

December 20, 2006

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

**SUBJECT: NUCLEAR REGULATORY COMMISSION (NRC) INSPECTION REPORT NO.
71-0088/2006-201 AND NOTICE OF VIOLATION**

Dear Mr. Cochrane:

This refers to the inspection conducted November 13-17, 2006, at BWX Technologies, Incorporated (BWXT) in Lynchburg, VA. The inspection was conducted to determine if BWXT's activities associated with the transportation of radioactive material were being performed in accordance with the requirements of 10 CFR Parts 21 and 71, applicable certificates of compliance, and BWXT's NRC-approved quality assurance program. The team inspected BWXT's management, design, fabrication, and maintenance activities. The enclosed report presents the results of this inspection.

Based on the results of this inspection, the NRC has determined that violations of NRC requirements occurred. The violations are cited in the enclosed Notice of Violation (Notice) and the circumstances surrounding them are described in detail in the subject inspection report. The violations are being cited in the Notice because they were identified by the NRC.

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 2.790 of the NRC's "Rules of Practice," a copy of this letter, its enclosures, and your response will be made available electronically for public inspection in the NRC Public Document Room or from the NRC's document system (ADAMS), accessible from the NRC Web site at <http://www.nrc.gov/reading-rm/adams.html>. To the extent possible, your

R. Cochrane

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response should not include any personal privacy, proprietary, or safeguards information so that it can be made available to the public without redaction.

Sincerely,

/RA/

Robert J. Lewis, Chief
Rules, Inspections and Operations Branch
Licensing and Inspection Directorate
Division of Spent Fuel Storage and Transportation
Office of Nuclear Material Safety
and Safeguards

Docket No. 71-0088

Enclosures:

1. NRC Inspection Report No. 71-0088/2006-201
2. Notice of Violation

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-2-

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**U.S. NUCLEAR REGULATORY COMMISSION
Office of Nuclear Material Safety and Safeguards
Spent Fuel Project Office**

Inspection Report

Docket: 71-0088

Report: 71-0088/2006-201

Certificate Holder: BWX Technologies, Incorporated (BWXT)
P.O. Box 785
Lynchburg, VA 24505-0785

Inspection Dates: November 13-17, 2006

Inspection Team: Frank Jacobs, Team Leader, Division of Spent Fuel Storage and
Transportation (SFST)
James Pearson, Inspector, SFST
Michael Karmis, Inspector, SFST

Approved by: Robert J. Lewis, Chief
Rules, Inspections and Operations Branch
Division of Spent Fuel Storage and Transportation
Office of Nuclear Material Safety
and Safeguards



EXECUTIVE SUMMARY

BWX Technologies, Inc.
Nuclear Regulatory Commission (NRC) Inspection Report 71-0088/2006-201

From November 13 through November 17, 2006, the NRC conducted an announced inspection at the BWX Technologies, Incorporated (BWXT) facilities in Lynchburg, VA. The purpose of the inspection was to determine if BWXT's activities associated with the transportation of radioactive material were being performed in accordance with the requirements of 10 CFR Parts 21 and 71, applicable certificates of compliance (CoC), and BWXT's NRC-approved quality assurance (QA) program. The team inspected management, design, fabrication, and maintenance controls. The results of the inspection are summarized below and in Table 1.

Management Controls

In the area of management controls, the team assessed that, overall, BWXT's implementation of its QA program satisfied NRC requirements. The team identified violations of NRC requirements regarding inadequate control of superceded documents and inadequate procedures for controlling audit scheduling.

Design Controls

In the area of design controls, the team assessed that overall, BWXT's implementation of its QA program satisfied NRC requirements. The team identified a violation of NRC requirements regarding inadequate documentation of design changes.

Fabrication Controls

The area of fabrication controls was not evaluated separately in this inspection since BWXT has not recently engaged in package fabrication activities. It should be noted that many of the maintenance procedures and activities reviewed during the inspection would be applicable to fabrication activities.

Maintenance Controls

In the area of maintenance controls, the team assessed that, overall, BWXT's implementation of its QA program satisfied NRC requirements. The team identified violations of NRC requirements regarding an inadequate process for control of suppliers, and three examples of inadequate procedures for inspection and maintenance of packagings.

Table 1

Summary of Inspection Findings

Regulatory Requirement 10 CFR Section	Subject of Violation or Noncompliance	Number of Findings	Type of Finding	Report Section
71.111	Instructions, procedures, and drawings	5	Violation	2.1.2.4 2.2.2.2 2.4.2.1
71.113	Document control	1	Violation	2.1.2.3
71.115	Control of purchased material, equipment, and services	1	Violation	2.4.2.1

REPORT DETAILS

1. Inspection Purpose and Scope

The purpose of the inspection was to determine if BWXT's activities associated with the transportation of radioactive material were being performed in accordance with the requirements of 10 CFR Parts 21 and 71, applicable CoCs, and BWXT's NRC-approved QA program. The team observed selected activities; reviewed procedures and instructions; examined documents, records, and drawings; verified personnel training and qualifications; and interviewed personnel responsible for various activities.

BWXT holds QA Program Approval for Radioactive Material Packages, Approval Number 0088, Rev. 14. BWXT holds the following CoCs:

<u>Package Identification Number</u>	<u>Certificate Number</u>
USA/5086/B(U)F	5086
USA/5149/B()F	5149
USA/6357/AF	6357
USA/9250/B(U)F	9250
USA/9280/AF-85	9280
USA/9281/AF-85	9281

1.1 Inspection Procedures Used

IP 86001, "Design, Fabrication, Testing, and Maintenance of Transportation Packagings" and NUREG/CR 6314, "Quality Assurance Inspections for Shipping and Storage Containers."

1.2 List of Acronyms Used

BWXT	BWX Technologies, Inc.
CFR	Code of Federal Regulations
CoC	Certificate of Compliance
CR	Change Request
CSIR	Container Specification Inspection Report
M&TE	Measuring and Test Equipment
NRC	U.S. Nuclear Regulatory Commission
P.O.	Purchase Order
QA	Quality Assurance
QC	Quality Control
QWI	Quality Work Instruction
SARP	Safety Analysis Report for Packaging
SFST	Division of Spent Fuel Storage and Transportation

1.3 Persons Contacted

The team held an entrance meeting on November 13, 2006, to present the scope and objectives of the NRC inspection. On November 17, 2006, the team held an exit meeting to present the preliminary results of the inspection. The individuals present at the entrance and exit meetings are listed below in Table 2.

Table 2
Entrance and Exit Meetings Attendance

NAME	AFFILIATION	ENTRANCE	EXIT
Frank Jacobs	NRC	X	X
James Pearson	NRC	X	X
Michael Karmis	NRC	X	X
Geoff Wertz	NRC	X	X
Leah Morrell	BWXT	X	X
Chris Patterson	BWXT	X	
Mike Suwala	BWXT	X	X
Sandra Williams	BWXT	X	
Carl Yates	BWXT	X	X
Larry Wright	BWXT		X
Kevin Ferguson	BWXT		X
Travis Moss	BWXT		X
Shan Peters	BWXT		X
Theresa Brown	BWXT		X
Troy Nicks	BWXT		X
Scott Nagley	BWXT		X
James Calvert	BWXT		X

[REDACTED]

Joel Burch	BWXT		X
Roger Cochrane	BWXT		X

2. Inspection Details

2.1 Management Controls

2.1.1 Scope

The inspection of management controls focused on the areas of QA policy, nonconformance controls, documentation controls, and audit program. The team conducted personnel interviews and reviewed documents and records. The team reviewed corrective actions for findings in the previous inspection in 1999.

2.1.2 Observations and Findings

2.1.2.1 Quality Assurance Policy

The inspector reviewed with BWXT the recent and planned changes to the BWXT organization. The inspector discussed how any changes that would affect BWXT's NRC-approved 10 CFR Part 71 QA program description must be submitted to and approved by the NRC prior to implementation for Part 71 activities.

The inspector reviewed the BWXT organizational chart and interviewed the QA Manager for Part 71 activities regarding the functions and independence of the quality organization. The inspector reviewed selected portions of "Quality Assurance Plan for NPD Shipping Program," Rev. 15, dated November 2004, and associated Quality Work Instructions (QWIs). The inspector interviewed the Transportation Administrator and reviewed training and proficiency documentation in regard to Part 71 transportation activities. The inspector reviewed qualification records for one BWXT [REDACTED] inspector from a total of seven inspectors, and noted that the BWXT inspector's training, qualification, and visual acuity were tracked and adequately documented. Documentation of personnel training and proficiency was found to be adequate.

The inspector interviewed an [REDACTED] Foreman III about how BWXT ensures qualified personnel are assigned to perform activities affecting quality. The foreman described a recent document review of qualification records for personnel performing inspections of shipping containers and associated spare parts. The review resulted in Corrective Action BWX_2012600 which identified that four qualified inspectors did not have form Q39-G0068 (Qualification Record-Shipping Container Inspection) on file to document the qualification process. The Foreman III indicated at the time of the inspection the records had been completed and filed for the appropriate personnel. The inspector also interviewed the Shipping Supervisor in order to determine the qualification and training of personnel performing Part 71 transportation activities, and discussed initial, on-the-job, refresher, and remedial training.

The inspector reviewed BWXT procedures RMS-17, Rev. 10, "Training," and OP 0756208, Rev. 8, "Operating Procedure for Inspection Qualification and Requalification." The inspector noted that OP 0756208 provided guidance and direction for training, qualification, and maintenance of

[REDACTED]

[REDACTED]

inspector and/or management/engineering qualification personnel (primarily for dimensional inspection personnel). The inspector also reviewed the "Certification of Training for Transportation of Hazardous and Radioactive Materials and Training for the Safe Transport of Dangerous Goods by Air" form and discussed its use with the Shipping Supervisor. In addition the inspector reviewed a listing of personnel found on BWXT Form 50, Rev. 3, "Employee Review of Area Documents." This particular form had been completed to support training in regard to BWXT Procedure RMS-02, Attachment 16, Rev. 1, "CSIR for CoC 9250" and RMS-24, Rev. 4, "Manual Leak Testing of Shipping Containers." The inspector noted that this training occurred in October 2005 and included the names of the two BWXT personnel who performed the leak testing observed by the inspector and discussed elsewhere in this report. The inspector noted that the operating procedure included specific direction on personnel selection, qualification, and requalification.

2.1.2.2 Nonconformance Controls

The inspector reviewed procedures used for the various problem reporting mechanisms, reviewed a sample of problem reports, and interviewed personnel responsible for the monitoring and trending of problem reports to determine that nonconformances were identified, dispositioned, trended and managed as required in the BWXT QA Plan.

The inspector reviewed the nonconformance reporting system and the associated review board. The nonconformance process was supported by computer software that managed the initiation, evaluation, and closure processes. Trending and tracking was accomplished and management reports were generated. A sample of nonconformance reports were reviewed and found to be well documented, evaluated for the root causes, and assigned to responsible management for closure. Verification and validation of closure of the nonconformances was accomplished by the QA organization during periodic audits.

The inspector noted that no specific trending had been performed for Part 71 transportation activities. The inspector discussed with BWXT the potential value of specifically trending Part 71 activities, since activity in this area is sporadic and usually not of high volume, and significant information could be diluted and undetected in the large population of data provided from other BWXT activities.

The inspector observed that documents required to be posted by 10 CFR Part 21 were posted as required in a conspicuous location on Regulatory Board #1. BWXT stated that there were additional Regulatory Boards in the facility with the same information. The inspector reviewed QWI 13.1.3, Rev. 2, "10 CFR 21 Reporting." All procurement documents reviewed during the inspection properly identified the provisions of Part 21 when appropriate.

2.1.2.3 Documentation Controls

The inspector interviewed personnel responsible for documentation controls and reviewed BWXT procedures QWI-5.1.11, Rev. 7, "Drawing Control System;" QWI-14.1.1, Rev. 3, "Corrective Action System;" and QWI-14.1.7, Rev. 3, "Design Drawing Compliance Review."

The NovaManage document control management computer system is used to maintain the controlled copies of documents at BWXT. No provisions for using uncontrolled versions of

[REDACTED]

documents were identified. The inspector observed that the responsible Technical Engineer for the 5X22 package was using an outdated version (October 1992) of the SARP and the associated drawings for the 5X22 package. The inspector further observed that SARPs for transportation packagings were not maintained in the NovaManage system. BWXT issued CA_BWX_2012777 proposing to add to NovaManage the SARPs for the two containers currently being used, and to add an index to NovaManage for inactive SARPs.

10 CFR 71.113, "Document control," requires, in part, that the licensee and certificate holder shall establish measures to control the issuance of documents, including changes, that prescribe all activities affecting quality, and assure the documents are distributed and used at the location where the prescribed activity is performed. The failure of BWXT to assure current, controlled versions of the SARP and its associated drawings were being used by the responsible engineer is considered a violation of 10 CFR 71.113.

2.1.2.4 Audit Program

The inspector reviewed procedures QWI 17.1.2, Rev. 13, "Internal Audit Program," and QSP 17.1, Rev. 7, "Internal Audit Program," and interviewed lead auditors regarding the internal audit program. Changes at BWXT recently reduced the number of auditors from six experienced auditors to three experienced and two new auditors. There had been recent procedure changes and another change was in review during the inspection.

The inspector noted that the QA Plan for Transportation was revised in 2004 in order to provide for periodic, instead of annual, auditing of the 18 elements of Subpart H of Part 71. The inspector assessed that procedural guidance implementing the audit program was general in nature, and did not adequately document the criteria to be used for determining the periodicity for audit of each of the elements. A review of the audit schedule for the years 2005 and 2006 revealed that some elements had not been audited since 2004, but there was no apparent documentation of the basis for not auditing those areas, nor a schedule for when the areas would be audited. The 2007 schedule was not due at the time of the inspection and had not been issued. The inspector interviewed the lead auditor assigned the task of developing the schedule in the upcoming weeks, and found the auditor was not fully familiar at that time with what guidance and input would be used for selecting the elements to be audited. Corrective Action BWX_2012757 was written to address the audit scheduling process.

10 CFR 71.111, "Instructions, procedures, and drawings," requires, in part, that the licensee and certificate holder shall prescribe activities affecting quality by documented procedures of a type appropriate to the circumstances, and that the procedures must include appropriate quantitative or qualitative acceptance criteria for determining that important activities have been satisfactorily accomplished. The failure of BWXT to adequately document the process for performing planned and periodic internal audits to verify compliance with all aspects of the QA program is considered a violation of 10 CFR 71.111.

The inspector reviewed a sample of auditor training and qualification records. No concerns were noted. The inspector reviewed the last two audits of Part 71 activities, which were limited to only selected elements of Subpart H as discussed above, and the associated corrective actions. The audits appeared to be in-depth and well-documented.

[REDACTED]

The inspector reviewed QWI 6.1.2, Rev. 3, "Evaluation of New Contractors," QWI 6.1.7, Rev. 8, "Supplier Quality System Evaluation Program," and QWI 6.1.10, Rev. 4, "Approved Subcontractors." The inspector interviewed a lead auditor and buyer regarding qualification of suppliers. BWXT maintains the list of approved suppliers on the "BWXT Composite Subcontractor Listing" which is updated annually in NovaManage. A current and more detailed listing is maintained by the buyer responsible for ensuring purchase orders are placed with an approved supplier. QWI 6.1.7 provides that quality evaluations shall be performed on active suppliers at least every 12 months. QWI 6.1.10 provides that Category 1 and certain Category 2 procurements are placed with approved suppliers. Supplier audits are performed as needed and there was no recent activity. The inspector reviewed sample supplier files and assessed the documentation to be adequate.

2.1.3 Conclusions

In the area of management controls, the team assessed that, overall, BWXT's implementation of its QA program satisfied NRC requirements. The team identified violations of NRC requirements regarding inadequate control of superceded documents and inadequate procedures for controlling audit scheduling.

2.2 Design Controls

2.2.1 Scope

The inspector interviewed personnel, reviewed procedures that govern design control, and reviewed design records.

2.2.2 Observations and Findings

2.2.2.1 Design Development

No new transportation package design efforts were in process or planned at BWXT. The inspector reviewed BWXT procedures for design control, design change control, and nonconformance reporting. QWI-5.1.11, "Drawing Control System," Rev. 7, and QWI-14.1.7, "Design Drawing Compliance Review," Rev. 3, are used to control changes to drawings. The inspector reviewed a sample of problem reports, and interviewed personnel responsible for design control of the CoCs for BWXT transportation packagings. The inspector reviewed the CoCs and associated drawings for the UNC-2600 and 5X22 transportation packagings.

2.2.2.2 Modifications

The inspector reviewed BWXT change management procedures, processes and computer systems supporting change management of transportation packagings. The inspector reviewed Change Requests and compared them to the latest controlled CoC files maintained in licensing.

The inspector noted that BWX Technologies Inc., N52, Rev. 01, Change Request (CR) Safety Analysis Report For Packaging Application For License Docket 71-9250 [REDACTED] CR-1020204, Rev. 00, date prepared 3/17/05, and CR-1020202, Rev. 00, which included a change concerning torque values on 5X22 fasteners, was processed and approved, but did not reflect the final

[REDACTED]

resolution of the proposed change and the subsequent submittal to the NRC.

This failure to adequately document the final resolution of a Change Request for the 5X22 package is considered a violation of 10 CFR 71.111, "Instructions, procedures, and drawings."

2.2.3 Conclusions

In the area of design controls, the team assessed that, overall, BWXT's implementation of design control is adequate. However, the team identified a violation of NRC requirements regarding inadequate documentation of design changes.

2.3 Fabrication Controls

The area of fabrication controls was not evaluated separately in this inspection since BWXT has not recently engaged in package fabrication activities. It should be noted that many of the maintenance procedures and activities reviewed during the inspection would be applicable to fabrication activities.

2.4 Maintenance Controls

2.4.1 Scope

The inspection of maintenance controls focused on activities associated with two frequently used packagings and included a review of other available packagings. The inspector observed packagings, facilities, tools, and equipment; observed leak testing; reviewed procedures purchase orders, records, and packaging documentation; and interviewed personnel.

2.4.2 Observations and Findings

2.4.2.1 Maintenance Activities

The inspector noted BWXT procurement procedures provide that BWXT is not required to perform an evaluation of suppliers having an NRC-approved QA program prior to placement of an order for a package or component procured to Part 71 requirements. QWI 6.1.13, Rev. 1, "Procurement of Materials, Components, and Services for Radioactive Material Shipping Containers," paragraph 6, states, "Vendor procedures governing special processes to be performed by vendors having a NRC approved QA plan do not require BWXT approval." Paragraph 7.1, action 13, states, "No pre-selection review is required for vendors that have a NRC approved QA plan." This provision was applied to purchases from FBF Nuclear Containers, as revealed in a review of a data package for 5X22 locking rings procured in April 2003 and a data package for 5X22 containers procured in June 2005. NRC approval of a supplier's QA program is not an adequate basis for BWXT to qualify a supplier for its specific requirements to assure material and services conform to procurement requirements. Corrective Action BWX_2012898 was written to address the use of NRC approval of supplier QA programs for procurement purposes.

10 CFR 71.115, "Control of purchased material, equipment, and services," requires, in part, that the licensee and certificate holder shall establish measures to assure that purchased material,

[REDACTED]

equipment, and services conform to procurement documents. The failure of BWXT to provide a process to adequately evaluate suppliers providing items important to safety, without additional provisions to assure conformance to procurement documents, is considered a violation of 10 CFR 71.115.

The inspector inspected a sample of 37 Model 5X22 packages and verified that the inner and outer serial numbers matched and that the packages were in adequate condition for shipment. The inspector also witnessed BWXT inspection personnel performing periodic inspections according to the BWXT Periodic Container Inspection Report for CoC 9250, Model 5X22, Revision 0, October 1, 2004. The inspector and BWXT Personnel simultaneously observed that the installed ring bolts did not contain the appropriate head markings as required by CoC 9250 and drawing 1220277 E, "5X22 Shipping Container Licensing Drawing," Rev. 8, dated 6/24/2004; as well as associated procurement drawing SD-11470 E, "5X22 Shipping Container," Rev. 3, dated 2/20/96. The inspector noted that the inspection procedure was not adequate to detect the nonconformance. Corrective Action BWX_2012919 was written to address potential procedure changes.

10 CFR 71.111, "Instructions, procedures, and drawings," requires, in part, that the licensee and certificate holder shall prescribe activities affecting quality by documented procedures of a type appropriate to the circumstances, and that the procedures must include appropriate quantitative or qualitative acceptance criteria for determining that important activities have been satisfactorily accomplished. The failure of BWXT to provide adequate procedural guidance for ensuring compliance of the ring bolts with the CoC requirement is considered a violation of 10 CFR 71.111.

While observing the periodic inspection by BWXT personnel, the inspector noted an apparent lack of lubricant residue on the inner vessel bolt threads. CoC 9250, Section 7.1, paragraph 5, requires that the inner vessel bolt threads be lubricated during assembly. The inspector reviewed the CSIR for 5X22 containers and noted that the CSIR was not adequate for ensuring accomplishment of the CoC requirement for lubrication of fasteners. Corrective Action BWX_2012919 was written to address potential procedure changes.

10 CFR 71.111, "Instructions, procedures, and drawings," requires, in part, that the licensee and certificate holder shall prescribe activities affecting quality by documented procedures of a type appropriate to the circumstances, and that the procedures must include appropriate quantitative or qualitative acceptance criteria for determining that important activities have been satisfactorily accomplished. The failure of BWXT to provide adequate procedural guidance for ensuring the inner vessel fasteners are lubricated in accordance with the CoC requirement is considered a violation of 10 CFR 71.111.

The inspector performed only a partial exterior inspection of six [REDACTED]-10 packagings due to inaccessibility of the stored packagings. No obvious detrimental damage existed nor was there any more than superficial rust on what could be seen of the packaging surfaces.

The inspector performed an inspection of both the exterior and interior of one UNC-2600 packaging, Serial # CF-06. BWXT Personnel stated that United Nuclear Corporation (UNC) transferred the CoC to BWXT. The inspector noted that no significant damage existed and that all visible welds were intact. The inspector noted the ring seal bolt on the UNC-2600 container

[REDACTED]

did not have the proper headmarkings for a Grade 5 bolt required by the CoC drawing B-2600-2; "UNC-2600 Upgraded Package," Rev. 1, dated 8/27/93. The inspector reviewed the CSIR for UNC-2600 containers and noted that the CSIR was not adequate for ensuring compliance of the ring seal bolt with the CoC requirement. Corrective Action BWX_2012914 was written to address potential procedure changes.

10 CFR 71.111, "Instructions, procedures, and drawings," requires, in part, that the licensee and certificate holder shall prescribe activities affecting quality by documented procedures of a type appropriate to the circumstances, and that the procedures must include appropriate quantitative or qualitative acceptance criteria for determining that important activities have been satisfactorily accomplished. The failure of BWXT to provide adequate procedural guidance for ensuring compliance of the ring seal bolt with the CoC requirement is considered a violation of 10 CFR 71.111.

The inspector reviewed procedures used for the test and inspection. The inspector observed portions of the leak testing of three Model 5X22 packagings (S/N 04096, S/N 04082, and S/N 04078). The testing was performed in accordance with RMS-24, Rev. 4, "Manual Leak Testing of Shipping Containers," and the testing results were documented on the BWXT data sheet form "Manual 5X22 Leak Test Results, EA-734, Revision 2." Following the testing, the inspector reviewed the documentation of the testing results for all of the containers tested. The inspector noted that the recorded start time for a subsequent test with the same gage was the same or earlier than the recorded end time for the previous test with that gage. This condition was also observed in the review of a separate data package. Subsequent to the inspection, BWXT provided additional information to the inspector on November 21, 2006, regarding the time entries. BWXT determined that two different timing devices were used for recording the times, which presented the appearance of overlapping dwell times, but considered that the tests had been done correctly. BWXT stated the procedure would be revised to require a single timing device, and Corrective Action BWX_2012909 was written to address the procedure revision.

The inspector reviewed two purchase orders for a sample of the more recent procurements for Part 71 transportation activities. P.O. # WLC-00514, Rev. 000, dated 10/23/02, was written to procure 250 locking rings, bolts and nuts, to be used on new or existing 5X22 transportation packages. The P.O. required that the locking rings be supplied according to the technical specification CR-1010342, Rev. 0, dated 7/17/02, which the inspector also reviewed. Specification CR-1010342 provided the design, receipt inspection, and quality requirements, as well as contract data and documentation requirements which support the requirements of the CoC and QWI-6.1.13, "Procurement of Materials, Components, and Services for Radioactive Material Shipping Containers." The inspector reviewed associated Requisition No. 122205, and observed a sample of locking rings on site to verify each locking ring was marked with the P.O. number as required by the requisition. The inspector reviewed the BWXT data package dated 4/7/03, which includes inspection reports, checklists, and supplier material certifications. All reviewed documentation associated with the locking ring P.O. was found to be adequate.

The second purchase order reviewed by the inspector was P.O. # WLC-00.545, Rev. 000, written to procure 60 5X22 containers, and associated Requisition No. 122232 and Technical Specification No. PWG-10/19/99, Rev. 3, "5X22 Shipping Containers," dated June 23, 2004. The inspector also reviewed the BWXT Data Package, dated 6/17/05, for the acceptance of the

[REDACTED]

60 5X22 containers. This data package included a checklist for receipt inspection of the certification of completed containers, inner vessel leak reports, material certifications, inner vessel production inspection report, NDE inspection reports, and supplier material certifications. The reviews determined the P.O. had met the requirements of QWI-6.1.13, Rev. 1, and the supplier had met the requirements of the P.O. The P.O. and associated documents reviewed were found to be adequate with the exception of checklist form EA-734, Rev. 2, "Manual 5X22 Leak Test Results," where the documented results of the testing performed for four 5X22 containers (Gov. IL-04065, 04079, 04080, and 04097) appear to indicate time overlaps for the gages used in testing. This was a repeat of the condition found for leak testing observed on 11/16/06 and discussed above.

2.4.2.2 Tools and Equipment

The inspector interviewed the BWXT Calibration Services Engineer to determine the adequacy of the control of measuring and test equipment (M&TE) used for inspection in Part 71 activities. The inspector also reviewed BWXT procedure OP-1000180, Rev. 17, "Operating Procedure for Calibration Services (U)," and determined that adequate controls were provided for calibrated M&TE, as well as for suspect tools and equipment.

The inspector interviewed the BWXT SGHX Foreman III and one of the BWXT inspectors who performs inspection activities affecting quality under Part 71. The BWXT inspector described where and how the calibrated equipment used by BWXT Part 71 packaging inspectors was issued at the working level and also how BWXT calibrated equipment as a whole is controlled at the facility level. The inspector examined the storage of a sample of the equipment at the working level and identified that adequate identification and calibration controls were in place. The inspector determined that the gage blocks used by the BWXT inspector were adequately identified and controlled. During the performance of BWXT maintenance activities the inspector also inspected two pressure test gages (ACE 02773 and ACE 02777) and a torque wrench (ACE 02824). No discrepancies were noted.

2.4.3 Conclusions

In the area of maintenance controls, the team assessed that, overall, BWXT's implementation of its QA program satisfied NRC requirements. The team identified violations of NRC requirements regarding an inadequate process for control of suppliers, and three examples of inadequate procedures for inspection and maintenance of packagings.

3. **Exit Meeting**

An exit meeting was conducted by the team on November 17, 2006. The team's preliminary findings and assessments were presented at the meeting. BWXT personnel at the meeting acknowledged the team's findings and did not state any disagreement with the preliminary findings and their characterization. Subsequent to the exit meeting, BWXT provided some additional information regarding the findings. This additional information is reflected in the inspection details above.

[REDACTED]

NOTICE OF VIOLATION

BWX Technologies, Inc.
Lynchburg, VA

Docket No. 71-0088

During an NRC inspection conducted on November 13-17, 2006, violations of NRC requirements were identified. In accordance with the "General Statement of Policy and Procedure for NRC Enforcement Actions," NUREG-1600, the violations are listed below:

- A. 10 CFR 71.111, "Instructions, procedures, and drawings," requires, in part, that the licensee and certificate holder shall prescribe activities affecting quality by documented procedures of a type appropriate to the circumstances, and that the procedures must include appropriate qualitative and quantitative acceptance criteria for determining that important activities have been satisfactorily accomplished.

Contrary to the above, five examples of inadequate procedures were found:

1. The inspection procedure for 5X22 packages was not adequate to ensure the ring bolts were in compliance with the Certificate of Compliance.
2. The inspection procedure for UNC-2600 packages was not adequate to ensure the ring seal bolt was in compliance with the Certificate of Compliance.
3. The inspection procedure for 5X22 packages was not adequate to ensure inner vessel fasteners were lubricated as required by the Certificate of Compliance .
4. The procedural guidance implementing the audit program did not adequately document the process for performing planned and periodic internal audits to verify compliance with all aspects of the QA program.
5. The Change Request concerning torque values on 5X22 fasteners was not adequately documented to reflect the final resolution from the design change process.

This is a Severity Level IV violation (Supplement V).

- B. 10 CFR 71.113, "Document control," requires, in part, that the licensee and certificate holder shall establish measures to control the issuance of documents, including changes, that prescribe all activities affecting quality, and assure the documents are distributed and used at the location where the prescribed activity is performed.

Contrary to the above, an engineer was observed using an outdated version of the SARP and associated drawings for the 5X22 package.

This is a Severity Level IV violation (Supplement V).

- C. 10 CFR 71.115, "Control of purchased material, equipment, and services," requires, in

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part, that the licensee and certificate holder shall establish measures to assure that purchased material, equipment, and services conform to procurement documents.

Contrary to the above, BWXT procedure "Quality Work Instruction," Revision 1, Page 6 of 9, Section 7.1, Action No. 13, provides that suppliers having NRC-approved QA programs do not require a preselection evaluation by BWXT.

This is a Severity Level IV violation (Supplement V).

Pursuant to the provisions of 10 CFR 2.201, TN is hereby required to submit a written statement or explanation to the U.S. Nuclear Regulatory Commission, ATTN: Document Control Desk, Washington, DC 20555, with a copy to Robert J. Lewis, Chief, Rules, Inspections and Operations Branch, Licensing and Inspection Directorate, Division of Spent Fuel Storage and Transportation, Office of Nuclear Material Safety and Safeguards within 30 days of the date of the letter transmitting this Notice of Violation. 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 or severity level, (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 previous 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 a Demand for Information may be issued as to why the license should not be modified, suspended, or revoked, or why such other action as may be proper should not be taken. Where good cause is shown, consideration will be given to extending the response time.

If you contest this enforcement action, you should also provide a copy of your response, with the basis for your denial, to the Director, Office of Enforcement, United States Nuclear Regulatory Commission, Washington, DC 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 (ADAMS), 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 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 2.390(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 the Notice within two working days.

Dated this 20th day of December 2006.