

May 22, 2015

Benjamin Ahrens, Quality Assurance Manager
Emerson Process Management
Fisher Controls International LLC
1702 South 12th Ave.
Marshalltown, IA 50158

SUBJECT: NUCLEAR REGULATORY COMMISSION INSPECTION REPORT FOR FISHER
CONTROLS, LLC NO. 99900105/2015-201 AND NOTICE OF
NONCONFORMANCE

Dear Mr. Ahrens:

On April 13-17, 2015, the U.S. Nuclear Regulatory Commission (NRC) staff conducted an inspection at the Fisher Controls, LLC (Fisher) facility in Marshalltown, IA. The purpose of this limited scope 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 fabrication and testing activities of PV14 and PV63 air operated globe valves for the Westinghouse Electric Company (WEC) AP1000 reactor design and of control valves being manufactured in support of operating reactors. During this inspection, the NRC staff looked at fabrication activities associated with inspections, tests, analyses and acceptance criteria (ITAAC) from revision 19 of the approved AP1000 design certification document. Specifically, these activities were associated with ITAAC 2.2.01.02a, 2.2.01.04a.i, 2.2.01.04a.ii, 2.2.03.2a, 2.2.03.4a, 2.2.04.2a, 2.2.04.4a, 2.3.02.2a, 2.3.02.4a, 2.3.06.2a, and 2.3.06.4a. The NRC inspection team did not identify any findings associated with the ITAAC contained in Section 4 of the attachment to this report. The enclosed report presents the results of the inspection. This NRC inspection report does not constitute an NRC endorsement of Fisher's overall quality assurance (QA) or 10 CFR Part 21 programs.

During this inspection, the NRC inspection team found that the implementation of Fisher's QA program failed to meet certain NRC requirements imposed on you by your customers. Specifically, the NRC inspection team determined that Fisher was not fully implementing its QA program in the area of corrective action. The specific finding and references to the pertinent requirements are identified in the enclosures to this letter. In response to the enclosed Notice of Nonconformance (NON), Fisher should document the results of the extent of condition review for this finding and determine if there are any effects on other safety-related components.

Please provide a written explanation or statement within 30 days of this letter in accordance with the instructions specified in the enclosed NON. The agency will consider extending the response time if you show good cause for us to do so.

In accordance with 10 CFR 2.390, "Agency Rules of Practice and Procedure," a copy of this letter, its enclosure(s), and your response will be made available electronically for public inspection in the NRC Public Document Room or from the NRC's document system (Agencywide Documents Access and Management System), accessible at <http://www.nrc.gov/reading-rm/adams.html>. To the extent possible, your response, (if applicable), should not include any personal privacy, proprietary, or Safeguards Information so that it can be made available to the public without redaction. If personal privacy or proprietary information is necessary to provide an acceptable response, then please provide a bracketed copy of your response that identifies the information that should be protected and a redacted copy of your response that deletes such information. If you request that such material is withheld from public disclosure, you must specifically identify the portions of your response that you seek to have withheld and provide in detail the bases for your claim (e.g., explain why the disclosure of information will create an unwarranted invasion of personal privacy or provide the information required by 10 CFR 2.390(b) to support a request for withholding confidential commercial or financial information). If Safeguards Information is necessary to provide an acceptable response, please provide the level of protection described in 10 CFR 73.21, "Protection of Safeguards Information: Performance Requirements."

Sincerely,

/RA/ (RMclntyre for)

Edward H. Roach, Chief
Mechanical Vendor Inspection Branch
Division of Construction Inspection
and Operational Programs
Office of New Reactors

Docket No.: 99900105

Enclosures:

1. Notice of Nonconformance
2. Inspection Report No. 99900105/2015-201
and Attachment

Please provide a written explanation or statement within 30 days of this letter in accordance with the instructions specified in the enclosed NON. The agency will consider extending the response time if you show good cause for us to do so.

In accordance with 10 CFR 2.390, "Agency Rules of Practice and Procedure," a copy of this letter, its enclosure(s), and your response will be made available electronically for public inspection in the NRC Public Document Room or from the NRC's document system (Agencywide Documents Access and Management System), accessible at <http://www.nrc.gov/reading-rm/adams.html>. To the extent possible, your response, (if applicable), should not include any personal privacy, proprietary, or Safeguards Information so that it can be made available to the public without redaction. If personal privacy or proprietary information is necessary to provide an acceptable response, then please provide a bracketed copy of your response that identifies the information that should be protected and a redacted copy of your response that deletes such information. If you request that such material is withheld from public disclosure, you must specifically identify the portions of your response that you seek to have withheld and provide in detail the bases for your claim (e.g., explain why the disclosure of information will create an unwarranted invasion of personal privacy or provide the information required by 10 CFR 2.390(b) to support a request for withholding confidential commercial or financial information). If Safeguards Information is necessary to provide an acceptable response, please provide the level of protection described in 10 CFR 73.21, "Protection of Safeguards Information: Performance Requirements."

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and Attachment

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NOTICE OF NONCONFORMANCE

Fisher Controls, LLC
1702 South 12th Ave.
Marshalltown, IA 50158

Docket No. 99900105

Based on the results of a U.S. Nuclear Regulatory Commission (NRC) inspection conducted at the Fisher Controls, LLC (Fisher) facility in Marshalltown, IA on April 13, 2015, through April 17, 2015, certain activities were not conducted in accordance with NRC requirements which were contractually imposed on Fisher by its customers or NRC licensees:

Criterion XVI, "Corrective Action," of Appendix B, "Quality Assurance Program Criteria for Nuclear Power Plants and Fuel Processing 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 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. 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."

Section 17.1.4 of Fisher Controls "ASME Section III, Division 1 Nuclear Quality Assurance Manual," Revision 13 dated November 15, 2014, states that "The department Manager or supplier responsible for the nonconformity shall determine and implement the corrective action required, both immediate and to preclude recurrence, and shall report such action on the corrective action request (CAR) form. The corrective action shall define the cause of the nonconformity, action taken to prevent reoccurrence, and schedule of corrective action implementation to the Manager Quality."

Contrary to the above, as of April 17, 2015, Fisher Controls failed to ensure that 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. Fisher failed to provide adequate corrective action in response to NRC Notice of Nonconformance (NON) 99900105/2011-201-05 related to Fisher's failure to adopt a Corrective Action Program that meets the requirements of Criterion XVI in Appendix B to 10 CFR Part 50. The NRC inspection team verified that Fisher had implemented the corrective action for NON 99900105/2011-201-05 as documented in a letter from Fisher Controls to the NRC dated October 12, 2011. The NRC inspection team determined that the revision made to FMP 2K9, "Procedure for Corrective Action," Revision 25 dated April 1, 2015, as part of the corrective action, was inadequate because the procedure did not provide a process to differentiate between a significant condition adverse to quality and a condition adverse to quality.

Enclosure 1

Specifically, this revision did not include adequate instructions to allow the user to identify when a significant conditions adverse to quality has occurred and to ensure that; (1) the cause of the significant condition is determined; (2) corrective action are taken to preclude repetition; and (3) that appropriate levels of management be notified of the significant condition adverse to quality, the cause of the condition, and the corrective action taken to preclude repetition.

2. Fisher failed to ensure that the corrective actions taken for CAR 1551 dated April 9, 2012, related to a significant condition adverse to quality, were sufficient to preclude repetition. CAR 1551 was generated as a result of Fisher's failure to include the thrust plate and the thrust plate cap screw, which are considered essential-to-function, as part of the dedication plan for a Type 9500 Butterfly valve. As part of the corrective actions, Fisher revised the dedication plans only for the Type 9500 Butterfly valve design. However, the NRC inspection team identified that Fisher issued CAR 1570 on October 12, 2012 and CAR 1644 on August 30, 2013, for their failure to dedicate essential-to-function commercial parts that were procured for a Type 9200 Butterfly valve and for valve actuators respectively. The NRC inspection team determined that the corrective actions taken by Fisher Controls as part of CAR 1551 were not adequate to ensure that the significant conditions adverse to quality, in the area of commercial grade dedication, were corrected to preclude repetition. The potential impact for the inadequate commercial grade dedication could impede the ability of the valves to perform their intended safety function.
3. Fisher failed to ensure that the corrective actions taken for CAR 1697 dated June 30, 2014, were adequate. CAR 1697 was generated as a result of a supplier service request documenting that Fisher provided the wrong elastomer material as required by Entergy procurement order (PO) 10383263 for pressure regulator FS67CFR-239. Fisher was required by the PO to provide the pressure regulator with a Nitrile elastomer, instead it was provided with a Viton elastomer. During the investigation, Fisher identified that the 'Material List', used by Engineering to select the correct material to withstand radiation capabilities, was incorrect. The 'Material List' generated by Fisher's engineers listed Viton as having higher radiation capabilities than Nitrile, but those numbers were reversed when the list was created. The NRC inspection team identified that Fisher did not generate corrective actions to maintain configuration controls for a reference 'Materials List' that is essential for maintaining original design configuration.

This issue has been identified as Nonconformance 99900105/2015-201-01.

Please provide a written statement or explanation to the U.S. Nuclear Regulatory Commission, ATTN: Document Control Desk, Washington, DC 20555-0001 with a copy to the Chief, Mechanical Vendor Inspection Branch, Division of Construction and Operational Programs, Office of New Reactors, within 30 days of the date of the letter transmitting this notice of nonconformance. This reply should be clearly marked as a "Reply to a Notice of Nonconformance" and should include for each noncompliance: (1) the reason for the noncompliance, or if contested, the basis for disputing the noncompliance, (2) the corrective steps that have been taken and the results achieved, (3) the corrective steps that will be taken to avoid noncompliances, and (4) the date when your corrective action will be completed.

Where good cause is shown, consideration will be given to extending the response time.

Because your response will be made available electronically for public inspection in the NRC Public Document Room or from the NRC's document system (Agencywide Documents Access Management System), accessible from the NRC Web site at <http://www.nrc.gov/reading-rm/adams.html>, to the extent possible, it should not include any personal privacy, proprietary, or Safeguards Information so that it can be made available to the public without redaction. If personal privacy or proprietary information is necessary to provide an acceptable response, then please provide a bracketed copy of your response that identifies the information that should be protected and a redacted copy of your response that deletes such information. If you request withholding of such material, you must specifically identify the portions of your response that you seek to have withheld and provide in detail the bases for your claim of withholding (e.g., explain why the disclosure of information will create an unwarranted invasion of personal privacy or provide the information required by 10 CFR 2.390(b) to support a request for withholding confidential commercial or financial information). If Safeguards Information is necessary to provide an acceptable response, please provide the level of protection described in 10 CFR 73.21, "Protection of Safeguards Information: Performance Requirements."

Dated this 22nd day of May 2015.

**U.S. NUCLEAR REGULATORY COMMISSION
OFFICE OF NEW REACTORS
DIVISION OF CONSTRUCTION INSPECTION AND OPERATIONAL PROGRAMS
VENDOR INSPECTION REPORT**

Docket No.: 99900105

Report No.: 99900105/2015-201

Vendor: Fisher Controls, LLC
1702 South 12th Ave.
Marshalltown, IA 50158

Vendor Contact: Mr. Benjamin Ahrens,
Quality Assurance Manager

Nuclear Industry Activity: Fisher Controls International (Fisher) LLC is an American Society of Mechanical Engineers (ASME) N and NPT certificate holder. Fisher's scope of supply for the commercial US nuclear industry includes manufacturing, maintenance, repair, and replacement of safety-related control valves; including spare/replacement parts, components, associated engineering, and field services. Fisher's rotary and sliding-stem control valves, as well as other new valve designs, will be used in new nuclear power plant designs including the AP1000 plant design.

Inspection Dates: April 13-17, 2015

Inspectors:	Aixa Belen-Ojeda	NRO/DCIP/MVIB	Team Leader
	Jonathan Ortega-Luciano	NRO/DCIP/MVIB	
	Raju Patel	NRO/DCIP/MVIB	
	Paul Prescott	NRO/DCIP/QVIB	
	Andrea Keim	NRO/DCIP/QVIB	
	Jason Christensen	RII/DCI/CIB3	

Approved by: Edward H. Roach, Chief
Mechanical Vendor Inspection Branch
Division of Construction Inspection
and Operational Programs
Office of New Reactors

EXECUTIVE SUMMARY

Fisher Controls, LLC
99900105/2015-201

The U.S. Nuclear Regulatory Commission (NRC) staff conducted a vendor inspection at the Fisher Controls, LLC (Fisher) facility 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 to verify that Fisher implemented a program under 10 CFR Part 21, "Reporting of Defects and Noncompliance." The NRC inspection team conducted the inspection from April 13-17, 2015.

This technically-focused inspection specifically evaluated Fisher's implementation of quality activities associated with the fabrication and testing of PV14 and PV63 air operated globe valves for the Westinghouse Electric Company (WEC) AP1000 reactor design and control valves being manufactured in support of operating reactors.

Specific activities observed by the NRC inspection team included:

- Fluorescent water-washable liquid penetrant testing of hardfaced repaired plug/stem assembly of a PV14 air-operated globe valve for V.C. Summer
- Hydrostatic testing of valve body assembly for PV63 globe valve for V.C. Summer
- Carbozinc painting of actuator body, lower and upper casing and cover for PV14 valve for V.C. Summer
- Hardness testing of hex jam nuts for commercial grade dedication plan 1005 for Job Order No. 8237464
- Positive Material Identification (PMI) test of hex jam nuts
- Cleanliness verification of plug retainer assembly for PV14 globe valve for V.C. Summer
- Gas tungsten arc welding of yoke and lower casing assembly of a PV14 globe valve for Vogtle
- GTAW process of plug and stem assembly of a PV14 globe valve for V.C. Summer
- Final inspection of a 4-inch PV14 air globe valve for Vogtle
- Radiography testing (RT) of a valve body for a PV14 air-operated globe valve for V.C. Summer
- Interpretation of RT film for RT performed of a valve body for PV14 valve to verify for any flaws or inclusions were within acceptable criteria of the ASME Section III Code
- Painting operation in process of a valve actuator body, lower casing, upper casing, and cover for a PV63 valve for V.C. Summer

In addition to observing these activities, the NRC inspection team verified that measuring and test equipment (M&TE) were properly identified, marked, calibrated, and used within its calibrated range. The NRC inspection team also walked down Fisher's fabrication floor and verified that nonconforming components were properly identified, marked, and segregated when practical, to ensure that they were not reintroduced into the manufacturing processes.

The following regulations served as the bases for the NRC inspection:

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

During the course of this inspection, the NRC inspection team implemented Inspection Procedure (IP) 43003, "Reactive Inspections of Nuclear Vendors" supplemented as needed by IP 43002, "Routine Vendor Inspections," IP 43004, "Inspection of Commercial-Grade Dedication Programs," IP 36100, "Inspection of 10 CFR Part 21 and Programs for Reporting Defects and Noncompliance," AND IP 65001.07, "Inspection of ITAAC-Related Installation of Valves."

The information below summarizes the results of this inspection.

Corrective Action

The NRC inspection team issued Nonconformance 99900105/2015-201-01 in association with Fisher's failure to implement the regulatory requirements of Criterion XVI, "Corrective Actions," in Appendix B to 10 CFR Part 50. Nonconformance 99900105/2015-201-01 cites Fisher for failing to ensure that conditions adverse to quality were adequately corrected, and in the case of a significant condition adverse to quality failed to determine the cause of the condition and take corrective action to preclude recurrence. Specifically, Fisher failed to provide adequate corrective actions to preclude recurrence of the failure to dedicate valves of similar designs. Also, Fisher failed to provide adequate corrective actions to maintain configuration controls for a reference 'Materials List,' which is essential for maintaining original design configuration. Further, Fisher failed to provide adequate corrective actions in response to NRC Notice of Nonconformance (NON) 99900105/2011-201-05 for failure to adopt a Corrective Action Program (CAP) that meets the requirements of Criterion XVI in Appendix B to 10 CFR Part 50.

Other Inspection Areas

The NRC inspection team determined that Fisher is implementing its programs for indoctrination and training, oversight of suppliers, commercial grade dedication, control of measuring and test equipment, inspection, traceability, and 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. No findings of significance were identified.

REPORT DETAILS

1. Corrective Action

a. Inspection Scope

The U.S Nuclear Regulatory Commission (NRC) inspection team reviewed Fisher Controls' (Fisher's) policies and implementing procedures that govern the corrective action program (CAP) to verify compliance with the requirements of Criterion XVI, "Corrective Action," 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."

The NRC inspection team reviewed a sample of the Corrective Action Requests (CARs) associated with the fabrication of safety-related valves for the AP1000 design along with valves being procured by the operating reactor fleet to verify the adequacy of Fisher's implementation and control of its CAP. The NRC inspection team also evaluated the adequacy of Fisher's implementation of corrective actions for findings of conditions adverse to quality identified by the previous NRC inspection, as detailed in Inspection Report No. 99900105/2011-201.

The attachment to this inspection report lists the individuals interviewed and documents reviewed by the NRC inspection team.

b. Observations and Findings

The NRC inspection team verified the corrective actions taken as a result of the 2011 NRC inspection and determined that Fisher failed to effectively implement the corrective actions as documented in a letter from Fisher to the NRC dated October 12, 2011, for Notice of Nonconformance (NON) 99900105/2011-201-05. During the review of the implementation of the corrective actions, the NRC inspection team found that the corrective actions taken by Fisher to correct the findings and preclude recurrence were not adequate for NON 99900105/2011-201-05. During an inspection at Fisher in 2011, the NRC inspection team issued NON 99900105/2011-201-05 for failure to adopt a CAP that meets the requirements of Criterion XVI in Appendix B to 10 CFR Part 50.

Fisher generated CAR 1509 on August 4, 2011, in response to NON 99900105/2011-201-05. During the review of this CAR, the NRC inspection team identified that the changes made to Fisher Manufacturing Procedure (FMP) 2K9, "Procedure for Corrective Action," which defines the current process to differentiate between a significant condition adverse to quality and a condition adverse to quality were not adequately implemented to address NON 99900105/2011-201-05. The NRC inspection team noted that as part of the corrective actions, Fisher included a 'yes/no' box in the header of the CAR form to differentiate a condition adverse to quality from a significant condition adverse to quality. As part of the corrective actions proposed by CAR 1509, Fisher was going to revise FMP 2K9 to include a process describing how to differentiate between issues that are a significant condition adverse to quality from a

conditions adverse to quality. However, after reviewing FMP 2K9, the NRC inspection team determined that the current procedure as written does not provide for a process that describes how to differentiate between a significant conditions adverse to quality from a condition adverse to quality. Step 5.4.4, of FMP 2K9 states that "Issue will be reviewed for significant condition adverse to quality and marked yes or no in the header of the CAR. If marked yes, corrective action to preclude repetition shall be included." Further, step 5.5.2, states that "Cause of the finding: The best guess to cause and/or circumstances that caused the finding." The NRC inspection team determined that the changes made to FMP 2K9 does not provide an adequate process to evaluate significant conditions adverse to quality, which require (1) that the cause of the condition be determined, (2) corrective action be taken to preclude repetition, and (3) that appropriate levels of management be notified of the significant condition adverse to quality, the cause of the condition, and the corrective action taken to preclude repetition. The NRC inspection team identified this issue as an example of Nonconformance 99900105/2015-201-01 for Fisher's failure to effectively implement the corrective actions as documented in a letter from Fisher to the NRC dated October 12, 2011. Fisher generated CAR 1743 and CAR 1744 to address these issues.

The NRC inspection team selected a sample from a list of CARs that were generated since the last NRC inspection (2011). During the review of the CARs the NRC inspection team observed that CAR 1551, 1570, and 1644 were generated as a result of Fisher's failure to identify and dedicate parts considered essential-to function, which are needed for the valve assembly to perform its intended safety-related-function. Fisher generated CAR 1551, on April 9, 2012, as a result of a discovery made during a review of an incoming order for a Type 9500 Butterfly valve. Fisher discovered that two parts, the thrust plate and thrust plate cap screw were not listed as parts that needed to be dedicated as required by FMP 2K27, "Control of Commercial Grade Items to be Dedicated for Use in Nuclear Safety-Related Applications." As a result of CAR 1551, Fisher initiated an investigation on all orders that had been shipped, currently in inventory or had been processed for Type 9500 Butterfly valves and concluded that, for all the Type 9500 orders reviewed, these two part were supplied commercial grade and were not dedicated in accordance with FMP 2K27. During the investigation, Fisher identified that the Engineering Standard (ES) 142, "Identification of Essential-to-Function Parts or Assemblies for Use in Nuclear Safety Related Applications," failed to identify that these parts needed to be dedicated. As part of the corrective actions for CAR 1551, Fisher revised ES 142 for the Type 9500 Butterfly valve model and provided dedicated thrust plate and thrust plate cap screw for the affected valves.

CAR 1570 was issued on October 12, 2012, for Fisher's failure to dedicate commercial parts that were procured for a Type 9200 Butterfly valve. According to CAR 1570, the parts that were identified are considered essential-to-function, which are needed for the valve assembly to perform its intended safety-related function. Fisher initiated an investigation where the end results were similar to the results found during the investigation of CAR 1551. During the investigation Fisher confirmed that the failure to dedicate parts was not only confined to Type 9200 Butterfly valves. Corrective actions were taken by Fisher along with training to correct these failures and provide the dedicated parts for the affected valves. However, the NRC inspection team found another example where Fisher failed to dedicate parts that are essential-to-function.

CAR 1644 was issued on August 30, 2013, for Fisher's failure to dedicate three parts, which are considered essential-to-function, for valve actuators. In this instance, Arizona Public Service Company-Palo Verde Nuclear Generating Station (APS/PVNGS) identified during their review of a bill of material drawing that items provided via Fisher Order 019-F10051845 were considered Non-Q (commercial grade). APS/PVNGS disagreed with the characterization of these parts and contacted Fisher to explain that these parts are critical for valve performance and that they required dedication. Fisher reviewed the drawing and agreed that these parts needed to be dedicated. Fisher initiated an investigation and determined that the parts subject valves were provided with actuators parts that were not properly dedicated and instead they provided commercial-grade parts to APS/PVNGS. The NRC inspection team determined that the corrective actions taken by Fisher as part of CAR 1551 were not adequate to ensure that the significant conditions adverse to quality, in the area of commercial-grade-dedication (CGD), were corrected to preclude repetition. The NRC inspection team identified these issues as an example of Nonconformance 99900105/2015-201-01 for Fisher's failure to provide adequate corrective actions to preclude recurrence of the failure to dedicate valves of similar designs. Fisher generated CAR 1745 to address these issues.

During the review of CAR 1697, the NRC inspection team noted that Fisher supplied a pressure regulator (FS67CFR-239) with a different elastomer material as required by Entergy procurement order (PO) 10383263. Fisher was required by the PO to provide the pressure regulator with a Nitrile elastomer, instead it was provided with a Viton elastomer. As a result of CAR 1697, Fisher initiated an investigation and concluded that the reference 'Material List' used by Engineering to select the correct material to withstand radiation capabilities was incorrect. The 'Material List,' which was generated by Fisher's engineers, listed Viton as having higher radiation capabilities than Nitrile. During the investigation, Fisher concluded that the radiation capabilities values for Nitrile and Viton were inverted. Fisher took corrective actions to address and prevent reoccurrence related to the issue with the specific pressure regulator. However, Fisher failed to generate a CAR to validate the values listed in the reference 'Material List,' which is essential for maintaining original design configuration. The NRC inspection team identified this issue as an example of Nonconformance 99900105/2015-201-01 for Fisher's inadequate corrective actions to maintain configuration controls for the 'Materials List.'

c. Conclusion

The NRC inspection team issued Nonconformance 99900105/2015-201-01 in association with Fisher's failure to implement the regulatory requirements of Criterion XVI, "Corrective Actions," in Appendix B to 10 CFR Part 50. Nonconformance 99900105/2015-201-01 cites Fisher for failing to ensure that conditions adverse to quality were adequately corrected, and in the case of a significant condition adverse to quality failed to determine the cause of the condition and take corrective action to preclude recurrence. Specifically, Fisher failed to provide adequate corrective actions to preclude recurrence of the failure to dedicate valves of similar designs. Also, Fisher failed to provide adequate corrective actions to maintain configuration controls for a reference Materials List, which is essential for maintaining original design configuration. Further, Fisher failed to provide adequate corrective actions in response

to NRC NON 99900105/2011-201-05 for failure to adopt a Corrective Action Program that meets the requirements of Criterion XVI in Appendix B to 10 CFR Part 50.

2. Part 21

a. Inspection Scope

The NRC inspection team reviewed Fisher's policies and implementing procedures that govern its 10 CFR Part 21, "Reporting of Defects and Noncompliance," program to verify that the requirements had been effectively implemented for evaluating deviations and failures to comply. The NRC inspection team reviewed Fisher's procedures that govern corrective actions, the control and correction of nonconforming items, as well as interviewed quality assurance (QA) staff members and engineers, to verify an adequate and direct connection to the 10 CFR Part 21 program, and compliance with regulatory requirements. Additionally, the NRC inspection team evaluated the 10 CFR Part 21 postings and a sample of Fisher's PO for compliance with the requirements of 10 CFR 21.21, "Notification of Failure to Comply or Existence of a Defect and its Evaluation," and 10 CFR 21.31, "Procurement Documents." The NRC inspection team verified the content of Fisher's 10 CFR Part 21 postings, as well as the location of each posting.

The attachment to this inspection report lists the individuals interviewed and documents reviewed by the NRC inspection team.

b. Observations and Findings

No findings of significance were identified.

c. Conclusion

The NRC inspection team determined that Fisher established a 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 effectively implementing its policies and procedures associated with the 10 CFR Part 21 program. No findings of significance were identified.

3. Personnel Training and Qualification

a. Inspection Scope

The NRC inspection team reviewed Fisher's policies and implementing procedures that govern the training and qualification program to verify compliance with the requirements of Criterion II, "Quality Assurance Program," of Appendix B to 10 CFR Part 50. The NRC inspection team reviewed the indoctrination, training, and qualification of lead auditors, Quality Control (QC) personnel, and inspection and testing personnel to ensure that proficiency is achieved and maintained. The NRC inspection team verified that all personnel performing activities affecting quality had completed the required training and met all the specified requirements in accordance with Fisher's policies and implementing procedures.

The NRC inspection team reviewed a sample of training and qualification records for Fisher's welders, welding operators and non-destructive examination (NDE) personnel to confirm that they had completed all the required training and had maintained their qualification and certification in accordance with Fisher's policies and procedures as well as to the applicable requirements of ASME Section III and IX, and SNT-TC-1A-1992 Edition, "Personnel Qualification and Certification in Nondestructive Testing." In addition, the NRC inspection team verified that the welder performance qualification list was adequately maintained and current.

The NRC inspection team discussed the training and qualification program with Fisher's management and 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 determined that Fisher is implementing its indoctrination and training program in accordance with the regulatory requirements of Criterion II, "Quality Assurance Program," in Appendix B to 10 CFR Part 50. Based on the limited sample of documents reviewed, the NRC inspection team also determined that Fisher is effectively implementing its policies and procedures associated with the indoctrination/training program. No findings of significance were identified.

4. Commercial Grade Dedication

a) Inspection Scope

The NRC inspection team reviewed Fisher's policies and implementing procedures that govern the design control programs to verify their compliance with the regulatory requirements of Criterion III, "Design Control" and Criterion VII, "Control of Purchased Material, Equipment, and Services," in Appendix B to 10 CFR Part 50 for commercial grade dedication (CGD) and the conduct of commercial grade surveys, respectively. The NRC inspection team reviewed procedures, POs, technical evaluations, dedication plans, shop drawings, commercial grade surveys, and observed in process testing to determine whether the design control process was performed in a planned, controlled, and orderly manner.

The NRC inspection team reviewed licensee POs, Fisher's PO interpretation documentation, dedication packages, dedication plans, the criteria for the selection of critical characteristics, and the selection of acceptance methods to verify that Fisher was effectively implementing its CGD process. The NRC inspection team also reviewed Fisher's surveys of commercial suppliers and calibration services to verify Fisher's implementation of its CGD plan for third-party calibration services.

The NRC inspection team discussed the design control and CGD programs 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 determined that Fisher is implementing its design control program in accordance with the regulatory requirements of Criterion III, "Design Control," and Criterion VII, "Control of Purchased Material, Equipment, and Services," in Appendix B to 10 CFR Part 50 for CGD and the conduct of commercial grade surveys, respectively. Based on the limited sample of documents reviewed, the NRC inspection team also determined that Fisher is effectively implementing its policies and procedures associated with the CGD. No findings of significance were identified.

5. Procurement Document Control

a. Inspection Scope

The NRC inspection team reviewed Fisher's policies and procedures governing the procurement document control program to verify compliance with Criterion IV, "Procurement Document Control," of Appendix B to 10 CFR Part 50.

The NRC inspection team reviewed a sample of safety-related POs initiated to its approved suppliers for the procurement of safety-related item, equipment and services for PV14 and PV63 air globe valves for the Vogtle and V.C. Summer AP1000 projects as well as valves supplied for operating fleet of nuclear utilities, to verify that specific procurement requirements were met and documented correctly. The NRC inspection team verified that the POs included, as appropriate: scope of work; right of access to facilities; extension of contractual requirements to subcontractors; and records for source inspections and audits; reporting and approving disposition of nonconformances; supplier restrictions; reference to specific drawings; codes; and specifications. In addition, the NRC inspection team confirmed that all reviewed safety-related POs invoked the requirements of 10 CFR Part 21 and required the supplier to conduct safety-related work under its approved QA program.

The NRC inspection team discussed the procurement activities 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. Conclusions

The NRC inspection team determined that Fisher is implementing its procurement document control program in accordance with the regulatory requirements of Criterion IV, "Procurement Document Control," 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 effectively implementing its policies and procedures associated with procurement document control program. No findings of significance were identified.

6. Oversight of Contract Activities

a. Inspection Scope

The NRC inspection team reviewed Fisher's policies and implementing procedures that govern the implementation of its oversight of contracted activities and external audit program to verify compliance with the requirements of Criterion IV, "Procurement Document Control" and Criterion VII, "Control of Purchased Material, Equipment, and Services" of Appendix B to 10 CFR Part 50. The NRC inspection team reviewed Fisher's processes and management of the supplier database and its interfaces with generating supplier limitations and capabilities for the Nuclear Approved Supplier List (NASL). The NRC inspection team confirmed that the qualified and approved safety-related suppliers performing work for Fisher were appropriately listed on the NASL. The NRC inspection team selected a sample of five suppliers from the NASL and examined Fisher's process of qualifying and approving the suppliers for procurement of items, equipment and services for safety-related applications. The NRC inspection team confirmed that the audit reports contained objective evidence of the review of the relevant QA criteria. The NRC inspection team confirmed that Fisher's audit program also included the performance of annual evaluations of suppliers. For a sample of five annual performance evaluations, the NRC inspection team verified that these were performed in accordance with Fisher's procedures and contained all the required information.

For audits and commercial grade surveys resulting in findings, the NRC inspection team verified that the supplier had established a plan for corrective action and that Fisher had reviewed and approved the corrective action and verified its satisfactory completion and proper documentation.

The NRC inspection team also reviewed a sample of certified material test reports (CMTR's), and certificates of compliance (CoC's) for safety-related item, equipment and

services received associated with the fabrication of PV14 and PV63 air operated globe valves for Vogtle and V.C. Summer AP1000 projects and verified that the safety-related items, equipment and services received met the purchase and material specifications. In addition, the NRC inspection team confirmed that the scope of supply was documented and consistent for the activities contracted.

The NRC inspection team discussed the oversight of contracted activities 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. Conclusions

The NRC inspection team determined that Fisher is implementing its oversight of contracted activities and external audit program consistent with the regulatory requirements of Criterion IV, "Procurement Document Control" and Criterion VII, "Control of Purchased Material, Equipment, and Services" of Appendix B to 10 CFR Part 50. Based on the limited sample of documents reviewed, the NRC inspection team determined that Fisher is effectively implementing its policies and procedures associated with the oversight of contracted activities. No findings of significance were identified.

7. Control of Special Processes

a. Inspection Scope

The NRC inspection team reviewed Fisher's policies and procedures governing the implementation of special processes program to verify compliance with Criterion IX, "Control of Special Processes," of Appendix B to 10 CFR Part 50. Fisher's special processes include welding, heat treatment, nondestructive examination (NDE), and painting. During the week of inspection, the NRC inspection team could not verify any heat treatment activity.

The NRC inspection team observed welders performing welding activities and verified that qualified welders performed welding in accordance with approved welding procedure specification (WPS) and the ASME B&PV Code. The NRC inspection team reviewed a sample of WPS and their associated procedure qualification records (PQR) and confirmed that the WPS and PQRs were developed and qualified in accordance with the requirements of Subsection NB of Section III and Section IX of the ASME B&PV Code. The NRC inspection team also verified that, for a sample of CMTRs, the reports indicated the materials' compliance with the requirements for chemical composition and mechanical properties, as required by Subsection NB of Section III of the ASME B&PV Code.

The NRC inspection team performed a walk down of the welding material storage and welding material issue areas and verified that welding material was adequately controlled in accordance with the requirements of Section IX of the ASME B&PV Code. The NRC inspection team observed that Fisher clearly identified welding materials at all times, and it retained identification of acceptable material throughout storage, handling, and use until the material was actually consumed in the welding process.

The NRC inspection team reviewed Fisher's NDE procedures for water-washable liquid penetrant (PT), and radiographic testing (RT), to verify they are developed and qualified in accordance with the requirements of ASME Section III and Section V Code and Westinghouse Electric Company (WEC) design specification APP-PV14-Z0-001. The NRC inspection team observed the performance of NDE operations and verified the NDE materials were identified by their lot/batch number and expiration date. In addition, the NRC inspection team reviewed Fisher's painting procedure WMP 8X8.2 to verify it was developed in accordance with the requirements of WEC design specification APP-G1-MX-001. The NRC inspection team observed painting operations in process of a valve actuator body, lower and upper casing, and cover for a PV63 valve for V.C. Summer and verified that the paint personnel followed the painting test parameters in accordance with the applicable revision of Fisher procedure. The NRC inspection team verified that Fisher NDE processes are performed using calibrated equipment, certified and traceable materials and qualified procedures that have been performance demonstrated to the authorized nuclear inspector (ANI) in accordance with the requirements of Section III and Section V of the ASME B&PV Code.

The NRC inspection team discussed the control of special processes 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 control of special processes 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 and operations witnessed, the NRC inspection team also determined that Fisher is effectively implementing its policies and procedures associated with the control of special processes program. No findings of significance were identified.

8. Inspection

a. Inspection Scope

The NRC inspection team reviewed Fisher's policies and procedures governing the implementation of the inspection program to verify compliance with Criterion X, "Inspection," of Appendix B to 10 CFR Part 50. The NRC inspection team observed the QC inspector perform hardness tester verification using calibrated hardness test blocks of a specific range, traceable to National Institute of Standards and Testing (NIST). The QC inspector performed the inspection and documented and accepted the results on the inspection and test report (ITR). The NRC inspection team also verified that the QC inspectors performed the positive material identification (PMI) test performed on the same hex jam nut using Niton Alloy Analyzer in accordance with Fisher's procedure FMP 2G19.3, "Material Verification Using Niton Alloy Analyzer."

The NRC inspection team observed that the QC inspector verified the applicable requirements for a welding activity including part number, serial number, assembly drawing and its revision, job order, ITR, WPS, its associated PQR, welder qualifications; weld filler rods specifications and the welding machine calibration.

The NRC inspection team observed final cleanliness verification inspection of a plug retainer assembly to verify the surface of the assembly is free of halogen contamination. The NRC inspection team verified the QC inspector carefully prepared a test sample, swabbed the surface, ran through chemical analyzer, and documented the acceptance of the inspection on ITR. Further, the NRC inspection team observed the final inspection of a HPNS-1 Class 2075 BWE, Schedule 80 PV 14 valve.

The NRC inspection team discussed the inspection 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. Conclusions

The NRC inspection team determined that Fisher is implementing its inspection program consistent with the regulatory requirements of Criterion X, "Inspection," of Appendix B to 10 CFR Part 50. Based on the limited sample of documents reviewed and inspections observed, the NRC Inspection team determined that Fisher is effectively implementing its policies and procedures associated with inspection. No findings of significance were identified.

9. Test Control

a. Inspection Scope

The NRC inspection team reviewed Fisher's policies and procedures governing the implementation of the test control program to verify compliance with Criterion XI, "Test Control," of Appendix B to 10 CFR Part 50. The NRC inspection team observed hydrostatic testing of a nuclear valve body assembly for valve serial number 19491440, Tag # APP-PV63-Z0D-100, for V.C. Summer Units 2 and 3. The NRC inspection team verified that the test was performed in accordance with the requirements of the job order and procedure; was performed by qualified test personnel; and used a pre-test calibrated pressure gage and certified demineralized water. The NRC inspection team determined that the performance of the hydrostatic test and the supporting documentation were consistent with the requirements specified in FMP 2C2.8 and AM-4.

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. Conclusions

The NRC inspection team determined that Fisher is implementing its test control program consistent with the regulatory requirements of Criterion XI, "Test Control," of Appendix B to 10 CFR Part 50. Based on the limited sample of documents reviewed and hydrostatic test observed, the NRC inspection team determined that Fisher is effectively implementing its policies and procedures associated with test control. No findings of significance were identified.

10. Control of Measurement and Test Equipment

a. Inspection Scope

The NRC inspection team reviewed Fisher's policies and implementing procedures that govern the measurement and test equipment (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 reviewed the use of M&TE during inspections and tests to ensure it was calibrated, controlled, and documented in accordance with the procedural requirements. The NRC inspection team reviewed a sampling of records to ensure documentation matched the observed use of M&TE, and that M&TE was calibrated to a nationally recognized standard, and the calibration was current. The NRC verified that Fisher staff properly segregated, documented and

evaluated, in accordance with procedures, when M&TE was found out of calibration or broken. The NRC inspection team interviewed personnel who used M&TE equipment, or were responsible for the M&TE program to ensure their understanding of regulatory and procedural requirements.

The NRC inspection team performed a walk-down to ensure that equipment located in the M&TE storage area, the M&TE hold area, and the fabrication shop were labeled, handled, and stored in a manner that indicated the calibration status of the instrument and ensured its traceability to calibration test data.

The attachment to this inspection report lists the documents reviewed by the inspection team.

b. Observations and Findings

No findings of significance were identified.

c. Conclusion

The NRC inspection team determined that Fisher is implementing its M&TE program consistent with the regulatory requirements of Criterion XII, "Control of Measuring and Test Equipment," of Appendix B to 10 CFR Part 50. Based on the limited sample of documents reviewed the NRC inspection team determined that Fisher is effectively implementing its policies and procedures associated with M&TE. No findings of significance were identified.

11. Nonconforming Materials, Parts, or Components

a. Inspection Scope

The NRC inspection team reviewed Fisher's policies and implementing procedures that govern the control of nonconformances to verify compliance with the requirements of Criterion XV, "Nonconforming Materials, Parts, or Components," in Appendix B to 10 CFR Part 50.

For the sample of nonconformance reports (NCRs) reviewed, the NRC inspection team verified that Fisher implemented an adequate program to assess and control nonconforming items, including appropriate identification, documentation, segregation, evaluation, and disposition of these items. This process properly applies the principles of acceptable, repair, rework, hold, scrap, or use-as-is, and it provides for the necessary technical justifications to be adequately supported and properly documented. The NRC inspection team also toured the shop floor to verify that there are designated areas to segregate and control the various classes of nonconforming materials.

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

12. Internal Audits

a. Inspection Scope

The NRC inspection team reviewed Fisher's policies and implementing procedures that govern the internal audit program to verify compliance with the requirements of Criterion XVIII, "Audits," in Appendix B to 10 CFR Part 50. The NRC inspection team reviewed a sample of internal audits and the qualifications of the contracted auditors to verify the implementation of the Fisher's audit program. The NRC inspection team also reviewed the disposition of audit findings for adequacy and timeliness.

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

b. Observations and Findings

No findings of significance were identified.

c. Conclusion

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

13. Entrance and Exit Meetings

On April 13, 2015, the NRC inspection team discussed the scope of the inspection with Mr. Don Rowley, Vice-President Operations, and other members of Fisher's management. On April 17, 2015, the NRC inspection team presented the inspection results and observations during an exit meeting with Mr. Rowley and other members of Fisher's management. 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 AND EXIT MEETING ATTENDEES

Name	Title	Affiliation	Entrance	Exit	Interviewed
Aixa Belen	Inspection Team Leader	NRC	X	X	
Jonathan Ortega-Luciano	Inspector	NRC	X	X	
Raju Patel	Inspector	NRC	X	X	
Paul Prescott	Inspector	NRC	X	X	
Andrea Keim	Inspector	NRC	X	X	
Jason Christensen	Inspector	NRC	X	X	
Mike Mason	President, NA	Fisher	X		
Josh Wilford	VP of Engineering Products	Fisher	X	X	
Don Rowley	VP of Operations	Fisher	X	X	
Benjamin Ahrens	Manager, Quality Operations	Fisher	X	X	X
Ross Harris	Plant Manager	Fisher	X	X	
Chad Engle	Nuclear Business Director	Fisher		X	X
Wesley Renard	Manager, Quality Assurance Engineering	Fisher	X	X	X
Paul Abens	Manager, Compliance	Fisher	X	X	X
Sydney Brady	QA Engineer	Fisher	X	X	X
Mike Ketcham	QA Engineer	Fisher	X	X	X
Trevor Seibold	QA Engineer	Fisher	X	X	X
Dan Zuelke	QA Engineer	Fisher	X	X	
Trent Johnson	Engineering	Fisher	X	X	
Jim Rhuland	QC Manager	Fisher	X		
Andrew Wright	QA Supervisor	Fisher	X		
Daniel Meyer	Quality Plans and Specs Manager	Fisher	X	X	
Adin Mann	Adv Tech Simulators	Fisher	X		
Rande Jones	Operations Manager	Fisher	X	X	

Name	Title	Affiliation	Entrance	Exit	Interviewed
Glen Reynolds	Project Manager AP1000	Fisher	X	X	
Mark Riveland	Director, Adv. Tech	Fisher	X	X	
Jamie Hosek	Info Center Analyst	Fisher	X	X	
Scott Lustyk	Nuclear Business Manager	Fisher	X	X	
George Baitinger	Manager, NPD	Fisher	X	X	
Scott Jones	Emerson Manager	Fisher	X	X	
Charlie Harris	Proc. Imp. Specialist	Fisher	X	X	
Tim Klinge	Team Leader, LAB	Fisher	X	X	
Michael Hagen	Nuclear Sales Manager	Fisher	X	X	
Paul Alman	Design Engineer Specialist	Fisher	X	X	
Michael Wedemeyer	Sr. Nuclear Specialist	Fisher	X	X	
Nathan McCormick	Manager, Test and Evaluation	Fisher		X	
Lakshaman Kahani	Quality Manager	Fisher		X	
Andy Kicksdorf	Valve Steam Manager	Fisher		X	
Emily Mclarky	Associate General Counsel	Emerson		X	
Joel Hill	Assembly/Test Supervisor	Fisher			X
Dean Lawthers	Inspector	Fisher			X
James Wormley	QA Engineer	Fisher			X
Greg Baughman	QC Technician	Fisher			X
Ted Gunderdson	QC Technician	Fisher			X
Drew Wright	Supervisor of Inspection	Fisher			X
Connie Zobel	Nuclear Inspector	Fisher			X
Dan Roe	Nuclear Inspector	Fisher			X
Khris Bates	Nuclear Inspector - Trainee	Fisher			X
Trudy Wilson	Nuclear Buyer	Fisher			X
Matt McKibben	Welder	Fisher			X

Name	Title	Affiliation	Entrance	Exit	Interviewed
Tom Atcher	Welder	Fisher			X
Drew Wright	Inspection Supervisor	Fisher			X
Paul Detrick	Assembler/Tester	Fisher			X
Justin Love	Painter/Coating Specialist	Fisher			X
Michael Ladehoff	Painter/Coating Specialist	Fisher			X
Grady Hardin	NDE Level III	Fisher			X
DeAnna Daters	Weld Shop Supervisor	Fisher			X
Jason Russell	Welding Engineer	Fisher			X
Martin Gedney	Authorized Nuclear Inspector	Hartford Steam Boiler Insurance Agency			X
Mike Kerstiens	Observer	WEC			X

2. INSPECTION PROCEDURES USED

- Inspection Procedure (IP)IP 36100, "Inspection of 10 CFR Part 21 and Programs for Reporting Defects and Noncompliance," dated February 13, 2012
- IP 43002, "Routine Inspections of Nuclear Vendors," dated July 15, 2013
- IP 43003, "Reactive Inspections of Nuclear Vendors," dated October 3, 2013
- IP 65001.07, "Inspection of ITAAC-Related Installation of Valves," dated July 29, 2008

3. LIST OF ITEMS OPENED, CLOSED, AND DISCUSSED

Item Number	Status	Type	Description	Applicable ITAAC
99900105/2015-201-01	OPEN	NON	Criterion XVI	N/A
99900105/2011-201-01	CLOSED	NOV	10 CFR Part 21	N/A
99900105/2011-201-02	CLOSED	NON	Criterion III	N/A
99900105/2011-201-03	CLOSED	NON	Criterion IV	N/A
99900105/2011-201-04	CLOSED	NON	Criterion VII	N/A
99900105/2011-201-05	CLOSED	NON	Criterion XVI	N/A
99900105/2011-201-06	CLOSED	NON	Criterion XVIII	N/A

4. INSPECTIONS, TESTS, ANALYSES, AND ACCEPTANCE CRITERIA

The NRC inspection team identified the following inspections, tests, analyses, and acceptance criteria (ITAAC) related to components being fabricated, tested and inspected by Fisher. At the time of the inspection, Fisher was involved in the fabrication and testing of air-operated globe valves of various sizes for the AP1000 reactor design. These valves are intended for use in numerous systems at both V.C. Summer and Vogtle nuclear sites. The NRC inspection team reviewed hydrostatic test reports and witnessed hydrostatic testing of valves while at the site to verify compliance with the design criteria. The NRC inspection team reviewed impact test results in the Certified Material Test Reports (CMTRs) to verify fracture toughness requirements of ASME BPVC Section III were met. The NRC inspection team also reviewed the final ASME design reports to verify that the valves and their documentation met the requirements of ASME BPVC Section III. The fabrication and testing is part of the overall equipment qualification program for the air-operated valves and will be used to demonstrate that the below ITAAC acceptance criteria have been met.

The ITAAC's design commitments referenced below are for future use by the NRC staff during the ITAAC closure process; the listing of these ITAAC design commitments does not indicate that they have been met and closed. The NRC inspection team did not identify any findings associated with the ITAAC identified below.

Source	ITAAC	ITAAC Reference Number
Appendix C from the Combined License for Vogtle Units 3 and 4 and V.C. Summer Unit 2 and 3	2.2.01.02a	91
Appendix C from the Combined License for Vogtle Units 3 and 4 and V.C. Summer Unit 2 and 3	2.2.01.04a.i	95
Appendix C from the Combined License for Vogtle Units 3 and 4 and V.C. Summer Unit 2 and 3	2.2.01.04a.ii	96
Appendix C from the Combined License for Vogtle Units 3 and 4 and V.C. Summer Unit 2 and 3	2.2.03.2a	160
Appendix C from the Combined License for Vogtle Units 3 and 4 and V.C. Summer Unit 2 and 3	2.2.03.4a	163
Appendix C from the Combined License for Vogtle Units 3 and 4 and V.C. Summer Unit 2 and 3	2.2.04.2a	220
Appendix C from the Combined License for Vogtle Units 3 and 4 and V.C. Summer Unit 2 and 3	2.2.04.4a	224
Appendix C from the Combined License for Vogtle Units 3 and 4 and V.C. Summer	2.3.02.2a	285

Source	ITAAC	ITAAC Reference Number
Unit 2 and 3		
Appendix C from the Combined License for Vogtle Units 3 and 4 and V.C. Summer Unit 2 and 3	2.3.02.4a	289
Appendix C from the Combined License for Vogtle Units 3 and 4 and V.C. Summer Unit 2 and 3	2.3.06.2a	355
Appendix C from the Combined License for Vogtle Units 3 and 4 and V.C. Summer Unit 2 and 3	2.3.06.4a	359

5. DOCUMENTS REVIEWED

Policies and Procedures

- “Nuclear Quality Assurance Manual,” Revision 13 dated November 15, 2014
- Fisher Manufacturing Procedure (FMP) 2K9, “Procedure for Corrective Action,” Revision 25, dated April 1, 2015
- FGS 15B15.6, “Corrective Action,” Revision D, dated February 12, 2015
- Fisher Manufacturing Procedure (FMP) 2K29, “Processing of Nonconformance Materials and Items,” Revision 17, dated April 1, 2015
- FMP 2C2.8, “Hydrostatic Testing of a Nuclear Valve Body Assembly (Demineralized Water),” Revision 8, dated July 20, 2009 with Amendment AM-4, Revision A
- Fisher Amendment AM-4, “Amendment to FMP 2C2.8, Hydro Testing of a Nuclear Valve Body Assembly,” Revision A, dated August 5, 2009
- FMP 12B3, “Hydro Demineralized Water Test,” Revision
- FMP 2J1, “Nondestructive Testing Personnel Qualification and Certification”, Revision 28, dated June 28, 2013
- FMP 2J2, “Qualification of Clean Area Assembly/Assembly Test Personnel,” Revision 13, dated July 29, 2014
- FMP 2J3, “Qualification of Auditors/Audit Program,” Revision 15, dated February 18, 2013
- FMP 2K19, “Quality Control Personnel Training,” Revision 17, dated March 5, 2015
- FMP 2G30, “Fluorescent Water-Washable Liquid Penetrant Inspection”, Revision 5, dated January 21, 2010
- FMP 2K41, “Requirements for Performing and Reporting Results of Internal Audit for NQAM,” Revision 6, dated May 16, 2014
- FMP 2K43.1.1, “Supplier Evaluation Accreditation – Calibration Services,” Revision 3, dated January 20, 2011
- FMP 2K43, Supplier Checklist – Survey (code), Commercial Grade Survey,” Revision 4, dated May 22, 2013
- FMP 2K43.1, “Supplier Evaluation – Survey (code), Commercial Grade Survey – Calibration Services,” Revision 3, dated January 20, 2011

- FMP 2K43.1.1, "Supplier Checklist – Accreditation Evaluation – Calibration Services," Revision 3, dated October 1, 2012
- FMP 2K43.1, "Supplier Checklist – Survey (code), Commercial Grade Survey – Calibration Services," Revision 3, dated May 22, 2013
- FMP 20A22, "Work Instruction – Material Review Board Process," Revision 1, dated April 14, 2014
- FMP 2K27.2, "Acceptance Method for Sampling of Commercial Grade Items to be Dedicated for Use in Nuclear Safety-Related Applications," Revision 4, dated August 27, 2014
- FMP 2K46, "Supplier Evaluations – Audits, Surveys (code) and Commercial Grade Surveys," Revision 14, dated October 14, 2013
- Fisher Amendment AM-1, "Amendment To: FMP2G30, FM 2G30.1, FMP 2G30.2, FMP 2G30.3," Revision A, dated November 19, 2013
- FMP 2G12, "Radiographic Examination Procedure for Welds, Forgings, Plate, and Bar", Revision 17, dated November 2, 2009
- FMP 2G14, "Radiographic Examination Procedure for Nuclear Steel Castings", Revision 20, dated September 3, 2010
- FMP 6A1, "Heat Treatment Requirements for Fisher Components," Revision 13, dated August 25, 2010
- FMP 2G19.3, "Material Verification Using Niton Alloy Analyzer," Revision 9, dated May 17, 2013
- FMP 20A1, "Final Inspection of Nuclear Assemblies," Revision 5, dated December 18, 2013
- FGS-15B15.5, "Reporting of Potential Defects and Noncompliance in Accordance with 10 CFR Part 21, US Code of Federal Regulations," Revision B, dated March 14, 2013
- FMP-2H3, "Torque Wrench Calibration," Revision 5, dated May 17, 2002
- FMP-2G10, "Hardness Testers Calibration Verification and Operation Procedure," Revision 6, dated March 4, 2015.
- FMP-2H2, "Procedure for Control and Calibration of Gages, Measurement Equipment and Examination Equipment," Revision 54, dated September 23, 2014.
- FMP-2K27.3, "Control of M&TE Commercial Grade Items to be Dedicated for Use in Nuclear Safety-Related Applications," Revision 4, dated July 14, 2014
- FMP-6A1, "Heat Treatment Requirements for Fisher Components," Revision 15, dated September 7, 2012
- Fisher Controls Marshalltown Nuclear Approved Suppliers List, dated April 6, 2015
- World Manufacturing Procedure (WMP) 8X8.2, "Special Paint Process for Application of Spray Grade (Certified), Carboline-Carbozinc 11HSN (Nuclear) Zinc Primer," Revision D, dated September 13, 2010
- WMP 8X8.6, "Special Paint Process for the Application of Two Coats of Certified – Carboline, Carboguard 890N Epoxy," Revision D, dated June 12, 2012
- CSP-QR02, "Nuclear Quality Assurance Restriction," dated June 10, 2013
- FMP-2G19.3, "Material Verification Using Niton Alloy Analyzers," Revision 9, dated May 17, 2013
- FMP-2P1, "Marshalltown Supplier Requirements," Revision 1, dated March 14, 2012
- FMP-7X5.1, "Determination of Surface Halogen Contamination," Revision 1, dated January 21, 2009

- Fisher Assembly Processing Requirements (APR) Specification No. 0987790VOG-AP-1, "PV14 Vogtle Westinghouse," Revision C, dated April 1, 2015;
- APR Specification No. 0876780SUMAPR-1, "PV63 Summer," Revision 5, dated March 13, 2015
- Welding Procedure Specification (WPS) FMP 5CP5A.8TSNN-BTR, "GTAW-SMAW, P5A-P8, BMT=3/16"-1-1/2, w/P5A Butter," Revision 2, dated August 20, 2010
- Fisher Amendment AM-15, "Additional Requirements to Procedure: FMP 5CP5A.8TSNN-BTR," Revision A, dated November 18, 2013
- Procedure Qualification Record (PQR) No. C73.2 Revision 3, dated August 19, 2010
- WPS FMP 5ECoCrA.P1.PNN-2, "PAW, CoCr-A on P1, BMT= 1"-Unlimited, " Revision 0, dated October 21, 2009
- WPS FMP 5ECoCr.P8.WST-1, "CoCr-A on P8 for Westinghouse," Revision 1, dated May 15, 2009
- PQR No. 024-2008, "Hardface Overlay CoCr-A powder to Pipe/Tube SA 479-316L," Revision 2, dated May 5, 2009
- WPS FMP 5CP1.1TSPN-WST-1, "P-No. 1 to P-No.1 for Westinghouse," GTAW/SMAW Revision 1, dated May 15, 2009
- WPS FMP 5ECoCrA.P5ATPN-1, "GTAW, CoCr-A on P5A, BMT= 1" to Unlimited," Revision 0, dated July 12, 2010
- Fisher Amendment AM-18, "Additional Requirements to Procedure: FMP 5ECoCrA.P1PNN-2," Revision A, dated November 19, 2013
- WELDQUAL 4, "Welder Qualification Database," dated March 19, 2015
- Engineering Standard (ES) 142, "Identification of Essential-to-Function Parts or Assemblies for Use in Nuclear Safety Related Applications," Revision L, dated May 16, 2013
- Engineering Standard (ES) 142, "Identification of Essential-to-Function Parts or Assemblies for Use in Nuclear Safety Related Applications," Revision K, dated October 25, 2013
- FMP 2K43.1, "Supplier Evaluation – Survey (code), Commercial Grade Survey – Calibration Services," Revision 3, dated October 22, 2010
- ES 266, "Commercial Grade Dedication Requirements for Fisher Manufactured Instruments and Accessories," Revision B, dated August 11, 2011
- ES 248, "Classification and Processing of Nuclear Valve Parts, Accessories and Components," Revision F, dated October 20, 2011

Purchase Orders (PO)

- PO No. 133742 to Exova Inc., dated June 10, 2013, for material analysis of, 3/16" x 9x 15" rectangle plates part No. 0755032532A
- PO No. 135597 to Kinectrics North America dated March 1, 2012 for seismic test of Fisher pneumatic actuator serial No. 19401609
- PO No. 412338166 to Anderson Laboratories dated June 30, 2014, for destructive testing and hardness verification of bushing 32-DU-32, part No. G16686X0022 in accordance with CSP-QR-002
- PO No. 412330391 to Asco Valve dated April 17, 2014, for Asco 3-way-solenoid valve part No. NTQ8316G003, to Fisher drawing IM3429X5272 Revision B

- PO No. 4123354580 to Weldstar Company dated August 11, 2014 for procurement of 3/16" x 14" ASME SFA 5.1, AWS E7018 with impact tested to meet Fisher drawing No. IM6007X0042 Revision L and CSP-QR045 Revision 2
- PO No. 412335474 to Weldstar Company dated August 5, 2014, for procurement of 6.6 pounds of electrodes size 5/32" Ø x 14" ASME SFA 5.1 AWS E7018 in accordance with Fisher drawing No. IM6007X0032 Revision L and CSP-QR-045
- PO No. 4123449102 to NAMCO Controls, dated April 1, 2015, for NAMCO switch 15A5650XE42

ASME Design Reports

- ASME Design Report for VC Summer PV14 valve Serial Number 19089848 Document number 1QN09-DR02, Revision A dated March 3, 2015
- ASME Design Report for VC Summer PV14 valve Serial Number 19089846 Document number 1QN09-DR02, Revision A dated March 3, 2015

Specifications & Drawings

- Westinghouse Electric Corporation (WEC) APP-GW-602, "AP1000 Cleaning and Cleanliness Requirements of Equipment for Use in Nuclear Supply and Associated Systems," Revision 3, dated March 7, 2013, Table 1. "Water Grades,"
- WEC Design Specification APP-PV14-Z0-001, "Air Operated Globe and Stop Check Valves, ASME Section III, Class 1, 2 & 3," Revision 6, dated May 2, 2013
- Fisher Manufacturing Assembly Processing Requirements (MAPR) Specification No. 0987790VOG-APR-1, "PV14 Vogtle Westinghouse," Revision C, dated April 7, 2015;
- MAPR Specification No. 0987790VOG-MAPR-8, "Class 3 Valves All Sizes," Revision E, dated January 19, 2015
- MAPR Specification No. 0987790SUMMAPR-1, "PV63 Summer," Revision 5, dated March 13, 2015;
- MAPR Specification No. 0876780SUMMAPR-1, "PV63 Summer Assembly," Revision 5, dated March 13, 2015
- MAPR Specification No. 0987790SUM-PWS-1, "PV14 Summer WEC," Revision F, dated April 3, 2014
- Fisher Configurable Supplementary Processing (CSP)-QR-045, "Nuclear Quality Restrictions on Weldstar Company," Revision 3, dated February 24, 2015
- CSP-QR-048, "Nuclear Quality Restrictions on Asco Valve," Revision 3, dated September 4, 2014
- CSP-QR-053, "Nuclear Quality Restrictions on Kinectrics North America," Revision 1, dated October 1, 2014
- CSP-QR-054, "Nuclear Quality Restrictions on NAMCO Controls Corporation," Revision 1, dated October 1, 2014
- CSP-QR-059, "Nuclear Quality Restrictions on Valcor Engineering Corporation," Revision 2, dated December 5, 2014
- CSP-QR-068, "Nuclear Quality Program Restrictions," to Exova, Revision D, dated June 10, 2013
- Fisher General Specification (FGS)-15B13.0, "Supplier Quality Manual," Issue 0, Revision A, dated November 24, 2010

- FGS-13E22, "Supplier Requirements/Documentation for Class IE Solenoid Valves," Revision A, dated June 10, 2011
- FGS-13F2, "Nuclear Services Limit Switches NAMCO EP180 Series," Revision H dated August 23, 2011
- Fisher drawing No. GE44534, "NPS-4, Class 1500, VSC 10B55000, 3 5/8" Port 2 travel 1 Stem design HPNS Plug/Stem Assembly for use with Bore Seal," Revision B, dated November 12, 2009;
- Drawing No. IM6007, "Purchase Specification for Nuclear Quality Welding Material," Revision L, dated July 30, 2004
- Drawing No. G-16686, "Teflon Lined Bushing 2" LG," Revision B, dated February 19, 1970
- Drawing IM6016, "Purchase Specification for Nuclear Quality Welding Material for SFA5.14, Revision G, dated October 4, 2005 for ASME SFA 5.14 ERNiCr-3 weld electrodes
- Drawing IM3429, "ASCO Solenoid Valve 3 Way," Revision B, dated January 22, 2013
- Drawing G16686, "Teflon Lined Bushing 2," Revision B, dated August 19, 2010

Supplier Audits and Annual Evaluations

- Fisher Audit Report of Asco Valves (supplier No. 150016602) dated October 23, 2014 on No. FMP2K37,
- 2014 Audit report of Namco (supplier No. 150046805) dated October 21, 2014
- Supplier Performance Assessment Report of NAMCO dated June 26, 2013
- 2012 Audit report of Valcor Engineering (supplier No. 150081899) dated October 18, 2012
- Supplier Performance Assessment Report of Valcor Engineering dated October 25, 2013
- 2014 Audit Report of Weldstar Company (supplier No. 150000738) dated December 10, 2014
- Supplier Performance Assessment Report of Weldstar Company dated June 3, 2013
- 2013 Audit Report of Kinectrics (supplier No. 150093886), dated May 7, 2013
- Supplier Performance Assessment Report of Kinectrics, dated August 21, 2014

Certified Material Test Report (CMTR) and Certificate of Compliance (CoC)

- CMTR for Weld Powder from ESAB 2-55795-00-0-A
- CMTR for Weld Powder from ESAB 2-55800-00-0-A
- CMTR for Carbotec Grey Paint Part Number 1M3598X0022
- CMTR for ASME SA 217 Steel Part Number GE44423X10A
- CMTR for ASME SA 351 Steel Part Number GE43839X07A
- CMTR for valve body material for Part Number GE43776X052 Heat KBFK/SN65
- CMTR for round bar material Part Number 010048015W Heat NX0253XR1C
- CMTR for valve bonnet (for Vogtle) PSN AA009657 Heat JYNN/SN33
- CMTR for valve body (for Vogtle) PSN AA010238 Heat JZGL/SN21
- CMTR for valve bonnet (for VC Summer) PSN AA011326 Heat KFCW/SN46
- CoC for Zyglo Liquid Penetrant ZL-15B Batch 14F053

- CoC for Zyglo Developer Batch 13M033
- Anderson Laboratories CoC Report No. Q14-0423 dated July 1, 2014 for Fisher PO No. 412338166
- Arcos CMTR dated November 16, 1983 for 3/16" ASME SFA 5.4, Class E309-16 electrodes traceable to Fisher Control PO No. 770666006 and Control No.189
- Arcos CMTR dated June 30, 1983 for Fisher Control's Control No. 360, 1/16"x 36" ASME SFA5.14 ERNiCr-3 weld wire lot No. A4272N382 on Fisher Control PO No. 231515
- Exova Inc., CoC Test Report No. T318896, dated September 30, 2013 for Fisher PO No. 133742
- ESAB CMTR No. 2-55795-00-0-A, dated October 29, 2014 to Weldstar Company Order No. 39675 for 5/32"Ø x 14" American Welding Society (AWS) E7018-1H4R weld electrodes of Lot No. 25404D02 and Heat No. 674675
- ESAB CMTR No. 2-55800, dated October 29, 2014 to Weldstar Company Order No. 39675 for 3/16"x 14" AWS SFA5.1 E7018-1H4R electrodes, traceable to Lot No. 25404A09 and Heat No. 67468C
- Teledyne McKay CMTR dated July 7, 1981 for Fisher's Control No. 509 for 1/8" x 14" Class E308L-16 electrode, heat No. 39650, Lot No. 2618744
- Teledyne McKay CMTR dated November 6, 1987 for Fisher's No. 341 for 1/16" x 36" Class ER308L weld wire, heat No. 02239, Lot No. 21718
- Stody Company CMTR dated December 18, 1979 for Fisher's Control No. 348, 5/32" Stody E308L-16, ASME SFA 5.4, Lot No. 0981A
- Weldstar Company CMTR dated September 15, 2014 for 120 pounds of 3/32"Ø x 14" Class E7018 electrodes to Fisher Control PO No. 4123354574
- Kinectrics CoC Report No. K-403913-RA-0001-B01 dated January 30, 2015, for seismic qualification of Fisher valve actuators serial Nos. 667NS2-70A and 667NS2-80A to Fisher PO 135577
- Valcor Engineering CoC dated September 18, 2011 for Valcor 3-Way solenoid valve part No. V70900-65-41 to Fisher Control's PO No. 1326444
- Asco Valve CoC for Asco Valve order No. OB272141 dated July 30, 2014 for 3-Way solenoid valves part No. NTQ8316G003, serial Nos. 9330, 9364, 9365, and 9366 for Fisher Control PO No. 412380181
- Anderson Laboratories Certificate of Analysis dated October 5, 2010 for WPQ-MGMF6GT to GTAW P1-P1 qualification to Fisher Control PO No. 326316
- Keystone Laboratory Certificate of Analysis Report dated April 8, 2015 of demineralized water tested to Fisher Control's FMP 2C2.8
- Fisher ATR-0876780SUM-1-1 for valve serial No.19491440, Tag No. APP-PV63-Z0D-100 for V. C. Summer

Inspection and Test Reports (ITRs)

- 0987790SUM-ITR-1-1 for valve serial number 19089848 dated August 12, 2014
- 0987790SUM-ITR-1-2 for valve serial number 19089848 dated November 6, 2014
- 0987790SUM-ITR-1-3 for valve serial number 19089848 dated May 16, 2014
- 0987790SUM-ITR-1-5 for valve serial number 19089848 dated June 26, 2014
- 0987790SUM-ITR-1-6 for valve serial number 19089848 dated June 4, 2014
- 0987790SUM-ITR-1-7 for valve serial number 19089848 dated July 22, 2014
- 0987790SUM-ITR-1-1 for valve serial number 19089846 dated August 12, 2014
- 0987790SUM-ITR-1-2 for valve serial number 19089846 dated October 14, 2014
- 0987790SUM-ITR-1-3 for valve serial number 19089846 dated May 16, 2014
- 0987790SUM-ITR-1-5 for valve serial number 19089846 dated June 26, 2014
- 0987790SUM-ITR-1-6 for valve serial number 19089846 dated June 4, 2014
- 0987790SUM-ITR-1-7 for valve serial number 19089846 dated July 30, 2014
- 0987790VOG-ITR-5-12, for Plug/Stem Assembly No. GE44534X042, Serial No. AA008755, dated February 27, 2015,

Calibration Records

- Calibration Record 7638004 for Densitometer Serial Number 027738 due May 2015
- Calibration Record 7616003 for Lightmeter serial No. 0610175A due June 8, 2015
- calibration Record 6172001 for Dryer Thermometer due May 2015
- Calibration Record PG01712 for Pressure Gage, due September 2015
- Calibration Record 6142001 for Thermometer due May 2015
- Certificate of Calibration for Leco Hardness Tester standard S/N G17976-1 calibrated on December 10, 2014 due June 10, 2015
- Certificate of Calibration for Wilson Hardness Tester S/N G16581-4 calibrated on December 10, 2014, due June 10, 2015
- Monthly Verification Log for Niton Alloy Analyzer XL3T Fisher Control serial No. 55948 per FMP 2G19.3, performed on April 13, 2015
- Pressure Gauge Asset #9660003, calibrated February 13, 2015
- Pressure Gauge Asset #9660006, calibrated February 13, 2015
- Weld Rod Oven Controller Asset #9059006WS, calibrated February 11, 2015
- Weld Rod Oven Controller Asset #9059007WS, calibrated February 11, 2015
- Weld Rod Oven Controller Asset #9059008WS, calibrated February 11, 2015
- Threaded Gauge Asset #G12887#17, January 20, 2015
- Threaded Ring Gauge Asset #G10843#3, calibrated April 15, 2015
- Hardness Tester, Asset #G16581 #4, calibrated December 10, 2014
- Precimar ULM 600-E Asset #G16713, calibrated December 10, 2014
- Thickness Gauge (Dry Film) Asset #G171153 #1, calibrated June 2014

Welder Qualification Record (WPQ)

- Welder Performance Qualification (WPQ) – GATE3.6 for George Tuttle qualified for Hardfacing by GTAW of P8 to P1 to WPS 5E3.6, on June 22, 1988
- WPQ - TEA E50.1 for Tom Atcher for Overlay of CoCr-A Alloy 6 by GTAW on P8 to WPS 5E50.1, on April 3, 2006
- WPQ - JBYF6GT-PED for John Yeager qualified to GTAW for P1to P1 using WPS 5LP1.1TNN, on April 1, 2010
- WPQ - MGMF6GT for Matt McKirben qualified to GTAW for P1-P1 to WPS 5CP1.1TNN, on October 4, 2010;
- WPQ – 10-07-144 for John Yeager qualified to GTAW for P1-P1 to WPS 5CP1.1TNN, on June 18, 2010

Miscellaneous

- Fisher Commercial Grade Dedication (CGD) Inspection Plan No. 1005 Nut Hex, Part No. 1C6352X0082, Serial No. AA013222, material specification ASME SA194 Grade 8M, includes material verification through hardness testing, positive material identification;
- CGD Inspection Report of Jam Hex Nut 1-14, Part No. 1C6352X0082, for Job Order No. 8237464, dated March 13, 2015 to CGD Plan No. 1005 Revision 0B;
- PMI test report of Hex Nuts 1-14, Part No. 1C6352X0082, Serial No. AA013222 on Job Order No. 8237464 dated March 14, 2015 accepted met the 316 Stainless Steel alloy specification using Niton XL3T900S Serial No. 55948 equipment
- Assembly and Test Report (ATR) No. 0876780SUM-1-1, Revision 5, dated February 6, 2015 for Fisher Paint Report –Carbonzinc 11 HSN dated March 14, 2015 for valve Box Actuator, Lower Casing, Upper Casing and Cover for valve 4x3SS-84SV4 serial No. 19491440 Tag No. APP-PV63-ZOD-100, on Job Order No. 004-X-012144932, Item No. 002B for WEC PO # 4500309
- Welding of Plug Stem assembly of 4, Class 1500, 2.5/8 port, 2TVL, 1Stem,” drawing No. GE44534 Revision 0B, for Fisher Job No. 7819186 operation 6301 on April 15, 2015 per FMP 5CP5A.8TSSN.BTR, Revision A, Amendment AM-15, Revision A
- Fisher Corrective Action Request (CAR) No. 1746, dated April 16, 2015
- Performance demonstration of FMP 2G30 Revision 6, dated February 11, 2014 to Authorized Nuclear Inspector
- Welding of Yoke/Lower Casing assembly No. GE55300X172, Serial No. AA012533, on dated April 15, 2014 for Job No. 813832 for Vogtle
- Water-washable Fluorescent Penetrant Testing of Plug/Stem Assembly Part No. 28B2324X032 for Job Order No. 7908011 performed on April 14, 2015
- Weld Continuity Log for March 2015, dated April 6, 2015, indicate current records for Tim Bell, Matt McKibben, Tom Atcher, Mark Pennell, John Yeager, Chris Backoff and Todd Shiebell

- ATR No. 087678SUM-1-1 dated April 14, 2015 documenting hydrostatic testing of valve body assembly for valve serial No. 19491440, Tag# APP-PV63-Z0D-100, performed in accordance with FMP 2C2.8 Revision 8, Amendment -4 for V.C. Summer
- Fisher Nuclear Internal Audit Report and Checklist, dated April 7, 2015
- Fisher Nuclear Internal Audit Report and Checklist, dated May 8, 2014
- Fisher Nuclear Internal Audit Report and Checklist, dated March 8, 2013

Training and Qualification Records

- Personnel Certificate Qualification Record for Dean Lawthers for final inspection, calibration, positive material identification (PMI) and Hardness testing dated March 12, 2012, due June 16, 2017, with eye exam tested on June 16, 2014
- Personnel Lead Auditor Qualification Records for Benjamin Ahrens, Richard Miller, Matt Anson, Sydney Brady, Jim Wormley, George Baitinger, Grady Hardin, Andrew Shields, Wesley Ranard, and Preston Hardin.

Nonconformance Reports

NC# 94119, 61735, 63712, 73949, 75716, 75721, 75571, 79570, 77912, 79972, 79973, 77904, 06281, 06282, 70791, 69266, 70791, 69866, 97278, 98052

Corrective Action Requests

Service Requests (SR) 120462 dated November 5, 2013; SR 1231476 dated February 4, 2014; SR 125168 dated March 31, 2014; SR 1286928 dated July 7, 2014

CARs- 1505, 1506, 1507, 1508, 1509, 1510, 1511, 1516, 1551, 1565, 1570, 1581, 1586, 1590, 1643, 1649, 1644, 1661, 1663, 1664, 1692, 1697, 1698, 1702, 1705, 1712, 1725, 1727, 1728, 1731

Corrective Action Request Generated as Result of NRC Inspection

CARs – 1743, 1744, 1745

Fisher Information Notices (Part 21 Reports)

- Fisher Information Notice (FIN) 2013-5 dated August 22, 2013
- FIN 2013-03 dated August 22, 2013
- FIN 2013-02 dated March 8, 2013
- FIN 2012-03 dated November 6, 2012
- FIN 2012-05 dated December 19, 2012
- FIN 2013-01 dated January 9, 2013
- FIN 2015-01 dated March 20, 2015

Commercial-grade Surveys

- Exova Incorporated, Glendale Heights, IL, Evaluation Date February 19, 2013: Performs testing dealing with FTIR; spectroscopy; physical properties; microscopy; Charpy, tensile, and metallographic weld qualification; and material testing which includes materials meeting the requirements of ASME NCA 3800.
- Adron Tool Corporation, Menomonee Falls, WI, Evaluation Date February 19, 2013: Provides Wire EDM, machining and control of material received.
- Keystone Laboratories, Newton, IA, Evaluation Date February 19, 2012: Provides chemical analysis of water samples for manufacturing process control.
- Colonial Rubber, Ravenna, Ohio, Evaluation Date December 3, 2014: Provides installation of elastomeric liners in butterfly valve bodies; and control of mechanical and chemical composition of liners being produced. Liners for valve bodies are to include material testing and chemistry certification.
- Duer/Carolina Coil, Greer SC, Evaluation date November 6, 2012: Manufacturer of actuator springs supplied with cadmium plating.
- Wenzel America Limited, Wixom, MI, Evaluation Date September 5, 2014: Supplier of CMM calibration services. ACLASS Certificate No. AC-1566, September 17, 2013 - September 20, 2015.
- Pioneer Metal Finishing, Green Bay, WI, Evaluation Date February 21, 2013: Supplier of ENC plating services
- Reliable Plating, Chicago, IL, Evaluation Date December 9, 2014: Supplier of cadmium, ENC, and zinc plating services.
- Senior Flexonics, Bartlett, IL, Evaluation Date December 11, 2014: Manufactures and assembles bellows assemblies with the ability to provide dimensional verification.
- Instron Calibration Laboratory, Norwood, MA, Evaluation Date April 6, 2015: Supplier of calibration services for spring testing equipment. NVLAP Lab Code 200301-0, April 1, 2015 – March 31, 2016.
- Mensor, San Marcos, TX, Evaluation Date August 21, 2013: Performs calibration of pressure gauges, controllers and transducers. A2LA Certificate No. 2066.01, April 25, 2013 – July 31, 2015
- National Institute of Standards and Testing (NIST), Gaithersburg, MD, Evaluation Date November 11, 2014: Supplier of calibrated NDE stepwedge standards. Letter from NIST to Fisher dated July 2, 2014.
- Commercial Grade Survey Report of Anderson Laboratories dated January 30, 2015

Commercial-grade Dedication Packages and Associated Documentation Reviewed

- Public Service Electric and Gas (PSE&G) Purchase Order No. 4500836973, dated November 15, 2014, "Assembly – Shaft (Nitrided)"
- Fisher Order No. 1240081 dated November 18, 2014, "Assembly – Shaft (Nitrided)"
- Commercial Grade Item Dedication (CGID) Plan No. 1318, "Assembly – Shaft, Type 3582," Revision 0B, dated March 10, 2015
- Technical Evaluation ICA, "Instruments, Components and Subassemblies," Revision B, dated February 11, 2015

- PSE&G Purchase Order No.3500983377, Plug and Stem Assembly SA479 TP316 F/3” 600# Globe Valve, Plug with Stellite #6 Pin, Stem Material A276 TP316,” Revision 1, dated September 12, 2013
- Fisher Order No. 1172345, “Plug/Stem, Hi-Temp, 2 5/16 ORF IL7500, 15.25AB
- CGID Plan No. 1021, “Pin, Groove, Type F and Type H,” dated June 9, 2014
- CGID Plan No. 1142, “Stem, Valve Uniform Diameter,” dated June 11, 2014
- Technical Evaluation SVTS, “Sliding Stem Valve Stems,” dated August 7, 2014
- Technical Evaluation FSP, “Fasteners, Pins,” Revision A, dated August 7,2014
- Tennessee Valley Authority Watts Bar Unit 2, Purchase Order No. 702507, “Assembly, Typical, QAI, Class 2 Control Valve, 1 inch, Plug,” dated July 24, 2014
- Fisher Order No. 1217287, “15A2560X072, Plug/Stem, Taper, ¾ Port,” dated August 7, 2014
- CGID Plan No. 1044, “Disc, Valve Flat,” Revision 0B, dated January 19, 2015
- CGID Plan No. 1909, “Plug Tip, Taper – ¾ Port,” Revision 0B, dated February 5, 2015
- Technical Evaluation NMC, “Non-Metallics, Discs,” Revision B dated January 13, 2015
- Technical Evaluation SVTO, “Sliding Stem Valve Trim, Other,” Revision A, dated January 12, 2015
- Xcel Energy Prairie Island, Purchase Order No. 00052957, “Regulator, Filter, Fisher 67CFR 125 psi,” dated July 29, 2014
- Fisher Order No. 1217963, “FS67CFR-226/GF/VP/V/C7/SB/Safety-Related,” dated October 8, 2014
- CGID Plan No. 1481, “Assembly, Regulator, Type 67CFR Series,” Revision 0C, dated January 24, 2015
- Technical Evaluation CAR, “Assemblies, Complete, Regulators,” Revision A dated August 7, 2014
- Westinghouse Electric Company LLC, Purchase Order No. 4500327852, “VC Summer Units 2&3, Safety-Related Air Operated Valves (PV14),” dated December 16, 2009
- Fisher Order No. 1169593, “APP-PV14-20R-001, APP-PV14-20-001,” dated April 16, 2014
- CGID Plan No. 1819, “Stems, Welded,” dated August 27, 2014
- CGID Plan No. 1014, “Fasteners, Washers,” Revision 0B, dated February 10, 2015
- CGID Plan No. 1821, “Seat Ring, Design HPNS,” dated February 12, 2014
- CGID Plan No. 1453, “Cage Drilled Hole, Design HP,” dated October 8, 2014
- CGID Plan No. 1221, “Connector, Stem, Assembly,” dated November 11, 2014
- CGID Plan No. 1000, “Fasteners, Screws/Bolts,” dated November 11, 2014
- CGID Plan No. 1028, “Spring, Compression,” dated September 23, 2014
- CGID Plan No. 1956, “Sliding Stem Actuator Stems,” Revision A dated August 7, 2014
- CGID Plan No. 1220, “Seat, Spring, Lower,” dated September 30, 2014
- CGID Plan No. 1436, “Screw, Adjusting (Spring Actuator) Type 667,” dated November 11, 2014
- CGID Plan No. 1075, “Bushing, Seal,” Revision 0B, dated December 11, 2014
- Technical Evaluation SVTS, “Sliding Stem Valve Stems,” Revision A, dated August 7, 2014
- Technical Evaluation FSW, “Fasteners, Washers,” Revision B dated January 30, 2015
- Technical Evaluation SVTR, “Sliding Stem Valve Seat Rings,” Revision B, dated January 16, 2015

- Technical Evaluation SVTC, "Sliding Stem Valve Cages," Revision B, dated March 4, 2015
- Technical Evaluation SAO, "Sliding Stem Actuator, Other Components," Revision B, dated February 27, 2015
- Technical Evaluation FSS, "Fasteners, Screws/Bolts," Revision B dated February 27, 2015
- Technical Evaluation SPRC, "Springs, Coil," Revision B, dated November 7, 2014
- Technical Evaluation SAS, "Sliding Stem Actuator Stems," Revision A, dated August 7, 2014
- Technical Evaluation SAT, "Sliding Stem Actuator Spring," Revision B, dated February 27, 2015
- Technical Evaluation SAO, "Sliding Stem Actuator, Other Components," Revision B dated February 27, 2015
- Technical Evaluation BRS, "Bearings/Bushings, Sleeve," Revision C, dated February 27, 2015
- Drawing No. 10A2630, "Type 657 Tie Rod Washer," Revision B
- Drawing No. GE44870, "Design HPNS Seat Ring Hard Faced Seat," Revision B
- Drawing No. GG44628, "Cage Linear Hard Faced Bore," Revision A
- Drawing No. IN1285, "Spring, Helical Compression," Revision A
- Drawing No. GE57299, "Spring Actuator," Revision A
- Nebraska Public Power District, Purchase Order No. 4500161547, "Valve, Butterfly, 6 in 150 lbs," dated July 3, 2013
- Fisher Order No. 1169362, "9500 Valve Body Assembly Size 6," dated July 10, 2013
- CGID Plan No. 1093, "Body, Type 9500," Revision 0B dated February 3, 2015
- Technical Evaluation RVS, "Rotary Valve Structural," Revision B, dated February 2, 2015