



Department of Energy  
Washington, DC 20585

April 20, 2004

Mr. Michael Mallory  
[ ]  
BWXT Pantex  
P.O. Box 30020  
Amarillo, TX 79120

Subject: BWXT Pantex Price-Anderson Amendments Act Program Review

Dear Mr. Mallory:

During the period March 2– 4, 2004, the Office of Price-Anderson Enforcement (OE) conducted a review of the BWXT Pantex Price-Anderson Amendments Act (PAAA) Program. Our review included an evaluation of processes to screen noncompliances for applicability under the PAAA, reporting and tracking in the Noncompliance Tracking System (NTS) and internal tracking systems, and correcting deficiencies in a timely manner.

Overall, we found your program to be generally effective, with necessary program elements in place. Our review identified several program strengths, including the following:

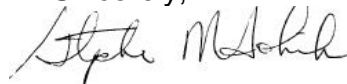
- The program appeared well-supported by senior management.
- The program has been recently reviewed by both management and independent assessment. These assessments were effective in identifying areas for improvement which are currently being addressed.
- A diverse mix of material was being screened for potential PAAA noncompliances.
- Your NTS reports reflect a significant percentage of self-identified issues.
- The Executive Issues Review Board appears to provide an effective process for focusing senior management attention on significant operational issues.
- The ongoing transition to a sitewide, integrated issues management system will improve the trending and recognition of programmatic issues.
- The comment/feedback review of management assessments performed by the Assessment Group is effectively identifying deficiencies in completed assessments.

Our review did identify several weaknesses, including the following:

- Delays were noted in both the screening of potential noncompliance information by the Coordinators and in the issuance of NTS reports. This issue had been self-identified, however, and corrective actions were being taken.
- PAAA procedures, screening forms and lesson plans have not been updated to reflect issuance of 10 CFR 830.200 or the revised NTS reporting thresholds (as applicable).
- PAAA screening decisions, particularly the less obvious ones, were not well documented.
- The Readiness and Assessment Manager was not meeting procedural requirements for the review of corrective actions developed in response to assessment findings.
- Although completion of scheduled management assessments has improved, the quality of completed management assessments is inconsistent. Deficiencies were noted in several recently completed management assessments.
- The review performed to validate closure of NTS Report NTS-ALO-AO-BWXP-PANTEX-2002-0003 did not evaluate corrective action effectiveness, as intended by the report's own corrective actions.

Failure to correct the weaknesses noted above may result in a potential reduction or loss of mitigation as described in the DOE Enforcement Policy (10 CFR 820 Appendix A) for any future BWXT Pantex enforcement action. Details of the OE review are provided in the enclosure. No reply to this letter is required. If you have any questions, please contact me at (301) 903-0100 or have your staff contact Tony Weadock at (301) 903-4283.

Sincerely,



Stephen M. Sohinki

Director

Office of Price-Anderson Enforcement

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**BWXT PANTEX  
PRICE-ANDERSON AMENDMENTS ACT  
PROGRAM REVIEW**

**I. Introduction**

During the period March 2-4, 2004, the Department of Energy's (DOE) Office of Price-Anderson Enforcement (OE) performed a review of the BWXT Pantex (BWXT) Price-Anderson Amendments Act (PAAA) Program. This review included an evaluation of contractor processes for identification and screening of potential noncompliances, reporting and tracking noncompliances in the Noncompliance Tracking System (NTS) and internal tracking systems, and the formal tracking and resolution of quality issues.

Overall, the BWXT PAAA Program was viewed as effective, with necessary program elements in place and several notable program strengths. OE review did identify several areas for improvement, which should be addressed to ensure appropriate mitigation consideration during possible future enforcement actions. The results of the review are summarized below.

**II. General Implementation**

The BWXT PAAA Program is described in Plant Standard STD-0127, *Price-Anderson Amendment Act Compliance Program*. The PAAA function resides within the Quality and Performance Assurance Division and integrates well with other responsibilities of the Division, which include assessments, issue management, occurrence reporting, trending, and corporate support and expertise for causal analysis.

The BWXT PAAA Coordinator and Assistant Coordinator are responsible for all screening of various information sources for potential PAAA noncompliances. The PAAA Coordinator also has responsibility for decisions regarding NTS reportability.

BWXT has also established a senior-level Executive Issues Review Board, chaired by the General Manager or Deputy Manager, with responsibility for reviewing and improving Pantex operations. Although the Review Board has no formal responsibility for NTS reportability decisions, the PAAA Coordinator reports monthly to the Board on trends in BWXT performance and PAAA noncompliance issues. The Board also reviews in detail significant operational events and corrective actions developed in response to the events.

The following program strengths were noted:

- Interviews reflected a strong management support for the PAAA Program.
- The BWXT PAAA Program was reviewed by both management and independent assessment in late 2003 and early 2004. Both assessments appeared to be effective reviews and identified areas for improvement. Formal corrective action plans had been developed to address the identified issues and were on schedule.
- A qualification card for new PAAA coordinators has been developed and will be used for the qualification of a recently hired assistant coordinator. OE reviewed the qualification card in its draft form and noted it to be a positive step towards formalizing the coordinator qualification process.
- The Executive Issues Review Board appears to be an effective mechanism for collective senior management focus and emphasis on significant operational issues and emerging performance trends.

The following weaknesses were noted:

- The PAAA organization currently provides PAAA training to site managers, general workers, and procurement personnel; however this training is not reflected in Plant Standard 0127.
- The “Instructor Preparation Page” (lesson plan) used for general PAAA training is significantly out of date and does not reflect the existing site PAAA staffing nor the 2001 revisions to 10 CFR 830.
- The definition of a reportable noncompliance contained in Plant Standard 0127 includes the phrase “...a noncompliance which because of its potential or actual adverse impact on the environment or health and safety of workers or the public...” As discussed in the OE *Operational Procedures*, OE considers a noncompliance to be reportable to NTS if it meets the reportability thresholds; no further significance criteria should be applied. It should be noted OE did not identify any instances of the use of any additional significance criteria during this review.
- There is currently no set of PAAA performance indicators used by the PAAA Coordinator to monitor implementation of the PAAA program.

### III. Identification and Screening

OE evaluated BWXT processes for screening of potential PAAA noncompliances by interview of personnel and review of selected screening documentation. All screening of information for potential noncompliances is performed by the PAAA Coordinator and Assistant Coordinator; information sources (such as assessments or reviews) are either forwarded to the Coordinator in hardcopy or accessed by the Coordinator using site

databases. The coordinators maintain a database (OPTIX) specific for PAAA screening and reportability determinations. Approximately 800 items per year are being screened for potential noncompliances.

OE's review of the PAAA Coordinator screening logs indicated that a broad and diverse set of information sources is being screened for potential PAAA noncompliances. In addition to event information and Emergency Operations Center logs, information sources include assessments, supervisory walkthroughs, noncompliance reports, and internal audits. This was noted as a program strength. No instances were identified in which OE disagreed with the screening decisions of the PAAA Coordinators regarding PAAA applicability to a specific issue.

The following weaknesses were noted associated with the identification and screening of potential PAAA noncompliances:

- In some instances, OE noted significant delays (up to several months) associated with the screening of potential PAAA issues. These delays occurred both prior to the screening of an item, or between the initial screen by the Assistant Coordinator and the final review and approval by the PAAA Coordinator. Since NTS reportability decisions are made at the same time as the PAAA applicability screen, these delays also affected the timeliness of NTS reporting. OE's review did not indicate a steadily increasing backlog of documents awaiting screening, but rather intermittent delays over time. These intermittent delays may potentially indicate a management priority issue. It should be noted this timeliness issue had been self-identified during the PAAA Program assessments conducted during late 2003. An additional Assistant PAAA Coordinator had recently been hired and it was anticipated this action would improve the timeliness of screening and reportability decisions.
- The OPTIX-generated screening form used for documenting PAAA screens and reportability decisions has not been updated to reflect the issuance of 830.200 or the revised occurrence reporting criteria. OE also noted that the terminology used on the screening form suggested the contractor may be applying a "significance" criterion in addition to the OE-developed thresholds for NTS reportability decisions. Subsequent review of screening decisions indicated this deficiency appears to be limited to a problem with form terminology, and is not affecting the the screening process.
- OE also noted that the OPTIX screening form is typically filled with a series of yes/no responses; comments are rarely added by the coordinators. The addition of comments to support the less-obvious screening and reportability decisions would improve overall program documentation.

#### **IV. Evaluation of NTS Reportability**

OE reviewed BWXT processes for noncompliance evaluation and NTS reporting by discussion with cognizant personnel and review of BWXT NTS reporting history and trending processes. Trending of locally tracked PAAA issues for potential repetitive or programmatic issues is currently performed in two ways:

1. The PAAA Coordinator and Assistant Coordinator perform an informal trending (i.e., recognition of repetitive events) as they screen issues for PAAA applicability.
2. A separate staff member within the Performance Assurance Division performs ongoing trending of performance in 15 areas (e.g., procedural adherence), based on review of events and assessment issues. These performance trends are reviewed monthly by senior management in their role as the Executive Issues Review Board.

OE's review of recent Pantex NTS reports noted that approximately 50 percent were self-identified either through the performance of assessments or the recognition of an emerging trend of lower significance events. Although each contractor should strive for 100 percent self-identification of issues, this NTS percentage was noted to compare favorably with a number of other DOE contractors, and it was noted as a program strength. BWXT is currently transitioning to a site integrated issues management system (see section V.A); the PAAA Coordinator feels this transition will significantly improve the timeliness and scope of the PAAA trending process.

The following weaknesses were noted associated with NTS reporting:

- As noted in the prior section, screening and reportability decisions are made by the coordinators during the same review. As a result, several of the weaknesses discussed above related to screening (such as timeliness, documentation concerns) also relate to NTS reporting.
- OE reviewed an April 2003 letter from the Defense Nuclear Facilities Safety Board (DNFSB) to the Administrator of the National Nuclear Security Administration (NNSA) describing deficiencies with the BWXT Pantex Training Program. BWXT's screen of the training deficiencies determined them to be PAAA noncompliances but not reportable to the NTS. OE reviewed the training deficiencies and determined, based particularly on their collective significance that they merited reporting as a programmatic noncompliance to the NTS.

#### **V. Corrective Action Management**

##### **A. Quality Problem Resolution**

During the past year, BWXT noted difficulties in issue management due in part to the multiple issue-tracking and problem resolution processes in use across the site. To improve performance in these areas and to support sitewide trending and

identification of programmatic issues, BWXT has undertaken an initiative to roll these multiple processes into a single, site-wide issue tracking and management process. The new single process will be web-based with all employees having access to enter issues. The new issues management process, termed PER/E-Stars, is targeted to be operational this month. This transition to a single, integrated issues management process is viewed as a program strength.

## B. Causal Analysis

During January 2002 BWXT filed an NTS report describing programmatic problems with the Pantex root cause analysis process. OE reviewed progress in this area as part of the current program review. BWXT has institutionalized a new, more comprehensive causal analysis process, and to date has trained approximately 1800 personnel in the revised process. The following program strengths were noted:

- Interviews indicated strong senior management commitment for program improvement;
- BWXT has hired a causal analysis expert to train and assist causal analysis activities;
- Responsible Division Managers are now required to sign and approve causal analyses; and
- BWXT indicated that they are observing substantially fewer repeat occurrences and reportable occurrences.

The following weaknesses were noted associated with the causal analysis area:

- OE review of eight causal analyses from the April - October 2003 timeframe identified that although the analyses generally identified the process issues that failed and led to the event or condition, they typically stopped short of pursuing behavior issues that may have led to or contributed to the identified worker failures. BWXT personnel acknowledged this shortcoming and indicated they had planned to take steps to address this weakness in their causal analysis process.
- The causal analysis procedure (STD-0182, *Cause Analysis and Mistake Proofing*) did not clearly identify training and qualification requirements for the causal analysis "Approved Facilitator."

## C. NTS Report Closeout

BWXT's process for NTS closeout currently includes an independent validation by the Assessment Group that corrective actions have been completed and are effective. This review is performed three to six months after completion of the last corrective action. This independent validation of corrective action completion and



effectiveness is noted as a program strength. BWXT is also currently planning to add an additional verification review, at approximately one year after NTS report closure, to determine if corrective actions are remaining effective and preventing recurrence.

OE did identify the following deficiencies related to NTS report closeout:

- Plant Standard STD-0127 accurately reflects the independent validation of corrective action completion currently performed by the Assessment Group. The standard does not identify nor require, however, the effectiveness review that is also being performed by the Assessment Group.
- Due to special circumstances, the BWXT Internal Audit group performed the independent validation review to support closure of NTS report NTS-ALO-AO-BWXP-PANTEX-2002-0003, *Management Assessment Program*. OE's review of the documentation of this validation identified that the Internal Audit group performed a validation of corrective action completeness only, with no attempt to verify effectiveness of the actions. This Internal Audit review consequently failed to satisfy corrective action eight of the subject NTS report, which was "Perform an independent validation of the CAP to ensure effectiveness." This deficiency was also not identified as part of the PAAA Coordinator's review of the documentation submitted by the Internal Audit group.

## VI. Assessment Program

As part of the subject Program Review, OE evaluated implementation of the BWXT management and independent assessment programs, since OE believes an effective assessment program is the most proactive method to identify nuclear safety problems before they result in serious nuclear safety incidents. It should be noted that OE's review in this area was limited in scope, and does not constitute a comprehensive evaluation of the BWXT assessment program.

### A. Independent Assessment

BWXT implements an Independent Assessment process, governed by procedure STD-0107, *Independent Assessments and Management Assessments*. The independent assessments are generally led by an individual from the Quality and Performance Assurance Division. The following program strengths were noted:

- A risk model is used along with management and DOE input to prioritize and select areas for independent assessment;
- The focus of independent assessments includes compliance, monitoring of work performance, and judgments of effectiveness of controls.

The following deficiency was noted related to Independent Assessments:

- STD-0107 states that the Readiness and Assessment Manager (within the QA organization) evaluates corrective actions for issues identified through independent assessments. This manager was not performing that stated function.

## B. Management Assessment

The management assessment area is also governed by STD-0107. During 2002 BWXT reported deficiencies in management assessment scheduling and completion in NTS-ALO-AO-BWXP-PANTEX-2002-0003. Completed corrective actions included revising STD-0107, the provision of training for Department Managers, and continuing monitoring of management assessment implementation. A BWXT assessment conducted in September 2003 noted improvements for Fiscal Year (FY) 2003 in the completion of scheduled management assessments. During the first quarter of FY03, 91 percent of scheduled management assessments were not completed. As of September 2003, this percentage had dropped to 11 percent. Although this represented a significant improvement, OE noted that performance varied across divisions; the majority had very high completion percentages but several divisions had averages less than 50 percent completion.

BWXT emphasis in this area has continued, driven in part by senior management emphasis on the NNSA "Contractor Assurance Program" initiative, which includes improved management assessment performance. Percent completion of management assessments is being tracked and reported to senior management on a monthly basis and completion status has continued to improve since September 2003 (data for the first quarter of FY04 reflects a 98.5 percent completion of scheduled management assessments).

The following program strengths were identified:

- Senior management emphasis and attention to the management assessment area;
- Substantial increase in the level of activity for this area, conducting about 12 to 23 management assessments per month;
- Development of a *Management Assessment Guide* to provide guidance for personnel performing management assessments;
- Providing monthly reports to senior management on planned management assessments and performance in completing scheduled assessments;
- The recent initiative undertaken by the Assessment Group within the Performance Assurance Division of reviewing each completed management assessment and providing comments and feedback directly to the group performing the assessment.

OE reviewed a sample of three recently completed BWXT management assessments to evaluate their overall quality. As part of this review, OE also reviewed the associated comments and feedback provided by the Assessment Group for each assessment.

OE noted the management assessments varied significantly in quality. One of the assessments appeared to be an acceptable review, but the other two suffered from various deficiencies. These included the failure to identify observed deficiencies as formal assessment findings, and the lack of overall trending and conclusions on observed performance. OE concluded additional effort was required to achieve a consistent level of quality in BWXT management assessments; this was noted as a program weakness. OE did note that, in each case, the comments and feedback provided by the Assessment Group appropriately highlighted the deficiencies associated with the assessment.

## **VII. Follow-Up to OE Areas of Interest**

During April 2002 OE conducted a site visit at Pantex to review performance related to four programmatic issues. Two of the issues (procedural adherence, Authorization Basis compliance) had been identified by DOE; two of the issues (inadequate causal analysis, control of material moves) had been self-identified by BWXT. During that visit, BWXT identified corrective actions being taken to resolve the issues. Based on the review, OE determined it appropriate to exercise discretion and not to take specific enforcement action.

During the current Program Review, OE reviewed performance in the four issue areas with cognizant personnel. Status of the causal analysis program is discussed in section V.B above. With respect to the other three issue areas, corrective actions have been undertaken, BWXT actively monitors performance in the areas, and BWXT data indicates performance in all three areas has significantly improved. As an example, with respect to procedural non-adherence events, BWXT has experienced a clear decrease in the frequency of such events to date (from 75 in 2001 to 23 in 2003), with continuing low numbers in 2004. BWXT staff also indicated the more recent non-adherence events are typically of lower significance than those experienced earlier.

## **VIII. Conclusion**

The above summarizes OE's review of the BWXT Pantex PAAA program during the period of March 2-4, 2004. Improvement items identified during the subject review should be addressed to receive mitigation consideration in any future enforcement deliberation and to ensure nuclear safety problems receive appropriate recognition and action. Any actions taken to address these items should be appropriately coordinated with the responsible NNSA Field and Program Office management.