July 7, 1997

Dr. Sigfried S. Hecker
[ ]
Los Alamos National Laboratory
P.O. Box 1663
Los Alamos, NM 87545

Subject: Noncompliance Report NTS-ALO-LA-LANL-LANL-1996-0004

Dear Dr. Hecker:

This letter refers to the Department of Energy's (DOE's) evaluation of potential noncompliances with the requirements of 10 CFR 830.120 (Quality Assurance Rule). The noncompliances involved the failure of Los Alamos National Laboratory (LANL) to adequately implement the requirements contained in the governing quality assurance standard for stockpile evaluations in the areas of work controls and procedural compliance. As a result of these failures, an explosion and fire occurred at the [ ] on November 14, 1996.

LANL reported the potential noncompliances through the Noncompliance Tracking System (NTS) on December 5, 1996. In this report, LANL explained that it would defer entering corrective actions until it completed its investigation. The Formal Investigation Report Number [ ], subsequently issued on January 24, 1997, identified the direct cause of the fire and explosion at the [ ] as the accidental overheating of an organic compound, which had been confined in a stainless steel vacuum canister and heated in a muffle oven. The accident occurred after a chemist started a test on what he thought was salt material contained in the canister. Due to informal communications and vague labeling on the canister, the chemist became confused and heated the wrong compound.

LANL's investigation found numerous deficiencies in the preparation for and the control of the work, which included the following: (1) the material transfer process was not proceduralized, (2) communications were informal and vague, and (3) procedural violations occurred which included the lack of proper identification of the canister contents. The investigation also found that the appropriate nuclear material custodians were not timely notified of the vacuum canister transfer. Because of confusion, the custodians applied the labels to the wrong ovens. Further, LANL concluded that the accident could have been prevented if management had applied formal work control and quality assurance principles.

Based upon our evaluation of the findings and conclusions described in the Formal Investigation Report Number [ ], we have determined that noncompliances with 10 CFR 830.120 (Work Processes) likely occurred. DOE has evaluated your corrective action plan and schedule and has concluded that the corrective actions provide a reasonable approach to correct the identified noncompliance and address the work process breakdowns.

We have also evaluated the safety significance of the event. The industrial safety hazard was determined to be substantial and serious personnel injuries could have resulted if workers were in the immediate area at the time of the explosion; however, the nuclear safety significance of the accident (a pre-requisite to Price-Anderson Amendment Act enforcement) was determined to be low due to the limited presence of nuclear materials. Your corrective actions, coupled with the low nuclear safety significance of this event, meet the discretionary criteria described in DOE's nuclear safety enforcement policy. Therefore, the exercise of discretion not to undertake enforcement action at this time is warranted. Ineffective implementation of corrective actions or subsequent similar breakdowns in work process controls that have the potential to adversely affect nuclear safety, however, will be evaluated for appropriate enforcement action.

If you would like to discuss these matters further, please contact Sharon Hurley of my staff at (301) 903-0110.

Sincerely,

R. Keith Christopher
Director
Office of Enforcement and Investigation

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