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Dec 19, 2014

United States Nuclear Regulatory Commission
Attn: Document Control Desk
Mechanical Vendor Inspection Branch
Division of Construction Inspection and Operational Programs
Office of New Reactors
Washington, DC 20555-001

Subject: Reply to Notice of Nonconformance
NRC Inspection Report No. 99901439/2014-202

Reference: Letter from Edward Roach (NRC) to Russell Stone (SMCI), U.S. Nuclear Regulatory Commission Inspection Report No. 99901439/2014-202 and Notice of Nonconformance, dated November 21, 2014

Dear Mr. Roach,

In response to the referenced NRC Notice of Nonconformance (NON), MetalTek International SMCI Division (SMCI) herewith provides the enclosed reply (Enclosure). This Reply addresses nonconformance's identified in NRC Inspection Report No. 99901439/2014-202 related to Criterion VII (Control of Purchased Material, Equipment, and Services), Criterion XIII (Handling, Storage, and Shipping), Criterion XV (Nonconforming Materials, Parts, or Components), and Criterion XVI (Corrective Action) of the SMCI Quality Manual respectively.

Pursuant to the NRC's instructions specified in the Notice of Nonconformance, the Enclosure addresses for each of the NONs, identified as 99901439/2014-202-01, 99901439/2014-202-02, 99901439/2014-202-03, 99901439/2014-202-04: 1) the reason for the noncompliance; 2) the corrective steps that have been taken and the results achieved, 3) the corrective steps that will be taken to avoid future noncompliances; and 4) the date when the corrective actions will be completed.

SMCI is currently evaluating existing corrective action report (CAR) conditions and their associated corrective actions for their effect on fabricated components. We are also performing

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an evaluation of the NCRs for fabricated components. Both evaluations will be completed prior to releasing any safety-related components to either Vogtle or VC Summer sites.

SMCI understands the feedback received from the NRC during the inspection and in the published Inspection Report. We take that feedback very seriously; we recognize that the utmost attention to this feedback is the necessary response and have either completed or initiated actions to remedy the specific findings provided to avoid further noncompliance.

Sincerely,

Russell Stone
Quality Manager
MetalTek International, SMCI Division

Tim Ennis
Director of Nuclear Operations
MetalTek International, SMCI Division

Enclosure: Reply to Notice of Nonconformance 99901439/2014-202

SMCI REPLY TO NOTICE OF NONCONFORMANCE 99901439/2014-202-01, 99901439/2014-201-02, 99901439/2014-202-03, & 99901439/2014-202-04

This is the SMCI Reply to the Notice of Nonconformance identified in NRC Inspection Report No. 99901439/2014-202, dated November 21, 2014.

Based on the results of a U.S. Nuclear Regulatory Commission (NRC) inspection conducted at the Specialty Maintenance and Construction, Inc. (SMCI) facility in Lakeland, FL, on October 13, 2014, through October 17, 2014, certain activities were not conducted in accordance with NRC requirements that were contractually imposed on SMCI by its customers or NRC licensees:

NONCONFORMANCE 99901439/2014-202-01

A. Criterion XVI, "Corrective Action," in Appendix B, "Quality Assurance Program 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," states that, "Measures shall be established to assure that conditions adverse to quality, such as failures, malfunctions, deficiencies, deviations, defective material and equipment, and nonconformance's are promptly identified and corrected. In the case of significant conditions adverse to quality, the measures shall assure that the cause of the condition is determined and corrective action taken to preclude repetition. The identification of the significant condition adverse to quality, the cause of the condition, and the corrective action taken shall be documented and reported to appropriate levels of management."

Paragraph 16.3.3.3 of Section 16.0 of SMCI's Quality Assurance Manual, "Corrective Action," Revision 3 dated December 23, 2013, states, in part, that "The Quality Manager in conjunction with the affected department manager or supervisor shall recommend the appropriate corrective action to be taken... The individual responsible for implementing the corrective measures shall propose a completion date, subject to the Quality Manager's acceptance."

Contrary to the above, as of October 16, 2014, SMCI failed to ensure that significant conditions adverse to quality were promptly identified and corrected, and also failed to ensure that significant conditions adverse to quality were corrected to preclude repetition.

Specifically,

1. Corrective action taken in response to NRC finding, NON 99901439/2014-201-01, related to SMCI's failure to qualify a welding procedure in accordance with Westinghouse Electric Company document number APP-VW20-ZO-023, "Welding Specification for ASTM A240 UNS S32101 Duplex Stainless Steel," Revision 3, dated February 11, 2011, was inadequate. The NRC inspection team verified the corrective actions and determined that SMCI failed to effectively implement the corrective actions as documented in a letter from SMCI to the NRC dated June 6, 2014. SMCI did generate a welding procedure specification (WPS) and

procedure qualification record (PQR) checklist, although these checklists have not been incorporated in SMCI's quality assurance program. In addition, the checklists failed to provide the necessary reference to meet the WEC specifications to address weld ferrite content in duplex stainless steel welds.

2. Corrective action taken in response to NRC finding, NON 99901439/2014-201-02, classified as a significant condition adverse to quality, related to SMCI's failure to adopt a Nonconformance Program that meets the requirements of Criterion XV in Appendix B to 10 CFR Part 50, was inadequate. The NRC inspection team verified the corrective actions and determined that SMCI failed to effectively implement the corrective actions as documented in a letter from SMCI to the NRC dated June 6, 2014. The NRC inspection team found several recurrent examples that indicate that the corrective actions taken to preclude repetition were inadequate. For example, the NRC inspection team identified four nonconformance (NCR) hold tags that did not contain the NCR number, and found seven items in the NCR holding area without proper identification and description of the cause of the nonconforming issue. Furthermore, the NRC inspection team determined that the SMCI training conducted for the new NCR procedure as part of the corrective action was ineffective.

This issue has been identified as Nonconformance 99901439/2014-202-01.

1. **The Reason for the Noncompliance**

   Corrective Action Report (CAR) 2014-286 was initiated to document this issue.

   The cause for the failure to ensure that significant conditions adverse to quality were promptly identified and corrected, and also failure to ensure that significant conditions adverse to quality were corrected to preclude repetition, has been determined to be that there is an overall lack of accountability and ownership at all levels of the organization for implementing corrective action program assignments adequately and in a timely manner.

   Contributing causes have been determined to be that insufficient tracking methods are to monitor CAR assignments and due dates and that insufficient metrics have been developed to measure and assess CAR program performance, and the effectiveness, and CAs communicated to third party were not consistent with those identified in associated Corrective Action Report (CAR).

2. **Corrective Steps That Have Been Taken and Results Achieved**

   - The WPS/PQR checklist has been developed and has been described in procedure QP 3.2, Engineering Change Notices.

- The electronic system was implemented on November 30, 2014.
- Training on NCR procedure and the process for new work instructions was conducted. Initial results show that the training was more effective than training that had been previously conducted. This judgment is based on review of NCR's being generated and plant management walk-through oversight of shop activities.

3. **Corrective Steps That Will Be Taken to Avoid Noncompliance and Date When Corrective Actions Will Be Completed**

- Revise procedure QP 16.0 [procedure title] to strengthen the guidance for the MRB with respect to their role within the corrective action program. This is to be completed by January 30, 2015.
- Establish frequencies for Corrective Action Review Board (CARB) and Management Review Board (MRB) meetings. This is to be completed by January 30, 2015.
- Revise QP-16.0 to more clearly define the assignment of process responsibilities to the stakeholders. This is to be completed by January 30, 2015.
- Revise QP-16.0 to define an escalation process to address timeliness issues. This is to be completed by January 30, 2015.
- Provide additional CAR training to SMCI personnel including expectations for engagement in their role in the CAR process. This is to be completed by February 27, 2015.
- Restructure the CAR Tracking Database. This is to be completed by January 30, 2015.
- Revise the CAR procedure to assign the Quality Manager as the single point of contact to ensure that issues and commitments related to issues identified by the NRC or customer are entered into a CAR for tracking and adequate and timely resolution. This is to be completed by January 30, 2015.
- Revise Corrective Action procedure, QP 16.0, to provide additional guidance for significance level determination. This is to be completed by January 30, 2015.
- The Corrective Action Program (CAP) group will complete the analysis for CAR backlog and will develop corrective action plans and due dates for [that group] (not clear what "that group" is) of CARs. This is to be completed by March 27, 2015.

NONCONFORMANCE 99901439/2014-202-02

B. Criterion XV, "Nonconforming Materials, Parts, or Components," in Appendix B to 10 CFR Part 50, states, in part, that "Measures shall be established to control materials, parts, or components which do not conform to requirements in order to prevent their inadvertent use or installation. These measures shall include, as appropriate, procedures for identification, documentation, segregation, disposition, and notification to affected organizations. Nonconforming items shall be reviewed and accepted, rejected, repaired or reworked in accordance with documented procedures."

Paragraph 15.3.1 of Section 15.0 of SMCI's Quality Assurance Manual, "Control of Nonconforming Items," Revision 6 dated December 23, 2013, states, in part, that "Nonconforming conditions may be identified by an SMCI employee discovering a condition adverse to quality during processing activities affecting quality, or a supplier or subcontractor notifying SMCI of a nonconforming condition. Once a nonconformance is determined to exist, the SMCI employee shall document the nonconformance on a Nonconformance Report (NCR)."

Section 5.5.2.1 of SMCI procedure QP-5.3, "Manufacturing Travelers," Revision 2, dated September 4, 2014, states, in part, that "Manufacturing shall sign/initial and date all completed operations as they are completed." In addition, Section 5.5.2.2 states, in part, that "If Quality Inspection performs the inspection and determines the work performed by Manufacturing has not been completed in accordance with the operation description, the Traveler shall be returned to Manufacturing. Quality Assurance shall initiate a Nonconformance Report in accordance with QP-15.0 for all nonconforming conditions."

Contrary to the above as of October 16, 2014, SMCI failed to adequately identify, document, evaluate, segregate, disposition, and notify affected organizations of nonconforming products.

Specifically,

1. The NRC inspection team identified through interviews of manufacturing and quality inspection staff at SMCI that quality control (QC) inspectors do not always initiate an NCR for all nonconforming conditions found after a welder has completed a step in accordance with the operation description; instead, the QC inspectors extend the definition of "work in process" to justify rework of nonconforming conditions without proper documentation. Individuals described various administrative methods of classifying a weld as "in process" based on which signature blocks on a weld traveler had been signed and dated. This practice allowed unlimited iterations of grinding out and reworking of nonconforming conditions by a welder without documentation in an NCR.

2. SMCI failed to generate an NCR for an oxidized spool of AWS E71T-1M/12M-JH4 flux core arc welding wire intended for use on the AP1000 CA-20 subassemblies 3 and 4 for Vogtle Electric Generating Plant Unit 3. The spool of wire was checked into the controlled storage area by a member of the SMCI staff in a known wetted condition, but rather than documenting the condition in an NCR, the employee attached a handwritten note stating that the spool should not be used.

This issue has been identified as Nonconformance 99901439/2014-202-02.

1. **The Reason for the Nonconformance**

   This condition has been documented in Corrective Action Reports (CAR) 2014-268 and 2014-288.

   The causal analysis for the failure to initiate NCRs for welding conditions has been determined to be unclear guidance in the SMCI Traveler procedure, QP 5.3 regarding what constitutes "in process" work.

   The causal analysis for the failure to initiate an NCR for the weld wire spool has been found to be inadequate understanding of the NCR procedure and the need to initiate an NCR for items other than fabricated products. This was not found to be a procedural error.

2. **Corrective Steps That Have Been Taken and Results Achieved**

   Training on the NCR process was completed on small groups by department, to ensure an adequate understanding was obtained by all personnel on NCR generation. This has resulted in identification of nonconformance's in both material and fabricated products having NCRs issued against them.

3. **Corrective Steps That Will Be Taken to Avoid Noncompliance and Date When Corrective Actions Will Be Completed**

   - QP 5.3, "Travelers", will be revised to address the requirements for NCR generation as well as defining "in process" work. This is expected to be completed and implemented by February 13, 2015.
   - Training on "in process" work with SMCI personnel involved with fabrication and inspection. This is expected to be completed and implemented by March 13, 2015.

NONCONFORMANCE 99901439/2014-202-03

C. Criterion XIII, "Handling, Storage, and Shipping," in Appendix B to 10 CFR Part 50, states, in part, that "Measures shall be established to control the handling, storage, shipping, cleaning and preservation of material and equipment in accordance with work and inspection instructions to prevent damage or deterioration."

Subsection 6.1.2.d of Section 6, "Storage," of Subpart 2.2, "Quality Assurance Requirements for Packaging, Shipping, Receiving, Storage, and Handling of Items for Nuclear Power Plants," of the American Society of Mechanical Engineers Nuclear Quality Assurance (NQA)-1, "Quality Assurance Requirements for Nuclear Facility Applications,"
1994 Edition, states, in part, that "Level D items may be stored outdoors in an area marked and designated for storage that is well drained. Items shall be stored on cribbing or equivalent to allow for air circulation and to avoid trapping water."

Subsection 5.a, "Storage Level D," of Section 1.2, "Storage Area Requirements," of Appendix 1, "Storage Levels and Cleanliness Classes," to SMCI's QP-13.0, "Material, Handling, Storage, and Shipping," Revision 4, dated September 8, 2014, states, in part, "Outdoor storage - well drained. Items shall be stored on cribbing, or equivalent, to allow for air circulation and to avoid trapping water."

Contrary to the above, as of October 16, 2014, SMCI failed to establish adequate measures for the storage of Level D items to prevent damage or deterioration. Specifically, the NRC inspection team identified several locations where Level D material was being stored that did not have proper drainage. For example, several of the materials being stored were retaining water, had standing water directly beneath the material, and in some cases the pallets holding the material were sinking into the mud created by the water.

This issue has been identified as Nonconformance 99901439/2014-202-03.

1. **The Reason for the Nonconformance**

   This condition has been documented in Corrective Action Reports (CAR) 2014-281.

   The causal analysis for the failure to identify and correct the material storage issue has been found to be the absence of an active system or process to monitor the elevations of the facility.

2. **Corrective Steps That Have Been Taken and Results Achieved**

   Material Storage areas that were identified by the NRC and SMCI to have improper drainage have been graded or the material has been moved from the area. This has resulted in no indications of improper storage during the recent rain storms as noted

during site walk-throughs by management.

3. **Corrective Steps That Will Be Taken to Avoid Noncompliance and Date When Corrective Actions Will Be Completed**

   - Provide additional drainage piping along east side of property to tie in to existing drainage system. This is to be completed by January 30, 2015.
   - Regrade area surrounding new paint building. This is to be completed by January 30, 2015.
   - Conduct a full site survey for elevations and grading by outside contractor. This is to be completed by February 27, 2015.
   - Develop a work instruction and train personnel for facility elevation monitoring by Environmental, Health and Safety. This is to be completed by January 30, 2015.
   - Develop a surveillance plan and schedule for the monitoring of material storage throughout the facility. This will be completed by January 30, 2015.

NONCONFORMANCE 99901439/2014-202-04

D. Criterion VII, "Control of Purchased Material, Equipment, and Services," in Appendix B to 10 CFR Part 50, states, in part, that "Measures shall be established to assure that purchased material, equipment, and services, whether purchased directly or through contractors and subcontractors, conform to the procurement documents. These measures shall include provisions, as appropriate, for source evaluation and selection, objective evidence of quality furnished by the contractor or subcontractor, inspection at the contractor or subcontractor source, and examination of products upon delivery."

Appendix E, "Detrimental and Prohibited Material Control," to WEC document number, APP- GW-ZO-602 "AP1000 Cleaning and Cleanliness Requirements of Equipment for Use in Nuclear Supply and Associated Systems," Revision 3, dated February 8, 2013, states, in part, that "marking materials to be used on the surface of items during manufacture and installation shall be evaluated prior to use to determine if contaminants are present." The document further states, in part, that "possible sources of contaminants include temperature indicating crayons." Table IV, "Detrimental Material Limits for Non-Product Material," in Appendix E lists the contaminants that may be detrimental to various component materials.

Contrary to the above, as of October 16, 2014, SMCI failed to assure that purchased material conforms to the procurement documents. Specifically, SMCI failed to verify that temperature indicating crayons, used in the fabrication of AP1000 safety-related components, were free of contaminants in accordance with the requirements of Appendix E to WEC document number APP-GW-ZO-602. Contaminants present on stainless steel surfaces can increase the material's susceptibility to stress corrosion cracking.

This issue has been identified as Nonconformance 99901439/2014-202-04.

1. **The Reason for the Nonconformance**

   This condition has been documented in Corrective Action Reports (CAR) 2014-288.

   The causal analysis for the failure to perform receipt inspection of the "nuclear" consumables has been found to be the failure to identify Quality Requirements on the purchase orders issued for those consumables. A contributing cause is that the personnel in shipping and receiving did not view these items as those requiring receipt inspection.

2. **Corrective Steps That Have Been Taken and Results Achieved**

   - All Consumable items that are used on nuclear projects have been identified and receipt inspected in accordance with SMCI approved procedures.
   - QP-WI-7.0, Purchasing and Receiving Consumables on Nuclear Projects, has been written and training conducted.
   - Letter issued by Purchasing to all personnel on the requirements of purchasing consumable items in accordance with QP 4.0, Purchasing.
     Revised QP 7.1, Receiving Instructions, to address purchasing requirements of consumables

3. **Corrective Steps That Will Be Taken to Avoid Noncompliance and Date When Corrective Actions Will Be Completed**

   - All actions have been completed as of 12/15/2014