



Department of Energy
National Nuclear Security Administration
Washington, DC 20585

December 17, 2002

Dr. John Browne
[]
Los Alamos National Laboratory
P.O. Box 1663
Los Alamos, NM 87545

EA-2002-05

Subject: Preliminary Notice of Violation and Proposed Civil Penalty \$220,000 (Waived by Statute)

Dear Dr. Browne:

This letter refers to the recent investigation by the Department of Energy (DOE)/ National Nuclear Security Administration (NNSA) of the unauthorized staging and storage of transuranic (TRU) waste in PF-185 from March 1996 until June 2001.

Following consultation with my office, the Department's Office of Price-Anderson Enforcement (OE) initiated an investigation in March 2002. The scope of the investigation included: (1) failures leading to the establishment of an unauthorized nuclear facility by storage of TRU waste in PF-185 without a safety evaluation and associated controls; (2) failures in 1999 and 2000 to implement site work control requirements for identifying and categorizing nuclear facilities and associated hazards; (3) failures to identify these deficiencies with the nuclear storage conditions in PF-185 over a five year period; and (4) deficiencies in the LANL event investigation, cause analysis, and corrective action development and implementation once the problems came to light.

An Investigation Summary Report describing the results of that review was issued to you on July 15, 2002. An Enforcement Conference was held on August 27, 2002, in Germantown, Maryland, with members of your staff to discuss these findings. A Conference Summary Report is enclosed.

Based on our evaluation of these events and information presented by the Laboratory during the Enforcement Conference, the DOE/NNSA has concluded that violations of the Price-Anderson Amendments Act (PAAA) Quality Assurance Rule (10 CFR 830.122) have occurred. The violations are described in the enclosed Preliminary Notice of Violation (PNOV).

I am personally concerned about the seriousness of the circumstances surrounding this matter, including the safety significance of operating a facility for over five years with an inventory of nuclear material but without an analysis to determine the appropriate safety management controls for protection of the workers and public. Although there were no immediate radiological consequences, it is fortuitous that no anticipated events occurred that would have caused unanalyzed and significant exposures to workers and the public.

NNSA recognizes that this situation went undiscovered by LANL from March 1996 to June 2001. However, consistent with our commitment to focus on relevant problem solving, a decision has been made not to pursue those initial violations of PAAA work control requirements that occurred in 1996 when the TRU waste was first moved into PF-185. It is recognized that LANL had just begun implementing the requirements of the rule in 1996 and LANL's associated nuclear safety work processes were not as fully developed when compared to more recent time frames (1999 to present). The DOE/NNSA has alternatively chosen to focus on the violations involving the implementation adequacy of these more current safety requirements, and the quality improvement elements of problem identification, cause analysis, and corrective actions. The specific violations set forth in the PNOV are summarized as follows.

Section I of the PNOV includes violations of operating a nuclear facility between 1999 and 2001 without an approved Documented Safety Analysis (DSA) or Technical Safety Requirements (TSRs). Section II includes various work control violations that occurred between 1999 and 2001. Laboratory procedures issued at that time clearly required management to categorize nuclear facilities, including (1) defining facility boundaries, (2) identifying activities, (3) identifying hazards, and (4) determining facility categorization. Procedures also required a hazard evaluation, an accident analysis and development of nuclear safety controls. None of these requirements were implemented.

Section III violations include quality improvement failures to detect the safety deficiencies for a period of several years. For over five years, management processes including oversight and assessment activities failed to identify that approximately 200 containers constituted an inventory of nuclear material, which required analyses and controls. Section IV violations include failures to fully evaluate and determine the causes of the various problems involved in these events subsequent to their identification in June of 2001. In particular, LANL failed to aggressively and timely investigate the extent of the problem and determine the deficiencies in safety management controls (and their causes) that allowed this condition to exist for five years before discovery.

In the ordinary course, DOE would have issued a Proposed Imposition of Civil Penalty in the amount of \$220,000 in this case. With respect to LANL, however, this civil penalty is currently waived by statute. The specific detail in support of the penalty is provided in the PNOV. It should be noted that no mitigation was provided since there was an extraordinary lack of timely identification of the condition by LANL and LANL did

not aggressively investigate the extent of the problems and their causes until subjected to the PAAA enforcement process.

During the Enforcement Conference held in August of 2002, LANL discussed ongoing changes in the management of the laboratory but provided only limited information on actions directed squarely at correcting the causes of some of the violations.

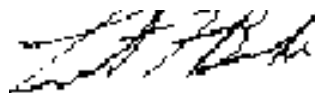
Consequently, LANL still needs to address the institutional expectations on:

(1) processes to assure operations are in conformance with approved authorization bases, including management oversight actions and self-assessment activities; (2) facility managers' use of all authorization basis material as a tool in managing their facilities beyond reliance on TSRs; and (3) the need to enhance the focus of cause analysis and corrective action processes. To date, effective corrective actions have not been developed to address all of these areas. It should also be noted that other safety basis and root cause problems at LANL are under separate investigation by OE, and that those matters will continue to be investigated.

The failure of senior laboratory management to promptly identify the condition, and upon identification, to comprehensively and aggressively investigate the extent of the problems and their causes, calls into question the commitment of the laboratory to fulfill its contractually obligated nuclear safety responsibilities. It is expected that dramatic cultural change at the laboratory will occur in response to these matters and we will work with you to achieve that end.

You are required to respond to this letter and to follow the instructions specified in the enclosed PNOV when preparing your response. Your response should document any additional specific actions taken to date to address the three institutional issues discussed above. Corrective actions will be tracked in the noncompliance tracking system (NTS). You should enter into the NTS (1) any additional actions you plan to prevent recurrence and (2) the anticipated completion dates of such actions. After reviewing your response to the PNOV, including your proposed corrective actions entered into NTS, DOE/NNSA will determine whether further enforcement action is necessary to ensure compliance with DOE nuclear safety requirements.

Sincerely,



Linton F. Brooks
Acting Administrator
National Nuclear Security Administration

CERTIFIED MAIL
RETURN RECEIPT REQUESTED

Enclosures:
Preliminary Notice of Violation
Enforcement Conference Summary
List of Attendees

cc: E. Beckner, NNSA
D. Crandall, NNSA
D. Beck, NNSA
D. Miolta, NNSA
J. Mangeno, NNSA
D. Minnema, NNSA PAAA Coordinator
X. Ascanio, NNSA
H. Hatayama, UC
A. Elliott, LANL PAAA Coordinator
R. Erickson, OLASO
G. Schlapper, OLASO PAAA Coordinator
C. Steele, OLASO
J. Arthur, DOE-AL
B. Eichorst, DOE-AL
R. Azzaro, DNFSB
B. Cook, EH-1
M. Zacchero, EH-1
S. Sohinki, OE
H. Wilchins, OE
P. Rodrik, OE
Docket Clerk, OE

PRELIMINARY NOTICE OF VIOLATION

University of California
Los Alamos National Laboratory (LANL)

EA-2002-05

During an investigation by the Department of Energy (DOE)/National Nuclear Security Administration which was conducted in March 2002, violations of DOE nuclear safety requirements were identified. In accordance with 10 CFR 820, Appendix A, "General Statement of Enforcement Policy," DOE is issuing this Preliminary Notice of Violation and Proposed Imposition of Civil Penalty (waived by statute). The violations are described below.

I. Documents and Records

10 CFR 830.122(d), *Criterion 4 – Management/Documents and Records*, requires that the Laboratory "(1) Prepare, review, approve, issue, use, and revise documents to prescribe processes, specify requirements, or establish design. ..." The predecessor regulation 10 CFR 830.120(c)(1)(iv) had similar Documents and Records requirements.

Contrary to the above, the following instances were identified of the failure to develop and approve required safety management documents:

- A. LANL staged and stored TRU waste at PF-185 without a DSA (Documented Safety Analysis) from November 1999 until June 2001 as required by LANL procedure LIR 300-00-06.2, *Nuclear Facility Safety Authorization Basis*, for Category II nuclear facilities.
- B. LANL staged and stored TRU waste at PF-185 without TSR's (Technical Safety Requirements) from November 1999 until June 2001 as required by LANL procedure LIR 300-00-06.2, *Nuclear Facility Safety Authorization Basis*, for Category II nuclear facilities.
- C. LANL staged and stored TRU waste nuclear material at PF-185, and failed to obtain DOE approval of safety basis documents for such storage from November 1999 until June 2001 as required by LANL procedure LIR 300-00-06.2, *Nuclear Facility Safety Authorization Basis*, for Category II nuclear facilities.

Collectively, these violations constitute a Severity Level II problem.
Civil Penalty - \$55,000 (waived)

II. Work Process

10 CFR 830(e), *Criterion 5 – Performance/Work Processes*, requires that the Laboratory "(1) Perform work consistent with technical standards, administrative controls, and other hazard controls adopted to meet regulatory or contract requirements, using approved instructions, procedures, or other appropriate means. ..." The predecessor regulation 10 CFR 830.120(c)(2)(i) had similar Work Processes requirements.

Contrary to the above, the following instances were identified in which approved procedures were not appropriately implemented:

- A. The storage of TRU waste at PF-185 was not properly classified as a nuclear facility, did not have nuclear facility boundaries defined, and did not identify work activities and associated hazards, from December 2000 until June of 2001 as required by LANL procedure LIR 300-00-05.2, *Facility Hazard Classification*.
- B. The storage of TRU waste at PF-185 was not properly analyzed, including failures to perform a hazard analysis, conduct an accident analysis (for Hazard Category II nuclear facilities), and develop appropriate nuclear safety controls from December 2000 until 2001 as required by LANL procedure LIR 300-00-05.2, *Facility Hazard Classification*.

Collectively, these violations constitute a Severity Level II problem.
Civil Penalty - \$55,000 (waived)

III. Quality Improvement - Problem Identification

10 CFR 830.122(c), *Criterion 3 - Management/Quality Improvement*, requires that the Laboratory "(1) Establish and implement processes to detect and prevent quality problems. ..." The predecessor regulation 10 CFR 830.120(c)(1)(iii) had similar Quality Improvement requirements.

Contrary to the above, processes to identify quality problems were not effectively established and implemented in that for a period of over five years, between March 1996 and June 2001, LANL management failed to detect that the use of PF-185 for staging and storage of TRU waste was unauthorized, lacked required hazards analyses, had not been properly classified, and did not have required authorization basis documents and necessary safety controls.

This violation constitutes a Severity Level II problem.
Civil Penalty - \$55,000 (waived)

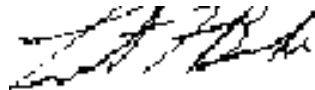
IV. Quality Improvement – Cause Determination and Problem Correction

10 CFR 830.122(c), *Criterion 3 - Management/Quality Improvement*, requires that the Laboratory " (2) Identify, control, and correct items, services, and processes that do not meet established requirements. (3) Identify the causes of the problems and work to prevent recurrence as part of correcting the problem. ..."

Contrary to the above, processes to correct quality problems were not effectively implemented in that, once the condition of the unauthorized storage of TRU waste at PF-185 was identified, LANL failed to timely develop a root cause analysis of that condition, failed to investigate the extent of the condition that was found, and failed to determine the deficiencies in safety management controls and their causes that allowed this condition to exist for five years before identification.

This violation constitutes a Severity Level II problem.
Civil Penalty - \$55,000 (waived)

Pursuant to the provisions of 10 CFR 820.24, the Los Alamos National Laboratory is hereby required within 30 days of the date of this PNOV to submit a written statement or explanation to the Director, Office of Price-Anderson Enforcement, Attention: Office of the Docketing Clerk, EH-10, 270 Corporate Square Building, U.S. Department of Energy, 1000 Independence Avenue, SW, Washington, D.C. 20585-0270 if sent by U.S. Postal Service. If sent by overnight carrier, the response should be addressed to the Director, Office of Price-Anderson Enforcement, Attention: Office of the Docketing Clerk, EH-10, 270 Corporate Square Building, U.S. Department of Energy, 19901 Germantown Road, Germantown, MD 20874-1290. Copies should also be sent to the Director, Office of Los Alamos Site Office as well as my office. This reply should be clearly marked as a "Reply to a Preliminary Notice of Violation" and should include the following for each violation: (1) admission or denial of the alleged violations; (2) any facts set forth which are not correct; and (3) the reasons for the violations if admitted, or if denied, the basis for the denial. Corrective actions that have been or will be taken to avoid further violations will be delineated with target and completion dates in DOE's Noncompliance Tracking System. In the event the violations set forth in this PNOV are admitted, this Notice will constitute a Final Order in compliance with the requirements of 10 CFR 820.24.



Linton F. Brooks
Acting Administrator
National Nuclear Security Administration

Dated at Washington, DC
This 17th day of December 2002

ENFORCEMENT CONFERENCE SUMMARY

UNAUTHORIZED TRU WASTE STORAGE AT LANL PF-185

On August 27, 2002, the Department of Energy's (DOE) Office of Enforcement (OE) and the National Nuclear Security Administration (NNSA) held an informal enforcement conference with University of California Los Alamos National Laboratory (LANL). This conference was held to discuss concerns identified in the DOE/NNSA Investigation Summary Report issued to LANL on July 15, 2002. Attached is a list of conference attendees.

The enforcement conference concerned the unauthorized staging and storage of transuranic (TRU) waste at PF-185 from March 1996 until discovered by LANL personnel in June 2001. The associated problems included: (1) the original PAAA violations that led to LANL workers and managers establishing an unauthorized nuclear facility by storage of TRU waste at PF-185; (2) violations involving the extended period (five years) before the problem was identified; (3) violations of current operating requirements (i.e., up to June, 2001 when the problem was finally identified); and (4) violations in LANL causal analysis and corrective action efforts once the problems were identified

Mr. Howard Wilchins, the OE Presiding Officer, opened the conference by providing an overview of the conference's purpose.

Mr. Alverton Elliott summarized the institutional concerns evaluated by LANL, in particular the potential for similar conditions to exist elsewhere at LANL. Mr. Timothy George then provided an historical perspective on the problems that led to the improper storage of TRU waste at PF-185 and missed opportunities to discover the problem between 1996 and 2001. Mr. George also addressed each of the work processes, documents and records, quality improvement and management assessment noncompliances that led to the improper storage condition at PF-185, and the current NMT processes that will prevent the recurrence of a similar problem.

Mr. Richard Mah [] described certain organizational changes being made that will address some of the weaknesses that led to the problems in this case. He also provided the Laboratory and University of California commitment to safety and perspective on how

seriously they treated these problems.

LANL indicated they found no substantive problems with the facts contained in the Investigation Summary report, but did provide certain minor corrections to information in the report. These corrections will be placed in the docket file.

Mr. Wilchins concluded the conference and indicated that DOE and NNSA would consider the information presented by LANL in its enforcement deliberations.

ENFORCEMENT CONFERENCE ATTENDEES**DOE - Office of Price-Anderson Enforcement**

Susan Adamovitz
Hank George
Howard Wilchins
Peter Rodrik
Tony Weadock

NNSA - Los Alamos Site Office

Gerald Schlapper

NNSA – Headquarters

Xavier Ascanio
Doug Minnema
Mike Thompson
Dale Dunsworth

Los Alamos National Laboratory

Alverton Elliott
Timothy George
Richard Mah
Lily Reese
Phil Wardwell

University of California

Howard Hatayama