

**Department of Energy**

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DNF SAFETY BOARD

Dr. G. W. Cunningham  
Technical Director  
Defense Nuclear Facilities Safety Board  
625 Indiana Avenue, N.W.  
Suite 700  
Washington, D.C. 20004

Dear Dr. Cunningham:

The following is in response to your letter dated July 24, 1996, which forwarded the Defense Nuclear Facilities Safety Board's (Board) staff report on the review of the Unreviewed Safety Question (USQ) program at the Pantex Plant, dated May 29, 1996. The review was conducted by the staff from April 30, 1996, to May 2, 1996. The report comments on the contractor program implementation, procedures, personnel qualification, and Department of Energy (DOE) oversight.

The Board's staff principal measure of performance for implementation of DOE Order 5480.21, "Unreviewed Safety Questions," was the quality of the safety evaluations prepared by DOE and the contractor. A secondary focus was a programmatic review of the implementing procedures, training, and DOE oversight. The Board's staff comments are divided into implementation issues; procedure issues; staffing, training, and level of knowledge issues; and DOE oversight issues. The response to these comments is provided below:

a. Implementation

- (1) "Pantex is making USQ determinations against proposed authorization basis documents, as opposed to the current DOE approved authorization basis documents."

Pantex, in the past, has made USQ determinations against proposed authorization basis documents. In these cases, appropriate controls were identified that had to be implemented prior to initiating the proposed activity or change. For controls that required new Technical Safety Requirements (TSRs), DOE approval was required. This approach had caused some USQ determinations to be "negative" instead of being "positive." In consideration of both DOE/Defense Programs (DP) Headquarters (HQ) comments and the Board's staff review of the USQ process, Pantex has recently made changes to enhance the implementation of this process. Pantex no longer makes USQ determinations against proposed authorization basis documents. Instead, USQ determinations are now to be made against the current

authorization basis without taking credit for proposed controls that would require separate DOE approval. This revised practice has resulted in two recent Pantex USQ determinations being properly determined positive (W79 rocket motor removal and portable x-ray operation in 12-96 facility). Recent USQ process enhancements have resulted in positive USQ determinations of proposed changes, enhancing management and DOE oversight of these activities, and properly triggering the necessary levels of DOE review and approval.

- (2) "There is no agreement between the AAO and the contractor on what makes up the current authorization basis for the facilities. The definition of authorization basis in contractors procedures is missing ... facility specific commitments made in order to comply with DOE Orders and Policies."

The Board's staff identified during this assessment that the contractor's USQ procedures omitted a reference to facility specific commitments made in order to comply with DOE Orders and policies. Although this statement is missing from the contractor's USQ implementation procedures, it should not be implied there is no agreement between the Amarillo Area Office (AAO) and the contractor on what makes up the current authorization basis for the facilities, because there are safety program commitments clearly defined in the contractor's current authorization basis documents. Authorization basis documents describe the programmatic controls (e.g., radiological protection) that are in place to ensure safety. Further, adherence to applicable DOE Orders and policies is mandated by incorporation of these requirements into the contract. Failure to comply with these requirements is a noncompliance issue and must be reconciled through established mechanisms (e.g., compliance schedule approval document that provides the schedule for coming back into compliance, exemption request, approved equivalency, or nonincorporation via the Pantex Essential Standards Program (Standard/Requirements Identification Documents process)). Additionally, DOE will require the contractor to revise the definition of authorization basis in the appropriate contractor procedures.

Significant worker safety issues are also evaluated by the USQ process. For example, a proposed activity that requires TSRs to be instituted to ensure worker safety must be approved by DOE. The portable x-ray operation in the 12-96 facility is a recent example where the USQ process triggered DOE approval (via TSR-like controls and a positive USQ determination) to assure that workers were protected from potential overexposure. The radiation air monitor example referenced in the staff writeup was, in fact, reviewed and approved by the Albuquerque Operations Office (AL) in November 1995, based on the nature of the activity taking place in Building 12-64 Bays.

b. Procedures

"To date, DOE has not established a formal process for using JCOs."

The process of initiating, preparing, reviewing, and approving a Justification for Continued

Operation (JCO) could be enhanced through DOE providing more explicit guidance. Detailed guidance is currently not available in DOE, other than the general guidance provided in the December 29, 1992, interpretation letter from the Assistant Secretary for Nuclear Energy. Upon request from AL, the Office of Nuclear Policy and Standards (EH-31) provided additional interpretation on October 1, 1996, on JCOs and USQs. The Nuclear Regulatory Commission (NRC) has promulgated guidance in terms of JCO usage and content as found in NRC Inspection Manual, Part 9900: Technical Guidance, October 31, 1991. Although detailed DOE guidance is not currently available, the entire DOE line (Area Office, Operations Office, and DP-HQ) works together on these issues to ensure the interim "risk" is acceptable during a specified, limited time. The JCO process involves justification to operate outside the authorization basis, with appropriate interim compensatory measures/controls temporarily in place under certain defined and limited circumstances, while the USQ analysis determines if "changes" are within the current authorization basis. At Pantex, the contractor is currently developing procedures for JCOs using information from other contractors performing work in the defense nuclear complex. The AAO, with assistance from AL and DP-HQ, also expects to expand their current JCO guidance based on lessons learned.

c. Staffing, Training, and Level of Knowledge

- (1) "Interviews with senior and junior USQD analysts revealed a surprisingly weak level of knowledge concerning the purpose and scope of the authorization basis and basic elements of the USQ process."
- (2) "... current USQ training program does not appear to be training people to the level of capability of performing their assigned work ... USQD evaluators rely a great deal on on-the-job training and mentoring ... newest USQD evaluators being mentored by a junior evaluator with less than one year experience."

Pantex has currently implemented the DOE USQ evaluator training. This course was developed by taking training material from the DOE sponsored class and converting for the application of this type of training at Pantex. The USQ evaluator training was recently given to facility managers to enhance their knowledge of the USQ program. This training was shadowed by AAO staff to ensure it met its intended objectives. Further, AAO intends to perform some focused assessments on contractor USQ analysts to ensure they fully understand applicable DOE requirements.

DOE Oversight

- (1) "No evidence that the DOE Program Secretarial Office (PSO), the Environmental Safety and Health (EH), or the Albuquerque Operations Office (ALO), have evaluated the Pantex USQ programs ... not actively monitoring the USQ identification, review, and decision-making process."

With regard to implementation and DOE involvement, AL approved the contractor's USQ implementation plan on February 16, 1994. The AL Nuclear Safety Division (NSD) approved the Pantex USQ Implementation Plan and is tracking the milestones. The NSD has been closely involved in the review and approval of positive USQ determinations over the past 2 years. The DP-HQ has also become more intimately involved in the review and approval of positive USQ determinations. By memorandum to Operations Offices, dated February 2, 1996, the Assistant Secretary for Defense Programs delegated approval authority for all authorization basis documents, except for nuclear explosive facilities, to the Operations Office Manager. Approval authority for nuclear explosive facilities was delegated to the Office of the Deputy Assistant Secretary for Military Application and Stockpile Management (DP-20) and to the Office of the Deputy Assistant Secretary for Research and Development (DP-10).

As mentioned earlier, AAO, AL, and DP have been working as a team to ensure overall DOE safety expectations are met. Tasks are delegated at various levels to effectively utilize the resources available and to reduce duplication and redundancy. As noted in the Board's staff review and as expected, AAO, a part of AL, is heavily involved in safety programs implementation while DP at HQ provides programmatic assistance and approval of nuclear explosive facilities authorization basis documents.

With regard to Environment, Safety and Health (EH) oversight, EH has just completed an evaluation of the Pantex Safety Management Program. Pantex received an effective performance rating in the area of line management responsibility to safety.

- (2) "AAO has not followed Procedure number 106.1, Unreviewed Safety Questions and Justification for Continued Operation, ... not approved contractor USQ procedures, assessed compliance with USQ procedures, reviewed and evaluated the adequacy of USQ training, or formally notified contractor of the AAO USQ Point of Contact ..."

The AAO is currently in the process of revising its USQ Order Implementation Program/Procedure to ensure its requirements are appropriate for the defined oversight role of the Area Office. The AAO has in the past conducted reviews of contractor USQ procedures and identified a USQ point-of-contact in August 1995. Documented evidence of these activities was not available at the time of the Board's staff visit, but is available now on request.

- (3) "New risk management professionals are knowledgeable in USQ process and should have a positive impact on the program."

The Board's staff review noted significant progress in the USQ program at Pantex over the last 2 years. Implementing Board Recommendation 95-2, "Safety Management," demonstrates DOE's commitment to continuous improvement in safety. Feedback from the

Board's site visits will assist us in determining where best to focus our limited resources in further improving our safety management systems at our sites. DOE will continue to assess the USQ program for areas of potential improvement.

If you have any questions, please contact me or have your staff contact Shanker Banninithaya of my staff at (301) 903-4649.

Sincerely,



*for* Thomas P. Seitz  
Deputy Assistant Secretary for  
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cc:

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