



25 September, 2024

U.S. Nuclear Regulatory Commission
ATTN: Document Control Desk
Washington, DC 20555-0001

Reference: USNRC Inspection Report 99902104/2024-201
Nonconformance 99902104/2024-201-01
Nonconformance 99902104/2024-201-02
Nonconformance 99902104/2024-201-03

First, thank you for the productive and enlightening visit from July 8-12, 2024. The NRC inspection team was professional, courteous, and thorough throughout all aspects of the inspection. It was apparent that their intent was to conduct an inspection and simultaneously drive improvement in our Quality Assurance program.

This intends to serve as the response to the above referenced Inspection Report and Notices of Nonconformance. Energy Steel fully understands that compliance to regulatory and industry requirements is essential and is committed to identifying and correcting issues that exist within our Quality Assurance program.

What follows is the status of the corrective actions tied to the Notices of Nonconformance referenced above.

Respectfully,

A handwritten signature in blue ink, appearing to read "MA", is written over the word "Respectfully,".

Marcus Alexander
President
Energy Steel

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NOTICE OF NONCONFORMANCE 99902104/2024-201-01 (Reference Energy Steel CPA 1534)

Criterion VIII, "Identification and Control of Materials, Parts, and Components," 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," states that "Measures shall be established for the identification and control of materials, parts, and components, including partially fabricated assemblies. These measures shall assure that identification of the item is maintained by heat number, part number, serial number, or other appropriate means, either on the item or on records traceable to the item, as required throughout fabrication, erection, installation, and use of the item. These identification and control measures shall be designed to prevent the use of incorrect or defective material, parts, and components."

Paragraph 8.6.1.4 of ESSC's Nuclear Quality Assurance Manual (NQAM), Issue No. 8, Revision 2, dated November 30, 2023, states, in part, that "Material shall be marked to maintain identity and traceability throughout the welding process."

Contrary to the above, as of July 12, 2024, ESSC failed to maintain identification of items by heat number, part number, serial number, or other appropriate means, either on the item or on records traceable to the item, as required throughout fabrication, erection, installation, and use of the item. Specifically, the filler metal rods used in the welding of safety-related letdown coolers was not identified and/or marked with a heat number or other appropriate means, but only had the material classification (i.e., 316L stainless steel) stamped on the metal rods. Further, this filler metal had been left opened in an uncontrolled area of the manufacturing floor since January 2024. Proper control of filler metal rods is necessary to assure that each heat of material is documented in the associated traveler/routing as well as to avoid contamination and the introduction of detrimental material to the final product which could cause degradation (i.e., cracking) that could potentially result in the component not performing its intended safety function.

Reason for Noncompliance/Basis for Disputing:

There are 2 concerns raised in this NON – that the individual filler metal rods weren't tagged appropriately, and that filler metal had been left in an uncontrolled area for the 6 months leading up to the inspection.

Regarding the first concern, we have reviewed all the applicable ASME Code requirements (SFA-5.9, SFA-5.02, NB-4125, NB-2400, NB-4122, NB-2150, NCA-4256.4) and have not found any requirement that individual rods be flag-tagged. The referenced specifications and paragraphs require that the box be marked and the rod itself be marked with the AWS class; the filler metal we have is in compliance with the referenced specifications above and our Filler Metal Control procedure (WM-FMC). We further investigated this by reaching out to third parties, both our Authorized Nuclear Inspector Supervisor and a representative from Weldstar, and both of those avenues yielded the same results.

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Understanding that the ASME Code is a set of minimum requirements, consideration was given to flag-tagging individual rods even though a direct requirement could not be found. It was noted that some of the weld rod could not be feasibly tagged (e.g. SMAW rod, as it is consumed in the process). Further, the volume of filler metal we have in inventory would take an estimated 1.5 years to go through and flag-tag each individual piece; a significant cost and operational impact on a small company. If there is a requirement that each individual piece of weld rod be flag-tagged we request that paragraph reference be provided.

Regarding the second concern, the control of issued weld wire, we agree that the process has weakened and there is room for improvement. Our weld wire practice used to include the daily return of weld wire to a controlled storage location. The business relocated a few years ago and had some turnover, especially in the shop, and the practice of daily return then subsided. The daily return of weld filler metal, while instituted at one point, has not been a programmatic requirement.

Corrective Steps Taken

Energy Steel has assigned CPA 1534 to this NON.

The welders and other personnel involved in the issuance and return of weld wire received training on the importance of filler metal traceability and the control of filler metal. They were instructed in this training to return their filler metal to the controlled storage area daily while the procedure is being formally revised.

Corrective Steps That Will Be Taken to Avoid Further Noncompliance

The Weld Filler Metal Control Procedure (WM-FMC) will be revised to require daily issuance and return of the weld filler metal to the controlled storage area. An additional form will be developed to capture the daily return and issuance, thus strengthening our control of filler metal and documenting its return to a controlled storage location.

Training will be conducted with shop personnel, engineering, and project management once the procedure is revised and form developed.

Periodic spot checks confirming the issuance and return of filler metal will be conducted prior to closing out the corrective action as part of the verification process.

Date When Corrective Action Will Be Completed

25 October 2024

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NOTICE OF NONCONFORMANCE 99902104/2024-201-02 (Reference Energy Steel CPA 1535)

Criterion XII, "Measuring and Test Equipment," of Appendix B to 10 CFR Part 50, states that "Measures shall be established to assure that tools, gages, instruments, and other measuring and testing devices used in activities affecting quality are properly controlled, calibrated, and adjusted at specified periods to maintain accuracy within necessary limits."

Paragraph 12.5.3 of ESSC's NQAM, states, in part, that "When measuring and test equipment is found to be lost, damaged, or found to be out of calibration, the [gage] is to be removed from service and reported to the Director, Quality Assurance [,] by issuance of a nonconformance report in accordance with Section 15 of this manual. An evaluation shall be performed to determine the effect of the out of calibration condition on previously inspected items and material back to the last valid calibration date. "Paragraph 6.5, "Out of Tolerance Conditions," of ESSC's procedure No. Q12.0, "Control of Measuring & Test Equipment," Revision 9, dated August 8, 2023, states, in part, that "When a M&TE/MS is lost, suspect of damage, or is found out-of-calibration, it will be removed from service, tagged with a Hold Tag and reported to Quality Assurance. Any item measured previously with the M&TE/MS will be evaluated for acceptability. Investigation of the suspect M&TE/MS will start from its last acceptable calibration."

Contrary to the above, as of July 12, 2024, ESSC failed to properly control measuring and testing devices used in activities affecting quality. Specifically, ESSC found a hexagon absolute arm measuring gage to be out of calibration and identified the safety-related jobs this gage was used on since its last acceptable calibration. However, ESSC did not perform an evaluation to determine the effect of the out of calibration condition on items that had been inspected and shipped since its last valid calibration date consistent with ESSC's NQAM.

Reason for Noncompliance/Basis for Disputing:

The NON above reflects a breakdown in one of our processes. Specifically, the QC inspector that received the Hexagon absolute arm in from calibration opened the nonconformance for the failed calibration and completed the 10 CFR Part 21 applicability section. He completed that section as "Not Part 21 Applicable" as none of the components inspected since the last calibration had shipped, and did not perform an evaluation on how the inspected parts were affected. The parts inspected with the hexagon absolute arm shipped after he completed this step; neither the QC inspector nor the Quality Director noticed the discrepancy at the time.

Corrective Steps Taken

Energy Steel has assigned CPA 1535 to this NON.

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An investigation into the out of tolerance condition was performed. There were 4 parameters for the calibration of the arm and only 1 of them was found to be out of tolerance. Through correspondence with Hexagon, the manufacturer of the arm and the organization that calibrated the device, it was noted that the parameter found out of tolerance (Ldia) is for repeatability. The 3 parameters found within tolerance were the spatial parameters. Hexagon stated the parameter in question (Ldia) is not a concern if the other parameters were found within range, which they were. As such, there is full confidence in the dimensions taken with the arm during the period in question and no further analysis is necessary.

The QC Inspector that received the Hexagon absolute arm in from calibration was terminated approximately 6 weeks prior to the NRC's visit. This was due to documented, patterned behavior similar to the instance above and their inability to operate within the confines of our Quality Assurance program.

An extent of condition was performed, searching for other instances where a Part 21 Evaluation was either missed or not performed properly. No other instances of missing evaluations were noted.

Corrective Steps That Will Be Taken to Avoid Further Noncompliance

Formal training will be conducted with all personnel regarding nonconformances, corrective actions, and their responsibilities pertaining to the actions contained therein. 10 CFR Part 21 investigations and extent of condition for out-of-tolerance calibrations will be a focal point of the training session.

Date When Corrective Action Will Be Completed

11 October 2025

NOTICE OF NONCONFORMANCE 99902104/2024-201-03 (Energy Steel CPA 1529)

Criterion XV, "Nonconforming Materials, Parts, or Components," of Appendix B to 10 CFR Part 50 states 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.

"Criterion XVI, "Corrective Action," of Appendix B to 10 CFR Part 50, states, in part, that "Measures shall be established to assure that conditions adverse to quality, such as failures, malfunctions, deficiencies, deviations, defective material and equipment, and nonconformances 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."

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Subsection 7.2.2 of ESSC's procedure No. Q15.0, "Nonconformance Reporting Procedure," Revision 3, dated May 27, 2021, states, in part, that "The Nonconformance (NC) reports found to be more than 30 business days of issue without schedule or reason require additional management actions to address prompt corrective action."

Subsection 6.2.3 of ESSC's procedure No. Q16.1, "Corrective Action Reporting Procedure," Revision 4, dated May 28, 2021, states, in part, that "Corrective Action/Preventative (CPA) reports found to be open for more than the scheduled completion (normally 30 business days of issue) without schedule or reason shall require immediate additional actions to address prompt corrective action."

Contrary to the above, as of July 12, 2024, ESSC failed to disposition NCs in accordance with documented procedures and failed to promptly identify and correct significant conditions adverse to quality to ensure that the cause of the condition is determined and corrective action taken to preclude repetition. Specifically, ESSC failed to implement corrective actions to address Nonconformance 99902104/2022-201-01 as documented in CPA No. 1459 and in ESSC's response to Nonconformance 99902104/2022-201-01, dated December 2, 2022 (Agencywide Documents Access and Management System Accession (ADAMS) No. ML22353A119). Because ESSC failed to adequately implement the corrective actions to address Nonconformance 99902104/2022-201-01, the NRC inspection team identified 22 NC and 25 CPA reports that were past the 30 business days due date as required in ESSC's nonconformance and corrective action procedures Q15.0 and Q16.1, respectively. Three of the 22 NC reports and five of the 25 CPA reports have been opened for more than a year.

Reason for Noncompliance/Basis for Disputing:

There has been substantial turnover in the Director of Quality role over the last several years, with most in the role on the order of a year:

1982 – 2018 Bob Paton
2018 – 2020 Marcus Alexander
2020 – 2021 Bob Paton
2021 – 2022 Marcus Alexander
2022 – 2023 Bruce Nagel
2023 – 2024 Brian Baxter
Mike McCann (interim)

In our organization the Director of Quality is the champion of nonconformances and corrective actions. The turnover noted above was far too much for the person in that role to get up to speed and gain traction on corrective actions and nonconformances prior to leaving the role.

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It is also worth noting that our Quality Auditor/AVL Manager role had been open for more than a year due to health issues. While not directly responsible for nonconformances and corrective actions, he was helpful in driving them to completion and his absence was tangible in this space.

Ultimately, the organization failed to plan for Bob Paton's retirement and the churning turnover above is reflective of that.

Corrective Steps Taken

Energy Steel has assigned CPA 1529 to this NON.

2 people were brought on contract to help drive our nonconformances and corrective actions in the right direction, Bob Paton and Mike McCann, both with over 40 years of industry experience.

Open nonconformances are reviewed during team meetings, held daily. Energy Steel Procedure SOP Q18.3, "Management Review Procedure", has been revised to require documented Management meetings to resolve past due nonconformance and corrective actions on at least a monthly basis.

Energy Steel Procedure SOP Q16.1, "Corrective Action Reporting Procedure", has also been revised. The revisions to SOP Q16.1 include the definition of priority levels assigned to each corrective action for improved corrective action triaging and prioritization, and more flexibility for the required date of completion for each corrective action commensurate with the level of effort and attention required.

Corrective Steps That Will Be Taken to Avoid Further Noncompliance

Documented material review board and corrective action meetings will continue on at least a monthly basis, with the departmental managers in attendance. The intent of these meetings are problem solving and trending analysis.

Training will be given on the procedures above (SOP Q16.1 and SOP Q18.3) to all applicable personnel.

An internal audit is scheduled to be performed in November by an independent third party. While this organization has been in the nuclear industry for quite some time, Energy Steel does not have any previous experience with them. This was done intentionally to ensure an additional "fresh set of eyes" are on our program to validate things are heading in the right direction in the near term.

Date When Corrective Action Will Be Completed

6 December 2024

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