November 5, 2008

EA-08-171

Mr. Roger P. Cochrane, General Manager
BWX Technologies, Inc.
P.O. Box 785
Lynchburg, VA 24505-0785

SUBJECT: INSPECTION REPORT 70-27/2008-205 AND NOTICE OF VIOLATION

Dear Mr. Cochrane:

The U.S. Nuclear Regulatory Commission (NRC) conducted a routine announced nuclear criticality safety (NCS) inspection at your facility in Lynchburg, Virginia October 6-10, 2008. The purpose of the inspection was to determine whether activities involving special nuclear materials were conducted safely and in accordance with regulatory requirements. Observations and findings were discussed with your managers and staff throughout the inspection and at an exit meeting held on October 10, 2008.

The inspection, which is described in the enclosure, focused on: (1) the most hazardous activities and plant conditions; (2) the most important controls relied on for safety and their analytical basis; and (3) the principal management measures for ensuring controls are available and reliable to perform their functions relied on for safety. The inspection consisted of analytical basis review, selective review of related procedures and records, examinations of relevant NCS-related equipment, interviews with NCS engineers and plant personnel, and facility walkdowns to observe plant conditions and activities related to safety basis assumptions and related NCS controls.

Based on the results of this inspection, the NRC has determined that two Severity Level IV violations of NRC requirements occurred. The violations were evaluated in accordance with the NRC Enforcement Policy included on the NRC's web site at www.nrc.gov; select **What We Do**, **Enforcement**, then **Enforcement Policy**. The first violation is being cited in the enclosed Notice of Violation (Notice), and the circumstances surrounding it are described in detail in the subject inspection report. The violation is being cited in the Notice because it was identified by the NRC during the inspection. The violation that is being cited as a Severity Level IV violation is the failure to conduct operations according to administrative limits regarding spacing of fuel.

The second violation is being treated as a Non-Cited Violation (NCV), consistent with Section VI.A.8 of the Enforcement Policy. The NCV is described in the subject inspection report. If you contest the non-cited violation or its significance, you should provide a response within 30 days of the date of this inspection report, with the basis for your denial, to the U.S. Nuclear Regulatory Commission, ATTN: Document Control Desk, Washington DC 20555-0001, with copies to the Chief, Technical Support Branch, Division of Fuel Cycle Safety and Safeguards, U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001 and the Director, Office of Enforcement, U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001.

You are required to respond to this letter and should follow the instructions specified in the enclosed Notice when preparing your response. The NRC will use your response, in part, to determine whether further enforcement action is necessary to ensure compliance with regulatory requirements.

In accordance with 10 CFR 2.390 of NRC's "Rules of Practice," a copy of this letter and the enclosure will be made publicly available in the public electronic reading room of the NRC's Agency-Wide Document Access and Management System (ADAMS). ADAMS is accessible from the NRC Web site at http://www.nrc.gov/reading-rm/ADAMS.html.

If you have any questions concerning this report, please contact Thomas Marenchin, of my staff, at (301) 492-3209.

Sincerely,

/RA/

Patricia A. Silva, Chief
Technical Support Branch
Division of Fuel Cycle Safety
and Safeguards
Office of Nuclear Material Safety
and Safeguards

Docket No.: 70-27
License No.: SNM-42

Enclosures: 1. Notice of Violation
2. Inspection Report 70-27/2008-205

cc: B. Cole
Licensing Officer
BWX Technologies

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cc: B. Cole
Licensing Officer
BWX Technologies

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NOTICE OF VIOLATION

BWX Technologies, Inc. Docket No.: 70-27
Lynchburg, VA License No.: SNM-42

During a Nuclear Regulatory Commission (NRC) inspection conducted October 6-10, 2008, a violation of NRC requirements was identified. In accordance with the NRC Enforcement Policy, the violation is listed below:

> Safety Condition No. S-1 of Special Nuclear Material License No. 42, requires that material be used in accordance with the statements, representations, and conditions in the license application dated July 14, 1995, and supplements thereto.
>
> Chapter 5.1.2, of the License Application states, in part, that activities at the site involving special nuclear material are conducted according to limits and controls established by Nuclear Criticality Safety (NCS). The administrative limits and controls are provided to the operating areas on nuclear criticality safety postings or in operating procedures or both.
>
> Nuclear Criticality Safety Posting 15-27-001, for the licensee pinning tables requires, in part, a "minimum 12 inches horizontal edge-to-edge spacing between the table and any other fuel."
>
> Contrary to the above, on October 9, 2008, the licensee failed to conduct operations according to administrative limits established by NCS and provided on an NCS posting. Specifically, a pinning table containing fuel elements was observed within 12 inches of other fuel.

This is a Severity Level IV Violation (Supplement VI).

Pursuant to the provisions of 10 CFR 2.201, BWX Technologies, Inc. is hereby required to submit a written statement or explanation to the U.S. Nuclear Regulatory Commission, ATTN: Document Control Desk, Washington, D.C. 20555 with copies to the Chief, Technical Support Branch, Division of Fuel Cycle Safety and Safeguards, NMSS, and Regional Administrator, Region II, within 30 days of the date of the letter transmitting this Notice of Violation (Notice). This reply should be clearly marked as a "Reply to a Notice of Violation" and should include: (1) the reason for the violation, or, if contested, the basis for disputing the violation; (2) the corrective steps that have been taken and the results achieved; (3) the corrective steps that will be taken to avoid further violations; and (4) the date when full compliance will be achieved. Your response may reference or include previously docketed correspondence if the correspondence adequately addresses the required response. If an adequate reply is not received within the time specified in this Notice, an Order or Demand for Information may be issued as to why the license should not be modified, suspended, or revoked, or why such other actions as may be proper should not be taken. Where good cause is shown, consideration will be given to extending the response time.

Enclosure 1

If you contest this enforcement action, you should also provide a copy of your response to the Director, Office of Enforcement, U.S. Nuclear Regulatory Commission, Washington, D.C. 20555-0001.

Because your response will be made available electronically for public inspection in the NRC Public Document Room, or from the NRC's document system, accessible from the NRC web site at http://www.nrc.gov/reading-rm/adams.html, to the extent possible, it should not include any personal privacy, proprietary, or safeguards information so that it can be made available to the public without redaction. If personal privacy or proprietary information is necessary to provide an acceptable response, then please provide a bracketed copy of your response that identifies the information that should be protected and a redacted copy of your response that deletes such information. If you request withholding of such material, you must specifically identify the portions of your response that you seek to have withheld, and provide in detail the bases for your claim of withholding (e.g., explain why the disclosure of information will create an unwarranted invasion of personal privacy or provide the information required by 10 CFR 2.790(b) to support a request for withholding confidential commercial or financial information). If safeguards information is necessary to provide an acceptable response, please provide the level of protection described in 10 CFR 73.21.

In accordance with 10 CFR 19.11, you may be required to post this Notice within two working days.

Dated this 5th day of November 2008

U. S. NUCLEAR REGULATORY COMMISSION
OFFICE OF NUCLEAR MATERIAL SAFETY AND SAFEGUARDS

Docket No.:	70-27
License No.:	SNM-42
Report No.:	70-27/2008-205
Licensee:	BWX Technologies, Inc.
Location:	Lynchburg, VA
Inspection Dates:	October 6-10, 2008
Inspectors:	Dennis Morey, Senior Criticality Safety Inspector Thomas Marenchin, Criticality Safety Inspector
Approved by:	Patricia A. Silva, Chief Technical Support Branch Division of Fuel Cycle Safety and Safeguards, NMSS

Enclosure 2

EXECUTIVE SUMMARY

BWX Technologies, Inc.
NRC Inspection Report 70-27/2008-205

Introduction

Staff of the U.S. Nuclear Regulatory Commission (NRC) performed a routine and announced nuclear criticality safety (NCS) inspection of the BWX Technologies (BWXT), Lynchburg, Virginia facility conducted October 6-10, 2008. The inspection included an on-site review of the licensee NCS program, NCS-related inspections, audits and investigations, plant operations and open item review. The inspection focused on risk-significant fissile material processing activities including fuel fabrication and machining shops, the uranium recovery area, in-process fuel storage areas, the container storage facility, and the waste processing facility.

Results

- A Severity Level IV violation was identified for failure to comply with administrative limits for pinning tables.
- A Non-Cited Violation (NCV) was identified for failure to limit the quantity of fissile material in a decontamination area.
- No safety concerns were identified regarding development, review, or approval of NCS analysis, calculations or resulting NCS controls.
- No safety concerns were identified regarding the licensee's NCS administrative procedures.
- No safety concerns were noted regarding licensee identified NCS-related events and corrective actions were adequately tracked by the licensee.
- No safety concerns were identified regarding NCS audits.
- No safety concerns were identified regarding the licensee criticality accident alarm system coverage of fissile material operations.

REPORT DETAILS

1.0 Summary of Plant Status

BWXT manufactures high-enriched uranium fuel, reactor core components and reactor cores at its facility near Lynchburg, VA. During the inspection, the licensee conducted routine fuel manufacturing operations and maintenance activities in the fuel fabrication and uranium recovery areas.

2.0 Nuclear Criticality Safety Program (IP 88015 & IP 88016)

a. Inspection Scope

The inspectors reviewed NCS analyses to determine that criticality safety of risk-significant operations was assured through engineered and human controls with adequate safety margin and preparation and review by qualified staff. The inspectors reviewed selected aspects of the following documents:

- CR [Change Request]-1028816, "Place Can Sealer and Change Glove Configuration for Equipment Access," Revision 0, dated June 6, 2008
- NCS-1997-094, "NCS Evaluation for SER 97-008," dated May 19, 1997
- NCS-2006-188, "Level 2 NCS Evaluation New Mill Drive Upgrade/Relocation," dated August 8, 2006
- NCS-2006-291, "Level 1 NCS Evaluation New Mill Drive Upgrade/Relocation," dated November 29, 2006
- NCS-2008-049, "Nuclear Criticality Safety Release Supporting SER [Safety Evaluation Report] Number 06-070," dated march 26, 2008
- NCS-2008-090, "Enhancement of Raschig Ring Vessels Safety Basis," dated June 5, 2008
- NCS-2008-093, "Nuclear Safety Release for SER 08-009," dated June 13, 2008
- NCS-2008-095, "NCS Justification for Temporary Use of Conversion Area Transfer Glovebox as Can Sealer," dated June 18, 2008
- NCS-2008-098, "NCS Justification for SER 08-019," dated June 24, 2008
- NCS-2008-103, "Safety Concern Analysis for H_2O Spill onto Two Tier Rack," dated July 11, 2008
- NCS-2008-112, "Nuclear Safety Release for Phase 1 of SER 07-028, Drum Sweep," dated July 23, 2008
- NCS-2008-114, "NCS justification for the Use of the Low Level Dissolver Trays," dated July 22, 2008
- NCS-2008-120, "30-day Report for BWX_2028267," dated July 30, 2008
- NCS-2008-123, "30-day Report for BWX_2028272," dated August 5, 2008
- NCS-2008-130, "NCS Safety Analysis for a Modified Shop Vac," dated September 15, 2008
- NCS-2008-131, "NCS Justification for Revised Operational Requirements," dated August 19, 2008
- NCS-2008-137, "Safety Concern Analysis for Violation of Posted Limit on Two-Tier Rack," dated August 28, 2008

- NCS-2008-138, "NCS Analysis for Re-Evaluation of 5 Micron Filters Associated with Dry Screw Vacuum Systems," dated September 19, 2008
- NCS-2008-139, "NCS Analysis Supporting SER 08-034," dated September 16, 2008
- NCS-2008-140, "NCS Analysis for Pickle Line Middle Man Method," dated September 9, 2008
- NCS-2008-145, "30-day Report for Incorrect Stack Height on Two Tier Element Rack," dated September 22, 2008
- NCS-2008-147, "Safety Concern Analysis of Posted Spacing Limit on Two Cluster Working Carts," dated September 22, 2008
- NCS-2008-175, "Replacement of Trough Dissolver Drip Tray," dated September 24, 2008
- RWP [Radiological Work Permit] 08-0061, "Use Temporary NCS Limits Based on the Furnace Glovebox Limits," Revision 0, dated August 8, 2008

b. Observations and Findings

The inspectors reviewed NCS approvals, nuclear criticality safety evaluations (NCSEs), and supporting calculations for new, changed, and other selected operations. Within the selected aspects reviewed, the inspectors determined that the analyses were performed by qualified NCS engineers, that independent reviews of the evaluations were completed by qualified NCS engineers, and that the analyses provided for subcriticality of the systems and operations. The inspectors observed that the analyses contained appropriate limits on controlled parameters for each credible accident sequence leading to inadvertent criticality. Nuclear criticality safety analyses and supporting calculations demonstrated adequate identification and control of NCS hazards to assure operations within subcritical limits.

During a previous inspection, 70-27/2008-203, the inspectors noted that even experienced licensee criticality safety staff had difficulty identifying all documents supporting specific analytical conclusions. During that inspection, licensee management noted that proposals by NCS staff to make NCS documentation more comprehensive were under review. During the current inspection, the inspectors noted that the licensee was reviewing a specific cost estimate related to aligning NCS analyses with the facility Integrated Safety Analysis (ISA).

c. Conclusions

No safety concerns were identified regarding development, review, or approval of NCS analysis, calculations or resulting NCS controls.

3.0 Nuclear Criticality Safety Administrative Procedures (IP 88015)

a. Inspection Scope

The inspectors reviewed NCS administrative procedures and selected NCS controls to determine whether the procedures adequately implemented the NCS program described in the license. The inspectors reviewed selected aspects of the following documents:

- NCSE-02, "Nuclear Criticality Safety Analyses and Quality Assurance Reviews," Revision 35, dated May 29, 2008
- NCS-2008-126, "Level 3 NCS Evaluation: Revision Storage Limits for Preassemblies," dated August 7, 2008
- QWI [Quality Work Instruction] 18.1.4, "RTRT [Research Test Reactor and Target] Personnel Training and Qualifications," Revision 3, dated June 20, 2008
- QWI 5.1.7, "Safety Evaluation Requests," Revision 19, dated July 25, 2008

b. Observations and Findings

In conjunction with reviews of NCS analysis, supporting calculations and controls, the inspectors reviewed related administrative guidance regarding preparation of NCS analysis and evaluation of item relied on for safety (IROFS) in the ISA. The inspectors determined that the licensee's NCS program was conducted in accordance with written administrative procedures that reflected the program described in the license.

The inspectors noted that criticality analysis, NCS-2008-126, did not have the sections required by NCSE-02 Appendix A. The Appendix specifically states the sections that are required at a minimum and the order that the sections need to be in a criticality analysis. The inspectors determined that no analysis or information was missing from the document. The licensee stated that this was an oversight by a relatively new employee and that future evaluations would be documented in the required format. This was the only instance in the new or revised criticality analysis that the inspectors noted this oversight. The inspectors did not identify any immediate safety concern related to this issue.

c. Conclusions

No safety concerns were identified regarding the licensee's NCS administrative procedures.

4.0 Nuclear Criticality Safety Event Review and Follow-Up (IP 88015 & IP 88016)

a. Inspection Scope

The inspectors reviewed the licensee's response to internally reported events. The inspectors reviewed the progress of investigations and interviewed licensee staff regarding immediate and long-term corrective actions. The inspectors reviewed selected aspects of the following documents:

- Investigative Report N-530, "Investigation of Contaminated Equipment Release," Revision 0, dated July 17, 2008
- NCS-1998-012, "NCSE Supporting Packaging of Drums," dated February 4, 1998

b. Observations and Findings

The inspectors determined that events were investigated in accordance with written procedures and appropriate corrective actions were assigned.

The inspectors reviewed an event the licensee had recently reported to the NRC, EN 44313. On June 3, 2008, eight contaminated Hastalloy columns which the licensee had removed from the high-level waste dissolution system were found to have fissile material in excess of the criticality safety limit for the area in which they were being decontaminated for disposal. Specifically, the Hastalloy columns were found to contain an estimated 577 grams U-235. The inspectors noted that the NCS posting for the decontamination area limited fissile material to 100 grams U-235 and the safety limit for the decontamination area was 400 grams U-235. The inspectors noted that the licensee had implemented effective compensatory measures regarding release of items for decontamination pending completion of an investigation and development of final corrective actions related to examination and decontamination of removed equipment. The inspectors noted that the risk significance of the non-compliance was low due to the nature of the fissile material and equipment. The inspectors also noted that the non-compliance was discovered by licensee staff who had investigated suspect readings. This non-repetitive, licensee identified and corrected violation is being treated as a Non-Cited Violation, consistent with Section VI.A.8 of the NRC Enforcement Policy. The failure to limit the quantity of fissile material in a decontamination area is **NCV 70-27/2008-205-01**.

c. Conclusions

An NCV was identified for the failure to limit the quantity of fissile material in a decontamination area.

5.0 Nuclear Criticality Safety Inspections, Audits, and Investigations (IP 88015)

a. Inspection Scope

The inspectors reviewed results of the most recent NCS quarterly audit to assure that appropriate issues were identified and resolved. The inspectors reviewed selected aspects of the following document:

- NCS-2008-079, “NCS Violation and Observation Summary – 1st Quarter 2008,” dated June 2, 2008
- NCS-2008-117, “NCS Violation and Observation Summary – 2nd Quarter 2008,” dated July 29, 2008

b. Observations and Findings

The inspectors determined that the licensee NCS audits were conducted in accordance with written procedures. The inspectors noted that the audits were performed by NCS engineers who reviewed open NCS issues from previous audits; reviewed new violations that occurred during the audit quarter; reviewed the adequacy of control implementation;

reviewed plant operations for compliance with license requirements, procedures, and postings; examined equipment and operations to determine that past evaluations remained adequate; and analyzed non-compliances for potential trends.

c. Conclusions

No safety concerns were identified regarding NCS audits.

6.0 Criticality Accident Alarm System (IP 88017)

a. Inspection Scope

The inspectors reviewed documentation of Criticality Accident Alarm System (CAAS) coverage, interviewed engineering and maintenance staff, and performed facility walkdowns to determine the adequacy of the licensee's CAAS. The inspectors reviewed selected aspects of the following documents:

- Procedure RP-07-28, "Maintaining and Testing the Plant Criticality Monitoring System and RMS II Area Monitors," Revision 19, dated March 31, 2008

b. Observations and Findings

In selected facility areas, the inspectors verified that the licensee's placement of criticality accident alarm detectors has been established in accordance with the criteria described in 10 CFR 70.24. The inspectors reviewed licensee procedures for monitoring the criticality alarm system during inclement weather. The licensee disables the criticality accident alarm annunciators during severe thunderstorms to avoid the significant risk of sending staff out into a lightning storm. The inspectors determined that visible and audible signals are monitored at the alarm center by radiological control staff so that an alarm can be manually activated in the event of a criticality accident during the storm. No safety concerns were identified with the licensee practices regarding the criticality alarm during inclement weather.

c. Conclusions

No safety concerns were identified regarding the licensee's criticality accident alarm system coverage of fissile material operations.

7.0 Plant Operations (IP 88015)

a. Inspection Scope

The inspectors performed plant walkdowns to review activities in progress and to determine whether risk-significant fissile material operations were being conducted safely and in accordance with regulatory requirements. The inspectors interviewed operations staff and NCS engineers both before and during walkdowns. The inspectors reviewed selected aspects of the following documents prior to performing the walkdowns:

- Posting 15-27-001, "Pinning Table," Revision 1, dated August 22, 2007
- Posting 15-23-049, "Production Autoclave and Anneal Areal Pinning Table," Revision 1, dated May 22, 2006

b. Observations and Findings

The inspectors performed walkdowns in the fuel fabrication and machining shops, the uranium recovery area, in-process fuel storage areas, the container storage facility, and the waste processing facility. The inspectors verified that controls identified in NCS analyses were installed or implemented and were adequate to ensure safety. The inspectors also verified that safety was maintained for observed facility operations. The cognizant NCS engineers were knowledgeable and interacted regularly with operators on the process floors. The inspectors verified the adequacy of management measures for assuring the continued availability and reliability of safety-significant controls relied upon by the licensee for controlling criticality risks.

While conducting a walkdown of Bay 7A, the inspectors observed two pinning tables that had fuel elements stored on the pinning tables. The elements on each of the two tables were positioned so that they were within 12 inches of the fuel on the other table. The operators in the area moved the pinning tables so that the fuel elements were separated by at least 12 inches from fuel on other carts/tables in the area. After reviewing the NCS postings on the pinning tables with the licensee NCS staff, it was determined that one of the pinning tables had fuel elements stored up to the edge of the table. This fuel was positioned so that it was within 12 inches of the next table but not within 12 inches of the fuel stored on that table pinning table. The pinning tables have wheels and are used at times as temporary storage. This area in Bay 7A had limited space available for the carts/tables. The pinning tables do not have the bumpers around the tables like the other carts that are used for temporary storage to ensure that 12 inches of separation is maintained between the fuel on the carts and other fuel in the area. The pinning tables had two NCS posting on them. The first posting had a spacing requirement of a minimum of 12 inches horizontal edge-to-edge spacing between the table and any other fuel. The second postings had a spacing requirement of a minimum of 12 inches edge-to-edge separation between each fuel assembly and all other fuel. Failure to conduct operations according to administrative limits (e.g., spacing of fuel) established by NCS and provided on an NCS posting is **Violation (VIO) 70-27/2008-205-02**.

c. Conclusions

A Severity Level IV violation was identified for the failure to comply with administrative limits for pinning tables.

8.0 Open Item Review

By letter dated August 8, 2008, NRC concluded enforcement action EA-08-171 regarding the three violations below. The inspectors reviewed the licensee letter dated July 25, 2008, and the licensee 30-day event response and determined that the licensee had adequately identified corrective actions to resolve the noncompliance. Corrective action status is discussed below.

VIO 70-27/2008-202-03

This item tracks the licensee's corrective actions for the failure to comply with Raschig ring filled vacuum cleaners (RRVCs) fill and check procedures. The licensee identified four examples of RRVCs not being adequately filled with rings. The suspect RRVCs were from six RRVCs kept outside the uranium recovery area. One RRVC was noted to be five inches under the required level of Raschig rings. Daily checks of ring level were required and had been performed. The inspectors concluded that licensee staff outside the uranium recovery area had either not understood or not complied with procedures involving maintenance of ring level in Raschig ring filled vessels.

The inspectors identified three corrective actions related to this violation.

- Revise QWI 18.1.4 to require written turnover communication. The inspectors noted that transition/shift change documentation requirements had been placed in the procedure.
- Control RRVCs with Radiological Work Permit (RWP). The inspectors noted that a general RWP had been posted on the RRVCs.
- Update daily inspection forms to delete out-of-service RRVCs. The inspectors noted that the daily inspection forms had been updated.

The inspectors determined that the licensee had completed all corrective actions. This item is closed.

VIO 70-27/2008-202-05

This item tracks the licensee's corrective actions for the failure to establish double contingency for the RRVCs. Licensee procedures called for filling RRVCs with Raschig rings to the bottom of the solution inlet because licensee staff believed that the RRVC vacuum pump would lose suction once solution passed the inlet level. Filling with Raschig rings only to the bottom of the solution inlet left 4 to 5 inches of space at the top of the RRVCs. Licensee staff performed a test on an uncontaminated vacuum cleaner and determined that the pumps were capable of drawing solution in the vessels past the inlet and well above the level of the rings, contrary to ANSI/ANS 8.5. In one case observed by the inspectors in the RTRT area, there were 11 inches of free space available in an RRVC due to failure to maintain the procedurally required level. Eleven inches is about double what would be required for criticality at authorized solution concentration levels.

The inspectors identified three corrective actions related to this violation.

- Modify ISA procedures to involve operating areas when scenarios are created or modified. The inspectors noted that QWI 5.1.7 had been revised to add instruction for operating area involvement in revision of accident scenarios.
- Establish criteria with guidelines for bounding scenario references. The inspectors noted that QWI 5.1.7 had been revised to add a description of bounding scenarios.
- Remove non-compliant RRVCs from service, limit remaining RRVCs. The inspectors noted that only a limited number of RRVCs remained in service.

The inspectors determined that the licensee had completed all corrective actions. This item is closed.

VIO 70-27/2008-202-06

This item tracks the licensee's corrective actions for the failure to comply with ANSI/ANS 8.5. ANSI/ANS 8.5, Section 5.5 requires that the level of solution shall not exceed the level of uniformly packed rings. The pump configuration of the RRVCs violated ANSI/ANS 8.5, Section 5.5 since the pump was capable of increasing the solution level above the Raschig rings.

The inspectors identified three corrective actions related to this violation.

- Revise recovery procedures to include ring check on vacuums returned for inventory or ring washing. The inspectors noted that recovery area procedure OP0031128 has been revised to check ring level whenever an RRVC is returned to uranium recovery.
- Revise license commitments regarding definition of daily inspection. The inspector noted that a license amendment had been submitted on May 28, 2008.
- Remove non-compliant RRVCs from service, limit remaining RRVCs. The inspectors noted that only a limited number of RRVCs remained in service.

The inspectors determined that the licensee had completed all corrective actions. This item is closed.

9.0 Exit Meeting

The inspectors presented the inspection scope and results to members of the licensee's management and staff during an exit meeting on October 10, 2008. The licensee acknowledged and understood the findings as presented.

SUPPLEMENTARY INFORMATION

1.0 List of Items Opened, Closed, and Discussed

Items Opened

NCV 70-27/2008-205-01	Failure to limit the quantity of fissile material in a decontamination area.
VIO 70-27/2008-205-02	Failure to conduct operations according to administrative limits (e.g., spacing of fuel) established by NCS and provided on an NCS posting.

Items Closed

NCV 70-27/2008-205-01	Failure to limit the quantity of fissile material in a decontamination area.
VIO 70-27/2008-202-03	Failure to comply with fill and check procedures for RRVC's.
VIO 70-27/2008-202-05	Failure to establish double contingency for RRVCs.
VIO 70-27/2008-202-06	Failure to comply with ANSI/ANS 8.5 during operation of RRVCs.

2.0 Event Reports Reviewed

EN 44313	Closed	Scrapped Hastalloy columns with excess fissile material in a decontamination area.

3.0 Inspection Procedures Used

IP 88015	Nuclear Criticality Safety Program
IP 88016	Nuclear Criticality Safety Evaluations and Analyses
IP 88017	Criticality Alarm Systems

4.0 Partial List of Persons Contacted

BWXT

J. Burch	Manager, Operations
R. Cochrane	General Manager
D. Faidley	Manager, Nuclear Criticality Safety
C. Goff	Engineer, Licensing and Safety Analysis
D. Ward	Manager, EHS&S
C. Yates	Manager, Nuclear Safety & Licensing

Attachment

NRC

T. Marenchin	Criticality Safety Inspector, NRC HQ
D. Morey	Senior Criticality Safety Inspector, NRC HQ
S. Subosits	Senior Resident Inspector, NRC Region II

5.0 List of Acronyms

BWXT	BWX Technologies, Inc. (Licensee)
CAAS	Criticality Accident Alarm System
CR	Change Request
IP	inspection procedure
IROFS	item relied on for safety
ISA	integrated safety analysis
NCS	nuclear criticality safety
NCSE	nuclear criticality safety evaluation
NOV	Notice of Violation
RTRT	Research Test Reactor and Target
RWP	Radiological Work Permit
SER	Safety Evaluation Report
SNM	Special Nuclear Material
VIO	violation
NCV	non-cited violation
RRVC	Raschig ring filled vacuum cleaners