



The Deputy Secretary of Energy

Washington, DC 20585

October 20, 2006

The Honorable A.J. Eggenberger
Chairman, Defense Nuclear Facilities Safety Board
625 Indiana Avenue, NW, Suite 700
Washington, D.C. 20004-2901

Dear Mr. Chairman:

Thank you for your positive comments on the Department of Energy's Nuclear Criticality Safety Program. I am writing to update the Board on the three matters as requested in your June 28, 2006, letter; specifically:

- The status of Federal nuclear criticality safety engineer programs at each site, including necessary staffing levels, plans and schedules to fill vacancies, interim compensatory measures, and progress on training and qualification;
- A more recent estimate of when operation of criticality assemblies are expected to resume at the Nevada Test Site and actions being taken to address delays in reestablishing this capability; and
- The status and schedule of courses for nuclear criticality safety engineer training and plans for maintaining qualifications for critical experiment personnel until the critical experiments facility is operational.

The detailed actions related to these elements are discussed in the enclosure. If you have any questions, please contact Dr. Jerry N. McKamy, the Department of Energy Nuclear Criticality Safety Program Manager, at (301) 903-8031.

Sincerely,

A handwritten signature in cursive script that reads "Clay Sell".

Clay Sell

Enclosure

cc:

L. Brooks, NA-1
D. Garman, S-3
T. D'Agostino, NA-10
J. Rispoli, EM-1
M. Whitaker, DR-1



DOE RESPONSE TO BOARD LETTER OF JUNE 28, 2006

Federal Criticality Safety Staffing

There are currently twelve Federal NCS engineers at the various DOE sites who collectively comprise the majority of the Department's Criticality Safety Coordinating Team (CSCT). The CSCT is chaired by Dr. Jerry N. McKamy, NCSP Manager, in the National Nuclear Security Administration (NNSA) Office of Facilities Operation, NA-171. The listing of current CSCT members is maintained by the NCSP on its website (<http://ncsc.llnl.gov/>). Of these twelve, three (at the Pantex Site Office (PXSO), the Sandia Site Office (SSO) and the Portsmouth Paducah Project Office) are still in the process of qualifying and they plan to complete their Federal NCS qualifications during the coming fiscal year (FY). The individuals at the PXSO and the SSO are supported in the interim by the NNSA Service Center. The individual at the Portsmouth Paducah Project Office is supported by qualified NCS staff at the Oak Ridge Operations Office and by a senior expert on the Office of Environmental Management (EM) Headquarters staff. Finally, all three of these individuals participate in CSCT activities and regularly receive collegial support and advice from CSCT members.

NNSA identified two vacancies in Federal NCS staffing in the briefing to the Board in April 2006. The two NNSA vacancies were at the Nevada Site Office (NSO) and at the Los Alamos Site Office (LASO). The NSO is actively seeking to fill a new position and LASO has appointed a Masters Degree level physicist from within its existing staff to oversee criticality safety. The NSO has made one offer to a qualified individual that was not accepted and will continue hiring activities until such time as the position is filled. In the meantime, technical support in the criticality safety area is being provided to NSO through the NNSA Service Center. The LASO individual will assume oversight of criticality safety at Los Alamos early in October. The NNSA NCSP Manager is currently assisting LASO management with developing an expedited path forward for qualifying the individual in the coming fiscal year, developing a LASO NCS oversight program, and planning to provide additional expert NCS resources to support LASO in the near term from within the CSCT and the Department's Criticality Safety Support Group.

The NNSA NCSP Manager also briefed the Board in April 2006 regarding the need for additional Federal criticality safety staff at the EM Savannah River Operations Office (SRO). SRO submitted their formal corrective action plan to EM on September 7, 2006, and currently has one qualified NCS engineer and one in the process of qualifying. SRO also plans to hire an entry level NCS engineer in the coming fiscal year. In the interim, SRO plans to utilize support service contractors to augment the existing staff.

Status of Critical Experiments Project

Regarding the estimate of when critical assemblies will be operational in the Device Assembly Facility (DAF), the Critical Experiments Facility (CEF) Project's Critical Decision Three (CD-3d) milestone is tentatively planned for December 2006. NNSA will validate the mission as required to proceed with CD-3. The current baseline schedule for the Criticality Experiments Facility (CEF) project indicates that operations will commence no later than December 2009.

Training for Criticality Safety Engineers and Critical Assembly Experimenters

Regarding the status of hands-on criticality safety training, a course has been developed by the Lawrence Livermore National Laboratory (LLNL) and successfully conducted four times in FY 2006. Over 30 people, most of them NCS engineers, have been trained thus far and eight additional classes will be scheduled for FY 2007.

As for maintaining qualifications for criticality experimenters, the NCSP is taking action to sustain the capability to conduct critical experiments. Although some of the former Technical Area (TA) TA-18 critical assembly operators/researchers have retired or taken jobs elsewhere, three TA-18 researchers remain involved in the critical experiments program. These individuals will participate in several activities that will allow them to retain some level of proficiency in designing and participating in sub-critical as well as critical experiments. As stated in the current NCSP Five Year Plan, "As the CEF project prepares the DAF to accommodate TA-18 activities, interim operations will be conducted to maintain the capability to conduct integral experiments and hands-on training. Los Alamos National Laboratory (LANL) staff will conduct subcritical integral experiments at the DAF and participate in critical integral experiments in the Russian Federation funded under the International Criticality Safety Benchmark Evaluation Project task. This will enable the NCSP to maintain some continuity of integral experiment capability and will ensure that technical staff members maintain some level of proficiency during the transition period." In addition, the NCSP and LANL are coordinating with SSO to allow LANL researchers to participate in the burn-up credit critical experiments that are being planned. Finally, the NCSP is pursuing a relationship with French critical experiments colleagues to allow our researchers to participate in critical experiments at their Valduc facility.

Although the former TA-18 critical assembly operators' certifications will expire, LANL is developing a detailed requalification and certification program that will include the aforementioned activities along with a rigorous training qualification and certification program that will be implemented prior to start-up of the critical assemblies at the DAF. This plan will be finalized during FY 2007.