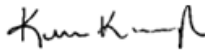




UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

February 1, 2022

MEMORANDUM TO: Chris Regan, Director (Acting)
Division of Reactor Oversight
Office of Nuclear Reactor Regulation

FROM: Kerri A. Kavanagh, Chief  Signed by Kavanagh, Kerri
Quality Assurance and Vendor Inspection Branch on 02/01/22
Division of Reactor Oversight
Office of Nuclear Reactor Regulation

SUBJECT: TRIP REPORT BY THE NUCLEAR REGULATORY
COMMISSION STAFF OF THE NUPIC JOINT UTILITY TEAM
AUDIT AT AMERICAN CRANE & EQUIPMENT CORPORATION

On December 6-10, 2021, Greg Galletti of the Office of Nuclear Reactor Regulation, Division of Reactor Oversight, observed the performance of a Nuclear Procurement Issues Corporation (NUPIC) joint utility audit of American Crane & Equipment Corporation (ACECO), in Douglassville, Pennsylvania. Talen Energy (Talen) led the audit, with participation from Exelon, PSEG Nuclear, Southern Nuclear, Dominion Energy, and Arizona Public Service, using the NUPIC checklist and performance-based supplier audit (PBSA) worksheet. The ACECO audit number is 25038. 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 NUPIC audit team members observed.

CONTACTS: Greg Galletti, NRR/DRO/IQVB
(301) 415-1831

SUBJECT: TRIP REPORT BY THE NUCLEAR REGULATORY COMMISSION STAFF OF THE NUPIC JOINT UTILITY TEAM AUDIT AT AMERICAN CRANE & EQUIPMENT CORPORATION Dated: February 1, 2022

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OFFICE	NRR/DRO/IQVB	NRR/DRO/IQVB
NAME	GGalletti*	KKavanagh
DATE	01/31/2022	2/1/2022

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NUCLEAR PROCUREMENT ISSUES CORPORATION AUDIT
OBSERVATION TRIP REPORT

Vendor Audited: American Crane & Equipment Corporation (ACECO)
531 Old Swede Road
Douglassville, Pennsylvania 19518

Lead Licensee: Talen Energy

Lead Contact: Greg Przyjemski
NUPIC Lead Auditor
Talen Energy
gregory.przyjemski@talenergy.com

Nuclear Industry Activity: The ACECO, Douglassville, PA., fabrication facility is responsible for overhead crane design and manufacturing and testing of material handling equipment, including cranes, hoists, lift beams, and ancillary equipment used in the commercial nuclear industry.

Observation Dates: December 6 through December 10, 2021

Observer: Greg Galletti, NRR/DRO/IQVB

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 a member of the U.S. Nuclear Regulatory Commission (NRC), Office Nuclear Reactor Regulation (NRR), Division of Reactor Oversight (DRO), during a NUPIC joint utility audit conducted on December 6-10, 2021 at ACECO, Douglassville, PA.

Background/Purpose

The Nuclear Procurement Issues Corporation (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. The NUPIC audit was performed using Revision 21 of the NUPIC audit checklist and the results will be provided to NUPIC members that procure parts and services from ACECO.

The purpose of the NUPIC audit was to evaluate the implementation and effectiveness of ACECO Quality Assurance (QA) Program at the Douglassville, PA. facility. The audit team was comprised of individuals from the following NUPIC member utilities (Talen Energy, PSEG Nuclear, Dominion Energy, Exelon, Southern Nuclear Co., and Arizona Public Service) and was led by Talen Energy. The technical specialist responsibility was to verify ACECO ability to control critical characteristics 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.

Observation Activities

The NRC observer independently assessed and reviewed ACECO' implementation of selected portions of their QA program to evaluate whether NUPIC effectively identified and responded to issues. ACECO provided the QA manual, implementing procedures, and samples of completed work products including, but not limited to, design packages, commercial grade item dedication plans, training and qualification records, and software verification and validation reports to the NUPIC audit team. The ACECO QA manual is based on the American Society of Mechanical Engineers (ASME) Nuclear Quality Assurance standard NQA-1-2008/2009A. The NRC staff observed that NUPIC appropriately focused their audit efforts on Appendix B criteria most relevant to ACECO 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 ACECO performance. The NRC observer reviewed samples of the documentation provided by ACECO for the audit team to draw independent conclusions. The NRC observer participated in discussions between the NUPIC audit team members and the vendors staff, while refrained from directing or leading NUPIC, as to not interfere with the conduct of NUPIC's 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/Part 21, internal audits, corrective action, and training/certification. The NRC observer accompanied the NUPIC team members while they performed walkdowns of portions of the facility, observations of in-process production activities included: special processes (i.e., welding), inspection, and material handling and control, as well as attending discussions between the NUPIC audit team members and ACECO personnel.

Specific work activities reviewed by NUPIC, and observed by the NRC staff, included, but were not limited to, ACECO design packages engineering change and procedure change notices, CGD process implementation packages, software verification and validation activities, receipt inspections and sampling process, identification of material tagging and nonconformance control, in-process inspections, special processes including welding activities, calibration services and certifications, and training and qualification records.

Discussion

The NRC observer verified NUPIC adequately considered ACECO scope of supply and observed in-process work practices and completed work products to verify activities were performed in accordance with the vendor's QA program description and applicable procedures. The NRC observer confirmed the NUPIC audit team was implementing the latest revision of the NUPIC audit checklist, Revision 21, and NUPIC Document No. 11, "Joint Audit & Checklist Implementation Guideline," Revision 24, 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 internal NUPIC daily team discussions meetings, and during debriefing activities with ACECO personnel. The NRC staff also discussed his observations with NUPIC's lead auditor and team members.

The NUPIC audit team concluded that the vendor is effectively implemented their QA program in accordance with the applicable requirements of Appendix B to 10CFR Part 50, ASME NQA-1 2008/2009, and 10CFR Part 21. There were no findings identified from the audit, however, nine deficiencies were identified in the following areas: source surveillance, commercial grade item dedication, software validation, special processes (welding), and material storage. The NRC staff observed that the vendor was generally receptive to the deficiencies identified by the NUPIC audit team, and initiated actions to address those concerns.

Conclusion

The NRC staff observed the NUPIC audit team conduct a review of the ACECO QA program. The NRC staff confirmed that the NUPIC audit team focused on the most relevant portions of the QA program consistent with the vendor'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 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 concluded that the NUPIC auditors/technical specialist adequately completed their assigned programmatic elements in accordance with the NUPIC policies and procedures for conducting joint audit activities and resulted in a thorough and comprehensive evaluation of the vendor's program.

List of Participants

Name	Title	Affiliation	Entrance	Exit
Greg Przyjemski	Audit Team Leader	Talen Energy	X	X
Susan Miller	Audit Team Lead-in training	Talen Energy	X	X
Isaiah Missien	Technical Specialist	Talen Energy	X	X
David Engle	Audit Team Member	Excelon	X	X
Roger Mills	Audit Team Member	PSEG Nuclear	X	X
Richard Goodman	Audit Team Member	Southern Nuclear Co.	X	X
Mary Walton	Audit Team Member	Dominion Energy	X	X
Lynne Valdez	Audit Team Member	Arizona Public Service	X	X
Greg Galletti	NRC Observer	NRC	X	X

Documents Reviewed

ACECO

Quality Assurance Manual – QAM-96, Revision 11 w/Addendum 1, Revision 1
AP-43, “Fabrication, Inspection, and Test Plans/Project Management Manuals,” Revision 2
AP-19, “Receipt Inspection,” Revision 6
AP-20-3, “Design Control,” Revision 7
AP-20-4, “Design Verification,” Revision 5
AP-20.5, “Computer Program Control and Validation,” Revision 3

NUPIC

NUPIC audit checklist, Revision 21
NUPIC Document No. 11, “Joint Audit & Checklist Implementation Guideline,” Revision 24