

**Excerpts from the National Nuclear Security Administration's  
"FY 2003 Annual Performance Appraisal of the University of California's  
Management and Operation of Los Alamos National Laboratory"**

The "FY 2003 Annual Performance Appraisal of the University of California's Management and Operation of Los Alamos National Laboratory," dated December 19, 2003, is a fascinating document that gives insights into the state of LANL's weapons programs and safety, security, environmental and fiscal management conditions. It is available as a Word document (1MB) at <http://www.doeal.gov/lanl-contractrecompete/Appraisal.htm>, bottom of web page. This assessment was conducted by the National Nuclear Security Administration (NNSA), the semi-autonomous nuclear weapons agency within the Department of Energy, as part of the fee determination for the University of California.

These excerpts are lengthy because of:

- Their possible significance to different people with differing interests;
- The redundancies in language between the Executive Summary and the rest of the assessment; and
- The redundancies in language between contract "Objectives" and the "Measures" that are subsets of the Objectives. "Objectives" and the NNSA-assigned performance ratings are excerpted here, but not the Measures themselves, although much of their language is.

In these excerpts the "Objectives" are bolded (as they are in the original) in order to help provide some loose organization. Words inside brackets (mostly to explain acronyms) and ellipses are added. Any underlines are in the original. Weapons issues are generally found in executive summary pages iv to vi and assessment pages 1 to 26. Security, nuclear safety, environmental protection and waste management issues are found in pages vii to viii and 43 to 58. Fiscal management issues are found in pages viii to ix and 59 to 66.

The NNSA gave the University of California an overall rating of Excellent for FY 2003 for its management of LANL. It's difficult to believe that this is merited after one reads the entire assessment, a rating that seems doubly ironic in light of recent events.

**Excerpts:**

- Page i: This contract (Contract No. W-7405-ENG-36) [UC LANL management contract] utilizes a performance-based management system for Mission and Operation functions and is described in Appendix F of the contract. Appendix F defines the objective standards of performance agreed to by NNSA and the UC and against which the UC will manage and the NNSA will assess LANL's performance. UC is eligible to earn program performance fee based on their performance against these objective standards of performance.
- ii: "A rating of excellent was approved by the FDO [Fee Determining Officer, i.e., the Administrator of DOE's National Nuclear Security Administration] on December 4, 2003 for the overall adjective rating for FY 2003 performance, a rating of excellent was approved for the Mission portion of the contract, and a Satisfactory was approved for the Operations portion.
- iv: "Of some concern to the NNSA is the disparity between NNSA and UC on the interpretation of performance. NNSA's evaluation philosophy is that the bar for performance is set at satisfactory,

where expectations are met and assigned tasks are carried out in an acceptable manner. Some elements in UC and LANL set the performance bar at excellent, where expected performance is of very high merit and represents a dominant portion of the objective or measure. This misalignment of interpretation of evaluative starting positions caused some difficulties during the rating cycle and NNSA anticipates that its interpretation of its position will be more fully understood and applied by both NNSA and UC appraisal partners in the next rating cycle."

- v: The quality of the UC/LANL self-assessment was not consistent with the NNSA expectations expressed often during the FY03 appraisal cycle. NNSA was seeking a robust, candid, analytical and comprehensive documentation of the laboratory's performance... The contractor's self-assessment would be enhanced if it presented a greater balance between accomplishments and weaknesses and planned actions to correct the weaknesses self-identified. The mission portion of appendix F was scored as an Excellent by NNSA. Objectives 1 through 4 scored Excellent and objective 5 received an Outstanding for the laboratory's strong science base in support of NNSA strategic objectives. Objective 6 is a composite of project management, the National Hydrotest Plan, and scientific, research and test facilities and capabilities. All three components of Objective 6 received a Satisfactory evaluation from NNSA."
- v: Laboratory progress is slow, nevertheless, in developing metrics for secondary certification.
- v: Improvement is needed in WETF [Weapons Engineering Tritium Facility] NIF [National Ignition Facility] milestones...
- vi: On the other hand, NNSA has waited since April 2003 for an integrated DSW [Directed Stockpile Work] program concerning the W76 LEP [Life Extension Program], and four hydro tests planned were rescheduled to later years. A few product shipments were late and there is a backlog in valve surveillance. The management and closures of SFIs [Significant Finding Investigation] was a problem for most of the year though the laboratory produced better results at the end of the year. There were problems in Pit Program integration between production and design agency activities regarding resolution of issues related to the qualification of non-nuclear components. The LANL Integrated Program Baseline, initially projected for completion in July 2003, is still being developed.
- vi: The magnitude and complexity of CMRR [Chemical and Metallurgical Research Building Replacement] will require close attention from upper management from both NNSA and UC.
- vii: In this fiscal year, there was insufficient LANL management attention to infrastructure needs to support and execute a national plan [for hydrotesting] and the full utilization of DARHT [the Dual Axes Radiographic Hydrodynamic Testing Facility] was not adequate. The laboratory had no credible plans for demonstrating LANL's ability to conduct tests at LLNL Confined Firing Facility (CFF) site 300. LANL is now on track to shoot one hydro per month. LANL's integrated program baseline, initially projected for completion by July 2003, is still being developed.
- vii: Lockout/Tagout continues to be a concern at LANL, with many incidents reported by NNSA Facility Representatives.
- vii: In Compliance with 10 CFR 830, the laboratory continued to implement nuclear safety requirements across the institution. LANL made significant improvements in the management of Price Anderson Act Amendment (PAAA) activities. Unfortunately, PAAA implementation at LANL lagged behind program improvements. LANL's implementation of Authorization Basis compliance remains a concern, and has not met NNSA expectations. LANL's implementation of this program and activity is considered unsatisfactory. Implicit in this performance measure is that LANL will comply with all requirements of 10 CFR 830,

Subparts A and B as the Code of Federal Regulations (CFR) are associated with Federal Law. During the evaluation period, LANL committed 45 violations of Technical Safety Requirements (TSRs) for its operating nuclear facilities (nearly a four fold increase over previous average violations per year). Per the CFR, the TSRs are the major controls for nuclear safety in a nuclear facility to ensure that the residual nuclear risks to workers, the public, and the environment are acceptable. Additionally, LANL committed 18 safety basis violations. The numerous violations indicate that LANL has not been complying with operations of its nuclear facilities in accordance with approved DSAs and TSRs as specified in 10 CFR 830, Subpart B. LANL's implementation of this program and activity is considered unsatisfactory.

- viii: NNSA recommends that LANL revisit the 1999 Authorization Basis Quality Review Final Report (McClure) and address the root causes of their systemic problems with safety basis documentation. LANL lacks qualified safety analysts to perform quality independent reviews of Documented Safety Analysis/Technical Safety Requirements (DSA/TSR). NNSA believes these deficiencies are largely attributable to LANL's failure to address the root causes discussed in the McClure report.
- viii: The LANL Safeguards and Security (S&S) program received a rating of Satisfactory for FY03. The S&S program continued to develop and mature and produced acceptable results. NNSA remains concerned, however, with the level of security incidents that have continued to occur at the laboratory.
- viii: LANL does not, however, have a long-term plan for storage and disposition of nuclear materials, due in part to a lack of resolution of issues by NNSA regarding an approved, complex-wide strategy for disposition.
- viii: The laboratory's performance [in business operations] was unsatisfactory at the beginning of the rating period and improved by the end of the fiscal year yielding an overall performance evaluation of marginal. The laboratory's management was proactive in assessing and defining the appropriate highest risk corrective actions to address the various findings. These efforts did generate substantial improvements in some of the business systems (such as financial management). However, major concerns exist in the areas of procurement quality, property and information technology.
- 1: **Mission: objectives 1.0 - 6.0. Objective 1.0. Develop and Implement a Common UC Design Laboratory Certification Strategy. Objective 1.0 was rated as Excellent for FY2003...** NNSA program managers indicated that they have not been provided information on the primary metrics for the W88 or the W76. As the self-assessment notes, progress in developing metrics for secondary certification has been very slow. NNSA discussions with LANL officials indicate that the laboratory has not successfully applied QMU [quantification of margins and uncertainties] to secondaries.
- 3: W88 Pit Certification and the W76 LEP are implementing QMU as the basis for certification. The QMU approach has been and is being used in resolving several SFIs and other physics issues (for example, B61-related issues). The LLNL W80 LEP peer review is being done with the QMU approach. QMU is being applied to assess plausible future hydrotests and DynEx data. LANL's QMU work with LLNL is a positive. The laboratory made meaningful progress in demonstrating application of QMU to the W76 LEP and closure of SFIs, and is working cooperatively with LLNL to achieve QMU goals.
- 5: Objective 2.0. Develop with NNSA and implement long-term balanced, integrated stewardship. Objective 2.0 was rated as excellent for FY 2003... Specifically, the decisions to scale back from four to two major ASCI [Accelerated Strategic Computing Initiative] codes and to emphasize two-dimensional codes for the near term will facilitate the immediate stewardship needs....
- 5: Excellent progress was made in formulating LANL/LLNL collaborative effort for radiation-driven

weapons physics experiments on the National Ignition Facility (NIF). Experiments and related analysis for nuclear diagnostics were completed. This constitutes the first phase of specification of neutron imaging and nuclear burn history for the NIF.

- 5: NNSA has concerns regarding communications with NNSA in the Radiography technology and HED [High Energy Density] Physics arenas, HED integration, WETF NIF milestones, and prioritized/coordinated plan of Pu experiments. The establishment of an integrated program baseline at LANL will enable the laboratory to address more readily some of the issues noted in the evaluation of this objective. The baseline was originally scheduled for completion in July 2003, but has not yet been completed.
- 6: ... requirements for conducting tests at DARHT have become more difficult and complex.
- 7: The inadequate efforts of the laboratory to communicate with NNSA program management is a long-standing issue.
- 8: Completed W76 Reuse/Remake decision on W76 Case.
- 9: This constitutes the first phase of specification of neutron imaging and nuclear burn history for NIF.
- 9: Improvements, in the past few months, were significant positive advances in LANL's activities at NIF. LANL senior management visited LLNL to discuss their involvement in NIF, and LANL now leads an Integrated Experimental Team (IET). NIF experiments are expected to be an integral component of the work program planned in support of several LANL FY05 level 2 milestones.
- 9: LASO [DOE Los Alamos Site Office] applauds the progress made to date in bringing WETF back up, including the coordination with NNSA in re-scheduling milestones such as the NIF support activity.
- **11: Objective 3.0. Develop with NNSA and implement near-term balanced weapon program plans. Objective 3.0 was rated as Excellent for FY2003.**
- 11: The capabilities at LANL now include the manufacture of detonators, mock pits and certifiable pits, beryllium inserts, and neutron tube targets loading, as well as the design of weapons packaging and transportation containers.
- 11: ...but t he [sic] pit manufacturing and certification project has had some serious problems integrating activities of the production and design agency. Requirements for the qualification of non-nuclear pit components were not resolved between the two groups in a timely fashion and continues to delay the development of a workable schedule to conduct engineering certification experiments, with the project yet unable to generate an integrated schedule.
- 11: Significant issues exist regarding LANL's support of LEPs. NNSA has been waiting since April 2003 for a laboratory integrated DSW program, and, four separate hydro tests planned for the W76 LEP were rescheduled from FY03 to later years.
- 12: Reconciliation of the basis for certification with known issues continues to temper the overall conclusions reached in addressing the need to return to underground nuclear testing.
- 13: In accordance with the Pit Manufacturing and Certification Integrated Project Plan, LANL then manufactured 18 pits to refine and bolster capabilities in assembly processes, process qualification procedures, testing and analysis methods, and quality.
- 13: In addition, LANL transferred personnel, drawings, specifications, and equipment from Rocky Flats to assist in the startup of qualified processes to manufacture a product traceable to past nuclear testing. Hired

and trained (qualified) additional personnel to meet the stringent demands of manufacturing a war-reserve quality pit that can be certified without testing.

- 15: Four separate hydro tests planned for the W76 LEP were rescheduled from FY03 to later years. Missed milestones included Hydro Test Schedule/Plan; four separate hydro tests planned for the W76 LEP were rescheduled from FY03 to later years. Hydrotests remain a concern.
- 15: The LANL self-assessment states "More a concern than a significant issue is that current schedules to meet FPUs [first production units] for both the [B]61-7/11 and the W76 LEPs are optimistic and have no margins." NNSA notes that the FPU dates for the weapons system LEPs are considered to be commitments that are important and that are expected to be fulfilled.
- 16: LANL is the second largest production agency in the nuclear weapons complex—it is responsible for the manufacture of detonators, mock pits, beryllium inserts, packaging and transportation containers, and neutron-tube target loading (not a directive schedule item). With only six production plants left in the nuclear weapons complex, LANL has assumed responsibility for the missions of several plants that were closed at the end of the Cold War. Despite these additional and extensive responsibilities, LANL's finished war-reserve products are recognized to be of exceptional quality.
- 16: Key Accomplishments include: Completed and delivered on time specifications and a combination of Advanced Engineering Releases (AER), Complete Engineering Releases (CER), and Engineering Releases (ER) for dismantlement, rebuilds, and the W76-1 and B61 Alt 357 LEPs [Life Extension Programs]. These products were delivered to Pantex, Kansas City Plant, and Y-12. Completed and delivered on time directive schedule requirements, including, Detonators, Mock pits, Packaging and transportation containers, and Loaded neutron-tube targets (a direct vendor responsibility); Completed the scheduled surveillances specified in the Program Control Documents. NNSA concurs on the laboratory's good performance on meeting W76-0 program deliverables per Program Control Document (PDC) schedules. LANL contributed significantly to the W76-1 LEP program metal make/reuse decision with Y-12 and the HE make/buy decision with Pantex. LANL delivered Mechanical Safe and Arm Detonator (MSAD) pellet can assemblies in advance of W87 requirements. LANL has several major W76, W78 and W88 unresolved SFIs [Significant Finding Investigations].
- 17: NNSA/HQ NA-122 believes LANL needs to demonstrate a greater commitment to the enduring weapons stockpile.
- 18: **Objective 4.0: Develop and Implement Sound Non-Proliferation/Counter Terrorism Program Basis. Objective 4.0 was rated as Excellent for FY2003.**
- 22: NA-23 rated LANL's support of the NEWNET radiation monitoring station as Excellent.
- 24: **Objective 5.0. Enhance and nurture a strong science base in support of NNSA strategic objectives. Objective 5.0 was rated as Outstanding for FY2003...** PF-4 [the plutonium pit facility] operated in a 24/7 mode to support the production of the first certifiable pit produced in 14 years... NASA selected LANL to lead the Space Power Program reactor design research because of work on modular nuclear reactor core design.
- 26: Technical limitations in the second axis system [of DARHT] can be traced to difficulties in project management and design R&D. It is unclear where the design problems stem from since this is a multi-lab effort.
- 26: Non-NNSA sponsored Research and Development originates from many sources, among them: DOE

funding (Office of Science, Nuclear Energy, Fossil Energy, etc.), Other Federal Agencies (DoD, HHS, NASA, NRC, DHS, etc.), and non-federal sponsors.

- 29: **Objective 6.0. Achieve Successful Completion of Projects and Development of User Facilities. Objective 6 was rated as Satisfactory for FY2003...** Planning for full utilization of DARHT has been inadequate... Excellent progress was made in collaborative efforts between LANL and LLNL in the planning for implementation of National Ignition Facility (NIF) both for Stockpile Stewardship Program (SSP) and the pursuit of ignition... The FIRP [Recapitalization Program] Program for example did not get off to a good start and was in jeopardy of losing funding because LANL could not execute.
- 30: General Plant Projects. ... Approximately one third of the projects performed in the unsatisfactory and marginal rating area. These projects were troubled with project management issues ranging from lack of readiness of owning divisions to execute, sluggish organizational abilities to pull together the integrated project teams, and verification of environmental, safety, and health documents with project design and construction documents.
- 31: BSL [Biological Safety Level]-3 - Marginal [for management as a General Plant Project]
- 35: DARHT - Marginal [for management as a line item project]
- 38: Lack of integration plagued several projects this year with LANL Weapons Engineering Directorate having to place a facility in standby mode. NNSA management involvement from the Los Alamos Site Office to headquarters had to direct and coordinate a path forward to address these long standing integration issues. (Neutron Tube Target Loading-NTTL, Rapid Reactivation).
- 39: In the nine months since the Site Support Subcontractor, Kellogg /Shaw/Los Alamos Technical Associates (KSL) [a subsidiary of Halliburton], came on board, LANL has failed to influence KSL control over key areas impacting its project management. KSL still has no firm control of the design process, procurement procedures still allow credit card or JIT purchases for Safety-Class/Safety Significant Systems and configuration control procedures are ineffective. In addition, formal, documented welding and instrument calibration programs have not been established.
- 39: NNSA is concerned over a number of instances that may indicate a lack of understanding and/or awareness with the need for integration of cultural resources, NEPA, historic preservation, and sitting on individual projects... Several of LANL projects may have been aware of these types of project issues this past year and failed to properly cross check constraints against actual construction efforts in the field.
- 40: Hydrotests to support the B-61 and the W-88 were completed and the hydrotest to support the W80 (LLNL) was delayed into October 2003. The remaining planned test was not conducted when assembly errors were discovered in the final quality assurance steps. In addition to the two major stockpile system hydrotests, LANL conducted 16 additional hydrotests or shots: specifically, 6 NNSA/DP programmatic hydrotests of a more general nature to advance the knowledge of weapons physics, 6 weapons supporting technology shots, and 4 hydrotests for non-NNSA/DP work, specifically in support of emergency response activity.
- 41: NNSA has significant concerns about LANL's performance for phase II of the DARHT including: a) significantly underestimating the requirements for fully commissioning the Phase II accelerator; b) failure to recognize and correct incorrect voltage testing of accelerator cells, and c) failure to notify NNSA of the incorrect voltage until after the full project and accelerator system had been accepted by NA10 ( CD4 approval)... This information was not conveyed to NNSA, prior to the approval of CD-4d in March 03.

- 43: **Objective 7.0. Maintain a secure, safe, environmentally sound, effective and efficient operations and infrastructure basis in support of mission objectives. Objective 7.0 was rated as Satisfactory for FY2003...** Performance in Radiation Protection overall met or exceeded expectations, except for Contamination Control... LANL has not met expectations and requires improvement in areas of Lightning Protection, Lockout/Tagout, Fire Protection, and Medical Monitoring. The Explosives Safety Program has also experienced a number of setbacks in FY03... Lockout/Tagout continued to be a concern at the laboratory, with many incidents reported by Facility Representatives... LANL continued to have incidents related to handling of biological agents, though recent reviews by the Center for Disease Control (CDC) and by the LANL Biosafety officer revealed program is well run... The NNSA Site Office Director placed LANL on notice that within 30 days they would either effect significant corrective action or shut down operations. The Work Control record and implementation of Safe Work Practices did not demonstrate management commitment to safety. Line management at LANL failed to manage development and closeout of occurrence reports in a timely manner resulting in a significant increase in late and overdue occurrence reports.
- 44: LANL is far below expectations in developing the ORPS and SubORPS programs, Work Control, and Safe Work Practices programs, and Conduct of Operations. A number of laboratory and DOE Readiness Reviews identified significant weaknesses in implementation of Conduct of Operations (DARHT, WETF). Also, event investigations and occurrence reviews often identify causes that can be linked with lack of Conduct of Operations implementation... Unfortunately, PAAA [Price Anderson Act Amendment activities] implementation at LANL is lagging behind program improvements. LANL received an Notice Of Violation (NOV) on April 10th, 2003 for non-compliance with radiological controls, work control, safety basis issues, and quality improvements which documented ineffective institutional corrective actions dating back to 1996. On July 7, 2003, LANL received an Enforcement letter for noncompliance with radiological controls, work control, and safety basis issues for nuclear safety issues that demonstrated a negative trend. These actions were a continuation of a pattern of operational problems related to PAAA... no real improvement has been seen in implementation of quality Authorization Basis Documents, in TSR [Technical Safety Requirements for operating nuclear facilities] compliance or proactive implementation of new Authorization Basis Documents. LANL's implementation of this program and activity is considered unsatisfactory... LANL met expectations in implementing Integrated Safeguards and Security Management and achieving continuous improvements for FY2003. The LANL Safeguards and Security program continued to develop and mature and is producing acceptable results for the laboratory, NNSA and DOE... NNSA remains concerned with the level of security incidents that have continued to occur at the laboratory.
- 45: Reducing plutonium inventories, however, remains problematic because of receiving site issues... Air Quality was proactive with NMED in the permitting for LANL's Clean Air Act Title V operating permit application in working with regulators and stakeholders as well as closing out the third independent audit of LANL radionuclide emissions program... Of concern is performance in Groundwater, National Environmental Policy Act (NEPA), Integrated Resource Management, Resource Conservation and Recovery Act (RCRA), parts of Pollution Prevention, Low Level Waste Management, Transuranic Waste Management, and Offsite Source Recovery Management where performance clearly didn't meet expectations. The Groundwater program continues to have problems completing a comprehensive baseline, and was deficient in budget submissions and in completing expected work during FY03. LANL was delinquent in delivering well completion reports to the State of New Mexico Environment Department and in some instances failed to sample completed wells. Planning and work accomplishment activities for the most part met NEPA [National Environmental Policy Act] requirements, several instances were identified where LANL failed to address NEPA adequately. RCRA [the Resource Conservation and Recovery Act that governs solid hazardous waste handling and disposal] continues to be a problem at LANL that management has failed to adequately

address. In 2003, NMED identified 28 potential noncompliances, many are repeat type violations that continue to reoccur within LANL. The laboratory's internal self-assessment showed no meaningful change in performance in this area over the last two years. NNSA concluded that LANL actions to improve performance were ineffective.

- 46: Transuranic (TRU) Waste Management was especially problematic... Major weaknesses in laboratory's Vehicle Management Program continue to exist since FY99. In FY03, LANL incurred costs in excess of \$10.2M for the Vehicle Management Program. NNSA determined that LANL's database is not reliable to track LANL's fleet size, vehicle utilization, and all other activities associated with the vehicle management program... These deficiencies were considered high risk because of the allegations made from two former Laboratory employees and internal/external assessments made between December 2000 and May 2003.
- 49: LANL continues to have incidents related to handling of biological agents, though recent reviews by the Center for Disease Control (CDC) and by the LANL Biosafety officer revealed program is well run... Approximately 88% of the monitored workers did not have any measurable radiation exposures. Of those radiation workers with measurable penetrating radiation exposure, approximately 9% had exposures less than 100 mrem and about 2.3% had exposures greater than 100 mrem but less than 500 mrem. Only one worker exceeded the laboratory's self-imposed performance goal of 2-rem when he/she received a cumulative penetrating exposure of approximately 2.5-rem. It should be noted that this exceedance was formally approved, and this individual was in an approved dose management plan.
- 50: FWO-Fire has not followed through to close findings identified in their Fire Hazard Analysis (FHA). Some findings are over a year old and the facilities do not seem to be interested in closing the finding. The code required maintenance of fire systems is being accomplished at approximately 60 per cent level... Explosives Safety is less than satisfactory... Preventive Maintenance vital to system safety has been foregone due to programmatic pressures... LANL management repeatedly did not take effective action to address findings that clearly demonstrated a major failing of the ISM program at the laboratory as a whole. The NNSA Site Office Director placed LANL on notice that within 30 days they would either effect significant corrective action or shut down operations... Implementation of Safe Work Practices is considered less than satisfactory.
- 51: Line management at the laboratory failed to manage development and closeout of occurrence reports in a timely manner resulting in a significant increase in late and overdue occurrence reports. There was a significant increase in the number of overdue final reports and overdue corrective action completion. There are at least 28 overdue Final Reports... A number of laboratory and DOE Readiness Reviews identified significant weaknesses in implementation of Conduct of Operations (DARHT, WETF)... Failure to implement conduct of operations is a primary contributor to the extreme delay in startup of operations for building 450 at WETF and the primary cause for the de facto shutdown of nuclear operations at RC-1 [radiochemistry lab at T-48]. Conduct of Operations implementation has been extended to the end of FY04, one year behind the originally approved schedule. Scheduled AA assessments for conduct of operations have not been conducted in accordance with NNSA expectations.
- 52: All of the equipment for the successful operation of a JDC [Joint Dispatch Center for emergencies] has not been purchased and none has been installed... The new LANL Emergency Operations Center (EOC) is a state-of-the-art facility built at a cost of 21 million dollars to support both LANL and Los Alamos County emergency events. This two-story facility... remains not fully functional. All Emergency Management and Response (EM&R) personnel have been moved to the new EOC. However, in the event of an emergency, the Laboratory Command Center, and all EM&R personnel responding to the event will



be required to relocate to the old facility.

- 52: .Unfortunately, PAAA [Price Anderson Act Amendment activities] implementation at LANL is lagging behind program improvements. LANL received a Notice Of Violation (NOV) on April 10th, 2003 for non-compliance with radiological controls, work control, safety basis issues, and quality improvements that documented ineffective institutional corrective actions dating back to 1996. On July 7, 2003, LANL received an Enforcement letter for noncompliance with radiological controls, work control, and safety basis issues for nuclear safety issues that demonstrated a negative trend. These actions were a continuation of a pattern of operational problems related to PAAA. LANL's past corrective actions haven't been successful in addressing recurring issues and certainly were not successful in addressing institutional issues.

Implicit in this performance measure is that LANL will comply with all requirements of 10 CFR 830, Subparts A and B as the Code of Federal Regulations (CFR) are associated with Federal Law. During the evaluation period, LANL committed 45 violations of Technical Safety Requirements (TSRs) for its operating nuclear facilities (nearly a four fold increase over previous average violations per year). Per the CFR, the TSRs are the major controls for nuclear safety in a nuclear facility to ensure that the residual nuclear risks to workers, the public, and the environment are acceptable. Systemic and systematic violations of the TSRs are not acceptable from a nuclear safety perspective. Additionally, LANL committed 18 safety basis violations. The numerous violations indicate that LANL has not been complying with operations of its nuclear facilities in accordance with approved DSAs and TSRs as specified in 10 CFR 830, Subpart B.

LANL failed to complete categorization of its nuclear facilities operations by April 10, 2003. After the deadline LANL identified numerous potential nuclear operations (Environmental Restoration related) putting LANL in noncompliance with 10 CFR 830.202 and .207 requirements. 10 CFR 830.207 states, "(a) By April 10, 2003, a contractor responsible for a hazard category 1, 2, or 3 existing DOE nuclear facility must submit for DOE approval a safety basis that meets the requirements of this Subpart."...

The LANL self-assessment failed to address any of these deficiencies... The LANL self-assessment gave LANL a satisfactory grade for the submission of DSAs/TSRs made in accordance with the Master Schedule. NNSA acknowledges that LANL did make the submittals listed in the Master Schedule by the April 10, 2003 due dates; however, the DSAs/TSRs had significant quality issues. It is NNSA's opinion that the intent of 10 CFR 830, Subpart B was that the DSAs/TSRs submitted by the contractor should be approvable without systematic deficiencies or major errors with the TSRs ("good faith"). During the review period, NNSA rejected the TA-54 Area G DSA/TSRs twice; the Radioactive Liquid Waste Treatment Facility (RLWTF) DSA/TSRs were rejected a second time during the period (first rejection occurred in late FY02 period); the TA-8-23, Radiography Facility DSA/TSRs were rejected; the Waste Characterization Reduction and Repackaging Facility (WCRRF) Basis for Interim Operations (BIO) and TSRs were rejected; and the Tritium Science and Fabrication Facility (TSFF) BIO/TSRs were rejected. LANL did make changes to the aforementioned rejected documents and resubmit them to NNSA by the April 10, 2003, deadline. However, the Area G DSA/TSRs approval is being held up by NNSA because of quality problems with the TSRs.

- 54: Out of 12 DSA/TSR submittals made by LANL during the review period to comply with the Master Schedule, seven documents were rejected amounting to a 58% rejection rate... However, the laboratory's self-assessment graded itself satisfactory with regards to quality of submittals... LANL lacks qualified safety analysts to perform quality independent reviews of DSA/TSRs... there is not single senior Manager at LANL who is responsible for championing Quality Assurance or address cross cutting institutional QA issues. Lack of management attention in this area is evident relative to the performance at LANL that does not meet NNSA expectations.

- 55: TA-18 Security Upgrades: The efforts to improve the physical security of TA-18 paid dividends taking an already solid security posture and making it better... GAO/IG Management Challenges: This was a tough year in terms of DOE/NNSA security – with numerous audits and reviews by the GAO and the DOE/IG conducted at a large number of sites. From these audits emerged a list of corrective actions that must be pursued by each site to improve security... Audit Results and Corrective Action Plan Management: ... All of the physical security sub-topical areas that were examined received the highest rating of "satisfactory," except for MC&A [Materials Control and Accountability] which was rated "marginal", and unclassified cyber security which was rated as "unsatisfactory."
- 56: Areas for Improvement:... Security Incidents: NNSA remains concerned with the level of security incidents that have continued to occur at the laboratory... Material Control & Accountability: Audit ratings and security incidents related to MC&A are a concern to NNSA...
- 56: Reducing plutonium inventories, however, remains problematic because of receiving site issues. LANL is not currently included in the Savannah River Site (SRS) record of decision (ROD) although LANL will be included in the amended ROD. A subset of the LANL inventory has with no current disposition path. A new working group with the NNSA is addressing this issue. Of 2000 waste drums identified, 1100 drums are being characterized before they can be shipped to WIPP.

Key Accomplishments included:.. Identified a "No Disposition Path" subset of inactive materials; ... Identified the 2000 drums at TA-54 that comprise the majority of the risk, developed a schedule for the characterization and shipping of that set of items, with 1100 drums in some stage of the characterization process before shipment to WIPP.

- 57: This year was marked by extensive negotiations with the State of New Mexico Environment Department on the Consent Order. The effort took many resources from the laboratory's environmental and legal staff to support NNSA... Air Quality was proactive with NMED in the permitting for LANL's Clean Air Act Title V operating permit application in working with regulators and stakeholders as well as closing out the third independent audit of LANL radionuclide emissions program. The independent auditor found the laboratory in full compliance and determined that a possible 4th audit wasn't necessary. LANSCE deserves recognition for improving emissions controls to further reduce offsite emission impacts as a proactive management effort.
- 58: Of concern is performance in Groundwater, National Environmental Policy Act (NEPA), Integrated Resource Management, Resource Conservation and Recovery Act (RCRA), parts of Pollution Prevention, Low Level Waste Management, Transuranic Waste Management, and Offsite Source Recovery Management where performance clearly didn't meet expectations... The Groundwater program continues to have problems completing a comprehensive baseline, and was deficient in budget submissions and in completing expected work during FY03. LANL was delinquent in delivering well completion reports to the State of New Mexico Environment Department and in some instances failed to sample completed wells... Planning and work accomplishment activities for the most part met NEPA requirements, several instances were identified where LANL failed to address NEPA adequately... RCRA continues to be a problem at LANL that management has failed to adequately address. In FY03, NMED identified 28 potential noncompliances, many are repeat type violations that continue to reoccur within LANL. Of the 28 potential noncompliances LANL contested only three. LANL's internal self-assessment shows no meaningful change in performance in this area over the last two years, NNSA concludes that LANL actions to improve performance have been ineffective to date and need to be reviewed...

Pollution Prevention, Low Level Waste Generation, Mixed Low Level Waste Generation, and Transuranic

Waste Generation had adverse trends during FY03 after several years of progress. Of concern to NNSA is LANL's apparent lack of management response to these adverse trends... Low Level Waste (LLW) Management performance was marred by LANL's failure to adequately plan for disposal of LLW from onsite generators. The expansion of Area G was expected to be 2-3 years in the future but the laboratory did not coordinate or incorporate known projects into projections and the documentation asking to expand area G was rejected and sent back for rework because of inadequate options/alternatives analysis. LANL also delayed updating the LLW Performance Assessment by one year and failed to submit an adequate baseline for completing the work by the end of September.

Transuranic (TRU) Waste Management was especially problematic. LANL completed 45 of 48 planned shipments to WIPP a significant increase over previous years production. Of concern is the approach to this effort. Although planning occurred, it appeared that last minute coordination with NNSA, Carlsbad, and other stakeholders, last minute work-arounds and on-the-fly changes were required to reach the level of production that LANL achieved. LANL is behind schedule in completing its Quick to WIPP shipments, one of the highest priority nuclear safety efforts at the site. LANL shut down TRU characterization, certification and shipping activities based on a serious issue identified in a Carlsbad audit, an appropriate response but one that wouldn't be needed if LANL followed procedures and had implemented a better conduct of operations in TRU characterization. Less than adequate coordination has occurred with Carlsbad Field Office getting their characterization line in place, LANL must do more to facilitate Carlsbad's work at LANL in support of the PMP. Offsite Source Recovery recovered 3,047 sources in FY03, however, failed to complete necessary actions to support recovery of Plutonium-239 sources that was a high priority for NNSA. LANL management was not proactive during the FY in understanding the adverse trends in these areas, in taking appropriate management or corrective actions, and needs to address these concerns rapidly and in a manner that they are not repeated in the future.

- 59: Measure 7.8: Ensure effective controls in business systems by assessing existing controls and where needed, strengthening controls to ensure effective stewardship of public assets. Measure 7.8 was rated as Marginal for FY2003... Major weaknesses in laboratory's Vehicle Management Program continue to exist since FY99. In FY03, LANL incurred costs in excess of \$10.2M for the Vehicle Management Program. NNSA determined that the laboratory's database is not reliable to track LANL's fleet size, vehicle utilization, and all other activities associated with the vehicle management program... These deficiencies were considered high risk because of the allegations made from two former Laboratory employees and internal/external assessments made between December 2000 and May 2003.

- 60: NNSA was not able to validate many LANL corrective actions completed because the laboratory completed them late in the fiscal year...The laboratory had a total of 324 audit findings and recommendations that were open and closed 182 (56%) actions that addressed open findings but only verified 140 (43%) that were available for NNSA validation. As a result, determination of the effectiveness of LANL's corrective actions cannot be made until FY04 and/or beyond FY 2004 depending on the type of transactions that need to be validated and/or tested by NNSA. The following primary risks, as identified by the laboratory, for accounting, budgeting, procurement, personal property management, and material management continue to exist [13 listed]... The assurance that the laboratory has improved the operating effectiveness of its internal control structure that is comprised of demonstrated improvements in its control environment, accounting system (to avoid erroneous payments such as the one made by LANL on June 11, 2003 for the amount of \$99.0M to the Internal Revenue Service), and control procedures.

- 61: The following are systemic issues that were identified by NNSA's assessments, NNSA's For Cause Reviews, and IG Audits that require action by the laboratory in the near future [7 listed]: Reassessment of

their vehicle fleet is made to justify the right sizing of the fleet, accurate classification of vehicles in the fleet, and the design, development, implementation and maintenance of an accurate fleet management database...

- 62: NNSA generally agreed with LANL's closeout of 12 audit findings and recommendations out of the 15 findings and recommendations that were open in FY03. However, NNSA did not agree with LANL's actions that support the closure of the following two findings and recommendations.

An issue reported by Ernst & Young (E&Y) dealt with LANL's current practice of not recording uncompensated overtime for work done by exempt employees working on multiple projects... E & Y recommended that the Laboratory perform a study to determine if the level of unrecorded overtime is significant. Instead of performing the study, LANL chose to close this finding and recommendation based upon a lack of authoritative guidance on the subject. Authoritative guidance exists such as FAR 52.237-10 and government Cost Accounting Standards (CAS) that requires that overtime charges be recorded if material.

An issue reported by the DOE Inspector General (IG), dealt with the laboratory's feeder systems. The IG reported that "the University has established over 60 feeder systems at the Laboratory that provide cost information to the Financial Management Information System (FMIS) and ultimately to the annual statement the University submits to the Department as an account of costs incurred for the year. The basis of the finding appears to be that the IG was unable to reconcile costs generated by the Travel and Payroll Systems to FMIS/General Ledger. LANL has not established a process to periodically reconcile costs generated by feeder systems to FMIS.

Other concerns that continue to exist in this area include LANL's monthly reconciliations, evaluation of internal controls improvements, and validation and acceptance or rejection of corrective actions completed for all open findings and recommendations.

- 63: Personal property... The results of the testing performed by NNSA and PwC indicated that LANL's database, as tested by LANL and reported by LANL, might not be accurate. The testing performed by NNSA and PricewaterhouseCoopers disclosed a higher error rate in the testing of the attributes. As a result, NNSA determined that a further investigation of the database, to include the accuracy of the information associated with the four attributes, is warranted... NNSA's assessment of LANL's vehicle management program determined that LANL did not perform as expected for eight of the nine sub-measures... Major weaknesses in LANL's Vehicle Management Program continue to exist since FY99. In FY03, LANL incurred costs in excess of \$10.2M for the Vehicle Management Program. NNSA determined that LANL's database is not reliable to track LANL's fleet size, vehicle utilization, and all other activities associated with the vehicle management program... On October 30, 2003, NNSA requested from LANL total operating costs for the vehicle fleet. The laboratory reported the cost was in excess of \$7.0M based on information provided by GSA. LANL failed to recognize the need to include and report to NNSA costs associated with the DOE-owned vehicles in their fleet. This situation exists because LANL's vehicle fleet database is unreliable to determine how many actual vehicles they have in the fleet, what is the monthly vehicle utilization for the various classifications of vehicles in the fleet, and the actual costs they are incurring to maintain the current fleet. This issue is a major concern to NNSA.

- 64: LANL needs to demonstrate to NNSA that their vehicle management program is cost effective, reliable, and more importantly, can be used to support vehicle utilization and payments made to GSA and other vendors... However, because of the magnitude of leasing and other operating costs incurred, in excess of \$10.2M in FY 2003, NNSA considers this to be a significant problem that the laboratory needs to address and provide evidence of that corrective action has been taken. This situation was reported in annual Appendix F appraisals dating back to FY99, FY00, FY01 and FY02.

- 65: Procurement... The reviews and validation/testing efforts performed by NNSA disclosed that a major weakness in management controls exist in the area of procurement... The following are some of the deficiencies noted during this review: Weak written justifications for sole sourcing...; Contract value increase from \$250K to \$1.5M with no apparent management or legal review and/or approvals; Very poor file documentation to support contract costs to include travel costs...; Wrong terms and conditions used in contract... The deficiencies noted above clearly indicate that the laboratory's procurement system does not have the capability to provide NNSA with a reasonable assurance that LANL has an effective system in place to process its procurement activity that amounts to about \$1.0 Billion.
- 66: LANL's Implementation of the Enterprise Project... NNSA found no evidence that the laboratory requested and/or obtained formal approval from NNSA for the Enterprise Project. LANL provided briefings to NNSA regarding the project. However, no formal NNSA approval was given. A project of this magnitude should have complied with the requirements of DOE Order 413.3 (Program and Project Management for the Acquisition of Capital assets) as an "Other Project". Other Projects include any project with a Total Project Cost less than \$400M including information technology, whether funded by capital or operating funds.
- 67: **Objective 8.0: Utilize UC strengths to recruit, retain and develop the workforce basis. Objective 8.0 was rated as Excellent for FY2003.**
- 70: **Objective 9.0 Sustain effective Community Initiatives. Objective 9.0 was rated as Excellent for FY2003...** In summary, while LANL has continued to improve their support for Science Education Outreach, the activity has been much smaller in scale than desirable, and therefore has had a more limited impact on the northern New Mexico education community than expected.
- 72: The annual Community Leaders Survey results indicate that 62% of respondents have a favorable opinion of LANL (down from 73% last year), only 39% of respondents are satisfied with LANL's efforts to purchase more goods and services from local communities, 43% are satisfied with LANL's efforts to encourage new businesses to relocate to Northern New Mexico, and 35% are dissatisfied with LANL's partnerships with the business community in Northern New Mexico. Overall, the survey results indicate that 48% of the respondents are dissatisfied with LANL's efforts to respond to the concerns of their community. This is a significant increase from the 34% of dissatisfied respondents last year...

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