

January 5, 2017

Kevin McKown, General Manager
Enertech, a division of Curtiss Wright
2950 Birch Street
Brea, CA 92821

SUBJECT: CLOSURE OF ITAAC-RELATED FINDINGS FOR ENERTECH INSPECTION
REPORT NO. 99901377/2012-201

Dear Mr. McKown:

On September 20, 2012, the U.S. Nuclear Regulatory Commission (NRC) staff completed an inspection at the Curtiss Wright Enertech facility (hereafter referred to as Enertech) in Brea, CA. This inspection was a combination of activities both at Utah State University (USU) from August 27-28, 2012, and at Brea, CA facility from September 17-20, 2012. The purpose of the technically-focused, limited scope inspection was to evaluate the implementation of Enertech's quality assurance program, with a focus on Section III of the American Society of Mechanical Engineers (ASME) Boiler and Pressure Vessel Code and ASME QME-1 standard, "Qualification of Active Mechanical Equipment Used in Nuclear Power Plants," qualification testing associated with the nozzle check valves of the passive core cooling system for the Westinghouse Electric Corporation (WEC) AP1000 design. These qualification tests are associated with inspections, tests, analyses, and acceptance criteria (ITAAC) 2.2.03.02a, 2.2.03.03a, 2.2.03.04a, and 2.2.03.05a.ii, from Revision 19 to the certified AP1000 Design Control Document, Tier 1.

In Inspection Report (IR) 99901377/2012-201, dated November 2, 2012, the NRC staff issued two Notice of Nonconformance (NON) 99901377/2012-201-02 and NON 99901377/2012-201-03, that are material to the acceptance criteria of the ITAAC. In a letter dated November 30, 2012 (ADAMS No. ML13015A067), Enertech described their corrective actions to address the issues identified in the two NONs documented in IR 99901377/2012-201. In a letter dated June 10, 2016, (ADAMS No. ML12356A154), the NRC requested additional information (RAI) from Enertech that would facilitate the NRC staff to review and verify the adequacy and effectiveness of corrective actions taken by Enertech and make a determination to close the ITAAC-related inspection findings.

In a letter dated June 29, 2016, (ADAMS No. ML16202A338), Enertech provided additional information (ADAMS No. ML16202A346) to address NRC's RAI.

Corrective Action Associated with NON 99901377/2012-201-02

NON 99901377/2012-201-02, documents a findings against Criterion III, "Design Control," for Enertech's failure to adequately implement a commercial-grade dedication program to review the suitability of the application of commercially procured calibration services at Utah State University (USU) and the verification of ERV-Z 8-inch nozzle check valve non-pressure boundary items and materials that are essential to the safety-related functions of structures, systems, and components. In addition, the technical evaluation performed as part of the

dedication of commercial-grade items did not include a documented basis for the sample testing population for items from commercial suppliers where lot/batch homogeneity had not been verified.

The NRC staff reviewed Enertech's additional information that supports the corrective action taken to address the issue identified in NON 99901377/2012-201-02. Based on review, the NRC staff has determined that the corrective action taken by Enertech is adequate to address the identified nonconformance. NON 99901377/2012-201-02 is closed and no additional inspection or follow-up is required to verify completion/adequacy of the corrective actions.

Corrective Action Associated with NON 99901377/2012-201-03

NON 99901377/2012-201-03, was issued against Criterion XI, "Test Control," for Enertech's failure to establish a test program to ensure that it had identified and performed all testing necessary to demonstrate that the ERV-Z 8-inch nozzle check valve will perform satisfactorily in service. Specifically, Enertech's test program did not identify and perform qualification testing of the valve to demonstrate operability under all ASME QME-1-2007 specified operating and design basis conditions.

The NRC staff reviewed Enertech's additional information that supports the corrective action taken to address the issue identified in NON 99901377/2012-201-03. Based on review, the NRC has determined that the corrective action taken by Enertech is adequate to address the identified nonconformance. NON 99901377/2012-201-03 is closed and no additional inspection follow-up is required to verify completion/adequacy of the corrective actions.

Please contact either of the individuals listed as contacts to resolve any questions or issues.

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

Sincerely,

/RA/

John Burke, Chief
Quality Assurance Vendor Inspection Branch-2
Division of Construction Inspection
and Operational Programs
Office of New Reactors

Enclosure:
Summary of NRC Inspection
of Enertech Affecting ITAAC

dedication of commercial-grade items did not include a documented basis for the sample testing population for items from commercial suppliers where lot/batch homogeneity had not been verified.

The NRC staff reviewed Enertech's additional information that supports the corrective action taken to address the issue identified in NON 99901377/2012-201-02. Based on review, the NRC staff has determined that the corrective action taken by Enertech is adequate to address the identified nonconformance. NON 99901377/2012-201-02 is closed and no additional inspection or follow-up is required to verify completion/adequacy of the corrective actions.

Corrective Action Associated with NON 99901377/2012-201-03

NON 99901377/2012-201-03, was issued against Criterion XI, "Test Control," for Enertech's failure to establish a test program to ensure that it had identified and performed all testing necessary to demonstrate that the ERV-Z 8-inch nozzle check valve will perform satisfactorily in service. Specifically, Enertech's test program did not identify and perform qualification testing of the valve to demonstrate operability under all ASME QME-1-2007 specified operating and design basis conditions.

The NRC staff reviewed Enertech's additional information that supports the corrective action taken to address the issue identified in NON 99901377/2012-201-03. Based on review, the NRC has determined that the corrective action taken by Enertech is adequate to address the identified nonconformance. NON 99901377/2012-201-03 is closed and no additional inspection follow-up is required to verify completion/adequacy of the corrective actions.

Please contact either of the individuals listed as contacts to resolve any questions or issues.

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

Sincerely,

/RA/

John Burke, Chief
Quality Assurance Vendor Inspection Branch-2
Division of Construction Inspection
and Operational Programs
Office of New Reactors

Enclosure:
Summary of NRC Inspection
of Enertech Affecting ITAAC

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ADAMS ACCESSION NO: ML16357A724

NRO-002

OFC	NRO/DCIP/QVIB-2	NRO/DCIP/QVIB-2	NRO/DCIP/QVIB-2
NAME	RPatel	RMclntyre	JBurke
DATE	01/03/17	01/05/17	01/05/17

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**Summary of NRC Inspection of ENERTECH
Affecting ITAAC**

1. Affected Inspections, Tests, Analyses, and Acceptance Criteria (ITAAC)

The U.S. Nuclear Regulatory Commission (NRC) inspectors identified the following inspections, tests, analyses, and acceptance criteria (ITAAC) related to components being tested by Enertech. At the time of the inspection, Enertech was involved in Section III of the American Society of Mechanical Engineers (ASME) Boiler and Pressure Vessel Code and ASME Qualification of Active Mechanical Equipment Used in Nuclear Power Plants qualification testing associated with the ERV-Z 8-inch nozzle check valves of the passive core cooling system for the Westinghouse Electric Corporation certified AP1000 Design Control Document, Revision 19, Tier 1. For the ITAAC listed below, the NRC staff reviewed Enertech's corrective actions in response to Notice of Nonconformance (NON) 99901377/2012-201-02 and NON 99901377/2012-201-03. The ITAAC's design commitment referenced below are for future use by the NRC staff during the ITAAC closure process; the listing of these ITAAC design commitments does not constitute that they have been met and closed. The NRC inspection team identified two findings associated with the ITAAC identified below.

Source Document	ITAAC Index No.	ITAAC	Acceptance Criteria
Appendix C from the Combined License for Vogtle Units 3 and 4 and V.C. Summer Units 2 and 3	No. 159	2.2.03.02a	A ASME Code Section III design report exists for the as-built component identified in Table 2.2.3.01 as ASME Code Section III
Appendix C from the Combined License for Vogtle Units 3 and 4 and V.C. Summer Units 2 and 3	No. 161	2.2.03.03a	A report exists and concludes that the ASME Code Section III requirements are met for nondestructive examination of pressure boundary welds.
Appendix C from the Combined License for Vogtle Units 3 and 4 and V.C. Summer Units 2 and 3	No. 163	2.2.03.04a	A report exists and concludes that the results of the hydrostatic test of the components identified in Table 2.2.3.01 conform to the requirements of the ASME Code Section III.
Appendix C from the Combined License for Vogtle Units 3 and 4 and V.C. Summer Units 2 and 3	No. 166	2.2.03.05a.ii	A report exists and concludes that the seismic Category I equipment can withstand seismic design basis dynamic loads without loss of safety function.

2. FINDINGS AND OBSERVATIONS

Based on a review of additional information, the NRC staff has determined that the corrective actions taken by Enertech in response to NON 99901377/2012-201-02 and NON 99901377/2012-201-03, are adequate to address the identified nonconformance. NON 99901377/2012-201-02 and NON 99901377/2012-03 are closed and no additional inspection follow-up is required to verify completion/adequacy of the corrective actions.

3. ITEMS OPENED, CLOSED, AND DISCUSSED:

<u>Item Number</u>	<u>Status</u>	<u>Type</u>	<u>Description</u>	<u>Applicable ITAAC</u>
99901377/2012-201-02	Closed	NON	Criterion III	2.2.03.02a 2.2.03.03a 2.2.03.05a.ii
99901377/2012-201-03	Closed	NON	Criterion XI	2.2.03.04a