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

April 5, 2018

MEMORANDUM TO: Tim J. McGinty, Director
Division of Construction Inspection
and Operational Programs
Office of New Reactors

FROM: Kerri A. Kavanagh, Branch Chief ***/RA/ RMcIntyre for***
Quality Assurance Vendor Inspection Branch-2
Division of Construction Inspection
and Operational Programs
Office of New Reactors

SUBJECT: TRIP REPORT BY THE NUCLEAR REGULATORY COMMISSION STAFF OF THE NUPIC JOINT UTILITY TEAM AUDIT AT JOSEPH OAT CORPORATION

On February 26 – March 2, 2018, staff from the Office of New Reactors (NRO), Division of Construction Inspection and Operational Programs, Quality Assurance Vendor Inspection Branch-2, observed the performance of a Nuclear Procurement Issues Committee (NUPIC) joint utility audit of Joseph Oat Corporation, Camden, NJ. NextEra Energy led the audit, with participation from Korean Hydro Nuclear Power, Public Service Electric and Gas Company, Dominion Energy, Exelon, & Entergy. The auditors used the NUPIC checklists to guide the review. 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 is enclosed.

Enclosure:
As stated

CONTACT: Raju B. Patel, NRO/DCIP/QVIB-2
(301) 415-3511

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Dated: April 5, 2018

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OFFICE	NRO/DCIP	NRO/DCIP	NRO/DCIP
NAME	THerrity	RPatel	KKavanagh (RMcIntyre for)
DATE	03/23/18	04/05/18	04/05/18

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NUCLEAR PROCUREMENT ISSUES COMMITTEE AUDIT
OBSERVATION TRIP REPORT

Vendor Audited:	Joseph Oat Corporation 2500 Broadway Camden, NJ 08104
Lead Licensee:	NextEra Energy (NEE)
Lead Contact:	Joe Piotrowski
Nuclear Industry Activity:	Joseph Oat Corporation, (hereafter referred to as JOC), designs and manufactures safety-related shell and tube heat exchangers and similar built-up components for the nuclear power industry. These components are provided in accordance with Title 10 of the *Code of Federal Regulations* Part 50 Appendix B, and the American Society of Mechanical Engineers NQA-1 Standard.
Observation Dates:	February 26 – March 2, 2018
Observers:	Raju B. Patel NRO/DCIP/QVIB-2 Thomas Herrity NRO/DCIP/QVIB-2
Management:	Kerri Kavanagh NRO/DCIP/QVIB-2
Purpose:	This trip report documents observations made by members of the Nuclear Regulatory Commission's (NRC) Office of New Reactors (NRO), Division of Construction Inspection and Operational Programs (DCIP), Quality Assurance Vendor Inspection Branch-2, during a joint utility audit conducted on February 26 – March 2, 2018, at the Joseph Oat Corporation facility located in Camden, NJ.

Enclosure

Background/Purpose

The Nuclear Procurement Issues Committee (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 and services, and commercial-grade items to nuclear utilities. The NUPIC audit team followed the NUPIC audit process and plans to provide the results to NUPIC members that procure components from Joseph Oat Corporation (JOC).

This audit was performed using the NUPIC Audit Checklist, Revision 20. The purpose of the audit was to evaluate the implementation and effectiveness of the JOC Quality Assurance (QA) Program. This audit team consisted of eight persons (seven auditors & one technical specialist), accompanied by two auditors in-training. The audit team was led by NextEra Energy (NEE) and included representatives from Korean Hydro & Nuclear Power (KHNP), Public Service Enterprise Group (PSEG), Exelon (EXL), Dominion Energy, NEE, and Entergy.

The purpose of the NRC staff's observation of this audit was to verify, by direct observation, the effectiveness of the NUPIC audit process to qualify vendors in accordance with the requirements of Appendix B to 10 CFR Part 50 and 10 CFR Part 21. The NRC staff implemented Inspection Procedure 43005, "NRC Oversight of Third-Party Organizations Implementing Quality Assurance Requirements," during the observation.

Discussion

JOC provided its QA manual and other implementing procedures to the NUPIC audit team after arrival at the facility due to the sensitivity of its contents. After the entrance meeting, the JOC management provided the NUPIC audit team and the NRC staff a tour of the JOC facilities. The NUPIC audit team reviewed the implementation of the requirements of Appendix B to 10 CFR Part 50 in the QA program and supporting implementing procedures, evaluated the documentation associated with the activities that had been performed, and discussed the activities with JOC personnel. The NUPIC audit team observed work practices to verify activities were in accordance with applicable procedures.

The quality areas reviewed during the audit included the following: design control, commercial-grade dedication (CGD), software QA, procurement, material control, special processes, tests and inspections, document control, training, organization, nonconforming items, corrective actions, internal audits, QA records and 10 CFR Part 21. In addition, a technical specialist assisted the NUPIC audit team on the review of special processes. The NUPIC audit team asked questions related to Safety Culture during audit activities on the shop floor. Based on each auditor assignment, the NUPIC team spent approximately 1/4 to 1/3 of its time on the shop floor, as opposed to time reviewing documents in the office. The NUPIC audit team conducted daily team meetings to discuss their observations and findings.

For the audit observation, two NRC staff members each verified a sample of the audit checklist review areas. The NRC staff observed the NUPIC audit team members perform their portions of the audit. Specifically, the NRC staff observed NUPIC's review and evaluation processes for the implementation of JOC's QA program for ensuring licensee procurement requirements, design requirements, ASME Section III code requirements, and associated design specifications were adequately incorporated into design and commercial-grade dedications.

The NRC staff observed the daily team meetings to verify that the NUPIC audit team was adequately addressing issues and effectively verifying the implementation of QA program requirements. The NRC staff observed shop manufacturing activities such as welding and nondestructive activities. 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 stall also had access to all interactions between JOC and the NUPIC audit team, as well as access to the same records reviewed by them.

During the exit meeting, the NUPIC audit team presented 6 potential findings to JOC management, including areas such as 10 CFR Part 21, measuring and test equipment, nonconforming material, parts or components, QA Records, supplier oversight, and internal audits. In addition, the NUPIC audit team presented 6 deficiencies in the areas of contract review, external audits, corrective actions, commercial-grade dedication, document control, and test control. The NUPIC audit team lead informed JOC management that he intends to recommend to NUPIC, a mid-cycle limited-scope audit of JOC to verify JOC effectively addresses the findings and deficiencies.

With the exception of the potential audit findings identified, the NUPIC audit team determined that JOC was effectively implementing its QA program for the program elements that were audited. In addition, the NUPIC audit team concluded that the findings had no impact on product quality.

Conclusions

The NRC staff noted that the NUPIC audit team was technically capable and effectively engaged the vendor, asking the right questions and challenging the vendor as required. Furthermore, the NUPIC audit team was effective at communicating with each other. The NRC staff continues to note that the NUPIC audit team needs to maintain an appropriate balance between technically focused performance base auditing and completing the NUPIC audit checklist.

The NRC understands that the size of the NUPIC audit team relative to the number of vendor employees, may have a detrimental effect on both the vendor's productivity during the audit, and the vendor's ability to support the audit team. In the future, NUPIC may want to consider the size of the company when determining the size of the NUPIC team.

The NRC concluded that the NUPIC checklist was effectively implemented and resulted in appropriate performance-based findings. The NRC staff found that the NUPIC audit team adequately addressed the specific areas of the checklist on which the NRC staff focused their review.

List of Participants

Name	Title	Affiliation	Entrance	Exit
Joe Piotrowski	Team Leader	NEE	X	X
Kim Jung-min	Auditor	KHNP	X	X
Lim, Gyu-Dong	Auditor-trainee	KHNP	X	X
Kurt Bittner	Auditor	PSEG	X	X
Paul Macuiba	Auditor	Exelon	X	X
David Breneman	Auditor	Dominion	X	X
Michael Hedden	Auditor-trainee	Dominion	X	X
Kirk Nordmeyer	Auditor	NEE	X	X
Mike McCann	Auditor	Entergy	X	X
Thomas Malota	Technical Specialist	NEE	X	X