

April 28, 2005

MEMORANDUM TO: Bruce Boger, Director
Division of Inspection Program Management
Office of Nuclear Reactor Regulation

THRU: Theodore R. Quay, Chief */RA/*
Plant Support Branch
Division of Inspection Program Management
Office of Nuclear Reactor Regulation

FROM: Richard P. McIntyre, Senior Reactor Engineer */RA/*
Quality and Maintenance Section
Plant Support Branch
Division of Inspection Program Management
Office of Nuclear Reactor Regulation

SUBJECT: TRIP REPORT BY THE QUALITY AND MAINTENANCE SECTION
(QMS) STAFF OF THE NUCLEAR PROCUREMENT ISSUES
COMMITTEE (NUPIC) AUDIT TEAM DURING THE ENERTECH AUDIT

On April 3-8, 2005, Richard McIntyre and Paul Prescott of the Quality and Maintenance Section observed the performance of a NUPIC audit conducted at the Enertech, a division of Curtiss-Wright Flow Control Corporation, facility located in Brea, California. The purpose of the observation was to assess the NUPIC audit process used for suppliers of components to the nuclear industry. Attached is the trip report of the NRC staff's observation of the NUPIC audit.

Attachment: As stated

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ADAMS: ML051150089

OFFICE	IPSB/DIPM	IPSB/DIPM	IPSB/DIPM	IPSB/DIPM
NAME	PPrescott	RMcIntyre	DThatcher	TQuay
DATE	4/26/05	4/26/05	4/28/05	4/28/05

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NRC TRIP REPORT

Subject

This trip report documents observations by members of the Nuclear Regulatory Commission (NRC) Office of Nuclear Reactor Regulation (NRR), Quality and Maintenance Section (QMS) of a Nuclear Procurement Issues Committee (NUPIC) audit team during their audit conducted on April 3-8, 2005, at Enertech, a division of Curtiss-Wright Flow Control Corporation.

Dates of Audit and Organization Visited

April 3-8, 2005
Enertech in Brea, California

Author, Title and Agency Affiliation

Richard P. McIntyre, Team Leader
Quality & Maintenance Section
Plant Support Branch (IPSB)
Division of Inspection Program Management
Office of Nuclear Reactor Regulation

Sensitivity

There were no documents removed from the facility during the conduct of the audit. This document is available to the public (ADAMS Accession # ML051150089).

Background/Purpose

The purpose of this trip report is to document QMS staff assessment of a NUPIC audit conducted on April 3-8, 2005. The nine-person NUPIC joint utility audit team performed an audit of the Enertech facility in Brea, California. The Enertech facility supplies safety-related and ASME code items, components, and engineering services to U.S. nuclear utilities in accordance with ASME Section III and/or 10 CFR Part 50 Appendix B requirements. Enertech supplies many of their safety-related assemblies and components utilizing a commercial-grade dedication program. Enertech holds N, NPT, NV and NS American Society of Mechanical Engineering (ASME) Certificates. The QMS staff chose to observe this particular NUPIC joint utility audit based on NUPIC utility feedback of hardware problems and engineering services that may be attributed to Enertech's commercial-grade dedication process.

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.

NRC/NUPIC Interface Protocol

The NRC staff developed a draft memorandum of understanding with NUPIC which describes the NRC staff protocol for participation and interface with NUPIC audit teams while conducting vendor audits. This NRC/NUPIC protocol is currently being reviewed by the Nuclear Energy Institute (NEI). The purpose of the Quality and Maintenance Team (QMS) observation of this NUPIC joint utility audit was to ensure the NUPIC audit process remains an alternative to the NRC vendor inspection/audit program. The NRC staff continues to rely on the effectiveness of the NUPIC joint utility audit process for evaluating the implementation of quality assurance (QA) programs of suppliers to the nuclear industry.

Abstract: Summary of Pertinent Points/Issues

Oversight of the NUPIC audit process is viewed by the QMS staff as particularly relevant for two reasons: (1) Licensees and the NRC continue to rely on NUPIC for oversight of current suppliers to the nuclear industry and; (2) NRC may rely heavily on NUPIC for oversight of suppliers during construction of future generation reactors. The QMS staff anticipates that new suppliers, both domestic and international, will enter the nuclear supplier business due to an expanded nuclear market. The QMS has initiated discussions with the NUPIC Steering Committee on the role NUPIC may take in evaluating these new suppliers during new plant construction. The QMS will need to evaluate NUPIC's capabilities and plans for oversight of the potential expanding supplier base for the next generation of nuclear plants.

Discussion

The NUPIC audit scope was to determine the acceptability and verify the effective implementation of the Enertech quality assurance requirements in accordance with the requirements of 10 CFR 50 Appendix B, American National Standards Institute (ANSI) N45.2 and 10 CFR Part 21. NUPIC utilized the Audit Plan specific to Enertech and the revision 11 version of the standard NUPIC audit checklist, that is essentially divided into the 18 criteria of Appendix B. This checklist was supplemented by ASME, ANSI and other recognized consensus standards relevant to the supplier being audited. The NUPIC audit checklist can be downloaded from the NUPIC web site (www.nupic.com). After an audit report is issued, the completed checklist is maintained in an electronic database, which is accessible and can be downloaded only by NUPIC members.

A Performance Based Supplemental Audit (PBSA) worksheet was also used by two technical specialists on the team to review ASME Code fabrication and testing activities and commercial grade dedication. The PBSA worksheets were specific to Enertech supplied assemblies, components and services. An additional area not explicitly addressed by Appendix B, which was covered by the NUPIC audit team and checklist, was software verification and validation.

QMS staff reviewed the NUPIC Training/Qualification Form for each team member. The form covered such areas as NUPIC training completed, NUPIC procedures familiarization and areas of experience (design, commercial grade dedication, software, special processes, etc.).

The QMS observed all aspects of the NUPIC team's conduct of the audit at Enertech. This started with the audit team meeting conducted the day before the audit commenced, to go over

details of the audit and all audit expectations. For observance of the conduct of the audit, the QMS divided the audit checklist review areas between the two inspectors. The QMS staff then observed performance of the NUPIC auditors as they conducted a review of a specific audit checklist section. The QMS staff observed how documents were selected for review and the adequacy of the review, interviews conducted of Enertech personnel, and observed on-going work and testing activities in Enertech's manufacturing facility. The QMS observed the daily meetings the audit team conducted internally, the daily debrief with Enertech's management, and the formal exit meeting. The QMS staff also reviewed the NUPIC audit findings and observations.

The NUPIC audit team included nine utility auditors. The checklist sections were evenly divided among six auditors, the two specialists focused in their respective areas of expertise and one auditor acted in a managerial function as the team lead. The sections of the checklist comport to the 18 criteria of Appendix B. The audit team was led by Nebraska Public Power District (NPPD). Another auditor from NPPD was one of the commercial grade dedication specialists. The ASME Code specialist was from Detroit Edison. Other utilities represented included: the Nuclear Management Company; First Energy Nuclear Operating Company; Tennessee Valley Authority; Entergy Operations, Incorporated; Constellation Energy; and a foreign utility representative from the Canadian Ontario Power Generation, Incorporated. In addition to the generic audit checklist, other items that the audit focused on were: commercial grade dedication, including laboratory test services; Part 21 requirements; ASME Section XI repair and testing; and Enertech's control of sub-vendors who provide items and services as commercial grade items for Enertech dedication.

The team reviewed the Enertech Quality Assurance Manual and other lower tier implementing documents such as the Enertech Operating Procedures. The audit was performed by reviewing the requirements of the QA program and supporting implementing procedures, evaluating the documentation associated with the activities that had been performed, and discussing the activities with Enertech personnel. Observations of ongoing work and inspection activities were also performed.

At the exit meeting, the NUPIC audit team identified numerous non-conformances with quality program and regulatory requirements that resulted in nine potential audit findings and an Immediate Notification of Significant Condition to all NUPIC member utilities. The final audit report had not yet been issued when this trip report was finalized. Some of the identified findings may be combined prior to issuance of the NUPIC audit report. The audit team identified findings, each with several examples of implementation deficiencies in the following areas: commercial grade dedication, document control, supplier audit program, calibration control, material control, training and certification requirements, software controls, corrective action program, and test and inspections control.

The audit team's Immediate Notification of Significant Condition included a recommendation that utilities purchasing items from Enertech consider additional controls for items to be dedicated and the utility pre-performance approval of dedication plans. It also recommended that when customers request certified materials test reports (CMTRs) for non-code but safety-related components, clarification should be made in purchase documents to Enertech that the CMTRs be supplied from 10 CFR 50 Appendix B, audited suppliers, or otherwise be validated.

Conclusions

All NUPIC audit team members were observed in part or in whole on their portion of the audit conducted. Specific areas of the checklist that the QMS focused on for review were adequately addressed by members of the audit team. Training and qualifications of the audit team members were reviewed. All team members were fully trained and qualified to conduct the audit.

The NUPIC audit team leader conducted effective daily briefings with the audit team and Enertech on each day's issues and potential findings. These daily briefings enhanced the audit team's understanding of issues and findings and provided an effective feedback mechanism from experienced audit team members on the significance of individual team findings. Additionally, the team posted audit issues daily on poster paper, which was placed on the audit team's conference room walls. This allowed Enertech's management to visually note issues identified by the team, which enhanced communication. Enertech management noted that they found this method of communication very helpful in their understanding of the audit issues and findings. The QMS staff noted that the NUPIC team leader was effective at communicating findings to Enertech's management. The auditors supported their findings with comprehensive objective evidence and went to sufficient depth in their respective areas of focus. The QMS staff did note to the audit team that there was the lack of identification of hardware findings with significant safety issues. Most problems identified in the findings were of piece part components, rather than a single significant component. Overall, the QMS staff concluded, based on the review of the audit areas covered, that the NUPIC audit process was effectively implemented by the audit team and resulted in a sound performance based findings for failure to meet QA program and regulatory requirements.

Pending Actions/Planned Next Steps for NRC

This NRC assessment was the first of at least two planned for 2005. The assessment process was outlined to NUPIC members in a March 2004 NUPIC meeting. The NRC plan is to conduct two assessments a year of NUPIC audits or commercial grade surveys to ensure the adequacy of the NUPIC joint utility audit process. In addition, QMS plans to attend the June 14-16, 2005, NUPIC meeting to discuss staff observations of the Enertech audit.

Points for Commission Consideration/Items of Interest

None.