



Department of Energy
National Nuclear Security Administration
Washington, DC 20585

November 21, 2006

OFFICE OF THE ADMINISTRATOR

Mr. Dan J. Swaim
General Manager
BWXT Pantex L.L.C.
FM 2373 US Highway 60
P.O.Box 30020
Amarillo, TX 79120

EA-2006-04

Subject: Preliminary Notice of Violation and Proposed Civil Penalty of \$110,000

Dear Mr. Swaim:

This letter refers to the Department of Energy (DOE) Office of Enforcement's investigation into the facts and circumstances surrounding three unsuccessful attempts to remove a midcase from an assembly during the period between March 30, 2005, and April 26, 2005. An Investigation Summary Report describing the results of that review was issued to you on May 10, 2006. An Enforcement Conference was held on June 13, 2006, in Germantown, Maryland, with you and members of your staff to discuss the findings in the investigation report. An Enforcement Conference Summary is enclosed.

Based upon our evaluation of these issues and information presented by you and your staff during the Enforcement Conference, the National Nuclear Security Administration (NNSA) has concluded that violations of DOE's nuclear safety rules, including Quality Assurance Requirements (10 CFR 830 Subpart A), and Safety Basis Requirements (10 CFR 830 Subpart B), have occurred. The violations are described in the enclosed Preliminary Notice of Violation (PNOV).

Section I of the PNOV describes one Severity Level (SL) II violation associated with exceeding the established safety limit and design limit, on two separate occasions, during the unsuccessful attempts to remove the midcase from an assembly. In addition, this citation includes a Technical Safety Requirement violation associated with the use of a tooling fixture that was explicitly prohibited from use by the existing Justification for Continued Operation.

Section II of the PNOV describes one SL II violation associated with multiple failures to adhere to established procedures during the attempts to remove the midcase. Of

particular concern is the nonconservative approach used by BWXT-Pantex personnel in applying an unanalyzed technique in the April 26, 2005, attempt.

Section III of the PNOV describes one SL III violation associated with inadequacies in the existing operating procedure. Specifically, the procedure failed to adequately require users to verify that midcase separation had actually occurred.

Section IV of the PNOV describes one SL III violation associated with deficiencies in maintaining calibration of tooling. Specifically, a review of the tooling fixture clutch release mechanisms calibration records revealed that on several occasions the clutch was found to be outside calibration specifications upon return for regularly scheduled calibration checks.

In accordance with the "General Statement of Enforcement Policy," 10 CFR 820, Appendix A, each of the SL II violations mentioned above and discussed in the attached PNOV have been assigned a civil penalty of \$55,000 for an aggregate base civil penalty of \$110,000. No civil penalty was assigned to the SL III violations.

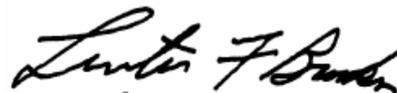
With regard to mitigation of the base civil penalty, I find the issues associated with the unsuccessful attempts to remove the midcase to be self-disclosing and that the reporting of the associated noncompliances into the Noncompliance Tracking System (NTS) was significantly delayed. Further, once the report was submitted it was found to be factually inaccurate and incomplete. A review of the root cause analyses associated with both the March 30, 2005, and April 26, 2005, attempts to remove the midcase were found to lack the depth and technical inquisitiveness expected for issues of such safety significance. Due to inadequacies in the root cause analyses, corrective actions identified failed to address all pertinent issues and created the potential for recurrence of the adverse safety issues prevalent during the attempts to remove the midcase. Based on these observations, no mitigation to the base civil penalty of \$110,000 is deemed appropriate.

NNSA recognizes that you have undertaken improvement initiatives in the area of conduct of operations which, if properly implemented and sustained, will aid in preventing weaknesses in your operation such as those observed during the unsuccessful attempts to remove the midcase. It is this broader view of deficiencies that was lacking in your initial root cause analyses. I am disappointed that these improvement initiatives in your conduct of operations were, in large part, initiated at the request of both the NNSA Pantex Site Office and the Defense Nuclear Facilities Safety Board. In addition, while you have recently undertaken actions to improve weaknesses in the Price-Anderson Amendments Act program, this improvement initiative was largely undertaken as the result of observations made by the DOE Office of Enforcement. While I recognize the importance of such initiatives, I expect that BWXT-Pantex will proactively identify these types of issues through self-assessment processes rather than having these issues identified by external organizations.

Pantex plays a vital national security role in assuring a continued safe and reliable nuclear deterrent. While the successful and timely accomplishment of your assigned mission is of critical importance to NNSA, the definition of success must include the application of sound nuclear safety principles to the conduct of each work activity. The weaknesses observed during the midcase removal attempts (i.e., nonconservative decision making, procedural noncompliance, and failure to maintain established safety limits) are inconsistent with NNSA's mission to ensure safety in our nuclear operations.

You are required to respond to this letter and to follow the instructions specified in the enclosed PNOV when preparing your response. Your response should document any additional specific actions taken to date. Corrective actions will be tracked in the NTS. You should enter into the NTS (1) any additional actions you plan to take to prevent recurrence and (2) the anticipated completion dates of such actions.

Sincerely,



Linton F. Brooks
Administrator
National Nuclear Security Administration

CERTIFIED MAIL
RETURN RECEIPT REQUESTED

Enclosures:
Preliminary Notice of Violation
Enforcement Conference Summary
List of Attendees

cc: Kathy Brack, BWXT Pantex PAAA Coordinator
Richard Azzaro, DNFSB

**Preliminary Notice of Violation
and
Proposed Civil Penalty**

BWXT-Pantex
Pantex Plant

EA-2006-04

As a result of a Department of Energy (DOE) investigation into the facts and circumstances surrounding three unsuccessful attempts to remove a midcase from an assembly at the Pantex Plant, multiple violations of DOE nuclear safety requirements were identified. The issues included (1) failures to maintain safety limits, (2) failures to comply with existing procedures, (3) inadequacies in the operating procedure, and (4) failure to maintain tooling calibration. These issues span the time period March 30, 2005, through April 26, 2005.

In accordance with 10 CFR 820, Appendix A, "General Statement of Enforcement Policy," the violations are listed below. Citations specifically citing the quality assurance criteria of 10 CFR 830.122 represent a violation of 830.121(a), which requires compliance with those criteria.

I. Safety Basis Violations

10 CFR 830.201 requires that DOE "contractors perform work in accordance with the safety basis for a hazard category 1, 2, or 3 DOE nuclear facility and, in particular, with the hazard controls that ensure adequate protection of workers, the public, and the environment."

Contrary to the above, BWXT-Pantex personnel failed on several occasions to perform work consistent with safety basis requirements over the period March 30, 2005, through April 26, 2005. These failures to adhere to established safety basis requirements included the following:

- A. The Hazard Analysis Report (HAR) established a 3600 lbf limit that can be applied to the unit in attempting to remove the midcase. Los Alamos National Laboratory in the Special Instruction Engineering Release (SIER) established a 3700 lbf design limit that could be applied. However, on March 30, 2005, these limits were exceeded when the Production Technician turned the jackscrew to its maximum and the clutch release mechanism failed to engage at the desired set point.
- B. The HAR established a 3600 lbf limit that can be applied to the unit in attempting to remove the midcase. Los Alamos National Laboratory in the SIER established a

3700 lbf design limit that could be applied. However, on April 26, 2005, these limits were exceeded when, after the clutch release mechanism had engaged at 3350 lbf, the Production Technician used a quick turn technique to increase the applied force and the clutch release mechanism failed to re-engage at the desired set point.

- C. The Justification for Continued Operation prepared prior to the April 26, 2005, attempt to remove the midcase required that a new/different tooling fixture be used (i.e., tooling fixture 076-02-0451, copy 1) than that used in the March 30, 2005, attempt to remove the midcase (i.e., tooling fixture 076-02-0451, copy 2). However, due to expediency/convenience, after the April 25, 2005, attempt to remove the midcase, copy 2 of the tooling fixture was sent for recalibration and used during the April 26, 2005, attempt to remove the midcase. This resulted in a Technical Safety Requirement (TSR) violation.

Collectively these violations constitute a Severity Level II problem.

Civil Penalty – \$55,000

II. Failure to Adhere to Procedures

10 CFR 830.122(e)(1) requires that contractors perform work “consistent with technical standards, administrative controls, and other hazard controls adopted to meet regulatory or contract requirements, using approved instructions, procedures, or other appropriate means.”

Contrary to the above, BWXT-Pantex personnel failed on several occasions to perform work consistent with established procedures over the period March 30, 2005, through April 26, 2005. These failures to adhere to established procedures included the following:

- A. The Nuclear Explosive Operating Procedure (NEOP) in use during the March 30, 2005, attempt to remove the midcase established a 3400 lbf limit that can be applied to the unit in attempting to remove the midcase. However, this limit was exceeded when the Production Technician turned the jackscrew to its maximum.
- B. The NEOP in use during the March 30, 2005, attempt to remove the midcase requires that the maximum force applied during a midcase removal be recorded. Typically, this is the force at which separation of the midcase occurs. The Production Technicians believing that separation occurred at 1500 lbf, recorded this value in the procedure as the maximum force applied. However, separation had not occurred, and when the jackscrew was turned to raise the midcase, additional force was applied until separation occurred at an unanticipated location. The maximum force applied, as indicated on the tell tale gage, was 3750 lbf. This should have been the maximum force recorded in the procedure.

- C. The Nuclear Explosive Engineering Procedure (NEEP) in use during the April 26, 2005, attempt to remove the midcase established a 3400 lbf limit that can be applied to the unit in attempting to remove the midcase. This limit was exceeded when the Production Technician used a quick turn technique to increase the applied force from 3350 lbf.
- D. The NEEP in use during the April 26, 2005, attempt to remove the midcase from an assembly called for an increase in applied force by gradually turning the tooling fixture jackscrew. However, on April 26, 2005, the Production Technician was instructed by the Production Section Manager to use a quick turn technique not previously analyzed or used during any similar job evolution. This technique resulted in exceeding the procedural limit, safety basis limit, and design limit. Although not explicitly prohibited by the NEEP, the use of the quick turn technique was clearly not an intended approach for increasing the force applied to the unit.
- E. Work Instruction 02.03.16.01.01, *How to Adhere to Procedures*, requires that work be stopped when (1) a procedure cannot be followed, (2) a procedure step produces an unexpected or undesirable result, or (3) a procedure has the potential for an unexpected or undesirable result. However, during the April 26, 2005, attempt to remove the midcase, the clutch release mechanism engaged on several occasions, yet stop work authority was not invoked. Rather, the Production Section Manager elected to allow time for the clutch to cool and apply additional force in an attempt to reach the maximum force allowed by procedure (3400 lbf).

Collectively, these violations constitute a Severity Level II problem.
Civil Penalty – \$55,000

III. Procedural Inadequacy

10 CFR 830.122(e)(1) requires that contractors perform work “consistent with technical standards, administrative controls, and other hazard controls adopted to meet regulatory or contract requirements, using approved instructions, procedures, or other appropriate means.”

Contrary to the above, the procedure governing the attempt to remove the midcase was inadequate. Specifically, the NEOP in effect on March 30, 2005, did not provide for adequate process indicators to assure midcase separation had successfully occurred. The requirement for a definitive visual confirmation of separation was not added to the NEEP until the July 15, 2005, revision. As a result of this procedural inadequacy, Production Technicians incorrectly assumed that separation had occurred at 1500 lbf and began turning the jackscrew and raising the tooling fixture towers which resulted in separation at an unanticipated location.

This violation constitutes a Severity Level III problem.
No Civil Penalty

IV. Failure to Maintain Tooling Fixture Calibration

10 CFR 830.122(e)(4) requires that DOE contractors “calibrate and maintain equipment used for process monitoring or data collection.”

Contrary to the above, a review of calibration records indicate that on several occasions both copies 1 and 2 of tooling fixture 076-02-0451 were found to be out of calibration when sent for their semi-annual calibration check. In some cases copies 1 and 2 of the tooling fixture were used during other weapons related work when the tooling fixtures were later found to be out of calibration.

This violation constitutes a Severity Level III problem.
No Civil Penalty

Pursuant to the provisions of 10 CFR 820.24, BWXT-Pantex is hereby required, within 30 days of the date of this Preliminary Notice of Violation (PNOV), to submit a written reply by overnight carrier to the following address:

Director, Office of Enforcement
Attention: Office of the Docketing Clerk
HS-40, 270 Corporate Square Building
U.S. Department of Energy
19901 Germantown Road
Germantown, MD 20874-1290

Copies should also be sent to the Pantex Site Office Manager as well as to my office. This reply should be clearly marked as a “Reply to a Preliminary Notice of Violation” and should include the following for each violation: (1) admission or denial of the alleged violations; (2) any facts set forth which are asserted to be incorrect; and (3) the reasons for the violations if admitted, or if denied, the basis for the denial. Corrective actions that have been or will be taken to avoid further violations should be delineated with target and completion dates in DOE's Noncompliance Tracking System. In the event the violations set forth in this PNOV are admitted, this PNOV will constitute a Final Order in compliance with the requirements of 10 CFR 820.24.

Any request for remission or further mitigation of the civil penalty must be accompanied by a substantive justification demonstrating extenuating circumstances or other reasons why the assessed penalty should not be paid in full. Within 30 days after the issuance of the PNOV and civil penalty, unless the violations are denied, or remission or additional mitigation is requested, BWXT-Pantex shall pay the civil penalty of \$110,000 imposed under section 234a of the Act by check, draft, or money order payable to the Treasurer of the United States (Account 891099) mailed to the Director, Office of Enforcement, Attention: Office of the Docketing Clerk, at the above address. If BWXT-Pantex should fail to answer within the time specified, the contractor will be issued an order imposing the civil penalty. Should additional mitigation of the proposed civil penalty be requested, BWXT-

Pantex should address the adjustment factors described in section IX of 10 CFR 820, Appendix A.

A handwritten signature in black ink, appearing to read 'LFB', is positioned above the typed name.

Linton F. Brooks
Administrator
National Nuclear Security Administration

Dated at Washington, DC
this 21st day of November 2006

BWXT-Pantex
Unsuccessful Attempts to Remove a Midcase from an Assembly
Enforcement Conference Summary

On June 13, 2006, the Department of Energy's Office of Enforcement held an Enforcement Conference with BWXT-Pantex (BWXT) senior management in Germantown, Maryland. The conference was held to discuss apparent violations identified in the Office of Enforcement Investigation Summary Report that was provided to BWXT on May 10, 2006.

The scope of the investigation included three unsuccessful attempts to remove a midcase from an assembly, Technical Safety Requirement (TSR) violations at Pantex Plant over the past two years, and apparent weaknesses in the BWXT Price-Anderson Amendments Act program.

The conference was opened by Mr. Stephen Sohinki, Director, Office of Enforcement, who provided introductions and an overview of the conference's purpose and objectives.

The BWXT presentations were opened by the General Manager, Mr. Dan Swaim. Mr. Swaim introduced the BWXT personnel present and provided an overview of the topics which to be addressed. Mr. Swaim acknowledged the safety significance of the issues encountered during the unsuccessful attempts to remove the midcase from an assembly and took no exception to the facts presented in the May 10, 2006, Investigation Summary Report.

BWXT personnel then provided a brief description of each of the three attempts to remove the midcase to include the underlying problems, safety significance, cause(s), and actions taken for each attempt. This presentation concluded with a more detailed discussion of Conduct of Operations improvements undertaken by the BWXT Manufacturing Division.

An overview of plant-wide Technical Safety Requirement (TSR) violations was then provided to include a discussion of the safety significance, concerns, and actions taken. A graphic of these TSR violations was then provided depicting a slight downward trend over the past two years.

BWXT personnel then discussed several observed weaknesses in their Price-Anderson Amendments Acts program including the safety significance of the weaknesses, the

causes, and the actions taken. A graphic depicting improved performance in Noncompliance Tracking System reporting over the past seven quarters was provided.

Issues for regulatory consideration were then discussed followed by discussions on the perceived severity of the midcase separation event, and mitigation factors for OE consideration.

Mr. Swaim then concluded the BWXT presentation by stating that the midcase separation event provided significant opportunity to understand and address performance weaknesses.

Mr. Sohinki concluded the conference by indicating that DOE would consider the information presented in its enforcement deliberations. The conference was then adjourned.

**BWXT-Pantex
Enforcement Conference List of Attendees**

June 13, 2006

Office of Enforcement

Stephen Sohinki, Director
Richard Day, Enforcement Specialist
Anthony Weadock, Enforcement Specialist

National Nuclear Security Administration

Sam Johnson, Acting Director, Environment, Safety, Health, and Quality Assurance
Doug Minnema, NNSA PAAA Coordinator

Pantex Site Office

Elisha Demerson, PAAA Coordinator
Michael Reaka, Technical Advisor

BWXT- Pantex

Dan Swaim, General Manager
Greg Meyer, Deputy General Manager
John Woolery, Quality Manager
Carl Durham, Manager, Manufacturing
Kathy Brack, PAAA Coordinator
John Alan Jones, General Counsel