



Department of Energy
Washington, DC 20585

June 2, 2005

Dr. Michael R. Anastasio
Director
Lawrence Livermore National Laboratory
P.O. Box 808, L-001
Livermore, CA 94550

Subject: Enforcement Letter – Quality Assurance Deficiencies Related to Weapon Activities

Dear Dr. Anastasio:

This letter is to inform you of the Department of Energy's (DOE) concern regarding several quality assurance-related deficiencies involving actions by Lawrence Livermore National Laboratory (LLNL) personnel. These deficiencies were associated with a cracked explosive event that occurred at the Pantex site in January 2004. The timing of this letter is intended to coincide with a DOE enforcement action stemming from this event.

During the dismantlement of a retired nuclear weapon, for which LLNL was the design agency, a piece of high explosive undergoing removal cracked thereby halting any further disassembly. A recovery plan was developed but, when put into use, the cracking was aggravated. The Pantex site contractor subsequently conducted an inquiry and identified several deficiencies within its processes for developing and carrying out such a recovery activity. DOE's Office of Price-Anderson Enforcement (OE) investigated this event to identify any violations of nuclear safety regulations. OE staff furthermore reviewed several recovery activities in which LLNL personnel participated in but failed to properly contribute to these activities. These instances are as follows:

- To develop the initial recovery procedure, it was necessary for the Pantex contractor engineering staff to know if the explosive would tolerate the proposed recovery method. There was, at that time, a LLNL employee visiting the Pantex site who was a subject matter expert (SME) for this particular explosive. The SME discussed relevant issues with a project engineer and indicated that the proposed recovery method was acceptable. After returning to LLNL, the SME was asked by the engineer to provide a written confirmation that the explosive would be unaffected, and this confirmation was provided in a January 13, 2004, memorandum (CODTU-2004-0083). DOE certainly encourages discussions concerning operational safety such as the one between the SME and the Pantex engineer. However, DOE has in effect a process for requesting and documenting a weapon response and it is

provided in DOE's Design and Production Manual, Chapter 11.8, Appendix A. The Pantex contractor erred in not utilizing this process to submit the request. LLNL also erred in not responding by way of this process, regardless of how the request was received. The January 2004 LLNL memorandum to the Pantex contractor did provide weapon response information. OE investigators interviewed, by telephone, several individuals in LLNL's Defense Technologies Engineering Division (DTED), the organization in which the SME worked, regarding the memorandum. A DTED representative asserted that LLNL was under no obligation to formally reply to a weapon response request if the request was submitted informally. This individual furthermore emphasized that weapon response information conveyed in an informal reply was to be used at the recipient's own risk.

- The draft recovery procedure underwent a review by a group of technical specialists that included a LLNL representative stationed at the Pantex site. There was much discussion regarding how the proposed procedure could be implemented given the fact that several steps were not clearly understandable. Nonetheless, the LLNL representative signed off on the procedure without providing any comment. Subsequent use of the finalized recovery procedure led to further cracking of the explosive. OE staff interviewed the LLNL representative and asked why, given the draft procedure's lack of specificity, the procedure review paperwork was signed, thus indicating that there was no issue with it. The individual replied that the signature meant concurrence with the procedure, not approval. When OE investigators asked for an explanation of this nuance, the representative was unable to provide an answer.

It is DOE's expectation that each of its contractors conduct activities in a manner that provides DOE reasonable quality assurance, and this expectation is heightened for those activities involving nuclear weapons. DOE relies on contractor judgment to determine when formal quality controls are appropriate, and this is allowed, in part, to facilitate necessary communications. However, it is unacceptable to transmit weapon response information using a convenient memorandum, even if asked to, when convention prescribes the Design and Production Manual process. To attempt to deny responsibility for the quality of any weapon response information because a less than formal means was used to provide it is also inexcusable. Further, the above examples of your staff's interactions with OE personnel were efforts to evade responsibility for actions that clearly did not take the safety of Pantex personnel into consideration. LLNL's involvement in the Pantex event recovery activities, for the most part, was not indicative of a strong LLNL safety culture and did not meet DOE's expectations regarding quality assurance in nuclear weapon processes. Therefore, this enforcement letter is being issued to provide you notice that OE will continue to monitor weapon-related activities at LLNL and will take enforcement action if warranted.

No response to this letter is required. Please contact me at (301) 903-0100, or have your staff contact Steven Zobel at (301) 903-2615, if you have any questions.

Sincerely,



Stephen M. Sohinki
Director
Office of Price-Anderson Enforcement

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