

Further, management stated that LANS had corrected a notable number of the high-significance and moderate-significance fire protection deficiencies that were identified during the walk-downs that were conducted from March through April 2006.

Management did not agree, however, with the stated conclusions. Management indicated that the issues raised in the report arose from weaknesses in institutional issues and corrective action management that existed in June 2006. Management stated that, at that time, Los Alamos lacked a program to manage, prioritize,

and address these types of deficiencies in a manner that considered the multiple relevant factors, including but not limited to the potential mission impact, the available resources, and the risk to the public.

Finally, management stated that it will initiate actions to verify the efficacy of LANS' corrective actions, ensure that LANS tracks the status of individual highly significant deficiencies, and ensure that LANS validates the efficacy of corrective actions before closing the deficiencies. NNSA also asserted that current PBIs establish a clear expectation that LANS correct existing fire protection deficiencies and ensure that LANS establishes funding plans and schedules for correcting all significant fire protection deficiencies.

MANAGEMENT REACTION

Management's comments and corrective actions taken or initiated are generally responsive to our recommendations. While we acknowledge that the fire protection deficiencies were not nuclear safety issues, the failure to correct fire protection deficiencies increased the risks of injury or loss of life if a fire occurred at Los Alamos. If not extinguished quickly, a fire at or near facilities we tested could also potentially result in the release of radiological material. These issues were of such significance that, at the time of transition of Los Alamos management from the previous contractor to LANS, the LANS Transition Manager committed to develop Corrective Action Plans that addressed causal factors for the deficiencies, prioritize the deficiencies based on their significance and impact, identify resources needed to correct the deficiencies, and establish a schedule for completing corrective actions.

Management's acknowledgement that Los Alamos lacked a program to manage deficiencies is not inconsistent with our report. Management's observation, in fact, provides additional insight regarding reasons for the failure to monitor and promptly resolve fire protection deficiencies, many of which lingered for nearly three years after discovery.

We are encouraged that NNSA agreed to initiate action in response to our recommendations. We remained concerned, however, that NNSA plans to take no additional action regarding contractor performance incentives. As previously noted, current PBIs place an emphasis on deficiencies that are expected to cost $50,000 or more rather than addressing deficiencies based on significance. We noted that LANS did not include all significant fire protection deficiencies on the list it prepared in

response to the PBIs, such as the uninspected kitchen hood fire suppression system. As noted in the LANS walk-down report, the deficiency could result in high levels of property damage should the system fail.

OBJECTIVE

The objective of our audit was to determine whether pre-existing fire protection deficiencies had been corrected.

SCOPE

This audit was performed between December 2007 and April 2009 at Los Alamos National Laboratory and the Los Alamos Site Office, located in Los Alamos, New Mexico.

METHODOLOGY

To accomplish the audit objective, we:

- Reviewed applicable Laws, Departmental orders, other Departmental guidance, and contracts;
- Analyzed prior Office of Inspector General and Defense Nuclear Facilities Safety Board reports;
- Reviewed and analyzed internal Los Alamos guidance;
- Reviewed compliance with the Government Performance and Results Act of 1993;
- Selected a sample of 296 of the 812 fire protection deficiencies from a stand-alone database and with the aid of a fire protection subject matter expert performed visual observations. Los Alamos selected the subject matter expert, a member of the Laboratory's Fire Protection Group, to assist us in reviewing the fire protection deficiencies; and,
- Interviewed key contractor 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 that the evidence obtained provides a reasonable basis for findings and conclusions based on our audit objective. The audit included tests of controls and compliance with laws and regulations 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 assessed performance measures

established under the Government Performance and Results Act of 1993 and found that Los Alamos had not instituted specific performance measures related to correcting pre-existing fire protection deficiencies until 2008. We determined that computer-processed data from the stand-alone database was integral to meeting the objectives of this audit. We verified the accuracy of data contained in the database as it related to our audit objective by visual inspections of corrected and uncorrected deficiencies.

Management waived an exit conference.

PRIOR REPORTS

OFFICE OF INSPECTOR GENERAL REPORTS

- The Department of Energy's *Wildland Fire Planning and Preparation Efforts* (DOE/IG-0760, March 2007). This report found that wildland fire mitigation activities had either not been performed or were not completely effective. In addition, it was determined that contractor officials did not always adhere to established wildland fire planning and mitigation guidance. Specifically, contractors had not used risk-based principles to prioritize mitigation efforts and had either omitted or not adequately considered other items specified in Federal policy and Departmental guidance when developing fire protection plans. Further, Federal officials had not always actively monitored contractor wildland fire protection programs, coordinated protective efforts, or validated the effectiveness of contractor fire mitigation activities.

OTHER REPORTS

- The Defense Nuclear Facilities Safety Board's *Staff Issue Report, Fire and Emergency Response Capabilities for Defense Nuclear Facilities at Los Alamos National Laboratory*, December 8, 2008. This report found weaknesses in Los Alamos' capability to respond to a fire or other emergency in the unique hazard environments associated with nuclear facilities. The report concluded that weaknesses resulted from the failure to implement long-standing recommendations made in 1995 and 2004 needs assessments. The report also found that staffing shortages may be hindering needed improvements in Los Alamos' fire protection program.

- The Defense Nuclear Facilities Safety Board's *Staff Issue Report, Fire Protection at Los Alamos National Laboratory*, April 29, 2005. This report found a number of issues regarding weaknesses in the fire protection program at Los Alamos National Laboratory. Paramount among these issues was the lack of a formal plan to address the baseline needs assessment for fire and emergency services and the lack of a long-term contract for these services with Los Alamos County. The Board acknowledged the National Nuclear Security Administration's completion of a cooperative agreement for fire and emergency services with Los Alamos County. However, the Board remained concerned about the outlook for aligning those services with the unique capabilities required to meet the fire protection needs of the Laboratory. The report further indicates that there are weaknesses in the current capability to respond to a fire or other emergency event in the unique hazard environments associated with defense nuclear facilities at the Laboratory. This situation is a direct result of the failure to implement long-standing recommendations made in the 1995 and 2004 Baseline Needs Assessments, and is further evidenced by observations made and issues identified by Los Alamos National Security, LLC during recent emergency exercises. The report also found that staffing shortages may be hindering needed improvements to the Laboratory's fire protection program.

May 21, 2009

MEMORANDUM FOR George W. Collard
Assistant Inspector General
for Performance Audit

FROM: Michael C. Kane / S /
Associate Administrator
for Management and Administration

SUBJECT: Comments to Draft Fire Deficiencies Report; Proj. No. A08LA010; IDRMS No. 2007-04684

The National Nuclear Security Administration (NNSA) appreciates the opportunity to review the Inspector General's draft report, *Fire Protection Deficiencies at Los Alamos National Laboratory*. Due to the risk posed by fire to the Los Alamos National Laboratory's (LANL) facilities, workforce, and surrounding communities, we understand that this audit was initiated to determine whether pre-existing fire protection deficiencies had been corrected.

NNSA agrees with the recommendations that are being presented because quality assurance can always be strengthened. The actions that NNSA has taken or are being implemented are providing a level of confidence to NNSA's programmatic and management structure and are in the best interests of the NNSA.

NNSA does not agree, however, with the stated conclusions. The audit focused on pre-existing conditions identified by the Los Alamos National Security, LLC (LANS) field walk-downs conducted prior to contract transition in June 2006. The LANS due-diligence walk-down report, issued in May 2006, identified about 3400 issues overall, of which 812 were related to fire protection. Particularly noteworthy, the fire protection issues flagged were not nuclear safety issues, since the walk-downs did not focus on nuclear-safety-credited systems; such systems are the primary focus of NNSA fire protection oversight. Furthermore, consistent with its purpose, the due-diligence walk-down report provided a triage of the issues but not a detailed risk analysis and risk prioritization for the issues.

The issues raised by the auditors arise from weaknesses in institutional issue and corrective action management that existed in June 2006. At that time, LANL lacked a program to manage, prioritize, and address these types of deficiencies in a manner that considered the multiple relevant factors, including but not limited to the potential mission impact, the available resources, and the risk to the public. While the due-diligence walk-down report provided abundant symptoms of this problem, addressing only those

Appendix 3 (Continued)

symptoms would not address the problem and would not prevent recurrence. Since June 2006, NNSA and LANS major focus has been to develop institutional issue management within the Contractor Assurance System, while also demonstrably improving the safety of the public, the workers, and the environment in all areas, including fire protection.

NNSA will address the stated recommendations in the following manner:

Recommendations 2, 4 and 5: Verify the efficacy of LANS' corrective actions including those previously reported as closed. Ensure that LANS tracks the status of the individual highly significant fire protection deficiencies. Ensure that LANS validates the efficacy of corrective actions before closing the deficiency.

-- NNSA Analysis: As of April 30, 2009, LANS has confirmed the valid and complete closure for 27 of the 30 high-significance fire protection deficiencies identified during the due-diligence walk-downs and has confirmed that the three such deficiencies that remain open are mitigated with compensatory measures. Similarly, LANL has confirmed that 138 of the 316 moderate-significance compliance issues have valid and complete closure, with the balance entered into and being managed within the LANL issue management system. LANS has separately provided comments on specific issues identified in the report.

Several of the IG's examples in this area warrant further discussion:

- The Plutonium Facility fire detection and alarm panel is antiquated but considered currently functional and reliable, contrary to the walk-down report finding. LANL has secured and qualified an inventory of spare parts. If reliability deteriorates, LANL will repair or replace the system as a priority. Planned replacement is part of the TA-55 Reinvestment Project.

- The fire protection issue associated with means of egress from the cited TA-16 administrative building was partially addressed in 2007 by relocating personnel from the third floor and will be completely addressed by relocating personnel from the second floor in May 2009.

To prevent recurrence, in 2007, LANS made improvements to the issue management, corrective action, and impairment control programs, and the comprehensive fire protection program (as required under the worker safety and health program under 10 CFR 851).

NNSA Action: As part of its programmatic fire protection oversight in FY 2009, the Los Alamos Site Office (LASO) will verify the efficacy of the closure of the 30 high-significance fire protection deficiencies identified in the due-diligence walk-down report, as well as a sampling of the moderate-significance compliance deficiencies. Moving forward, the LASO and LANS will develop metrics to actively monitor the effectiveness of the LANS corrective action management system to ensure that issues

are tracked and closed on a timely basis and that significant corrective actions are validated effective. Fire protection issues would be included in this overall program metric.

Recommendations 1 and 3: Structure Performance Based Incentives (PBIs) that establish clear expectation that LANS correct existing fire protection deficiencies. Ensure that LANS establishes funding plans and schedules for correcting all significant fire protection deficiencies.

-- NNSA Analysis: NNSA had such PBIs in 2008 but had limited success, based on the awarded fee (e.g., FY-08 PBI 11.4.1). In FY 2009, NNSA has PBIs that emphasize resolving legacy fire protection issues, including submitting a prioritized list, a plan and schedule for execution, and evidence of completion of scheduled activities; NNSA also has subjective PBIs that are based on performance on commitments and demonstrated continuous improvement in the fire protection program (FY 2009 PBI 7.7.1, PBI 16.5, PBI 16.7). Overall, LASO believes that, while individual omissions may exist in the program, the LANS fire protection program is demonstrating continuous improvement. Attachment A further discusses NNSA perspective.

NNSA Action: In accordance with 10 CFR 851 and 10 CFR 830, which are enforceable under the Price Anderson Amendments Act, NNSA expects LANL to correct fire protection deficiencies that affect worker safety and nuclear safety. NNSA will continue to assess the contractor's performance in implementing the fire protection program, which includes planning, funding, and correcting fire protection deficiencies. Current PBIs meet the intent; therefore, NNSA considers this action complete.

In addition to the above comments, NNSA is also attaching technical comments (Attachment B) for the IG's consideration.

If you have any questions concerning this response, please contact Cathy Tullis, Acting Director, Policy and Internal Controls Management.

Attachments

cc: Revitization Manager, Los Alamos Site Office
David Boyd, Senior Procurement Executive
Karen Boardman; Director, Service Center

IG Report No. DOE/IG-0816

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