



U.S. Department of Energy
Office of Inspector General
Office of Audit Services

Audit Report

Implementation of Integrated Safety Management at Lawrence Livermore National Laboratory

DOE/IG-0797

July 2008



Department of Energy

Washington, DC 20585

July 2, 2008

MEMORANDUM FOR THE SECRETARY

FROM: *Greg Friedman*
Gregory H. Friedman
Inspector General

SUBJECT: INFORMATION: Audit Report on "Implementation of Integrated Safety Management at Lawrence Livermore National Laboratory"

BACKGROUND

Safety is one of the Department of Energy's top priorities. In 1996, the Department of Energy established an Integrated Safety Management (ISM) system whereby its contractors plan, perform, assess, and improve the safe conduct of work. However, due to inconsistent implementation of ISM and recurring deficiencies that led to serious accidents, the Department issued guidance in 2001 and 2006 to assist contractors in their implementation of ISM and to improve safety. As part of ISM, the Department requires contractors to: 1) develop and implement controls over identified hazards, 2) perform work within defined hazard controls, and 3) provide feedback on and continuous improvement to safety systems.

The Lawrence Livermore National Laboratory (Livermore) is a government-owned, contractor-operated facility which is part of the Department of Energy's National Nuclear Security Administration (NNSA). A key mission of the Laboratory is to ensure the safety, reliability, and performance of the national nuclear weapons stockpile. To meet its mission, Livermore employees perform a wide variety of tasks some of which place workers in or near hazardous conditions or materials. Since 2003, Livermore has experienced an above average illness and injury rate, relative to other sites within the Department's nuclear weapons complex. Because of the emphasis that you and the NNSA Administrator have placed on worker safety, we initiated an audit to determine if Livermore had fully implemented an ISM system.

RESULTS OF AUDIT

We concluded that Livermore had not fully implemented an ISM system to improve its safe conduct of work. Specifically, we examined three safety incidents and found that Livermore had not always:

- Developed and implemented controls to eliminate hazards;
- Performed work within defined controls; and,
- Provided feedback to managers about identified hazards or aggressively pursued continuous improvement in safety.



These incidents involved a near-miss incident associated with hoisting and rigging heavy equipment, a fall from a ladder, and radiation exposure.

We found that Livermore did not always analyze safety issues to determine the extent of condition and root cause. For example, even though Livermore had multiple safety deficiencies involving non-standard ladders over a three year period, it had not performed an "extent of condition" analysis that would have indicated the existence of a systemic problem. Livermore's ability to fully analyze and resolve safety concerns was limited by missing and inconsistent data in its system to track safety issues.

In addition, NNSA's Livermore Site Office (LSO) did not ensure that contractor performance measures associated with safety encouraged improvement in Livermore's implementation of ISM. Although Livermore continued to have a higher than average illness and injury rate since 2003, LSO had not adjusted Livermore's performance measures, or related fees, to establish quantifiable rate reduction goals. We concluded that until Livermore implements an effective ISM system, NNSA cannot be assured that future worker-related illnesses and injuries will be prevented. The implications of preventable accidents occurring are significant, both in terms of lost productivity and personal pain and suffering.

On October 1, 2007, the contract to operate Livermore transitioned to a new contractor, Lawrence Livermore National Security, LLC. The new performance-based contract includes measures and incentives for the completion of specific safety initiatives that if effectively implemented would address a number of issues discussed in this report. For example, LSO included a performance measure to reduce the number of illnesses and injuries at Livermore. In addition, the new contractor has announced the establishment of workshops to identify opportunities for safety improvements and is developing a contractor assurance system to address and facilitate needed improvements in ISM. While these are positive steps, our report includes additional actions that can be taken to improve safety at Livermore.

MANAGEMENT REACTION AND AUDITOR COMMENT

Management generally agreed with the report and recommendations. However, management disagreed with our statements regarding the application of safety metrics relevant to the contractor's performance fee. Management's specific comments and our reaction are discussed in the body of this report. Management comments have been provided in their entirety in Appendix 3.

Attachment

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

REPORT ON THE IMPLEMENTATION OF INTEGRATED SAFETY MANAGEMENT AT LAWRENCE LIVERMORE NATIONAL LABORATORY

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Integrated Safety Management at Livermore

Recurring Safety Incidents

The National Nuclear Security Administration's (NNSA) Lawrence Livermore National Laboratory (Livermore) sustained an above-average injury rate within the Department of Energy's (Department) nuclear weapons complex during Fiscal Years (FY) 2003 to 2007. In particular, Livermore experienced three significant safety accidents and incidents involving a fall from a ladder, radiation exposure, and a near-miss incident associated with hoisting and rigging heavy equipment. We analyzed these safety accidents and incidents to determine whether weaknesses in Livermore's implementation of Integrated Safety Management (ISM) requirements contributed to their occurrence.

Weaknesses In ISM System of Controls

We determined that Livermore had not fully implemented its ISM system to improve the safe conduct of work. Specifically, Livermore had not always: (1) developed and implemented hazard controls; (2) performed work within hazard controls; and, (3) provided feedback and continuous improvement, which contributed to the three significant safety incidents.

Developing Hazard Controls

Livermore did not always develop and implement hazard controls over work processes. On July 31, 2006, an employee using a non-standard, permanently affixed ladder to perform roof maintenance fell approximately six feet to the ground. He sustained multiple fractures and was hospitalized for 26 days. Prior to this accident, Livermore had identified at least six safety deficiencies related to the use of non-standard, permanently affixed ladders. In fact, two of these identified safety deficiencies involved inadequate handrail spacing; the other four deficiencies involved issues such as non-standard rung spacing. Rather than implementing controls on a Laboratory-wide basis for all non-standard ladders, Livermore implemented hazard controls for each deficiency by removing the specific ladder from service. Had Livermore developed and implemented adequate hazard controls on a Laboratory-wide basis, this accident may have been prevented.

In another case, Livermore had not developed and implemented appropriate controls over a hazard posed by a glove-box that exceeded radiation limits. On August 19, 2004, a repackaging activity involving a transuranic waste drum was being conducted inside a vendor designed glove-box. As a result of inadequate containment by the glove-box, contamination was released and four employees working in or near the glove-box area were exposed to radiation levels exceeding control limits. Prior to this exposure, however, eight occurrences of contamination levels exceeding the control limits had been detected and reported in the same work area. According to Livermore, the glove-box had been used at other Department sites and had known radioactive contamination that prevented Livermore from safety pressure testing the system before putting it into operation. Although Livermore implemented a number of hazard controls, an analysis of the August 2004 exposure incident determined that conditions leading to prior observed contaminations were not addressed aggressively enough. Further, the analysis pointed out that appropriate hazard controls including the evaluation and in-situ testing of the vendor's radiation confinement system had not been implemented.

Performing Work Within Hazard Controls

Livermore did not always ensure that work was performed within established hazard controls. For example, in June 2007, workers at Livermore's National Ignition Facility (NIF) did not hoist and rig heavy equipment within established controls, resulting in what Livermore classified as a near-miss of a significant accident. Specifically, a suspended load shifted off its center of gravity and lodged between nearby structures. An incident review found that workers had not followed the controls established to address hazards associated with hoisting and rigging the equipment.

Livermore assessments determined that during three prior hoisting and rigging events at NIF, personnel had failed to follow established controls. Fortunately, these situations did not result in an accident. The assessments findings, however, demonstrated that NIF personnel did not always use established controls. These recurrences should have

alerted Livermore that it was not meeting the ISM requirement for ensuring that work was performed within established controls.

Provide Feedback and Continuous Improvement

Livermore did not effectively use feedback and continuous improvement processes to ensure that identified hazards were addressed. Specifically, an NNSA appraisal of the previously discussed radiation exposure incident noted that between February 2003 and December 2004, Livermore had issued 12 occurrence reports on similar radiological incidents. Concerns about the adequacy of radiological contamination controls continued to exist in January 2007, when Lawrence Livermore National Security, LLC, assumed responsibility for the Laboratory. During a "walk-down" of Livermore, the new contractor concluded that contamination controls needed to be improved to avoid putting workers at increased risk to exposure. As recently as January 2008, an independent assessment confirmed that Livermore management had been informed about radiation control problems, but had not taken the necessary action to correct known problems.

Analysis of Safety Incidents

Livermore's ISM program was not fully effective because it did not perform adequate analyses to identify and correct systemic safety issues and deficiencies. Specifically, the Laboratory did not always analyze safety accidents and incidents to define the extent of conditions or their root causes and the appropriate corrective actions. In addition, Livermore's ability to analyze safety accidents and incidents was hampered by missing and inconsistent data in its management information systems. Finally, NNSA's Livermore Site Office (LSO), which is responsible for administering the Livermore contract, did not ensure that performance measures associated with safety encouraged improvement in Livermore's implementation of ISM.

Safety Issues Analyses

Livermore did not always analyze safety accidents and incidents to identify the existence of systemic safety issues and deficiencies. For example, Livermore did not perform an extent of condition assessment of recurring safety deficiencies associated with the use of non-standard ladders. Instead, Livermore corrected deficiencies on

a case-by-case basis. An investigation board noted that, prior to the July 31, 2006, accident, several opportunities to identify the hazards associated with non-standard ladders existed, but Livermore closed out the findings without fixing the problem. However, it was only after the 2006 accident that Livermore performed an assessment of fixed ladders; and determined that 164 unsafe ladders needed to be removed from service or repaired.

In order to effectively develop and implement hazard controls and to achieve continuous safety improvement, ISM guidance recognizes that it is important for organizations to identify the root cause of known safety issues and deficiencies. However, Livermore did not always perform root cause analyses of similar or systemic safety accidents and incidents that could have prevented their recurrence. In the case of four workers who were exposed to radiation levels above control limits, Livermore had not performed root cause analyses of eight previous occurrences when radiation levels were above control limits in the waste handling process area.

While Livermore had taken a number of corrective actions to minimize the possibility of leaks from the waste processing glove-box, an incident investigation conducted after the four workers had been exposed found that these corrective actions were ineffective. The investigation also concluded that root cause analysis had not been systematically used to evaluate contamination issues during operations. The investigation concluded that the primary cause of the incident was that Livermore's formal acceptance and testing of the vendor's confinement system was less than adequate.

Missing and Inconsistent Data

Livermore's ability to analyze safety accidents and incidents was also hampered by missing and inconsistent data. Livermore used its Issues Tracking System (ITS) to track safety deficiencies and issues. The ITS provides a centralized database for managing deficiencies, issues and corrective actions arising from assessments and events. The data in ITS are also used to identify trends and analyze cross-directorate issues and deficiencies Laboratory-wide. However, an internal Livermore report noted that not all safety issues have been entered into ITS and that some information was entered inconsistently. For instance, in

August 2007, Livermore reported that 64 percent of the issues tracked in the Department's Noncompliance Tracking System (NTS) could not be confirmed in ITS. The NTS is a database for Department contractors to report unsafe actions or conditions that possibly violate nuclear safety requirements for protecting workers and the public.

In other cases, data entered into ITS was not always consistent. For example, 24 percent of deficiencies entered into ITS did not clearly specify the areas of non-compliance. Although Livermore has recently implemented procedures that should ensure all NTS reports are entered into ITS, it had not established needed controls, such as appropriate edit checks. Livermore has provided additional training to employees who enter data that should improve data consistency. In addition, Livermore was developing procedures to address the absent controls identified during the audit. However, without complete and consistent data, ITS analyses may not accurately identify systemic safety issues or facilitate the identification of the root cause of safety issues and deficiencies.

Additionally, Livermore's ITS database did not show whether issues and deficiencies previously reported as being corrected had recurred. Such data and use of ITS to determine the frequency and recurrence of safety issues and deficiencies are vital to effective analyses to identify systemic weaknesses over multiple years and the impact of corrective actions.

Safety Performance Measures

Neither NNSA nor LSO ensured that performance measures associated with safety encouraged improvement in Livermore's implementation of ISM. Even though Livermore had a higher than average rate for illnesses and injuries, LSO did not establish performance measures that quantified an expectation for reducing illnesses and injuries at Livermore. For example, from FYs 2004 through 2007, Livermore's performance measures related to safety included measures such as "Achieve continual improvement in ISM."

Prior to FY 2003, LSO had established quantifiable performance metrics for Livermore such as radiation dose levels to workers and the public, and exposures to chemical, physical, and biological agents. LSO explained that, as part of NNSA's reengineering of the performance measures, LSO simplified the Laboratory's performance measures and evaluation process. For FY 2003 and beyond, the new performance plan consisted of nine high level performance objectives that were segregated into two categories: Mission, and Management and Operations which included safety. Specifically, LSO identified measures to encourage improvement of safety performance with emphasis on three areas that were considered high priority: feedback and improvement, nuclear safety, and emergency preparedness.

In addition, LSO could not adequately explain how it used performance ratings or fees to encourage implementation of ISM at Livermore. For example, Livermore's contract provides for a 50 to 26 percent reduction, or no reduction if warranted by mitigating factors, in the award fee for a significant accident similar to the one that occurred in 2006. However, Livermore was rated as satisfactory and awarded 80 percent of the available fee for operations performance, which included safety, in FY 2006, the same rate and award that was given in FYs 2005 and 2007 when no significant accidents occurred. There was no documentation available to show that LSO had considered the accident as part of the operations performance evaluation. Furthermore, LSO officials were not aware of any mitigating factors that would have warranted a reduction in the penalty.

The Department's Integrated Safety Management System Guide (Guide) provides suggestions for performance measures that can be used to implement and develop ISM. For example, the Guide suggests that field elements, such as LSO, should modify contractor performance measures annually to determine how effectively the contractor has implemented ISM and to reflect improved performance. Had LSO modified performance measures and adjusted awards to encourage improvement for implementing ISM, some illnesses and injuries may have been avoided.

In FY 2008, LSO revised the performance measures to quantifiable performance measures which have been incorporated in the Performance Evaluation Plan. These measures were established to ensure that the Laboratory continues to strive for improvements in Environment, Safety and Health.

Cost of Ineffective Safety

Over the past four years, Livermore has sustained higher than average injury rates within the Department. Until Livermore implements an effective ISM system, workers may suffer from illnesses and injuries that could have been avoided. In addition, unnecessary costs related to illnesses and injuries will continue to be incurred directly through lost work hours and also indirectly in support costs.

RECOMMENDATIONS

We recommend that the Manager, LSO, ensure that Lawrence Livermore National Laboratory:

1. Improve safety tracking capability so that it:
 - a. identifies safety issues, incidents and deficiencies that recur; and,
 - b. contains complete and consistent data.
2. Performs appropriate analyses, including extent of condition and root cause analyses that identify systemic safety issues and their causes.

We also recommend that the Manager, LSO:

3. Annually adjust Livermore's safety performance measures to show continuous improvement in implementing ISM; and,
4. Adjust performance fees, as appropriate, to reflect safety contractual requirements.

MANAGEMENT REACTION

Management generally agreed with the report and corresponding recommendations; however, they disagreed with our statement regarding safety performance measures and believed that the examples cited, relevant to performance measures, were misleading. While it acknowledged that Livermore's contract provides for a unilaterally reduced fee, management stated that the contract did not require a 50 to 26 percent reduction in the award fee for a significant accident, similar to the one that

occurred in 2006. In addition, management stated that the Laboratory received 80 percent of the available fee earned for 2005 – 2007 based on overall operations performance, which included performance measures unrelated to safety.

NNSA plans to address our recommendations by developing and coordinating appropriate corrective measures, not only for Livermore, but for the NNSA complex as a whole. Management comments are included in Appendix 3.

AUDITOR COMMENTS

We agree that the contract does not require a specific percentage reduction in award fee provided there are mitigating factors. We also acknowledge that Livermore received a reduced award fee for the operations performance measure that included safety, security, environmental management and counterintelligence. However, our concern is that LSO could not demonstrate how it assessed contractor ISM performance and used performance measures to improve safety even though Livermore had a higher than average illness and injury rate. In particular, we found no evidence that LSO had considered the 2006 ladder accident cited in this report as part of the FY 2006 and FY 2007 performance evaluations. The ladder accident would be considered a second degree performance failure. The Livermore contract provided for the award fee to be reduced by 50 to 26 percent for such accidents with consideration for any mitigating factors. LSO management could not provide evidence concerning the existence of any mitigating factors.

Appendix 1

OBJECTIVE The objective of this audit was to determine if Lawrence Livermore National Laboratory (Livermore) has fully implemented an Integrated Safety Management (ISM) system.

SCOPE The audit work was performed between March 2007 and April 2008. We conducted work at the NNSA's Livermore Site Office (LSO) and Livermore. Audit work was limited to the implementation of ISM between FYs 2004 and 2007.

METHODOLOGY To accomplish the audit objective, we:

- Reviewed regulations and policies and procedures relevant to the Department's Integrated Safety Management systems;
- Reviewed specific guidance and policies and procedures;
- Held discussions with the LSO and Livermore officials; and,
- Reviewed specific planning documents, analyses, and reports relating to safety.

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 that 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. Also, we evaluated the Department's implementation of the Government Performance and Results Act of 1993 as they related to the audit objective. Finally, we did not rely upon automated data processing information to accomplish our audit objective. As discussed in the body of this report, our audit disclosed that missing and inconsistent data hampered analyses of safety accidents and incidents.

Management waived an exit conference.

RELATED AUDIT REPORTS

The Office of Inspector General and the Government Accountability Office have previously reported on safety programs at Department of Energy facilities.

Office of Inspector General

- The report on *Beryllium Surface Contamination at the Y-12 National Security Complex* (DOE/IG-0783, December 2007) found that the Y-12 National Security Complex had not consistently implemented key controls of its Beryllium Disease Prevention Program in non-beryllium operations areas. Specifically, the Y-12 National Security Complex, when surface contamination was found outside operational areas, had not always (a) posted signs alerting workers to the potential for beryllium surface contaminations, and (b) performed or documented hazard assessments for beryllium contamination. The report also identified a gap in the Department's regulations which do not address surface contamination found outside beryllium operational areas.
- The report on *Beryllium Controls at the Oak Ridge National Laboratory* (DOE/IG-0737, September 2006) found that the Oak Ridge National Laboratory did not properly manage activities related to beryllium contaminated equipment in Building 9201-2, which is located at the Oak Ridge National Laboratory. In particular, beryllium contaminated equipment was transferred to non-beryllium areas; employees working with contaminated equipment were not fully identified and notified; transferred equipment was not labeled appropriately; and, the building was not posted as a potential contamination area.
- The report on *Inspection of K-25 Type A Accident Investigation* (S98IS004, November 1997) found that five incidents involving welders' clothing burning or catching fire and resulting in medical treatment at Department Oak Ridge sites had been reported in a management data system; however, key fire protection personnel at Oak Ridge were not aware of the reported incidents prior to the February 1997 welder fatality that was the subject of our review. We also found that the current revision of a national standard that contained a specific requirement that welders' protective clothing "shall be selected to minimize the potential for ignition, burning, trapping hot sparks, or electric shock" was not incorporated into the Department's contract with the pertinent site contractor.
- The report on *Summary Results of the Inspection of Issues Regarding the Scope of the Accident Investigation of the TRISTAN Fire at the Brookhaven National Laboratory* (DOE/IG-0386, March 1996) found that the Type B Accident Investigation Board that investigated a March 1994 fire at the Brookhaven National Laboratory did not adequately address specific management systems and organizations as a root cause. Without a thorough root cause analysis of specific management systems, deficiencies in the exercise of oversight responsibilities by "upstream" management organizations may not be identified and corrected. Limited experience and training in accident investigation and,

Appendix 2

thus, root cause analysis may have contributed to the Board conducting an accident investigation that did not adequately address specific management systems and organizations.

Government Accountability Office (GAO)

- *Nuclear and Worker Safety: Actions Needed to Determine the Effectiveness of Safety Improvement Efforts at NNSA's Weapons Laboratories* (GAO-08-73 October 2007). GAO noted that the nuclear weapons laboratories have experienced persistent safety problems, stemming largely from long-standing management weaknesses. GAO's review of nearly 100 reports issued since 2000 found that the contributing factors to these safety problems generally fall into three areas: (1) relatively lax laboratory attitudes toward safety procedures; (2) laboratory inadequacies in indentifying and addressing safety problems with appropriate corrective actions; and, (3) and inadequate oversight by NNSA site offices. NNSA faces two principle challenges in its continuing efforts to improve safety at the weapons laboratories. First, the agency has no way to determine the effectiveness of its safety improvement efforts, in part, because those efforts rarely incorporate outcome-based performance measures. Secondly, the recent shifts in NNSA's oversight approach to rely more heavily on contractors' own safety management controls. Continuing safety problems, coupled with the inability to clearly demonstrate progress in remedying weaknesses, make it unclear how this revised system will enable NNSA to maintain an appropriate level of oversight of safety performance.



Department of Energy
National Nuclear Security Administration
Washington, DC 20585



June 3, 2008

MEMORANDUM FOR George W. Collard
Assistant Inspector General
for NNSA and Energy Audits

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

SUBJECT: Comments to Draft Report on Integrated Safety
Management at Livermore; A07LL012; IDRMS
No. 2006-31141

The National Nuclear Security Administration (NNSA) appreciates the opportunity to review the Inspector General's draft report, "Audit of the Implementation of Integrated Safety Management at Lawrence Livermore National Laboratory." We understand that because of the significance placed on safety by the Secretary, the IG conducted this audit to determine if Lawrence Livermore National Laboratory (Laboratory) had fully implemented an Integrated Safety Management system.

NNSA generally agrees with the report and the corresponding recommendations and offers the following recommended changes to improve the factual accuracy of the report:

- Memorandum for the Secretary (Results of Audit)
 - At the end of paragraph 4 ("Until Livermore implements...") add – **"In FY 2008, LSO revised the performance measures to quantifiable performance measures which have been incorporated in the Performance Evaluation Plan. These measures have been established to ensure that the Laboratory continues to strive for improvements in Environment, Safety and Health."**
 - Last paragraph, second to last sentence ("In addition, the new contractor...") should read, "In addition, the new contractor has announced the establishment of workshops to identify opportunities for safety improvement and is developing a contractor assurance system **that will address and facilitate** needed improvements in ISM."
- Draft Report
 - Page 2, Systemic Safety Issues; recommend at the end of paragraph, add **"The LSO identified measures to encourage improvement of safety performance, with emphasis on three areas: (1) achieve continuous improvement with ISM system performance; (2) comply with and achieve**



continuous improvement in nuclear safety and quality assurance performance under 10CFR830; and (3) maintain an environmental management program consistent with approved baseline, funding levels, policy and regulatory requirements. These measures were established to focus on areas where LSO had concerns with LLNL, primarily with feedback and improvement, nuclear safety, and emergency preparedness. At the time, the accomplishment of these measures was considered high priority.”

- Page 4, Safety Performance Measures, paragraph 2, last sentence “LSO explained...” should read, “LSO explained that prior to FY 2003, performance measures were quantifiable, but **as part of the NNSA reengineering of the performance measures**, LSO simplified the Laboratories’ performance measures and evaluation process.” More specifically, the NNSA Headquarters guidance to the NNSA Site Offices was and remains to provide a balance in quantitative and qualitative performance measures. A balance of 50% of each type of performance measure helps to ensure that clarity is provided and discretion available to provide a thorough and fair performance assessment.
- Page 4, Safety Performance Measures, paragraph 3. – We disagree with the statements and believe that the examples cited are misleading. The Laboratories’ contract did not require a 50% to 26% reduction in the award fee for a significant accident, similar to the one that occurred in 2006. The Conditional Payment of Fee, Profit, or Incentive Clause (I071) in the contract (W-7405-ENG-48) states that the fee “may be unilaterally reduced” by this percentage range. Additionally, the 80% of the available fee earned for the period of 2005 – 2007 was based on overall Operations performance, which included a total of four performance objectives, three of which were unrelated to ES&H, and multiple performance measures. For example, in FY 2006 LSO rated Objective 8, which includes Safety and Health measures, as satisfactory despite the fact that Environmental Management and Safeguards and Security performance measures were rated as good and Counterintelligence was rated as outstanding.

To allow NNSA the time to fully develop and coordinate appropriate corrective measures, not only for Lawrence Livermore, but for the NNSA complex as a whole, we will address the specific recommendations through the formal Management Decision process.

Should you have any questions about this response, please contact Richard Speidel, Director, Policy and Internal Controls Management, at 202-586-5009.

cc: Gerald Talbot, Assistant Deputy Administrator for Nuclear Safety & Operations
Camille Yuan Soo-Hoo, Manager, Livermore Site Office
Frank Russo, Senior Advisor, Environment, Safety and Health
David Boyd, Senior Procurement Executive
Karen Boardman, Director, Service Center

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