



UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

January 27, 2025

MEMORANDUM TO: Russell Felts, Director
Division of Reactor Oversight
Office of Nuclear Reactor Regulation

FROM: Kerri A. Kavanagh, Chief
Quality Assurance and Vendor Inspection Branch
Division of Reactor Oversight
Office of Nuclear Reactor Regulation

A handwritten signature in blue ink, appearing to read "Kerri Kavanagh".

Signed by Kavanagh, Kerri
on 01/27/25

SUBJECT: TRIP REPORT BY THE NUCLEAR REGULATORY COMMISSION
STAFF OF THE NUPIC JOINT UTILITY AUDIT OF BWXT CANADA,
LTD.

On December 2 - 6, 2024, Yamir Diaz-Castillo, of the Office of Nuclear Reactor Regulation, Division of Reactor Oversight, Quality Assurance and Vendor Inspection Branch, observed the performance of a Nuclear Procurement Issues Corporation (NUPIC) joint utility audit of BWXT Canada, Ltd., in Cambridge, Ontario, Canada. Vistra led the audit, with participation from Ontario Power Generation, Bruce Power, New Brunswick Power, Arizona Public Service, Duke Energy, Constellation Energy, and American Electric Power, using Revision 23 of the NUPIC checklist. The BWXT Canada, Ltd. audit number is 25523. The purpose of the staff's observation was to assess the NUPIC quality assurance audit process used for suppliers of components to the nuclear industry. The trip report of the staff's observations includes a list of the NUPIC audit team members that participated in the audit.

CONTACT: Yamir Diaz-Castillo, NRR/DRO/IQVB
301-415-2228

SUBJECT: TRIP REPORT BY THE NUCLEAR REGULATORY COMMISSION STAFF OF
THE NUPIC JOINT UTILITY AUDIT OF BWXT CANADA, LTD.
DATE: January 27, 2025

DISTRIBUTION

RFelts, NRR
ABowie, NRR
PMcKenna, NRR
NRR_DRO_IQVB Distribution
gabriele.giobbe@cnsccsn.gc.ca
Gabriela.Morogan@Luminant.com
Milton.Concepcion@constellation.com

ADAMS Accession No.: ML25022A200 NRR-106

OFFICE	NRR/DRO/IQVB	NRR/DRO/IQVB
NAME	YDiaz-Castillo	KKavanagh
DATE	1/23/2025	1/27/2025

OFFICIAL RECORD COPY

NUCLEAR PROCUREMENT ISSUES CORPORATION (NUPIC)
AUDIT OBSERVATION TRIP REPORT

Vendor Audited: BWXT Canada, Ltd.
581 Coronation Blvd.
Cambridge, Ontario
N1R 3E9, Canada

Lead Licensee: Vistra

Lead Contact: Gabriela Morgan
NUPIC Lead Auditor
Vistra
Phone: 469-895-5769
Email: gabriela.morogan@luminant.com

Nuclear Industry Activity: BWXT Canada, Ltd.'s scope of supply includes ASME Code Section III Class 1, 2, & 3 and non-Code pressure vessels, parts and appurtenances, and associated design engineering services.

Observation Dates: December 2 - 6, 2024

Observer: Yamir Diaz-Castillo NRR/DRO/IQVB Team Lead

Approved by: Kerri A. Kavanagh, Chief
Quality Assurance and Vendor Inspection Branch
Division of Reactor Oversight
Office of Nuclear Reactor Regulation

Subject

This trip report documents observations made by members of the U.S. Nuclear Regulatory Commission (NRC), Office Nuclear Reactor Regulation (NRR), Division of Reactor Oversight (DRO), during a Nuclear Procurement Issues Corporation (NUPIC) joint utility audit conducted on December 2 - 6, 2024, at the BWXT Canada, Ltd.'s (hereafter referred to as BWXT) facility in Cambridge, Ontario, Canada.

Background/Purpose

NUPIC was formed in 1989 by a partnership involving all domestic and several international nuclear utilities. The NUPIC program evaluates suppliers furnishing safety-related components, services, and commercial-grade items to nuclear utilities. This NUPIC audit was performed using Revision 23 of the NUPIC audit checklist and the results will be provided to NUPIC members that procure parts and services from BWXT.

The purpose of the NUPIC audit was to evaluate the implementation and effectiveness of BWXT's Quality Assurance (QA) Program at the Cambridge, Ontario, Canada, facility. The NUPIC audit team was comprised of individuals from the following NUPIC member utilities: Vistra, Ontario Power Generation, Bruce Power, New Brunswick Power, Arizona Public Service, Duke Energy, Constellation Energy, and American Electric Power. The NUPIC audit team consisted of 10 audit team members and one technical specialist. The technical specialist's responsibility was to verify BWXT's ability to control critical areas identified on the Performance Based Supplier Audit Worksheet (PBSA).

The purpose of the NRC staff's observation of this audit was to ensure that the NUPIC audit process continues to meet the requirements of Appendix B, "Quality Assurance Criteria for Nuclear Power Plants and Fuel Reprocessing Plants," to Title 10 of the *Code of Federal Regulations* (10 CFR) Part 50, "Domestic Licensing of Production and Utilization Facilities." The NRC staff implemented Inspection Procedure 43005, "NRC Oversight of Third-Party Organizations Implementing Quality Assurance Requirements," during the observation.

Mr. Gabriele Giobbe, from the Canadian Nuclear Safety Commission, also observed the NUPIC joint utility audit. These observations foster the exchange of information and experiences among regulatory organizations and provide insights to the effectiveness of the licensees' oversight of international vendors that is consistent with the objectives of the Working Group on the Supply Chain from the Committee on Nuclear Regulatory Activities.

Observation Activities

The NRC staff independently assessed and reviewed BWXT's implementation of selected portions of their QA program to evaluate whether NUPIC effectively identified and responded to issues. BWXT provided the QA manual, implementing procedures, and samples of completed work products including, but not limited to, design packages, commercial-grade item documentation, training and qualification records, and testing reports to the NUPIC audit team. The BWXT QA manual is based on the American Society of Mechanical Engineers (ASME) Nuclear Quality Assurance standard NQA-1-2015, "Quality Assurance Requirements or Nuclear Facility Applications."

The NRC staff observed that NUPIC appropriately focused their audit efforts on the criteria from Appendix B to 10 CFR Part 50 most relevant to BWXT's activities. In addition, the NRC staff observed the NUPIC technical specialist focused on the critical areas described in the PBSA and the technical specialist's conclusions were drawn from a review of objective evidence reflective of BWXT's performance. The NRC observers reviewed samples of the documentation provided by BWXT for the NUPIC audit team to draw independent conclusions. The NRC staff participated in discussions between the NUPIC audit team members and BWXT staff, while refraining from directing or leading the NUPIC audit team members, as to not interfere with the conduct of the NUPIC audit.

The QA areas reviewed during the audit included the following: contract review, design, commercial-grade dedication, software quality assurance, procurement, fabrication/assembly activities, material control and handling, storage and shipping; special processes, tests, inspections and calibration; document control/adequacy, organization/program, nonconforming items/10 CFR Part 21, "Reporting of Defects and Noncompliance," internal audits, corrective action, and training/certification. The NRC staff accompanied the NUPIC audit team members while they performed walkthroughs of portions of the facility and interviews of BWXT's personnel. While there was no safety-related work in progress for any U.S. licensee during the week of the audit, the NUPIC audit team determined that the requirements and processes being used for on-going work activities would be equivalent to that used by BWXT to satisfy safety-related work and would provide valid objective evidence necessary to fulfill the performance-based aspects of the audit.

The NRC staff also observed that BWXT has begun manufacturing activities, such as the bottom section of the reactor vessel for the GEH BWRX-300 small modular reactor to be operated in Canada.

Discussion

The NRC staff verified the NUPIC audit team adequately considered BWXT's scope of supply and observed work practices and completed work products to verify activities were performed in accordance with BWXT's QA program and the applicable procedures. The NRC staff confirmed the NUPIC audit team was implementing the latest revision of the NUPIC audit checklist, Revision 23, to conduct their assessment activities. The NRC staff observed the NUPIC audit team members completing sections of the NUPIC checklist and documenting objective evidence to support the conclusions discussed during the daily team meetings. The NRC staff also observed NUPIC's process for evaluating potential findings and deficiencies, including discussions during daily NUPIC debriefing activities with BWXT personnel. The NUPIC audit resulted in two findings and seven deficiencies. The findings were in the areas of commercial-grade dedication and internal audits, while the deficiencies were in the areas of commercial-grade dedication, software QA, fabrication/material control and storage (2 deficiencies), organization, nonconforming items/10 CFR Part 21, and internal audits.

Aside from the findings and deficiencies identified, the NUPIC audit team concluded that BWXT is effectively implementing their QA program in accordance with the applicable requirements of Appendix B to 10 CFR Part 50 and 10 CFR Part 21. The NRC staff observed that BWXT was generally receptive to the issues identified by the NUPIC audit team, and initiated corrective actions to address the issues identified.

During a walkdown of an offsite BWXT's facility and the shipping and receiving area within

BWXT's facility, the NUPIC audit team identified that there were no postings for 10 CFR Part 21 at either of these locations. The NUPIC audit team communicated to BWXT that since activities subject to the requirements of 10 CFR Part 21 could occur at these facilities, postings for 10 CFR Part 21 should be made in accordance with the requirements of 10 CFR 21.6, "Posting requirements." Subsequently, during discussions with BWXT's shop and inspection personnel, the NUPIC audit team observed that these personnel were not aware of the 10 CFR Part 21 regulation and/or what its requirements. The NRC staff clarified to both NUPIC audit team leaders (of record and in training), that while there are no training requirements documented in 10 CFR Part 21, as a good practice, any personnel involved in safety-related work should be familiarize and receive training in the requirements of 10 CFR Part 21.

Conclusion

The NRC staff observed the NUPIC audit team conduct a review of BWXT's QA program. The NRC staff confirmed that the NUPIC audit team focused on the most relevant portions of the QA program consistent with BWXT's scope of supply and performed their assessment activities through a combination of direct observation of in-process work activities and a review of completed work products. The NRC staff observed the daily team meetings to verify the NUPIC audit team was adequately addressing issues and effectively verifying the implementation of QA requirements. The NRC staff confirmed that the NUPIC audit team adequately implemented the guidance in the NUPIC audit checklist, documented objective evidence to support their conclusions, and conducted the audit in a courteous and professional manner. The NRC staff noted that the NUPIC audit team engaged the NRC throughout the audit, and when requested, provided clarification on regulatory positions.

The NRC also had access to all interactions between BWXT and the NUPIC audit team, as well as access to the same records reviewed by the NUPIC audit team. The NUPIC audit team was technically capable and effectively engaged BWXT; asking the right questions and challenging BWXT as required. The NRC staff concluded the NUPIC audit team met expectations, and NUPIC's oversight of activities were effectively implemented.

List of Participants

Name	Title	Affiliation	Entrance	Exit
Leonard Weaver	Audit Team Leader of Record	Vistra (VST)	X	X
Gabriela Morogan	Audit Team Leader in Training	VST	X	X
Cynthia Larson	Audit Team Member	American Electric Power	X	X
Jose Freire	Audit Team Member	Arizona Public Service	X	X
Sanjay Chitkara	Audit Team Member	Bruce Power	X	X
Milton Concepción	Audit Team Member	Constellation Energy	X	X
William Coll	Audit Team Member	Duke Energy	X	X
Patrick St. Onge	Audit Team Member	New Brunswick Power	X	X
Cathy Clavel	Audit Team Member	Ontario Power Generation (OPG)	X	X
Kamran Malik	Audit Team Member in Training	OPG	X	X
Luke Twarek	Technical Specialist	VST	X	X