

**[DOE MEMORANDUM]**

January 3, 1994

DP-6.2:Mitchell:3-9400

**ACTION:** LETTER FORWARDING INTERIM REPORT TO THE DEFENSE NUCLEAR FACILITIES SAFETY BOARD REQUEST FOR A REPORT EVALUATING CONDUCT OF OPERATIONS AT PANTEX

**TO:** Assistant Secretary for Defense Programs

**Issue:** The Defense Nuclear Facilities Safety Board (DNFSB) has requested a report by January 4, 1994, evaluating conduct of operations at Pantex based on deficiencies noted by its staff.

**Discussion:** Because of the complexity of the issues to be evaluated and the time required to provide a detailed response with definitive corrective actions and a sound path forward, an interim report has been prepared to be responsive to the DNFSB request.

The interim report provides background on previous actions taken, an outlining on actions to be taken to obtain a thorough assessment of the conduct of operations posture at Pantex, a schedule to complete the requested report, and activities ongoing while the report is being prepared and any corrective actions identified. The final report is to be completed by April 1, 1994.

Based on discussions with DNFSB staff, the DNFSB will be receptive to an interim report.

**Recommendation:** That you sign the attached letter to the Chairman of the DNFSB which forwards the Department of Energy Interim Report Evaluating Conduct of Operations at the Pantex Plant.

***Victor Stello, Jr.***  
***Principal Deputy Assistant***  
***Secretary for Facilities***  
***Defense Programs***

Attachment

**[DOE LETTERHEAD]**

January 6, 1994

The Honorable John T. Conway  
Chairman  
Defense Nuclear Facilities Safety Board  
625 Indiana Avenue, N.W.  
Suite 700  
Washington, D.C. 20004

Dear Mr. Conway:

This in response to your letter dated November 4, 1993, in which the Board identified deficiencies in conduct of operations and a lack of progress toward implementation of Department of Energy Order (DOE) 5480.19, "Conduct of Operations Requirements for Department of Energy Facilities," at the Pantex Plant. The Board requested that the Department provide a report within 60 days of receiving your letter which will evaluate:

"...the current conduct of operations practices at the Pantex Plant; evaluation of practices used at other DOE sites to upgrade conduct of operations and their application to Pantex; the availability of personnel with appropriate qualifications and requisite experience in conduct of operations at the Pantex contractor, in the Operations and Area Offices, and at DOE Headquarters; effectiveness of actions by DOE Headquarters, the Operations Office, and the Area Office to implement satisfactory conduct of operations at Pantex; and any specific corrective actions that may result from your evaluation to upgrade the level of conduct of operations at Pantex; in making the comparison between current practices at Pantex and those at other defense nuclear facilities, the report should address mentoring programs, such as these successfully implemented at Rocky Flats and Savannah River, and other tools used effectively to implement conduct of operations at defense nuclear facilities."

These issues have been discussed with members of your staff, and we agree that changes and improvements need to be made relative to conduct of operations at the Pantex Plant. Accordingly, in response to the reporting request noted above, DOE will:

Conduct assessment of the current conduct of operations posture at Pantex. The assessments will focus on those elements that have successfully been implemented and also address past actions and any reasons for lack of success. Personnel that were involved in the successful conduct of operations improvement activities at Rocky Flats Building 559 and Savannah River's K-Reactor will support the assessment teams. The teams will critically assess the qualifications and relevant experience of those people responsible for the Pantex Plant. The teams, based on their qualifications and requisite experience, will determine if methods successfully implemented at Building 559 and K-Reactor can be effectively utilized at the Pantex Plant to accelerate implementation of DOE Order

5480.19. The result of these assessments will be used to develop a corrective action plan that will address both near- and long-term actions necessary to upgrade conduct of operations at the Pantex Plant.

A final report, including a corrective action plan, will be developed based on the results of the assessments which will address each of the Board's concerns.

The complexity of these issues, coupled with the Department's desire to provide a detailed response that will provide definitive corrective actions and a sound path forward, necessitate a proposed reporting date of March 15, 1994. Assessment team organization, considering requisite experience coupled with the holidays, further perturbed the schedule. An enclosed interim report is provided that includes historical background information on conduct of operations improvement activities at Pantex, plans for immediate actions that will be utilized to evaluate those items requested in your letter, a schedule of milestones and deliverables that will be provided to your organization as they are developed in generating the final report, and a listing of activities that are currently ongoing/planned to improve conduct of operations. Interactions between our organizations will allow for mid-course corrections if determined necessary.

If you have any questions, please contact me or have your staff contact Daniel Rhoades at (301) 903-9488.

Sincerely,

***Victor H. Reis***  
***Assistant Secretary***  
***for Defense Programs***

Enclosure

DEPARTMENT OF ENERGY  
INTERIM REPORT  
EVALUATING CONDUCT OF OPERATIONS  
AT THE PANTEX PLANT

This interim report is in response to the Defense Nuclear Facilities Safety Board (DNFSB) letter of November 4, 1993, to the Assistant Secretary for Defense Programs (ASDP), in which the DNFSB requested the Department of Energy (DOE) provide:

"A report evaluating: the current conduct of operations practices at the Pantex Plant; evaluation of practices used at other DOE sites to upgrade conduct of operations and their application to Pantex; the availability of personnel with appropriate qualifications and requisite experience in conduct of operations at the Pantex contractor, in the Operations and Area Offices, and at DOE Headquarters; effectiveness of actions by DOE Headquarters, the Operations Office, and the Area Office to implement satisfactory conduct of operations at Pantex; and any specific corrective actions that may result from your evaluation to upgrade the level of conduct of operations at Pantex. In making the comparison between current practices at Pantex and those at other defense nuclear facilities, the report should address mentoring programs, such as those successfully implemented at Rocky Flats and Savannah River, and other tools used effectively to implement conduct of operations at defense nuclear facilities."

A review of the observations of the November 4, 1993, letter reinforced by discussions between personnel from Defense Programs (DP), Albuquerque Operations Office (AL), Amarillo Area Office (AAO), and DNFSB staff as well as discussions with personnel from the Mason & Hanger-Silas Mason Co., Inc. (M&H) have confirmed our previously identified position relative to the need for improvements in the conduct of operations at the Pantex Plant.

A key element of greater emphasis of environment, safety, and health protection over production goals can be demonstrated through the successful implementation of conduct of operations at the Pantex Plant. This requires establishment of specific policies and procedures and their implementation at all levels in day-to-day operations of the facilities at the Pantex Plant. To succeed, these programs must have adequate resources, including well-trained personnel, funding, facilities, and equipment. To achieve this new excellence of operations at the Pantex Plant, all personnel must understand clearly how each of their activities potentially affects environment, safety and health and must be willing to take ownership and accept responsibility for their actions.

## BACKGROUND

Department of Energy Order 5480.19, "Conduct of Operations Requirements for DOE Facilities," provides the requirements and guidelines for use in developing directives, plans, and/or procedures relating to conduct of operations at DOE facilities. The successful implementation of these requirements and guidelines should result in improved

quality and uniformity of operations. The efforts that were necessary to foster a state of continual improvement in the area of conduct of operations at Savannah River's K-Reactor and Rocky Flats' Building 559 were not affected in a short period of time nor were these efforts successful in their initial attempts. To date, the problems encountered at the Pantex Plant are very similar to those that were encountered at both K-Reactor and Building 559 and both DOE and M&H have struggled to implement all of the necessary elements of a conduct of operations program that will provide continual rapid improvements while allowing the facilities to fulfill their respective missions.

The following provides a historical perspective of efforts that have been undertaken by M&H and AL in an effort to effectively implement the requirements of DOE Order 5480.19:

- 4/90 Conduct of Operations training course given to DOE/AAO and M&H Management by outside contractor.
- 5/90 M&H initiates Root Cause Analysis training class.
- 7/90 DOE Order 5480.19 issued.
- 7/90 M&H commenced an assessment to establish a baseline of the various organization and programs that would be utilized to develop the long-range Pantex Improvement Plan.
- 8/90 AL developed and is teaching a course entitled "Fundamentals for DOE Operations." This course had been developed earlier in the year and was modeled after a similar course developed and provided by Headquarters (HQ). During the period from 8/90 through today, this course has been taught to several hundred AL complex Federal and contractor employees. The course stresses the importance of formality and discipline in operations and provides an opportunity for the student to perform field work by evaluating a facility against the requirements of DOE Order 5480.19.
- 9/90 AL provided guidance for developing Conduct of Operations Implementation Plans to all AL sites. This guidance stressed the importance of meeting the implementation requirements of the Order including the graded approach and how it was to be used in implementing the guidelines. This guidance provided specifics with regard to Implementation Plan content and indicated that the plans, when approved by AL, would serve as baseline program control documents for evaluating status of progress on implementation.
- 11/90 Original Pantex Improvement Plan developed to establish actions to answer results of baseline assessment.
- 12/90 DP issued a memorandum providing additional guidance in developing

- Implementation Plans for DOE Order 5480.19. This guidance requested schedule and budgetary information for training and implementation of the Order along with establishing ownership within the contractor organization. The Implementation Plans for DP sites required approval by the ASDP. Defense Programs also requested that summary plans be provided.
- 12/90 M&H established an Issues Management Department with the assistance of the United Energy Services Corporation to track and monitor the issues identified from all outside assessments. This activity is still ongoing on the open action items and action plans.
- 1/91 AL issued the DP guidance to AL facilities and provided a workshop for the complex to discuss the required format and content of the Implementation Plans to ensure consistency among the AL sites.
- 1/91 AL provided the summary DOE Order 5480.19 Implementation Plans from all AL sites to DP.
- 2/91 AL issued further guidance clarifying the requirements of the detailed Implementation Plans for DOE Order 5480.19.
- 5/91 Original M&H Conduct of Operations Implementation Plan issued (included Manufacturing, Explosives Technology, and Facility Operations).
- 9/91 Development of the M&H Management and Operations Manual for the Manufacturing Division completed.
- 10/91 AL site specific implementation plans for DOE Order 5480.19 were submitted and approved by the Assistant Secretary for Defense Programs.
- 11/91 A Supervisor with operations background assigned by AAO as Chief, Nuclear Facility Representatives Branch.
- 3/92 The M&H Formality of Operations Program description document was developed. This document provided an operational summary of the plant and the parameters that affected its safe operation.
- 5/92 Messrs. Starostecki, Toto, and Carlson visited the Pantex Plant for a walk-through assessment.
- 5/92 AAO Facility Representatives (FR) began performing conduct of operations assessment in the field.
- 7/92 A two-day assessment of conduct of operations at the Pantex Plant performed by Messrs. Starostecki, Dienes, and Mullen on the behalf of AL. The basic

conclusion of this assessment was that "on the floor" evidence of implementation of the requirements of DOE Order 5480.19 was practically non-existent.

AL FR Program Manual issued to provide guidance to the AL complex relative to the development and implementation program.

- 7/92-12/92 AL performed Conduct of Operations performance assessment reviews at five AL sites to determine status of implementation.
- 7/92-12/92 AL details employee to develop Phase I database of questions for FR progress interviews.
- Ongoing AL provides FR 1/FR 2 training that teaches fundamentals for performing and writing observations.
- 8/92 AL sponsored a review of the conduct of operations at the Pantex Plant by Fred Carlson and George Toto. Their review indicated significant problems with "on-the-floor" implementation of DOE Order 5480.19 requirements.
- 9/92 M&H Corporate conducted a self-assessment of Pantex Plant senior management with respect to adoption of Formality of Operations.
- 10/92 AL sponsored an Executive Fundamentals for DOE Operations Course conducted by Messrs. Starostecki, Carlson and Toto for M&H Management. This was a five-day course emphasizing formality and discipline in operations and provided field work in the form of conduct of operations evaluations at facilities.
- 11/92 As a result of self-assessments, M&H initiated a Performance Improvement Plan as a major step in bringing about a positive safety culture change that was necessary to develop good conduct of operations.
- 12/92 A Performance-Based Self-Assessment was conducted to further assess improvements. This assessment was performed by an outside contractor on behalf of M&H.
- 12/92 AL held a Conduct of Operations Lessons Learned Review to discuss the findings of all performance assessment reviews and to provide direction for improvement. In addition to the AL presentations, lessons learned were presented by Rocky Flats and Oak Ridge representatives regarding their implementation of Conduct of Operations. AL indicated that a revision to all AL site implementation plans would be requested in the near future. The newly formed contractor Conduct of Operations Task Force would work with AL to develop the revision criteria. Among the speakers at the Conduct of Operations Lessons Learned Review was Dr. Woody Cunningham, Technical Director of the DNFSB.

- 1/93 M&H commenced Formality of Operations training for supervisors. This was completed in June 1993.
- 3/93 EH-5 conducted a progress assessment at the Pantex Plant.
- 4/93 M&H brings onboard a retired Navy submarine commanding officer to serve as Operations Support Manager.
- 5/93 DP performed an assessment of M&H's progress in implementing the 11/92 performance Improvement Plan. The results reflected substantial progress in meeting individual Action Plan schedules, however, many of the programs had just been initiated and were not fully mature.
- 7/93 DOE/AAO hires individual with extensive conduct of operations background and experience to serve as Assistant Area Office Manager for Environment, Safety, and Health.
- 10/93 AL requested Defense Program (DP-65) to sponsor an FR mentoring program at Sandia National Laboratories/New Mexico for training of FRs.
- 11/93 AL provided Pantex additional funding to accelerate a DOE Order 5480.20 like Training and Qualification Program in four support divisions to manufacturing. The program implementation will be completed by December 1994.
- 12/93 AL requested revisions to Conduct of Operations Implementation Plans from site contractors.

The effectiveness of past actions will be addressed during the assessments identified below.

#### PATH FORWARD

In response to the reporting requirements that are outlined in the November 4, 1993, DNFSB letter, assessments will be performed of conduct of operations by M&H and DOE. These assessments will be to determine the following:

- o Evaluate current conduct of operations posture at the Pantex Plant.
  - Define conduct of operations elements that have been successfully implemented at the Pantex Plant.
  - Determine reasons for past lack of success in conduct of operations improvement efforts. Past improvement items are identified in Background.



- o Critically assess the qualifications and relevant experience of those people responsible for the Pantex Plant.
- o Determine what methods successfully utilized at Building 559 and K-Reactor can be effectively utilized at the Pantex Plant to accelerate implementation of DOE Order 5480.19 and foster an overall improvement in conduct of operations at the Pantex Plant.
- o Establish a corrective action plan as the result of the assessments that will define both the near- and long-term actions that are necessary to upgrade conduct of operations at the Pantex Plant.

A description of HQ direction and guidance will be part of the final report. The corrective action plan will also reflect HQ involvement and interface with the field on plans and actions to further develop conduct of operations at Pantex.

Personnel that were involved with the successful conduct of operations improvement activities at Rocky flats Building 559 and Savannah River's K-Reactor (both from DOE and the M&O contractor) will be utilized to support the Pantex Plant assessments in order to take maximum advantage of their lessons learned.

Attachment 1 is a schedule that identifies activity milestones and deliverables that will be provided to the DNFSB during the performance of these activities. It should be noted that existing/planned conduct of operations upgrade activities will continue in parallel with these assessment activities, and feedback mechanisms will be put in place to allow for any necessary course corrections that are deemed appropriate as they evolve as part of the assessment process.

Attachment 2 to this interim report identifies those ongoing/planned conduct of operations improvement activities that will continue in parallel with the identified assessment activities.

#### EVALUATION/ASSESSMENT SCHEDULE AND MILESTONES ATTACHMENT 1

1/4/94	Interim letter and status to the Board.
1/10/94	Transmit M&H and DOE assessment plans, including team members resumes, to the DNFSB.
1/10-31/94	Perform individual assessments identified above.
2/4/94	Final reports on the individual assessments provided to AAO.

- 3/1/94 Interim report out that provides composite results of the individual assessments.
- 4/1/94 Final Report to the DNFSB addressing each of the reporting requirements.

ATTACHMENT 2  
CONTINUING IMPLEMENTATION EFFORTS

MASOH AND HANGER

1. Line-by-line facility-specific compliance self-assessment. (1/94)
2. Formality of Operations classes for Administrative and Support personnel and for Production Technicians. (7/94)
3. Correction of deficiencies noted in the July 1993 baseline site-wide compliance assessment. (1/94)
4. Development of a Strategic Action Plan for Conduct of Operations. (3/g4)
5. Development of Management Assessment Guidelines for Conduct of Operations Senior Management Assessments management walk-throughs). (1/94)
6. Development of Performance Indicators to improve responses to Occurrence' Report Action Items. (1/94)
7. Establishing a pilot program to provide an engineering and Conduct of Operations Technical Assist visit in Weapons Bays and Cells. (2/94)
8. Drafting four standards to cover areas of DOE Order 5480.19 which have never been addressed. (1/94)
9. Upgrading the Pantex Plant Critique Program, Plant Standard 3140. (2/94)
10. Continuing the Facility Management Integration activity - forming the Environment, Safety, and Health Generalists Department. (Ongoing)
11. Conduct Assistant Facility Manager Weekly Conduct of Operations Meetings. (Ongoing)
12. Interviewing to hire experienced conduct of operations candidates for Training/Mentoring positions. (2 completed, 8 remain to be scheduled)
13. New Senior Facility Manager hired and arrives January 3, 1994. First assignment will be development of an Integrated Plan of the Week. (3/94)
14. Implementation of DOE Order 5480.20 Training and Qualification Programs in ES&H Facility Operations, Engineering and Design and Explosives Technology. (12/94)

15. Conduct Facility Performance Monitoring Training. (2/94)

#### DOE AMARILLO AREA OFFICE

1. Performance Indicators being developed for oversight activities. (1/94)
2. Duty Officer function being reassigned-to the FRs. (12/93)
3. FR Program has been benchmarked against Savannah River's programs for Defense Waste Processing Facility and K-Reactor. (1/94)
4. FR Program documents being revised based on benchmarking trip to Savannah River Site. (1/94)
5. FR training program being revised with update to Job Task Analysis and Needs Analysis. (2/94)
6. FR Qualification Cards, Qualification Standards, and Study Guides being reviewed/revised based on benchmarking trip to Savannah River Site to improve FR performance. (1/94 and 4/94)
7. Preparing activity schedule for FRs to ensure adequate coverage of each facility. (1/94, Quarterly)
8. Performed critical self-assessment of FR Program. (1/94)
9. Revising Issues Management Program to include monthly exit meeting with M&H to discuss current conduct of operations and other issues. (1/94)

#### DOE ALBUQUERQUE OPERATIONS OFFICE

1. Request for revisions to upgrade Conduct of Operations Implementation Plans from AL site contractors. (4/93)
2. AL FR Program Manual revision based on Office of Field Management (FM-1) - and DOE Standard 1063-93 guidance. (1/93)
3. AL FR program progress review meeting to inform Area and Project Offices of current FR guidance and to gain status of field programs. (3/94)
4. AAO FRs will be attending an AL sponsored EM-25 Conduct of Operations Assessment Training course to be taught at Pantex. (2/94)