



Department of Energy

Washington, DC 20585

November 6, 2000

MEMORANDUM FOR THE SECRETARY

FROM: Gregory H. Friedman
Inspector General

SUBJECT: Letter Report on Security Incident at Technical Area 18,
Los Alamos National Laboratory, INS-L-01-02

In October 2000, information was provided to the Office of Inspector General concerning a security incident at Technical Area 18 (TA-18), Los Alamos National Laboratory (LANL). On September 28, 2000, at 13:48 hours Mountain Time Zone (MTZ), an alarm was activated on a vault which contains a nuclear critical mass assembly machine. It was discovered that the locking device on the reactor vault had failed, preventing the vault door from being properly secured at the conclusion of a radiological experiment the previous day, September 27, 2000. Based on this information, we initiated an inspection of this matter. The purpose of this letter report is to advise you of the results of our inspection.

The objectives of our inspection were to determine if: (1) there was a loss, compromise, or unauthorized disclosure of classified information or material; (2) LANL followed all operating and security procedures with regard to the reactor vault; and (3) the incident was reported in accordance with Department of Energy requirements. As part of our inspection, we inspected the location where the incident occurred, witnessed a re-creation of the incident, and interviewed LANL and TA-18 management and security officials, reactor operators, and Protective Force personnel. We also reviewed TA-18 procedures for reactor operations and relevant Protective Force procedures ("POST ORDERS"). In addition, we reviewed the Occurrence Report, the Report of Security Incident/Infraction, and alarm records for TA-18.

Our inspection found no evidence of any loss, compromise, or unauthorized disclosure of classified information or material. We found that at the conclusion of reactor operations on September 27, 2000, the reactor was being returned to its vault when a power failure occurred. The reactor was then placed in the vault and steps were initiated to lock the vault through the use of manual procedures. The vault door was closed and the alarm system was activated at 15:57 hours (MTZ). The facility containing the vault was then secured. The alarm for the reactor vault remained in the "Secure Mode" until 13:48 hours (MTZ) on September 28, 2000, when operators restored the power and the vault door was found to be unlocked. It was determined that the lock had not engaged the previous day.

This report is a public version of a November 3, 2000, report on the same subject, that may contain Unclassified Controlled Nuclear Information (UCNI). This report does not contain UCNI.

Our inspection found that the LOS ALAMOS CRITICAL EXPERIMENTS FACILITY OPERATING INSTRUCTIONS FOR THE [REACTOR] REMOTE RETRIEVAL MECHANISM did not anticipate a condition where power would be lost to the mechanism for closing and locking the vault door. As a result, these instructions did not include any procedure for locking the vault door manually and assuring that the locking mechanism was engaged. LANL immediately recognized this deficiency in their operating procedures and has drafted a new procedure that addresses vault operations during a power failure.

Our inspection also found that the actual procedures used by the Protective Force for “Exiting” the facility where the reactor is located were not consistent with the “POST ORDERS.” The “POST ORDERS” require the Protective Force to “ensure” that the reactor vault is “locked and in the Secure Mode” prior to exiting. However, the Protective Force did not “ensure” that the reactor vault was “locked” at the conclusion of operations on September 27, 2000. We were told by members of the Protective Force that the requirement in their “POST ORDERS” to “ensure” that the reactor vault was “locked” was an error, and that Protective Force members never physically check this vault to ensure that it is locked. We were told that the Protective Force was only responsible for ensuring that the reactor vault alarm was in the “Secure Mode” prior to exiting the facility, and that the “POST ORDERS” would be clarified accordingly.

In addition, our inspection found that TA-18 did not have a program of scheduled inspections or preventive maintenance on the locking device for the reactor vault to ensure that it was operating properly. We were told that this device was installed in 1994, and that the remote procedure for mechanically closing the reactor vault door may have placed unusual stress on the lock, causing it to fail. However, the specific cause of the lock failure was not determined at the time of our inspection, and a key element of the locking device was not found when the lock was replaced on September 29, 2000. The Report of Security Incident/Infraction only states “mechanical failure of the locking mechanism (defective combination lock) . . . ,” but provides no information on the nature of the defect.

Our inspection found that the incident was reported in accordance with Department of Energy policies and procedures. Notification was timely and appropriate personnel both within LANL and the Department were informed of the incident. However, we did note that the conclusion on the “Root Cause” differed between the Occurrence Report and the Report of Security Incident/Infraction. We were told by the LANL Occurrence Investigator that the “Root Cause” identified in the Occurrence Report could be ignored. He said that the category chosen, “Personnel Error,” was selected because it was the most innocuous category they could pick. He said that in no way should the use of “Personnel Error” in the Occurrence Report be interpreted to suggest that he concluded differently from the Report of Security Incident/Infraction. He said that the Report of Security Incident/Infraction was the more important document, and was referred to often in the Occurrence Report.

We believe that the issues identified during this inspection reflect a need for greater attention to the operational and security processes that should be in place to ensure that classified information or material is protected to the level intended. While this incident did not result in any loss, compromise, or unauthorized disclosure of classified information or material, we believe that operating, Protective Force, and maintenance procedures need additional review and evaluation. It is of particular concern to us that the “POST ORDERS” could contain specific requirements that were not being followed as written. Even though the “POST ORDER” requirement for securing the reactor vault was said to be in error, this condition raises the question of whether or not the actual procedures used by the Protective Force are always consistent with their “POST ORDERS.”

We also believe that there should be consistency in the “Root Cause” identified in the Occurrence Report and the Report of Security Incident/Infraction. We understand that there may be concerns with regard to revealing potentially classified information in the Occurrence Report, but we believe that the Occurrence Reporting system offers “Causal Factors” that more closely reflect the “Root Cause” in the Report of Security Incident/Infraction. This condition needs to be addressed to assure that accurate information is placed into the Occurrence Reporting and Processing System.

Based on the results of our inspection, we recommend that the Manager, Albuquerque Operations Office:

1. Ensure that the new procedure that addresses the reactor operations during a power failure be reviewed and tested by appropriate Operations Office personnel to ensure that it prevents the opportunity for this type of incident to reoccur.
2. Ensure that appropriate Operations Office personnel review the Protective Force “POST ORDERS” for exiting the facility where the reactor vault is located, and determine if the intended clarification to these “POST ORDERS” is acceptable.
3. Determine if a program of scheduled inspections or preventive maintenance on the locking device for the reactor vault, or any other vault with a similar locking mechanism, is necessary to ensure its proper operation.
4. Ensure that the cause of the reactor vault lock failure is fully investigated and documented, and modify the “Root Cause” of this incident as appropriate.
5. Ensure that the “Root Cause” identified in the Occurrence Report is consistent with the Report of Security Incident/Infraction, and that accurate information is placed into the Occurrence Reporting and Processing System.

We recommend that the Under Secretary for Nuclear Security/Administrator for Nuclear Security:

1. Review all facilities that secure classified information or material with locking mechanisms similar to the reactor vault to ensure that the operating procedures

address power failures, and to ensure that the locking mechanisms are in proper working order.

2. For all facilities that secure classified information or material, review the “POST ORDERS” for “Entering” and “Exiting” to ensure that they are appropriate and implemented at each site.

We appreciate the cooperation from LANL, Protective Force, and Department officials during the course of this inspection.

This inspection was conducted in accordance with the “Quality Standards for Inspections” issued by the President’s Council on Integrity and Efficiency.

cc: Deputy Secretary
Under Secretary for Nuclear Security/Administrator for Nuclear Security
Chief, Defense Nuclear Security
Director, Office of Security and Emergency Operations