

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

August 5, 1994

MEMORANDUM FOR: G.W. Cunningham, Technical Director

COPIES: Board Members

FROM: J.J. McConnell

SUBJECT: Order Compliance Self-Assessment at Los Alamos National Laboratory and TA-55.

1. **Purpose:** This memorandum documents a review of the Order Compliance Self-Assessment (OCSA) program at the Los Alamos National Laboratory (LANL) and Technical Area 55 (TA-55). R. Arcaro, A. Jordan, J. McConnell, and D. Owen of the DNFSB staff and Outside Experts D. Boyd, J. Drain, and J. Porter conducted the review from July 12-15, 1994.
2. **Summary:** The DNFSB staff was unable to identify a local directive by which the Albuquerque Operations Office (DOE-AL) or the Los Alamos Area Office (LAAO) implement the Secretary of Energy's February 9, 1994, memorandum regarding compliance with Department of Energy (DOE) Orders. The staff was also unable to identify a policy or directive by which the LANL Director or Deputy Director endorses the Secretary's memo or explains the benefits to LANL employees of assessing and improving, where necessary, the lab's compliance with DOE nuclear safety Orders. Despite this, personnel closely involved with the OCSA program at LANL have made a significant inroad into the task of identifying the degree to which LANL complies with DOE Orders. The staff made the following other observations:
 - a. The managers and assessors involved in the program provided specific examples of the benefits they have gained from the process and stated that they are eager to continue with the Phase 2 assessments. LANL management acknowledged that, had Phase 2 (adherence) assessments been initiated earlier at TA-55, operations outside of Operational Safety Requirement (OSR) specifications and a 2 1/2 month unplanned shutdown in April 1994, might have been avoided.
 - b. LANL management elected to pursue an assessment process that was more complex and resource intensive than the programs at other weapons complex sites. Implementation of some lessons learned and quality improvement initiatives are underway but the staff believes more improvements and streamlining are appropriate.
 - c. Nearly all Phase 1 (administrative) compliance assessments and evaluations of the risks of noncompliances have been completed for the Institution (site-wide) and for the facility-level prototype (TA-55), however, submission of Requests for DOE Approval (RFAs) has slipped from April to August 1994.

- d. LANL's Process Advisory Panel (PAP), that assesses the OCSA process and advises lab management, has observed a loss in momentum that they believe is partially due to management's failure to develop and implement an approach to perform Phase 2 assessments. The lack of an approved DOE Headquarters directive on conducting Phase 2 assessments apparently contributes to this slow progress.
- e. Some of the Phase 1 assessment results did not meet the intent of the DOE OCSA program. In several instances, the assessments appeared to be collections of the existing documents that come closest to implementing the requirement, rather than an assessment of the technical adequacy of implementing guidance.

3. Discussion:

- a. DOE Direction: DOE Headquarters has yet to issue a program description to guide field activities and M&O contractors concerning Phase 2 Order compliance. This lack of guidance appears to be contributing to the lack of progress on Phase 2 at the lab thus far. Neither DOE-AL nor LAAO have provided a written local instruction to fill the gap. By contrast, other defense-related Operations Offices have issued supplemental instructions on Order Compliance Self-Assessment providing guidance and communicating expectations to the contractors. Defense Programs, DOE-EH, DOE-AL, and LAAO are all represented on the PAP. The DOE-AL and LAAO representatives stated that this advisory panel (chaired by a contractor to LANL) is the primary method by which they oversee the LANL OCSA process. DOE-AL and LAAO were, however, involved more closely in the adherence-based assessments of compliance with OSR surveillances at TA-55 during the shutdown. Although DOE-EH has performed a technical assessment of LANL's Phase 1 objective evidence of compliance, the staff could not identify any DOE initiative to assess the efficacy of the LANL program.
- b. Status of LANL OCSA Program: The Institutional Phase 1 assessment is complete and the TA-55 Phase 1 assessment is almost done. However, most RFAs have not yet been prepared and, therefore, appropriate compensatory measures have not been implemented.
 - (1) Safety Improvements: Assessors and managers, including the Division Directors for Nuclear Materials Technology and Environmental Safety and Health, stated that the personnel have gained valuable knowledge of the requirements of the Orders resulting in improved procedures and Order implementation plans. They stated that the OCSA program followed by LANL has had, and will continue to have, beneficial effects on health and safety and is consistent with the lab's goal of Continuous Quality Improvement. As previously stated, LANL management acknowledges that, had greater attention been given to the product of earlier compliance assessments and/or performance of Phase 2 assessments been initiated, operation outside of OSR specifications and a recent unplanned shutdown of TA-55 might have been avoided. Also, the evaluation conducted at TA-55 to improve operations and end the shutdown was, in effect, an Order compliance adherence assessment similar to Phase 2 OCSA. TA-55 participants in that

assessment stated that they are eager to start Phase 2 OCSA where they perceive the real benefits of Order Compliance will begin to be realized.

- (2) OCSA Program Direction: The LANL approach to implementing OCSA involves a fairly complex interaction between many teams and groups. The overall direction of the effort is controlled by the Program Executive Team (PET -- a process action team comprised primarily of division directors). The PET executes its plans through a Process Implementation Team (PIT) and several PIT sub-teams. The PIT benefits from motivated leadership at both the Institutional and TA-55 levels. The Process Advisory Panel (PAP), a group composed of experienced personnel from industry, other DOE weapons complex facilities, LAAO, DOE-AL, and DOE-HQ, assesses the process and advises the PET.

The PAP concept is a well-conceived method for gaining the advice of respected experts and improving quality. The PAP has advised LANL to strengthen the program management tools used to guide the process. Suggestions for improvement centered on such areas as use of programmatic controls (e.g., cost controls and performance indicators), expeditious analysis of noncompliances, development of RFAs, and development of an approach to conduct of Phase 2 of OCSA. The Program Executive Team, however, appears to be unable at times to reach a consensus on the approach to implement the PAP's recommendations in a timely manner and maintain the momentum built during the Phase 1 assessments.

- (3) Identification of Requirements: LANL management made a conscious decision to conduct a statement-by-statement review of all mandatory and non-mandatory requirements in the applicable DOE Orders. This process exceeds the requirements of the draft DOE *Standards/Requirements Implementation Assessment Instruction* (issued for interim guidance) which states, "Non-mandatory statements should be designated as applicable if the assessment manager considers they would contribute to achieving a cost effective margin to safety."
- (4) Integration of Assessments: LANL assessors documented compliance by quoting the appropriate portions of implementing guidance in a local data base and by retaining copies of the implementing documents in a separate "evidence folder" for each Requirement Self-Assessment Database (RSAD) statement. The apparent intent was to provide a "stand-alone" assessment that could be audited without accessing other documents. This contrasts with practices at other weapons complex facilities where page or paragraph references to other documents are cited.
- c. Results of Phase I Assessment: DOE-EH conducted a review of the LANL OCSA process in June 1994, and found some deficiencies with the technical adequacy of the documentation. The DNFSB staff concurred with those findings and determined that despite detailed collections of objective evidence of compliance, some of the procedures cited did not adequately identify the actions or conditions that constitute compliance. The staff determined that the problem was with the technical adequacy of some objective evidence of compliance

rather than the quantity of documentation. LANL is taking steps to address this issue and has hired an independent contractor to conduct a more thorough review of the technical quality of objective evidence of compliance.

The lack of completed RFAs to address the identified noncompliances severely limited the scope of the staff's review. Only two of the numerous required RFAs have been prepared to date. LANL personnel explained that part of the reason for the four month delay in completing the RFAs was the diversion of manpower at TA-55 to correct problems with OSR surveillances to support resumption of operations.

- d. Lessons Learned and Opportunities for Improvement: A number of lessons have been learned from the OCSA process conducted at the Institutional level and at TA-55, and these lessons are being used to revise and streamline the program guidance for follow-on assessments starting with the Chemistry and Metallurgy Research (CMR) building. The staff identified other potential areas for improvement including:
- (1) Citing document, page and paragraph references for compliance documentation rather than copying sections of these policies, programs, and procedures. This practice is consistent with that observed at other facilities reviewed by the Board's staff.
 - (2) Applying greater management attention to entering a single response noting inapplicability of all or some part of an Order, or referencing only once the information needed to show compliance with a series of related non-mandatory statements contained in a sentence or paragraph of an Order.
- e. Path Forward: The PAP has noted a gradual loss of momentum in the OCSA program during each of its last three reviews and cautioned that senior management leadership was required to maintain steady progress and minimize the growing time lapse between gaining the necessary knowledge of requirements through Phase 1, addressing the noncompliances through RFAs, and assessing actual adherence in Phase 2. The staff noted that progress and consensus on timely implementation of the OCSA program may be impacted by the lack of a documented LANL Director's policy on the benefits of complying with nuclear safety requirements and the relatively small number of senior LANL managers with first-hand experience in OCSA and knowledge of its benefits. The majority of PET members have little experience in the process and have received apparently conflicting statements from senior lab management concerning the compatibility of determining and asserting compliance with requirements and other laboratory goals.

4. Future Staff Actions:

- a. The staff will review the Institutional and TA-55 RFAs .
- b. The staff will review the program and procedure to conduct Phase 2 assessments.

- c. The staff will review the conduct of OCSA at CMR and evaluate Phase 2 at TA-55.
- d. The staff will continue to evaluate the lessons learned and improvements integrated into the process as well as efforts to instill the culture espoused in Recommendation 90-2 at Los Alamos.