



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

October 23, 2024

Ms. Catherine Hoeger
Quality Manager
Fisher Controls International, LLC
1702 South 12th Avenue
Marshalltown, IA 50158

SUBJECT: NUCLEAR REGULATORY COMMISSION INSPECTION REPORT OF FISHER
CONTROLS INTERNATIONAL, LLC NO. 99900105/2024-201

Dear Ms. Hoeger:

On September 9 - 13, 2024, the U.S. Nuclear Regulatory Commission (NRC) staff conducted an inspection at the Fisher Controls International, LLC facility (hereafter referred to as Fisher) in Marshalltown, IA. The purpose of this limited-scope routine inspection was to assess Fisher's compliance with the provisions of Title 10 of the *Code of Federal Regulations* (10 CFR) Part 21, "Reporting of Defects and Noncompliance," and selected portions of Appendix B, "Quality Assurance Program Criteria for Nuclear Power Plants and Fuel Reprocessing Plants," to 10 CFR Part 50, "Domestic Licensing of Production and Utilization Facilities."

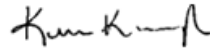
This technically-focused inspection specifically evaluated Fisher's implementation of quality activities associated with the design, fabrication, and testing of safety-related components (e.g., valves, actuators, actuator accessories, replacement parts and/or appurtenances, etc.) being supplied to U.S. nuclear power plants. In addition, the NRC inspection team evaluated Fisher's closure of the inspection findings documented in inspection report No. 99900105/2019-201, dated January 8, 2020 (Agencywide Documents Access and Management System (ADAMS) Accession No. (ML19339F625)). The enclosed report presents the results of this inspection. This NRC inspection report does not constitute NRC's endorsement of Fisher's overall quality assurance (QA) or 10 CFR Part 21 programs.

Within the scope of this inspection, no violations or nonconformances were identified.

In accordance with 10 CFR 2.390, "Public inspections, exemptions, requests for withholding," of the NRC's "Rules of Practice," a copy of this letter, its enclosure(s), and your response will be

made available electronically for public inspection in the NRC's Public Document Room or from the NRC's document system ADAMS, accessible at <http://www.nrc.gov/readingrm/adams.html>.

Sincerely,



Signed by Kavanagh, Kerri
on 10/23/24

Kerri A. Kavanagh, Chief
Quality Assurance and Vendor Inspection Branch
Division of Reactor Oversight
Office of Nuclear Reactor Regulation

Docket No.: 99900105

EPID No.: I-2024-201-0045

Enclosures:

1. Inspection Report No. 99900105/2024-201
and Attachment

SUBJECT: NUCLEAR REGULATORY COMMISSION INSPECTION REPORT OF FISHER
CONTROLS INTERNATIONAL, LLC NO. 99900105/2024-201
DATE: October 23, 2024

DISTRIBUTION:

RFelts, NRR
ABowie, NRR
PMcKenna, NRR
NRR_DRO_IQVB Distribution
Catherine.Hoeger@Emerson.com

ADAMS Accession No.: ML24281A194

NRR-106

OFFICE	NRR/DRO/IQVB	NRR/DRO/IQVB	NRR/DRO/IQVB
NAME	FVega	DPark	YLaw
DATE	10/8/2024	10/8/2024	10/8/2024
OFFICE	NRR/ DRO/IQVB	NRR/DRO/IQVB	/
NAME	MFitzgerald	KKavanagh	
DATE	10/8/2024	10/23/2024	

OFFICIAL RECORD COPY

**U.S. NUCLEAR REGULATORY COMMISSION
OFFICE OF NUCLEAR REACTOR REGULATION
DIVISION OF REACTOR OVERSIGHT
VENDOR INSPECTION REPORT**

Docket No.: 99900105

Report No.: 99900105/2024-201

Vendor: Fisher Controls International, LLC
1702 South 12th Avenue
Marshalltown, IA 50158

Vendor Contact: Ms. Catherine Hoeger
Quality Manager
Email: Catherine.Hoeger@Emerson.com
Phone: (641) 754-3210

Nuclear Industry Activity: Fisher Controls International, LLC (hereafter referred to as Fisher) is an American Society of Mechanical Engineers (ASME) Boiler and Pressure Vessel Code N (nuclear components) and NPT (nuclear parts) Certificate Holder. Fisher's scope of supply includes design, manufacturing, maintenance, repairs and replacement of ASME and non-ASME safety-related control valves, including spare/replacement parts and components and associated engineering for NRC's regulated facilities.

Inspection Dates: September 9-13, 2024

Inspectors: Frankie Vega NRR/DRO/IQVB Team Leader
Dong Park NRR/DRO/IQVB
Yiu Law NRR/DRO/IQVB Remote
Michael Fitzgerald NRR/DRO/IQVB

Approved by: Kerri A. Kavanagh, Chief
Quality Assurance and Vendor Inspection Branch
Division of Reactor Oversight
Office of Nuclear Reactor Regulation

Enclosure

EXECUTIVE SUMMARY

Fisher Controls International, LLC
99900105/2024-201

The U.S. Nuclear Regulatory Commission (NRC) staff conducted a limited-scope routine vendor inspection at the Fisher Controls International, LLC (hereafter referred to as Fisher) facility in Marshalltown, IA, to verify that it had implemented an adequate quality assurance (QA) program that complies with 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," and 10 CFR Part 21, "Reporting of Defects and Noncompliance." Furthermore, the NRC inspection verified that Fisher had implemented a program in accordance with the applicable requirements of Section III, "Rules for Construction of Nuclear Facility Components," Section V, "Nondestructive Examination," and Section IX, "Welding and Brazing Qualification," of the American Society of Mechanical Engineers Boiler and Pressure Vessel Code, and the American Society for Nondestructive Testing SNT-TC-1A, "Personnel Qualification and Certification in Nondestructive Testing." The NRC inspection team conducted this inspection on-site the week of September 9-13, 2024. This was the fourth NRC inspection of Fisher at the Marshalltown facility.

This technically-focused inspection specifically evaluated Fisher's implementation of quality activities associated with the design, fabrication, and testing of safety-related components (e.g., valves, actuators, actuator accessories, replacement parts, and/or appurtenances) being supplied to U.S. nuclear power plants. In addition, the NRC inspection team evaluated Fisher's closure of the inspection findings documented in inspection report (IR) No. 99900105/2019-201, dated January 8, 2020 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML19339F625).

Specific activities observed by the NRC inspection team included:

1. Commercial-grade dedication inspection and test activities for a bearing race thrust, taper pin, and a Type 67C series regulator
2. Hydrostatic testing and seat leakage testing of a 6-inch butterfly valve
3. Receipt inspection for a box of ten 67-CFR-NUC pressure regulators
4. Gas tungsten arc welding (GTAW) of a yoke/lower casing
5. Fluorescent liquid penetrant testing on a $\frac{3}{4}$ inch round bar

These regulations served as the bases for the NRC inspection:

- Appendix B to 10 CFR Part 50
- 10 CFR Part 21

During this inspection, the NRC inspection team implemented Inspection Procedure (IP) 43002, "Routine Inspections of Nuclear Vendors," dated February 10, 2023; IP 43004, "Inspection of Commercial-Grade Dedication Programs," dated February 10, 2023, and IP 36100, "Inspection of 10 CFR Part 21 and Programs for Reporting Defects and Noncompliance," dated February 10, 2023.

Inspection Areas

The NRC inspection team determined that Fisher established its programs for design control, commercial-grade dedication, procurement document control and oversight of contracted activities, material traceability, manufacturing control, test control, control of measuring and test equipment, and nonconforming materials, parts, or components, corrective action, and internal audits in accordance with the applicable regulatory requirements of Appendix B to 10 CFR Part 50. Based on the limited sample of documents reviewed and activities observed, the NRC inspection team also determined that Fisher is implementing its policies and procedures associated with these programs. In addition, the NRC inspection team determined that Fisher is implementing its 10 CFR Part 21 program for evaluating deviations and reporting defects that could create a substantial safety hazard in accordance with the applicable regulatory requirements. No findings of significance were identified in these areas.

REPORT DETAILS

1. 10 CFR Part 21 Program

a. Inspection Scope

The NRC inspection team reviewed Fisher Controls International, LLC (hereafter referred to as Fisher) policies and implementing procedures that govern the implementation of its Title 10 of the Code of Federal Regulations (10 CFR) Part 21, "Reporting of Defects and Noncompliance," program to verify compliance with the regulatory requirements. In addition, the NRC inspection team evaluated the 10 CFR Part 21 postings and a sample of Fisher's Purchase Orders (POs) for compliance with the requirements of 10 CFR 21.6, "Posting requirements," and 10 CFR 21.31, "Procurement documents," respectively.

Furthermore, for a sample of 10 CFR Part 21 evaluations performed by Fisher, the NRC inspection team verified that Fisher had effectively implemented the requirements for evaluating deviations and failures to comply. The NRC inspection team verified that the notifications were performed in accordance with the requirements of 10 CFR 21.21, as applicable.

The NRC inspection team also discussed the 10 CFR Part 21 program with Fisher's management and technical staff. The attachment to this inspection report lists the documents reviewed and personnel interviewed by the NRC inspection team.

b. Observations and Findings

No findings of significance were identified.

c. Conclusion

The NRC inspection team concluded that Fisher is implementing its 10 CFR Part 21 program in accordance with the regulatory requirements of 10 CFR Part 21. Based on the limited sample of documents reviewed, the NRC inspection team also determined that Fisher is implementing its policies and procedures associated with the 10 CFR Part 21 program. No findings of significance were identified.

2. Design Control

a. Inspection Scope

The NRC inspection team reviewed Fisher's policies and implementing procedures that govern the implementation of its design control program to verify compliance with the regulatory requirements of Criterion III, "Design Control," of Appendix B, "Quality Assurance Criteria for Nuclear Power Plants and Fuel Reprocessing Plants," to 10 CFR Part 50, "Domestic Licensing of Production and Utilization Facilities."

The NRC inspection team reviewed Fisher's procedures related to requirements identification and design activities. The NRC inspection team reviewed design documentation related to a 6-inch butterfly valve, valve body, and plug and stem assembly to ensure that adequate design control measures were applied, verification of

American Society of Mechanical Engineers (ASME) Boiler & Pressure Vessel (B&PV) Code requirements were met, and requirements were correctly and accurately verified. The NRC inspection team verified the qualifications and documentation of Fisher's Certifying Engineers. The NRC inspection team concluded that: (1) Fisher's design control process was being adequately implemented in accordance with the applicable regulatory requirements; (2) Fisher had correctly translated the design information into the applicable specifications, drawings, procedures, and instructions; and that (3) design activities were effectively controlled by documented instructions and procedures.

The NRC inspection team also discussed the design control program with Fisher's management and technical staff. The attachment to this inspection report lists the documents reviewed and personnel interviewed by the NRC inspection team.

b. Observations and Findings

No findings of significance were identified.

c. Conclusion

The NRC inspection team concluded that Fisher is implementing its design control program in accordance with the regulatory requirements of Criterion III of Appendix B to 10 CFR Part 50. Based on the limited sample of documents reviewed, the NRC inspection team also determined that Fisher is implementing its policies and procedures associated with the design control program. No findings of significance were identified.

3. Commercial-Grade Dedication

a. Inspection Scope

The NRC inspection team reviewed Fisher's policies and implementing procedures that govern the implementation of its commercial-grade dedication (CGD) program to verify their compliance with the regulatory requirements of Criterion III and Criterion VII, "Control of Purchased Material, Equipment, and Services," of Appendix B to 10 CFR Part 50.

The NRC inspection team reviewed six CGD packages for the following components: bearing race thrust – 1 ½", pin, taper, type 67C series regulator, yoke, yoke casing and t-ring. Within these CGD packages, the NRC inspection team reviewed: (1) POs; (2) technical evaluations; (3) inspection and test reports; and (4) Certificates of Conformance (CoCs). The NRC inspection team evaluated the criteria for the identification of item functions, credible failure mechanisms/modes, selection of critical characteristics and acceptance criteria, identification of verification methods and justification of the sampling methodologies, as applicable. The NRC inspection team observed inspection and testing (CGD Method 1) activities for the bearing race thrust, taper pin and type 67C series regulator.

The NRC inspection team reviewed 14 commercial-grade survey packages and verified that commercial-grade surveys contained the objective evidence necessary to demonstrate the commercial vendors have adequate controls of the critical characteristics identified by Fisher. The NRC inspection team verified the qualifications of inspectors performing inspection and test activities.

The NRC inspection team reviewed Fisher's measures for using the International Laboratory Accreditation Cooperation accreditation process in lieu of performing commercial-grade surveys for the procurement of calibration and testing services as part of the CGD process. Fisher implements this process as described in the Nuclear Energy Institute document No. 14-05A, "Guidelines for the Use of Accreditation in Lieu of Commercial Grade Surveys for Procurement of Laboratory Calibration and Test Services," Revision 1, dated September 2020, which was recognized for use by the NRC in a safety evaluation dated November 23, 2020 (Agencywide Documents Access Management System Accession (ADAMS) No. ML20322A019).

The NRC inspection team also discussed the CGD program with Fisher's management and technical staff. The attachment to this inspection report lists the documents reviewed and personnel interviewed by the NRC inspection team.

b. Observations and Findings

No findings of significance were identified.

c. Conclusion

The NRC inspection team concluded that Fisher is implementing its CGD program in accordance with the regulatory requirements of Criterion III and Criterion VII of Appendix B to 10 CFR Part 50. Based on the limited sample of documents reviewed, the NRC inspection team also determined that Fisher is implementing its policies and procedures associated with the CGD program. No findings of significance were identified.

4. Procurement Document Control and Supplier Oversight

a. Inspection Scope

The NRC inspection team reviewed Fisher's policies and implementing procedures that govern the implementation of its supplier oversight program to verify compliance with the requirements of Criterion IV, "Procurement Document Control," and Criterion VII of Appendix B to 10 CFR Part 50.

The NRC inspection team reviewed a sample of POs, Fisher's Nuclear Approved Supplier List (NASL), supplier audit reports, and annual evaluations. For the review of the sample of POs, the NRC inspection team verified the POs included, as applicable: (1) the scope of work; (2) right of access to the suppliers' facilities; (3) extension of contractual requirements to sub-suppliers; (4) and the applicable technical, regulatory, and quality requirements.

The NRC inspection team selected a sample of suppliers from the NASL to review the methodology for conducting and documenting audits to verify adequate evaluation of the suppliers' controls for meeting the applicable requirements of Appendix B to 10 CFR Part 50. For the sample of supplier audits reviewed, the NRC inspection team verified that the audits reports included, as applicable: (1) an audit plan; (2) any findings identified and the associated corrective actions; (3) adequate documented objective evidence of compliance with the applicable requirements; and (4) a documented review by Fisher's responsible management. For the review of the annual evaluations, the NRC

inspection team confirmed they included the information required by Fisher's policies and procedures. In addition, the NRC inspection team also verified that the audits were performed in accordance with the established frequency and by qualified lead auditors and auditors. Furthermore, the NRC inspection team reviewed the training and qualification records of lead auditors and auditors and confirmed that auditing personnel had completed all the required training and had maintained the applicable qualification and certification in accordance with Fisher's policies and procedures.

The NRC inspection team also discussed the procurement document control and supplier oversight programs with Fisher's management and technical staff. The attachment to this inspection report lists the documents reviewed and personnel interviewed by the NRC inspection team.

b. Observations and Findings

No findings of significance were identified.

c. Conclusion

The NRC inspection team concluded that Fisher is implementing its procurement document control and supplier oversight programs in accordance with the regulatory requirements of Criterion IV and Criterion VII of Appendix B to 10 CFR Part 50. Based on the limited sample of documents reviewed, the NRC inspection team also determined that Fisher is implementing its policies and procedures associated with the procurement document control and supplier oversight programs. No findings of significance were identified.

5. Material Traceability

a. Inspection Scope

The NRC inspection team reviewed Fisher's policies and implementing procedures that govern the implementation of its material traceability program to verify compliance with the regulatory requirements of Criterion VIII, "Identification and Control of Materials, Parts, and Components," of Appendix B to 10 CFR Part 50

The NRC inspection team performed a walkdown of the receipt inspection, nonconforming material, and weld filler material storage areas. The NRC inspection team confirmed that materials were adequately identified with Fisher's unique identification code, which is traceable to the POs and vendor certification reports. The NRC inspection team observed the receipt inspection for a box of ten 67-CFR-NUC pressure regulators. These pressure regulators were commercial-grade items that would be stored in inventory to undergo a CGD process. The NRC inspection team verified that receipt inspection records were reviewed by Fisher for compliance with the requirements of the POs and approved by qualified individuals. The NRC inspection team discussed the receipt inspection process with Fisher's quality control inspector.

The NRC inspection team inspected the welding material storage area and reviewed how Fisher documents the use of a new batch of welding material when an old batch is exhausted. The NRC inspection team reviewed a sample of job order-routing trackers associated with the plug/stem assembly and the yoke/lower casing. The NRC inspection

team confirmed that only specified and accepted items are used, and that markings are applied using materials and methods that provide a clear and legible identification and do not adversely affect the function or service life of the item.

The NRC inspection team also discussed the material traceability program with Fisher's management and technical staff. The attachment to this inspection report lists the documents reviewed and personnel interviewed by the NRC inspection team.

b. Observation and Findings

No findings of significance were identified.

c. Conclusion

The NRC inspection team concluded that Fisher is implementing its material traceability program in accordance with the regulatory requirements of Criterion VIII of Appendix B to 10 CFR Part 50. Based on the limited sample of documents reviewed, the NRC inspection team also determined that Fisher is adequately implementing its policies and procedures associated with the material traceability program. No findings of significance were identified.

6. Manufacturing Control

a. Inspection Scope

The NRC inspection team reviewed Fisher's policies and implementing procedures that govern the implementation of its manufacturing control program to verify compliance with the regulatory requirements of Criterion IX, "Control of Special Processes," of Appendix B to 10 CFR Part 50, and with the applicable requirements of Section III, "Rules for Construction of Nuclear Facility Components," Section V, "Nondestructive Examination," and Section IX, "Welding and Brazing Qualification," of the ASME B&PV Code, and the American Society for Nondestructive Testing (ASNT) SNT-TC-1A, "Personnel Qualification and Certification in Nondestructive Testing."

The NRC inspection team observed the gas tungsten arc welding (GTAW) of a yoke/lower casing, and the fluorescent liquid penetrant testing on a plug/stem assembly $\frac{3}{4}$ inch round bar. The NRC inspection team reviewed the following documentation associated with these activities: (1) a sample of work order travelers; (2) test reports; (3) weld certificates; and (4) calibration certificates of the measuring and test equipment (M&TE) used. The NRC inspection team reviewed Fisher's procedures for the certification and qualification of welders and nondestructive testing personnel and confirmed they were consistent with the latest revision of the American Society for Nondestructive Testing Recommended Practice SNT-TC-1A and Section III of the ASME B&PV Code. The NRC inspection team performed a walkdown of the weld filler material storage and weld filler material issue areas and verified that welding material was adequately controlled to prevent degradation, inadvertent use, or loss of traceability. The NRC inspection team also reviewed the logs used for issuing weld rods and confirmed that the weld rods were properly issued to the welder. The NRC inspection team confirmed that ovens in the weld electrodes area were held at specified temperatures to control moisture, as applicable, in accordance with the requirements of Section IX of the ASME B&PV Code.

The NRC inspection team also discussed the manufacturing control program with Fisher's management and technical staff. The attachment to this inspection report lists the documents reviewed by the NRC inspection team.

b. Observation and Findings

No findings of significance were identified.

c. Conclusion

The NRC inspection team concluded that Fisher is implementing its manufacturing control program in accordance with the regulatory requirements of Criterion IX of Appendix B to 10 CFR Part 50. Based on the limited sample of documents reviewed, the NRC inspection team also determined that Fisher is implementing its policies and procedures associated with the manufacturing control program. No findings of significance were identified.

7. Test Control

a. Inspection Scope

The NRC inspection team reviewed Fisher's policies and implementing procedures that govern the implementation of its test control program to verify compliance with the requirements of Criterion XI, "Test Control," of Appendix B to 10 CFR Part 50.

The NRC inspection team observed hydrostatic testing and seat leakage testing of a 6-inch butterfly valve. The NRC inspection team witnessed Fisher's processes for preparing the testing sample, setting up testing equipment and performing the hydrostatic testing and seat leakage testing, and recording the test results. The NRC inspection team discussed the process with the test and laboratory technicians and confirmed that these activities were performed following Fisher's procedures. The NRC inspection team reviewed testing documentation pertaining to the 6-inch butterfly valve and Fisher 546 series transducer. The NRC inspection confirmed that the following testing elements were satisfied, verified, and recorded, as appropriate: (1) test parameters and initial conditions; (2) test acceptance criteria; (3) test prerequisites; (4) test instrument range, accuracy, and uncertainty appropriate for the test; (5) current calibration; and (6) any deviations documented and evaluated. The NRC inspection team also reviewed the test records for the completed tests and confirmed that all the test requirements had been met. The NRC inspection team reviewed qualifications of personnel supporting testing activities and confirmed that testing personnel had completed all the required training and had maintained the applicable qualification and certification in accordance with Fisher's policies and procedures.

The NRC inspection team discussed the test control program with Fisher's management and technical staff. The attachment to this inspection report lists the documents reviewed by the NRC inspection team.

b. Observations and Findings

No findings of significance were identified.

c. Conclusion

The NRC inspection team concluded that Fisher is implementing its test control program in accordance with the regulatory requirements of Criterion XI of Appendix B to 10 CFR Part 50. Based on the limited sample of documents reviewed, the NRC inspection team also determined that Fisher is adequately implementing its policies and procedures associated with the test control program. No findings of significance were identified.

8. Control of Measuring and Test Equipment

a. Inspection Scope

The NRC inspection team reviewed Fisher's policies and implementing procedures that govern the implementation of its M&TE program to verify compliance with the requirements of Criterion XII, "Control of Measuring and Test Equipment," of Appendix B to 10 CFR Part 50.

The NRC inspection team inspected Fisher's Gage Center and interviewed the calibration technician. The NRC inspection team reviewed the calibration records for the M&TE used in activities observed through the inspection week, e.g., welding, liquid penetrant examination, welding material control, hydrostatic test and dedication. The NRC inspection team observed that the M&TE was calibrated, labeled, tagged, handled, stored, or otherwise controlled to indicate the calibration status and its traceability to nationally recognized standards. In addition, the NRC inspection team confirmed that when M&TE is found to be out of calibration, Fisher initiates a nonconformance report and performs an evaluation to determine the extent of condition.

The NRC inspection team also discussed the M&TE program with Fisher's management and technical staff. The attachment to this inspection report lists the documents reviewed and personnel interviewed by the NRC inspection team.

b. Observations and Findings

No findings of significance were identified.

c. Conclusion

The NRC inspection team concluded that Fisher is implementing its M&TE program in accordance with the regulatory requirements of Criterion XII of Appendix B to 10 CFR Part 50. Based on the limited sample of documents reviewed, the NRC inspection team also determined that Fisher is adequately implementing its policies and procedures associated with the M&TE program. No findings of significance were identified.

9. Nonconforming Materials, Parts, or Components and Corrective Action

a. Inspection Scope

The NRC inspection team reviewed Fisher's policies and implementing procedures that govern the implementation of its nonconforming materials, parts, or components and

corrective action program to verify compliance with the requirements of Criterion XV, “Nonconforming Materials, Parts, or Components,” and Criterion XVI, “Corrective Action,” of Appendix B to 10 CFR Part 50.

The NRC inspection team reviewed a sample of Nonconformance Reports (NRs) and verified that Fisher: (1) dispositioned the NRs in accordance with applicable procedures; (2) documented an appropriate technical justification for the selected disposition; and (3) took adequate corrective action regarding the nonconforming items, as applicable.

The NRC inspection team also reviewed a sample of Corrective Action Reports (CARs) and verified that the CARs contained, as applicable: (1) adequate documentation and description of conditions adverse to quality; (2) an appropriate analysis of the cause of these conditions and the corrective actions taken to prevent recurrence; (3) direction for review and approval by the responsible authority; (4) a description of the current status of the corrective actions; and (5) the actions taken to verify timely and effective implementation of the corrective actions.

The NRC inspection team also reviewed Fisher’s corrective actions initiated in response to Nonconformances 99900105/2019-201-01 and 99900105/2019-201-02, identified in the NRC’s Inspection Report (IR) No. 99900105/2019-201, dated January 8, 2020 (ADAMS Accession No. ML19339F625).

The NRC inspection team also discussed the nonconforming materials, parts, or components and corrective action programs with Fisher’s management and technical staff. The attachment to this inspection report lists the documents reviewed and personnel interviewed by the NRC inspection team.

b. Observations and Findings

Corrective Actions Associated with Nonconformances 99900105/2019-201-01 and 99900105/2019-201-02

Following the November 2019 inspection of Fisher, the NRC issued Nonconformances 99900105/2019-201-01 and 99900105/2019-201-02 for Fisher’s failure to ensure the suitability of equipment supplied to the nuclear industry. Specifically, in Nonconformance 99900105/2019-201-01, Fisher was cited for its failure to adequately seismically qualify the design of the 546NS electro-pneumatic transducers through suitable qualification testing to verify the adequacy of the design. In Nonconformance 99900105/2019-201-02, Fisher was cited for its failure to adequately environmentally qualify the design of the 546NS electro-pneumatic transducers through suitable qualification testing under the most adverse design conditions to verify the adequacy of the design.

In its response to Nonconformances 99900105/2019-201-01 and 99900105/2019-201-02, dated October 21, 2020 (ADAMS Accession No. ML20300A320), Fisher committed to update their nuclear order processing procedure and processing forms to include a requirement for an alignment meeting with the Application Engineering group when processing nuclear orders. The purpose of this meeting is to define and communicate order scope, schedule, objectives, specifications and requirements to the internal stakeholders who have contribution to the execution of orders and would provide its Application Engineering group greater involvement in the procurement process. Fisher

also committed to conduct formal training on responsibilities and changes made to the nuclear order processing procedure and associated forms. Finally, Fisher committed to review all current 546NS Fisher qualification reports (FQRs) and orders to ensure compliance with individual order requirements.

The NRC inspection team reviewed documentation that provided objective evidence for the completion of the corrective actions, including a review of CARs 1924 and 1925. The NRC inspection team verified that Fisher has updated its procedure and forms to include an internal alignment meeting with the Application Engineering group to increase its involvement in the procurement process. The NRC inspection team reviewed meeting summaries of these internal alignment meetings to ensure that these meetings are now part of Fisher's regular procurement process. The NRC inspection team also reviewed quality project (QP) report No. 19QP009, "546 Certification to IEEE 323-1983," Revision A, dated October 6, 2020; which was created as part of the corrective actions to address the nonconformances. QP 19QP009 documents the evaluation performed by Fisher on the qualification of the Type 546NS transducers to address the specific technical issues identified in the nonconformances and justify the adequacy of the FQRs. In addition, the NRC inspection team reviewed the updates made to FQR-82, "IPEEE 323/344 Qualification Fisher Nuclear Service Type 546 NS I/P Transducer," Revision B, dated July 27, 2022, to ensure these updates addressed the technical concerns in the areas of environmental and seismic qualifications of the 546NS transducer, as identified in the nonconformances. The NRC inspection team noted that Revision B of FQR-82 provides a clear description of the qualification testing performed on the 546NS transducers and this will allow each individual Fisher customer to determine where and how the component could be used within their own facilities. Finally, CARs 1924 and 1925 also described the communications that occurred between Fisher and its customers to ensure the customer had a clear understanding of the qualification issues identified by the NRC and the evaluations performed by Fisher regarding the test sequences and results associated with the specific FQR. Fisher agreed to update CARs 1924 and 1925 to reference QP 19QP009 and therefore described all the corrective actions taken to address the nonconformances.

The NRC inspection team determined that Fisher's corrective actions were adequately implemented to address Nonconformances 99900105/2019-01 and 99900105/2019-201-02. Based on its review, the NRC inspection team closed Nonconformances 99900105/2019-01 and 99900105/2019-201-02.

c. Conclusion

The NRC inspection team concluded that Fisher is implementing its nonconforming materials, parts, or components and corrective action programs in accordance with the regulatory requirements of Criterion XV and Criterion XVI of Appendix B to 10 CFR Part 50. Based on the limited sample of documents reviewed, the NRC inspection team also determined that Fisher is implementing its policies and procedures associated with its nonconforming materials, parts, or components and corrective action programs. No findings of significance were identified.

10. Internal Audits

a. Inspection Scope

The NRC inspection team reviewed Fisher's policies and implementing procedures that govern the implementation of its internal audits program to verify compliance with the requirements of Criterion XVIII, "Audits," of Appendix B to 10 CFR Part 50.

The NRC inspection team verified that Fisher's procedures described the scope and purpose of audits to be performed, the frequency, audit criteria, and corrective actions when required. For the sample of internal audits reviewed, the NRC inspection team verified that the audit reports included: (1) audit plan; (2) audit results; (3) adequately documented objective evidence with the applicable requirements; and (4) a review by Fisher's responsible management. The NRC inspection team verified that the internal audits were performed by qualified auditors who were not auditing their own work and that the internal audits were performed using the appropriate checklists. The NRC inspection team also verified that Fisher adequately initiated and corrected any findings identified during the internal audits.

The NRC inspection team also discussed the internal audits program with Fisher's management and technical staff. The attachment to this inspection report lists the documents reviewed and personnel interviewed by the NRC inspection team.

b. Observations and Findings

No findings of significance were identified.

c. Conclusion

The NRC inspection team concluded that Fisher is implementing its internal audits program in accordance with the regulatory requirements of Criterion XVIII of Appendix B to 10 CFR Part 50. Based on the limited sample of documents reviewed, the NRC inspection team also determined that Fisher is implementing its policies and procedures associated with the internal audits program. No findings of significance were identified.

11. Entrance and Exit Meetings

On September 9, 2024, the NRC inspection team discussed the scope of the inspection with Stephanie Bauder, Vice-President of Operations, Ms. Catherine Hoeger, Quality Manager, and other members of Fisher's management and technical staff. On September 13, 2024, the NRC inspection team presented the inspection results and observations during an exit meeting with Ms. Bauder, Ms. Hoeger and other members of Fisher's management and technical staff. The attachment to this report lists the attendees of the entrance and exit meetings, as well as those individuals whom the NRC inspection team interviewed.

ATTACHMENT

1. ENTRANCE/EXIT MEETING ATTENDEES

Name	Title	Affiliation	Entrance	Exit	Interviewed
Catherine Hoeger	Quality Manager	Emerson	x	x	x
Alison Clark	Quality Engineering Manager	Emerson	x	x	x
Barry Hurst	Director Quality Americas	Emerson	x	x	
Ben Ahrens	Global Quality Director	Emerson	x	x	
Brian Sink	Quality Engineer	Emerson	x	x	x
Deric Bracy	Quality Supervisor	Emerson	x	x	x
Jason Russell	Quality Engineer	Emerson	x	x	x
Darrin Nuese	Operations Manager	Emerson	x		
Jason Bowers	Welding Manager	Emerson	x	x	
Edwin Schreuder	Global Nuclear Quality & Europe Quality Director	Emerson	x		
Matt Anson	Design Qualification Engineer	Emerson	x	x	x
Thomas Steven	Nuclear Value Stream Manager	Emerson	x		
June DelGrosso	North America Nuclear Director	Emerson		x	
Rande Jones	Director of Operations	Emerson		x	
Keith Sink	Plant Manager	Emerson		x	
Stephanie Bauder	Vice-President, Nuclear Manufacturing & Service Operations	Emerson	x	x	
James Love	Quality Control Inspector	Emerson			x
Tom Leaper	Quality Control Inspector	Emerson			x

Name	Title	Affiliation	Entrance	Exit	Interviewed
Alexis Tobias	Quality Control Inspector	Emerson			x
Scott Ellis	Nuclear Assembler	Emerson			x
Christopher Brown	Quality Control Inspector	Emerson			x
James Doonan	Laboratory Supervisor	Emerson			x
Shawn Beckham	Welding Supervisor	Emerson			x
John Brones	QC Technician	Emerson			x
Tim Bell	Nuclear Inspector	Emerson			x
Frankie Vega	Inspection Team Leader	Nuclear Regulatory Commission (NRC)	x	x	
Kerri Kavanagh	Branch Chief	NRC		x	
Dong Park	Inspector	NRC	x	x	
Yiu Law (remote)	Inspector	NRC	x	x	
Michael Fitzgerald	Inspector	NRC	x	x	

2. INSPECTION PROCEDURES USED

- Inspection Procedure (IP) 36100, "Inspection of 10 CFR Part 21 and Programs for Reporting Defects and Noncompliance," dated February 10, 2023
- IP 43002, "Routine Inspections of Nuclear Vendors," dated February 10, 2023
- IP 43004, "Inspection of Commercial-Grade Dedication Programs," dated February 10, 2023

3. LIST OF ITEMS OPENED, CLOSED, AND DISCUSSED

Item Number	Status	Type	Description
99900105/2019-201-01	CLOSED	NON	Criterion III
99900105/2019-201-02	CLOSED	NON	Criterion III

4. DOCUMENTS REVIEWED

Policies and Procedures

- Fisher Controls International's Nuclear Quality Assurance Manual, Revision 1, dated December 20, 2023
- Engineering Practice (EP) 9, "A Guide to Nuclear Qualification," Revision B, dated January 29, 1997
- Engineering Standard (ES) ES 93, "Nuclear Valve Design Reports – ASME Boiler and Pressure"
- ES 94, "Design Review Committee," Revision AH, dated June 11, 2004
- ES 118, "Design Verification Requirements for Valve Components," Revision Q, dated April 2, 2023
- ES 119, "Design Control Requirements, Revision AE," dated May 1, 2023
- ES 121, "Control and Maintenance Procedures for Emerson Automation Solutions – Flow Controls Business Analytical Computer Programs and Databased," Revision V, dated April 24, 2018
- ES 142, "Identification of Essential-to-Function Parts or Assemblies for Use in Nuclear Safety Related Applications," Revision P, dated July 10, 2018
- ES 192, "Engineering Change Request Procedure," Revision AH, dated January 22, 2021
- ES 206, "Laboratory Report Procedures," Revision E, dated May 22, 2019
- ES 238, "Technical Assessment Process," Revision T, dated April 27, 2023
- ES 239, "Product Field Evaluation, Revision F," dated July 22, 2009
- ES 242, "Controlled Documents and Data," Revision T, dated May 4, 2023
- ES 243, "Control Standard for Calibration and Use of Research and Engineering Lab Test and Measuring Equipment," Revision G, dated October 25, 2016
- ES 245, "Authorized Signature Requirement," Revision B, dated October 8, 2021
- ES 256, "Code and Specification Reconciliation for Nuclear Service Replacement Parts and Components," Revision C, dated August 25, 2008
- ES 266, "Commercial Grade Dedication Requirements for Fisher Manufactured Instruments and Accessories," Revision C, dated March 21, 2024
- ES 269, "Instrument Engineering Product Development Process," Revision C, dated May 4, 2023
- Fisher General Specification (FGS) FGS4L1, "Hydrostatic Testing," Revision BA, dated August 17, 2023
- FGS4L5, "Seat Leak Test for Control Valves," Revision AS, dated April 12, 2022
- FGS4L6, "Seat Leak Tests for Single and Double-Offset HPBV's," Revision G, dated January 3, 2017
- FGS 15B13.2, "Supplier Evaluation," Revision N, dated May 13, 2024
- Fisher Manufacturing Procedure (FMP) 0E3 "Nuclear Purchasing & Unqualified source" Revision 4, dated December 15, 2023
- FMP20A11, Engineering Change Request Notification (ECRN) Process, Revision 4 dated December 9, 2016

- FMP12B3, “Deionized Water-Testing & Control in Compliance with ASME NQA-1-2017,” Revision 9, dated September 24, 2020
- FGS 15B 15.9 “Auditor/Lead auditor Qualification” Revision B, dated November 15, 2017
- FGS 15B 13.0 “Supplier Quality Procedure”, Revision C, dated January 12, 2024
- FMP 2H2, “Procedure for Control and Calibration of Gauges, Measurement Equipment and Examination Equipment,” Revision 65, dated April 21, 2021
- FMP 2J3 “Qualification of Auditors/Audit Programs”, Revision 21, dated February 16, 2024
- FMP 2K9, “Procedure for Corrective Action,” Revision 35, dated April 8, 2024
- FMP2K27, “Control of Commercial Grade Items to be Dedicated for Use in Nuclear Safety-Related Applications,” Revision 29, dated October 10, 2022
- FMP 2K29, “Processing of Nonconforming Materials and Items,” Revision 23, dated February 20, 2024
- FMP 2K37 “Supplier Evaluation – 10 CFR Part 50,” Revision 9, March 10, 2022
- FMP 2K41 “Requirements for Performing and Reporting Results of Internal Audits for NQAM, QMSM, ATEX and PED” Revision 12, dated April 8, 2024
- FMP 2K43.1.1 “Supplier Evaluation – Accreditation-Calibration Services,” Revision 8, dated December 18, 2023
- FMP 2K43 “Supplier Evaluation – Commercial Grade Survey,” Revision 6, dated April 18, 2021
- FMP 2K46 “Supplier Evaluations-Audits, Survey (Code) and Commercial Grade Surveys, Revision 22, dated April 8, 2024
- FMP 2K47 “Supplier Qualification and Control” Revision 5, dated May 3, 2021
- FMP 2K48 “Annual Evaluation and Performance Assessment (NASL),” Revision 5, dated December 15, 2023
- FMP 2Q11 “Nuclear Order Processing System – Order Receipt Processing,” Revision 7, dated April 30, 2019
- FMP 2Q14, “Nuclear Order Processing System – Processing of Manufacturing Documentation,” Revision 8, dated April 10, 2015
- ES 269, “Instrument Engineering Product Development Process,” Revision C, dated May 4, 2023
- General Practice (GP) 1, “New Product Development Process,” Revision L, dated May 1, 2023
- Quality Project (QP) 23QP01 “9200 T-Ring,” Revision A, dated February 21, 2024
- World Manufacturing Procedure (WMP) 7A6, “Chloride Testing of Aqueous Manufacturing Solution,” Revision E, dated August 20, 2024

Commercial-Grade Dedication Packages

- 003-T10013580, dated April 7, 2023
- Bearing Race, Thrust – 16A0875X042
- Pin, Taper – G14178X0072
- Type 67C Series Instrument – 63276977
- Yoke – AB073637
- Diaphragm Casing – AB081430
- T-Ring – 24B5041
- T-Ring – K14292

Welding and Nondestructive Examination (NDE) Records

- Liquid Penetrant Test Report #: PT00028233
- Liquid Penetrant Test Report #: PT00028234
- Liquid Penetrant Test Report #: PT00028236
- Weld Order Card for Job Order No. 39257942
- Weld Certificate Control No. 3632
- FCI Inspection and Test Report (Form 3126Q), Serial No. AB082066

Purchase Orders (POs), Audit Reports, and Annual Evaluations

- PO 4780845703, Revision 0, dated June 11, 2024
- PO 4780877651, Revision 0, dated September 6, 2024
- PO 4780875749, Revision 0, September 3, 2024
- PO 4780877652, Revision 0, September 6, 2024
- PO 02385926, Revision 6, dated November 28, 2018
- PO 02440519, Revision 4, dated January 3, 2023
- PO 4780759800, Revision 0, dated October 20, 2023
- PO 4780810675, Revision 0, dated March 14, 2024
- PO 4780114664, Revision 0, February 11, 2019
- PO 4780764317, Revision 0, October 30, 2023
- PO 4780299193, Revision 0, April 20, 2020
- PO 4780676000, Revision 0, March 20, 2023
- PO 4780776518, Revision 0, December 6, 2023
- External Audit Report, dated February 26, 2024
- External Audit Report, dated June 22, 2023
- External Audit Report, dated October 28, 2022
- External Audit Report, dated February 28, 2024
- Annual Supplier Evaluation, dated April 28, 2024
- Annual Supplier Evaluation, dated April 2026, 2024
- Annual Supplier Evaluation, dated November 19, 2022
- Annual Supplier Evaluation, dated November 19, 2022

Commercial-Grade Surveys

- 150056816, dated August 24, 2022
- 50015834, dated December 16, 2021
- 150031970, dated December 14, 2021
- 6314, dated September 16, 2022
- 150044992, dated January 20, 2022
- 150020803, dated January 17, 2024
- 150026110, dated January 18, 2023
- 150007850, dated February 8, 2022
- 150024620, dated May 25, 2022
- 5227, dated April 28, 2022

- Y520, dated February 3, 2022
- 150002035, dated February 2, 2022
- 742D, dated November 15, 2022
- 297D, dated March 27, 2024

Calibration, Inspection, and Test Records

- Calibration Report #:391629335151747, dated August 28, 2024
- Calibration Report #:399389475039211, dated August 28, 2024
- Calibration Certificate Number 2024000638, dated April 4, 2024
- Calibration Certificate Number WAMO40734-B, dated May 8, 2024
- Calibration Certificate Number 1500363175, dated October 6, 2023
- Calibration Certificate Number 1500363221, dated October 6, 2023
- Calibration Certificate Number 1500363147, dated October 5, 2023
- Calibration Certificate Number 1500363163, dated October 5, 2023
- Calibration Certificate Number 202396105, dated December 12, 2023
- Calibration Certificate Number 5523631030584870, dated December 29, 2023
- Calibration Report for 7692675, Stopwatch
- Calibration Report for PG01712, Pressure Gage
- Calibration Report for PG26751, Pressure Transducer
- Calibration Report for PG26752, Pressure Transducer
- Calibration Report for G10019-0010, Inside Micrometer
- Calibration Report for G10053-0006, Thread Gage
- Calibration Report for G10052-0042, Thread Gage
- Calibration Report for G14447-0005, Outside Diameter Micrometer
- Calibration Report for G17313-0028, Digital Caliper
- Calibration Report for G17313-0031, Digital Caliper
- Calibration Report for G17976-0001, Rockwell Hardness Tester
- Calibration Report for G18035-0014, Dot Scale
- Calibration Report for G18045-0017 Caliper

Material Traceability Records

- Certificates of Conformance for PO 4780114664, issued February 11, 2019
- CMTR for 3/32x36 LINCOLN ER70S, Lot: 1162Z
- Nuclear Safety Related Commercial-Grade Item Dedication Inspection Report CGID
Plan No: 1481
- Traveler for Work Order #39257942
- Traveler for Work Order #37945624

Manufacturing Records

- Routing for Job Order #39257942
- Routing for Job Order #37945624

Internal Audits Reports

- 2022 Internal Audit report, audit dates April 11-13, 2022
- 2023 Internal Audit report, audit dates May 1-5, 2023
- 2024 Internal audit report, audit dates February 5-9, 2024

Nonconformance Reports

- NC000481301
- NC000450867
- NC000434062
- NC000433948
- NC000514859
- DISP000335774
- NC000514875
- DISP000336177
- NC000514505
- DISP000335777
- NC000514425
- DISP000335554
- NC000514307
- DISP000335675
- NC000518893
- DISP000338857
- NC000519448
- DISP000339104

Corrective Action Reports

- CAR #2021, dated February 9, 2024
- CAR #2004, dated April 5, 2023
- CAR #2005, dated April 5, 2023
- CAR# 2026, dated March 7, 2024
- CAR #1893, dated December 6, 2019
- CAR #1894, dated November 25, 2019
- CAR #1896, dated February 12, 2020
- CAR #1924, dated November 23, 2020
- CAR #1925, dated October 12, 2020
- CAR #1963, dated February 7, 2022
- CAR #1993, dated April 4, 2023
- CAR #1994, dated April 3, 2023
- CAR #2011, dated September 3, 2024
- CAR #2024, dated May 8, 2024
- CAR #2029, dated May 22, 2024
- CAR #2036, dated August 26, 2024

Corrective Action Reports Opened During the NRC Inspection

- CAR #2052
- CAR #2053
- CAR #2054

Part 21

- Fisher Information Notice FIN 2023-01, "Post Weld Heat Treat for PV14 DS102 and DS114," dated August 28, 2023

Training and Qualification Records

- Brian Sink, Lead Auditor
- Jeremy Neisess
- Dan Zuelke
- James Love
- Tom Leaper
- Alexis Tobias
- Christopher Brown
- James Hogan
- Zachary Mailahn
- Steven Smith
- Matt Hala

Additional Documentation

- FMP2Q11 form for PO 02440519
- FMP2Q12 form for PO 02440519
- Declaration of Compliance for PO 02440519
- NA-23, Vibration and Environmental Testing Report – Type 546 Transducer, dated July 16, 2013
- 24QN02-CC-01, "Type 546NS Transducer Certificate of Conformance for Florida Power & Light Company, dated November 8, 2023
- M20170026, "Seismic Testing of the Fisher 546NS Electro-Pneumatic Transducer in Support of 10 CFR Part 21 Investigation," dated February 2017
- 19QP008, "546 Certification to IEEE-323 – 1974 vs 1983," dated August 9, 2019
- 19QN66-TC-01, "Technical Correspondence – 546 Environmental Qualification to IEEE-323," dated August 7, 2019
- FQR-82, Rev. A, "Qualification Report IEEE 323/344 Qualification Fisher Nuclear Service Type 546NS I/P Transducer," dated August 24, 2006
- 19QP009, "546 Certification to IEEE-323 – 1983," dated July 25, 2022
- 19QP09-TC-01, "Summary and Finding Thermodyne Report 4F-3-1-2 "Critique"," dated October 6, 2020
- 19QP09-TC-02, "Type 546 Qualification Test Program Supplemental Details – Response to NRC NON 99900105/2019-201-01 and NON 99900105/2019-201-02," dated October 6, 2020

- FQR-82, Rev. B, "Qualification Report IEEE 323/344 Qualification Fisher Nuclear Service Type 546NS I/P Transducer," dated July 27, 2022