



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

June 27, 2022

Mr. Justin Bates
Nuclear Program Manager
Dresser, LLC
12970 Normandy Blvd.
Jacksonville, FL 3221

SUBJECT: NUCLEAR REGULATORY COMMISSION VENDOR INSPECTION REPORT OF
DRESSER, LLC. NO. 99902058/2022-201

Dear Mr. Bates:

From May 9 through May 13, 2022, the U.S. Nuclear Regulatory Commission (NRC) staff conducted an inspection at the Dresser, LLC's facility (hereafter referred to as Dresser) in Jacksonville, FL. The purpose of the limited scope inspection was to assess Dresser'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 Dresser's implementation of quality activities associated with the design, fabrication, and testing of valves and valve replacement parts for U.S. nuclear power plants. The enclosed report presents the results of this inspection. This NRC inspection report does not constitute NRC endorsement of your overall quality assurance (QA) or 10 CFR Part 21 programs.

Based on the results of this inspection, the NRC inspection team found that the implementation of your QA program met the applicable technical and regulatory requirements imposed on you by your customers or NRC licensees. No findings of significance were identified.

In accordance with 10 CFR 2.390, "Public Inspections, Exemptions, Requests for Withholding," of the NRC's "Rules of Practice," the NRC will make available electronically for public inspection a copy of this letter and its enclosure through the NRC's Public Document Room or from the NRC's Agencywide Documents Access and Management System, which is accessible at <http://www.nrc.gov/reading-rm/adams.html>

If you have any questions concerning this matter, please contact Mr. Aaron Armstrong of my staff at (301) 415-8396.

Sincerely,



Armstrong, Aaron signing on behalf
of Kavanagh, Kerri
on 06/27/22

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

Docket No.: 99902058

EPID No.: I-2022-201-0020

Enclosure:
Inspection Report No. 99902058/2022-201 and Attachment

SUBJECT: NUCLEAR REGULATORY COMMISSION VENDOR INSPECTION REPORT OF DRESSER, LLC. NO. 99902058/2022-201 DATED JUNE 27, 2022

DISTRIBUTION:

RFelts
 CMiller
 ASakadales
 ConE_Resource
 NRR_DRO_IQVB Distribution

ADAMS Accession No.: ML22172A160

NRR-106

OFFICE	NRR/DRO/IQVB	NRR/DEX/EIMB	NRR/DRO/IQVB	NRR/DEX/EMIB
NAME	DPark	YWong	LSmith	TScarbrough
DATE	06/23/2022	06/23/2022	06/23/2022	06/23/2022
OFFICE	NRR/DRO/IQVB	NRR/DRO/IQVB		
NAME	AArmstrong	KKavanagh/ (AArmstrong for)		
DATE	06/23/2022	06/27/2022		

OFFICIAL RECORD COPY

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

Docket No.: 99902058

Report No.: 99902058/2022-201

Vendor: Dresser, LLC.
12970 Normandy Blvd.
Jacksonville, FL 32221

Vendor Contact: Mr. Justin Bates
Nuclear Program Manager
Email: justin.M.bates@bakerhughes.com
Phone: 904-362-2606

Nuclear Industry Activity: Dresser, LLC (hereafter referred to as Dresser) is an American Society of Mechanical Engineers (ASME) Boiler & Pressure Vessel (B&PV) Code N, NV, and NPT Certificate Holder. Dresser's scope of supply includes ASME B&PV Code Class 1, 2, and 3 and non-Code safety-related Consolidated and Masoneilan pressure relief valves, control valves, parts, and appurtenances including transducers, positioners, and air-sets.

Inspection Dates: May 9 - 13, 2022

Inspectors:

Aaron Armstrong	NRR/DRO/IQVB	Team Leader
Dong Park	NRR/DRO/IQVB	
Laura Smith	NRR/DRO/IQVB	
Thomas Scarbrough	NRR/DEX/EMIB	Technical Specialist
Yuken Wong	NRR/DEX/EMIB	Technical Specialist

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

Enclosure

EXECUTIVE SUMMARY

Dresser, LLC
99902058/2022-201

The U.S. Nuclear Regulatory Commission (NRC) staff conducted a vendor inspection at the Dresser, LLC's (hereafter referred to as Dresser) facility in Jacksonville, FL, 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." In addition, the NRC inspection team also verified that Dresser implemented a program in accordance with 10 CFR Part 21, "Reporting of Defects and Noncompliance." Furthermore, the NRC inspection team verified that Dresser 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 (ASME) Boiler and Pressure Vessel (B&PV) Code, and the American Society for Nondestructive Testing (ASNT) SNT-TC-1A, "Personnel Qualification and Certification in Nondestructive Testing." This was the second NRC inspection of Dresser's Jacksonville facility.

This technically-focused inspection evaluated aspects of Dresser's QA program implementation activities associated with the design, fabrication, and testing of valves and valve replacement parts for U.S. nuclear power plants. Specific activities observed by the NRC inspection team included:

- hydrostatic testing of valve component base 19096M/MS-2
- functional testing of a ¾" pressure relief valve (Part No. 09171001)
- commercial grade dedication of Exhaust Valve 77 Airset for PO 31460257

These 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 used the following Inspection Procedures (IPs): IP 43002, "Routine Inspections of Nuclear Vendors," dated April 5, 2022; IP 43004, "Inspection of Commercial-Grade Dedication Programs," dated April 5, 2022; and IP 36100, "Inspection of 10 CFR Part 21 and Programs for Reporting Defects and Noncompliance," dated May 16, 2019.

The NRC inspection team concluded that Dresser's QA policies and procedures comply with the applicable requirements of Appendix B to 10 CFR Part 50 and 10 CFR Part 21, and that Dresser's personnel are implementing these policies and procedures effectively. The results of this inspection are summarized below.

10 CFR Part 21 Program

The NRC inspection team reviewed Dresser's policies and implementing procedures that govern the implementation of its 10 CFR Part 21 program to verify compliance with the requirements of 10 CFR Part 21. The NRC inspection team: (1) reviewed the 10 CFR Part 21 postings; (2) reviewed a sample of purchase orders (POs) to verify that 10 CFR Part 21 was specified in these POs; (3) verified that Dresser's nonconformance and corrective action programs provide a link to the 10 CFR Part 21 program; and (4) reviewed a sample of 10 CFR Part 21 evaluations performed by Dresser. No findings of significance were identified.

Design Control

The NRC inspection team reviewed Dresser's policies and implementing procedures that govern the implementation of its design control program to verify compliance with the requirements of Criterion III, "Design Control," of Appendix B to 10 CFR Part 50. The NRC inspection team selected samples of design and testing documentation from four different products provided to U.S. nuclear power plants. The NRC inspection team also reviewed the relevant POs, customer specifications and qualification requirements, drawings, certificate of conformance records, certified material test reports, ASME Form NV-1 data reports, seismic analysis reports, production order operation lists, functional test reports, hydrostatic test reports, liquid penetrant test reports, dimensional inspection reports, and minimum wall inspection reports for these products for compliance with the regulatory requirements. The NRC inspection team observed that several final design documents related to the verification of successful completion of design activities were not signed by an independent evaluator. Section 11 of the Dresser QA) Manual specifies that the tester must sign the applicable reports. However, the QA Manual does not specify that the independent evaluator must sign design documents. In response, Dresser included this issue and proposed resolution to clearly define the roles and responsibilities of the evaluator in Corrective Action Report (CAR) 1039 . The NRC inspection team reviewed CAR 1039 and verified that this issue has been adequately described. The NRC inspection team identified this issue as minor because all required signatures were present on the final paperwork. No findings of significance were identified.

Commercial-Grade Dedication

The NRC inspection team reviewed Dresser's policies and implementing procedures that govern the implementation of its commercial-grade dedication (CGD) program to verify compliance with the 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 observed Dresser's staff performing dedication activities for an Exhaust valve 77 Airset in accordance with Dresser's CGD process. The NRC inspection team reviewed the documentation associated with the dedication of this for the Exhaust Valve 77 Airset. In addition, the NRC inspection team reviewed a sample of completed CGD packages including the technical evaluations used to identify the critical characteristics and acceptance criteria to verify that Dresser effectively implemented its CGD processes. No findings of significance were identified.

Material Traceability

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

receipt, fabrication, and storage activities associated with ongoing production orders, and reviewed a sample of completed shop work orders to confirm Dresser personnel were performing material control activities in accordance with the policies and procedures established for those activities. No findings of significance were identified.

Test Control

The NRC inspection team reviewed Dresser'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 a hydrostatic testing of Dresser parts and functional testing of a relief valve. The NRC inspection team also reviewed Dresser's test setup, equipment calibration, personnel qualification, quality control (QC) and Authorized Nuclear Inspector (ANI) participation, test performance data, and records to verify compliance with the applicable regulatory requirements. The NRC inspection team observed the functional testing of a 3/4" pressure relief valve (Part No. 09171001). The NRC inspection team noted that the Dresser test personnel performed one additional test to obtain three test results that show no consistent upward or downward trend of the set pressure. This requirement is specified in ASME Performance Test Code (PTC) 25, "Pressure Relief Devices," which is referenced in the Dresser Functional Testing Procedure, PT024, Revision 8. However, this non-trending requirement is not one of the steps in the Dresser Functional Testing Procedure. Dresser initiated corrective action report CAR 1039 to address this issue and update the procedures to include information on filling out the test report information for the ANI witness and other information that may be specific to nuclear valves. The NRC inspection team determined this issue as minor because the purchase order did not impose these requirements for those components. No findings of significance were identified.

Control of Measuring and Test Equipment

The NRC inspection team reviewed Dresser' policies and implementing procedures that govern the implementation of its measuring 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 observed that M&TE was calibrated, labeled, tagged, handled, stored, or otherwise controlled to indicate the calibration status and its traceability to nationally recognized standards. No findings of significance were identified.

Nonconforming Material, Parts, or Components and Corrective Action

The NRC inspection team reviewed Dresser's policies and procedures that govern the implementation of its nonconformance control and corrective action programs to verify compliance with the regulatory requirements in Criterion XV, "Nonconforming Materials, Parts or Components," and Criterion XVI, "Corrective Action," of Appendix B to 10 CFR Part 50. The NRC inspection team verified that the procedures contained sufficient guidance for evaluating nonconforming conditions and the procedures ensure that conditions are evaluated for possible corrective action and for 10 CFR Part 21 applicability. The NRC inspection team reviewed a sample of nonconformance reports (NCRs) and corrective action reports (CARs) and confirmed that Dresser adhered to applicable processes and procedures. No findings of significance were identified.

REPORT DETAILS

1. 10 CFR Part 21 Program

a. Inspection Scope

The U.S. Nuclear Regulatory Commission (NRC) inspection team reviewed Dresser, LLC's (hereafter referred to as Dresser) 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. The NRC inspection team also evaluated the 10 CFR Part 21 postings and a sample of Dresser's purchase orders (POs) to verify 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 also verified that Dresser's nonconformance and corrective action procedures provide a link to the 10 CFR Part 21 program.

In addition, for a sample of 10 CFR Part 21 evaluations performed by Dresser, the NRC inspection team verified that Dresser had effectively implemented the requirements for evaluating deviations and failures to comply. The NRC inspection team verified that notifications were issued to customers 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 Dresser'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 Dresser 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 determined that Dresser 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 Dresser'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 selected a sample of four products provided to U.S. nuclear power plants and reviewed relevant POs, customer specifications and qualification

requirements, drawings, certificate of conformance records, certified material test reports, ASME Form NV-1 data reports, seismic analysis reports, production order operation lists, functional test reports, hydrostatic test reports, liquid penetrant test reports, dimensional inspection reports, and minimum wall inspection reports for the sampled products.

The NRC inspection team also discussed the design control program with Dresser'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

The NRC inspection team observed that several final design documents related to the verification of successful completion of design activities were not signed by an independent evaluator. Section 11 of the Dresser Quality Assurance (QA) Manual specifies that the tester must sign the applicable reports. However, the QA Manual does not specify that the independent evaluator must sign design documents. In response, Dresser revised Corrective Action Report (CAR) 1039 (prepared in response to a Test Control item discussed later in this report) to address more clearly the role and responsibilities of the evaluator in plant procedures. The NRC inspection team reviewed the modifications to CAR 1039 and verified that this issue has been adequately described. The NRC inspection team identified this issue as minor because all required signatures were present on the final paperwork. No findings of significance were identified.

c. Conclusion

The NRC inspection team identified one issue that was not more than minor in association with Dresser is implementing its design control program in accordance with the regulatory requirements of Criterion III of Appendix B to 10 CFR Part 50. This minor issue identified Dresser's clarification to adequately identify the role and responsibilities of the evaluator in plant procedures. Dresser initiated CAR 1039 to document these issues. No findings of significance were identified.

3. Commercial-Grade Dedication

a. Inspection Scope

The NRC inspection team reviewed Dresser's policies and implementing procedures that govern the implementation of its commercial-grade dedication (CGD) program to verify 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 samples from four CGD packages which included guide bushings, packing box glands, diaphragm and cap screws to assess the implementation of Dresser's CGD program. The NRC inspection team reviewed the technical evaluations documenting the criteria for the identification of item functions, credible failure mechanisms/modes, selection of critical characteristics and acceptance criteria, and the identification of verification methods. The NRC inspection team observed Dresser performing dedication activities for an Exhaust Valve 77 Air-set and verified that: (1) the critical characteristics and acceptance methods were correctly

specified; (2) the drawings and material specifications containing the associated acceptance criteria for each critical characteristic were referenced; and (3) the inspection reports adequately documented the acceptance of the critical characteristics.

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

c. Observations and Findings

No findings of significance were identified.

d. Conclusion

The NRC inspection team concluded that Dresser 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 and activities observed, the NRC inspection team determined that Dresser is implementing its policies and procedures associated with the CGD program. No findings of significance were identified.

4. Material Traceability

a. Inspection Scope

The NRC inspection team reviewed Dresser's policies and implementing procedures that govern the implementation of its material control 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 witnessed ongoing shop activities related to product receipt and acceptance and verified that Dresser staff adequately performed intake activities including, material identification, assignment of unique certification numbers to orders, and determining additional routing of materials necessary for formal receipt inspection, material certification, and entry into inventory.

The NRC inspection team also reviewed in-process fabrication activities in accordance with shop work orders and reviewed both material staging areas and nonconforming material segregation areas to verify material identification control methods including stamping, tagging, and pen markings. The NRC inspection team reviewed a sample of in-process and completed discrete job router documentation and confirmed material identification for each process step was adequately documented in accordance with procedures governing those activities.

The NRC inspection team discussed material identification methods with quality control inspectors, quality assurance personnel, and fabrication/craft personnel and confirmed understanding of identification and control of materials. 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 Dresser established 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 determined that Dresser is implementing its policies and procedures associated with the material traceability program. No findings of significance were identified.

5. Test Control

a. Inspection Scope

The NRC inspection team reviewed Dresser's policies and implementing procedures that govern the 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 reviewed engineering and testing instructions related to the control of testing activities. The NRC inspection team observed hydrostatic and functional testing of a Dresser relief valve. The NRC inspection team also reviewed Dresser's test setup, equipment calibration, personnel qualification, quality control (QC) and Authorized Nuclear Inspector (ANI) participation, test performance data and results, and records to verify compliance with regulatory requirements.

The NRC inspection team discussed the test control program with Dresser'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

The NRC inspection team observed the hydrostatic testing of valve component base 19096M/MS-2. The inspection team noted that the Dresser QA Manual requires hold points for the ANI to witness the hydrostatic testing. However, the Dresser Hydrostatic Testing Procedure HY017, Revision 18, does not include this step. The Dresser representative stated that the ANI witness requirement for a particular test is controlled by the Product Order Operation List. A Dresser representative provided samples of the Product Order Operation List that clarified this test control activity.

The NRC inspection team observed the functional testing of a ¾" pressure relief valve (Part No. 09171001). The NRC inspection team noted that the Dresser test personnel performed one additional test to obtain three test results that show no consistent upward or downward trend of the set pressure. This requirement is specified in ASME Performance Test Code (PTC) 25, "Pressure Relief Devices," which is referenced in the Dresser Functional Testing Procedure, PT024, Revision 8. However, this non-trending requirement is not one of the steps in the Dresser Functional Testing Procedure. The Dresser representative stated that many commercial procedures have been updated to add this non-trending requirement; however, some Dresser procedures, such as the PT024 procedure, have not been updated and the non-trending provision is not a requirement. Dresser initiated corrective action report CAR 1039 to address this issue and update the procedures to include information on filling out the test report information

for the ANI witness and other information that may be specific to nuclear valves. The NRC inspection team determined this issue as minor because the POs did not impose these requirements for those components. No findings of significance were identified.

c. Conclusion

The NRC inspection team identified one issue that was not more than minor in association with Dresser is implementing test control program in accordance with the regulatory requirements of Criterion XI of Appendix B to 10 CFR Part 50. This minor issue identified Dresser's clarification to adequately update the procedures to include information on filling out the test report information for the ANI witness and other information that may be specific to nuclear valves. Dresser initiated CAR 1039 to document these issues. No findings of significance were identified.

6. Control of Measuring and Test Equipment

a. Inspection Scope

The NRC inspection team reviewed Dresser's policies and implementing procedures that govern the implementation of its measuring 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.

For a sample of M&TE, the NRC inspection team determined that the M&TE had the appropriate calibration stickers and current calibration dates, including the calibration due date. The NRC inspection team also verified that the M&TE had been calibrated, adjusted, and maintained at prescribed intervals prior to use. In addition, the calibration records reviewed by the NRC inspection team indicated the as-found or as-left conditions, accuracy required, calibration results, calibration dates, and the due date for recalibration. Furthermore, the NRC inspection team also verified that the selected M&TE was calibrated using procedures traceable to known industry standards. The NRC inspection team confirmed that when M&TE equipment is found to be out of calibration, Dresser generates M&TE out-of-tolerance condition reports to identify items that have been accepted using this equipment since the last valid calibration date and to perform an extent of condition review.

The NRC inspection team performed a walk-down of Dressers' laboratory to observe that M&TE 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 NRC inspection team observed the calibration of an internal caliper and micrometer and confirmed that the calibration was performed in accordance with Dressers' procedures.

The NRC inspection team also discussed the M&TE program with Dressers 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 Dresser 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 and activities observed, the NRC inspection team determined that Dresser is implementing its policies and procedures associated with the M&TE program. No findings of significance were identified.

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

a. Inspection Scope

The NRC inspection team reviewed Dresser'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," and Criterion XVI, "Corrective Action," of Appendix B to 10 CFR Part 50.

The NRC inspection team verified that Dresser's processes and procedures provide for the identification, documentation, segregation, evaluation, and disposition of nonconforming items. These processes also apply the principles of rework/repair, scrap, return to vendor, or "use as-is."

The NRC inspection team observed Dresser's assembly floor operations and verified that nonconforming materials, parts or components were properly identified, marked, and segregated, when practical, to ensure that they were not reintroduced into the production processes. The NRC inspection team reviewed a sample of nonconforming reports (NCRs) associated with the production of safety-related parts and confirmed that Dresser dispositioned the nonconforming materials in accordance with the applicable procedures and took adequate corrective action regarding the nonconforming items to prevent recurrence, as appropriate.

Additionally, the NRC inspection team discussed the nonconformance program with Dresser's personnel to verify they were cognizant of program requirements, designated areas to segregate and control nonconforming materials, parts, or components, and that they actively used the nonconforming materials reporting process to identify and document any nonconforming conditions.

The NRC inspection team reviewed a sample of corrective action reports (CARs) from the past three years, and the CARs that were issued as a result of the last NRC inspection in 2018 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML18043A260). The NRC inspection team confirmed there was a description of the issue in the CAR to ensure that there was sufficient information to understand the problem, that there was an appropriate analysis of the cause of the problem, and that the actions taken were sufficient to prevent the problem from reoccurring. In addition, the NRC inspection team confirmed that there was adequate connection between the nonconformance, corrective action, and Dresser's 10 CFR Part 21 program to ensure conditions adverse to quality were appropriately considered for 10 CFR Part 21 applicability.

The NRC inspection team also discussed the nonconforming materials, parts, or components and corrective action programs with Dresser'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 Dresser 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 determined that Dresser is implementing its policies and procedures associated with the control of nonconforming materials, parts, or components and corrective action. No findings of significance were identified.

8. Entrance and Exit Meetings

On May 9, 2022, the NRC inspection team discussed the scope of the inspection with Mr. Justin Bates, Nuclear Program Manager, and other members of Dresser's management and technical staff. On May 13, 2022, the NRC inspection team presented the inspection results and observations during an exit meeting with Mr. Bates and other members of Dresser'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
Justin Bates	Nuclear Program Manager	Dresser, LLC	X	X	X
Rajesh Krithivasan	Principal Engineer	Dresser, LLC			X
Duane Dodds	Nuclear Quality Specialist	Dresser, LLC			X
Nick Poum	Tester	Dresser, LLC			X
Sam Hubert	Tester	Dresser, LLC			X
Manuel Halley	Authorized Nuclear Inspector	Hartford Steam Boiler			X
Patrick Baranack	Manufacturing OPS Manager	Dresser, LLC	X	X	
David Smith	Manufacturing Engineering Manager	Dresser, LLC	X	X	
Wali Vigneshwar	Nuclear Engineering Manager	Dresser, LLC	X	X	
Frank Wheelwright	Plant Leader	Dresser, LLC	X	X	
Kim Higdon	Valve Steam Leader	Dresser, LLC	X		
Samuel Green	Quality	Dresser, LLC		X	
Desmond Nunnery	Quality Manager	Dresser, LLC		X	
Jay Parson	Technician	Dresser, LLC			X
Kerri Kavanagh	NRC Branch Chief	Nuclear Regulatory Commission (NRC)		X	
Aaron Armstrong	Inspection Team Leader	NRC	X	X	
Dong Park	Inspector	NRC	X	X	
Laura Smith	Inspector	NRC	X	X	
Thomas Scarbrough	Inspector	NRC	X	X	
Yuken Wong	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 May 16, 2019

IP 43002, "Routine Inspections of Nuclear Vendors," dated April 5, 2022

IP 43004, "Inspection of Commercial-Grade Dedication Programs," dated April 5, 2022

3. DOCUMENTS REVIEWED

Policies and Procedures

Dresser BHJAX-NQP-003, "Quality Assurance Manual for Nuclear Valves, Valve Parts and Instruments," Revision 5.0, September 2, 2021

Quality Assurance Manual for Nuclear Valves, Valve Parts, and Instruments," 6th Issue - Revision 1, dated September 2, 2021

Nuclear Quality System Procedure (NQSP) No. 1.2, "Reporting Requirements Concerning Defects and Noncompliance 10 CFR Part 21," Revision 2.2, dated September 2, 2021

NQSP 3.0, "Preparation of ASME Section III Design Reports," Revision 2.0, dated July 27, 2021

NQSP 3.1, "Preparation of Nuclear Engineering Calculations," Revision 2.0, July 27, 2021

NQSP 3.2, "Design Verification Procedure," Revision 1.2, dated July 27, 2021

NQSP 3.5, "Nuclear Design Change Process," Revision 2.0, dated July 27, 2021

NQSP 3.6, "Control of Nuclear Engineering Computer Programs & Lifecycle Management," Revision 1.3, dated July 27, 2021

NQSP 3.7, "Fracture Toughness Criteria for Class 1, 2, & 3 Valves," Revision 1.1, dated July 27, 2021)

NQSP 3.9, "Preparation of Non-Code Design Analysis Reports," Revision 1.2, dated July 27, 2021

NQSP 3.13, "Preparation of Inspection and Test Plans," Revision 2.0, dated July 27, 2021

NQSP 5.0, "Nuclear Work Order Documentation," Revision 2.1, dated September 2, 2021

NQSP 8.0, "Material Identification Procedure-Traceable Material," Revision 3, dated July 27, 2021

NQSP 10.0, "Assembly Final Inspection," Revision 1.1, dated July 27, 2021

NQSP 10.1, "Nuclear Pre Assembly Inspection," Revision 2.0, dated July 27, 2021

NQSP 10.2, "Review of Radiographic Documentation," Revision 2.0, dated July 27, 2021

NQSP 14.0, "Certified Material Test Report and Material Reconciliation," Revision 2.1, dated September 2, 2021

NQSP 15.0, "Nonconformance Identification and Disposition Procedure," Revision 4.1, dated September 2, 2021

NQSP 16.0, "Containment and Corrective Action Procedure," Revision 3.2, dated March 15, 2022

NQSP No. 18.1, "Qualification and Certification of Inspection Personnel," Revision 1.1, dated April 12, 2021

NQSP 20.0, "Sampling Inspection Procedure," Revision 2.0, dated July 27, 2021

NQSP 22.0, "Commercial Grade Dedication," Revision 2.0, dated July 27, 2021

NQSP 22.2, "Procurement Controls of Commercial Grade Calibration Services," Revision 1.3, dated September 2, 2021

NQSP 23.0, "Providing Non-Code Assemblies as Basic Items," Revision 2.0, dated July 27, 2021

Dresser Consolidated Engineering Instructions PT024, "Functional Testing 1990, 3990, 1970 and 1975 Safety Relief Valves, Nuclear Grade Portable," Revision 8, dated May 8, 2008

Dresser Installation, Operation, and Maintenance Manual IOM-1136324, "33-37322, 10 in CL 150 Butterfly Valve with Actuator, Installation, Operation and Maintenance Manual," Revision A, dated March 23, 2022

Dresser QAF 3.2.0, "Valve/Actuator Sizing Calculation Checklist," Revision 1.0, August 3, 2017

GE Hydrostatic Testing Instruction 017, "Hydrostatic Shell Testing of Nuclear Pressure Relief Valves," Revision 18, dated April 12, 2013

GE Oil & Gas Engineering Guidelines 036, "Hydrostatic Testing of Pressure Relief Valves or Valve Parts," Revision 41, dated November 30, 2015

GEFT-QWI 7.2-001, BH TPS Quality Management System, Flow & Process Technologies / Valves Service Now / ask F&PT Work Instructions, Rev. 1.2

Design and Commercial-Grade Dedication Records

Purchase Order (PO) 00715458, "Valve, Globe, 600#, A216 Gr Body, Wcb Seat Ring, 3/4", Sch 80, Sw, Control Per Jaf Drawing 7.64-138 R4," dated January 20, 2020

Dedication package for PO 22243885, "Bushing 10K2.5 21K .75-2," dated May 21, 2020

Dedication package for PO 22250355, "Nut, Hex .375-16 UNC 2B," dated 24 May 2020

Dedication package for PO 22393071, "Gasket," dated November 9, 2020

PO 4501069852, "Valve, Butterfly 10" with actuator Masoneilan 33-37322 10" CL150," dated May 16, 2019

Dedication package for PO 22432625, "Diaphragm 140 SQ IN Actuator," dated December 9, 2020

Dedication package for PO 22315941, "Packing Box Gland," dated August 10, 2020

PO 03119316, "Valve, Relief, 4" Inlet X 6" Outlet, 300, Base and Bonnet," dated October 19, 2020

Dedication package for PO 31044017, "Cap Screw .75-10UNC-2 X .750," dated July 8, 2021

PO 00715458, "Model -20521, 3/4" 600# WCB SW Ends Valve S/A No Accessories or Actuator," dated January 20, 2020

Dedication package for PO 22243885, "Bushing," dated May 21, 2020

Dedication package for PO 31460257, "Exhaust Valve 77 Airset," dated April 28, 2022

Public Service Electric and Gas Valve Data Sheet, Salem Service Water – Containment Fan Coil Unit Service Water Control Valve SW58 and 72 Minitork-II (SW58 and 72)," Revision 0, dated October 17, 2019

Public Service Electric and Gas Company Specification No. S-C-1972-DSP-8074 (002), "Control Valves, Nuclear Class 1, 2 and 3 Valve Data Sheets," Revision 4, dated June 2, 1998

Dresser Seismic Analysis Report DR-MN20-002, "Model 10" MiniTork2 Model 33-37322 Valve," Revision D, dated March 11, 2022

Duke Energy Corporation ASME Section III, Class 2 and 3 Carbon & Stainless Steel Pressure Relief Valves Specification No. DPS-1205.10-00-0001, Revision 1 dated May 18, 2010

Duke Energy Corporation Catawba, McGuire, and Oconee Nuclear Stations and Keowee Hydro Station, Units: All, ECV-0601.00-00-0003, "Specification for Seismic Qualification of Valves for ASME Section III and Duke Energy Safety Class D (Oconee Only) and F Applications," Revision 2, dated December 5, 2011

Certificate of Conformance Part Number 720077331-999-J001, "MINITORK II, 33 10IN CL150 SIZE C ACT, SN JX-20-MN0006," dated March 24, 2022

Certificate of Conformance Part Number 720081191-999-J000, "Model-20521,3/4" 600# WCB SW Ends Valve, SN JX-20-MN0015," dated June 25, 2021

Certificate of Conformance Part Number 9981723, "1910-30L-1-S4-DA-31-RF-LA-HP-NC3445 Valve Section III, 2001 Edition, 2003 Addenda, Class 2 Heat-A14346, Lot-161636 SN: JX-20-CN0023," dated December 23, 2021

Certificate of Conformance Part Number 9921611, "19110LCO-1-CC-DA-31-MT-FT-LA-NC3384 JX-21-CN0009," dated December 16, 2021

ASME NPV-1 Certificate Holder's Data Report for Nuclear Pumps or Valves, "MINITORK II, 33 10IN CL150 SIZE C ACT, SN JX-20-MN0006, dated March 24, 2022

ASME Form NV-1 Certificate Holder's Data Report for Pressure or Vacuum Relief Valves, "Relief Valve 4" inlet x 6" outlet, ANSI Class 300," dated 12-23-2021

Certified Material Test Reports for Purchase Orders 4501069852, 00715458, 03119316, and 4000018684, various dates

Baker Hughes Design Report DR17-004, "1910-30L-1-S4-DA-31-RF-LA-HO-NC3445 ASME B&PV Section III-NC 2001 Edition 2003 Addenda 1900 Flanged Safety Relief Valve," Revision 0, November 28, 2018

Duke Energy AD-EG-ALL-1120, "Technical Requirements Document for NV Relief Valves 1 (2)NV223," (Verification of Specification CNR-1205.10-00-0008), Revision 1, April 6, 2017

Drawings

Dresser Drawing No. 720077331, "33-37322, 10 in CL-150 Butterfly Valve," Revision C, dated April 10, 2020

Dresser Drawing No. A9407, "Control Valve ¾" 20,000 series – ANSI Class 600 Sch 80 SOC. Weld Ends W/AH92 Elect. Actuator (Direct)," Revision A, March 30, 1990

Dresser Drawing No. 4NC3445, "Valve Type 1990 Valve Code: 4" 1910-30L-1-S4-DA-31-RF-LA-HP-NC3445," Revision E

Dresser Drawing No. 3NC3384, "Valve Code 19110LCO-1-CC-DA-31-MT-LA-NC3384," Revision C, dated October 29, 2010

American Society of Mechanical Engineers (ASME) and Welding Records

Calibration, Heat Treatment, Non-Destructive Examination, Inspection and Test Records

Pressure Transducer No. 06040805, 0-22,000 psi, calibrated on April 27, 2022, due May 11, 2022

Pressure Transducer No. 06021701, 0-2,000 psi, calibrated on April 27, 2022, due May 11, 2022

Pressure transmitter No. 0836582, 0-500 psi, calibrated on May 3, 2022, due May 17, 2022

Pressure Transmitter No. 0836583, 100-2,500 psi, calibrated on May 3, 2022, due May 17, 2022

Purchase Orders, Audit Report, and Commercial-Grade Surveys

Purchase Order 4501069852, "10-inch butterfly valve with actuator Class 150," dated May 19, 2019

Purchase Order 00715458, "Globe Valve, 600#, ¾ inch, WCB seat ring, schedule 80," dated January 20, 2020

Purchase Order 03119316, "Relief Valve 4" inlet x 6" outlet, ANSI Class 300," dated October 29, 2020

Purchase Order 4000018684, "Relief Valve ¾ x 1 inch, 150 psig," Version 1, dated January 22, 2021

Duke Energy Relief Valve Functional Test Purchase Order 03119801, Revision 3, dated December 1, 2020

Production Order: 31342922, "BONNET 19096-126M SW BARSTOCK," dated November 05, 2021

Production Order: 31307053, "RING MAGNET S/A (8005 & 8006 POS)," dated April 19, 2022

Production Order: 31457739, "CAP SCREW .375-16UNC-2 X .500," dated April 29, 2022

Nonconformance Reports

200164784, "CAP SCREW .375-16UNC-2 X .500," dated April 23, 2022

200165460, "1970C-2-S4-MS-33-05-05-NC3461," dated May 5, 2022

200164777, "POSITIONER SPAN ADJUSTER," dated April 22, 2022

200162029, "BONNET 19096-126M SW BARSTOCK," dated March 08, 2022

Corrective Action Reports

CAR 450, "Electro-Plating CGD, " dated Jan 23, 2018

CAR 451, "Add Least Rigid Axis to Drawing," dated Jan 25, 2018

CAR 452, "Add Part 21 to "Use As-Is" and "Repair" NRCs," dated Jan 25, 2018

CAR 453, "Add ILAC to QA Manual," dated Jan 26, 2018

CAR 454, "Add NCA-3000 to POs," dated Jan 26, 2018

CAR 455, "Update NQSP 16.0," dated Jan 26, 2018

CAR 456, "Update ASL to Indicate Commercial Suppliers," dated Jan 26, 2018

CAR 457, "Weld Oven out of Compliance," dated Jan 26, 2018

CAR 808, "Valve Screw Separated from Baffle," dated May 14, 2020

CAR 810, "Pins Machined Incorrectly," dated Jun 9, 2020

CAR 825, "Nuclear QA Manual," dated May 1, 2020

CAR 881, "Drawing Needs Updating," dated Mar 5, 2021

CAR 905, "Parts Made from Wrong Material," dated Jun 15, 2021
CAR 982, "Training to Document All Production Steps," dated Aug 19, 2021
CAR 1010, "Valve Parts Not Visually Inspected," dated Dec 15, 2021
CAR 1016, "Inadequate Receipt Inspection," dated Jan 25, 2022
CAR 1019, "Control of Monitoring and Measuring Equipment," dated Feb 24, 2022
CAR 1023, "Part with Unverified Dimensions," dated Jan 27, 2022
CAR 1028, "Dresser Software Validation Out of Date," dated Jan 27, 2022

Corrective Action Reports During this Inspection

CAR 1039, "Commercial Consolidated Performance Testing Procedures have requirement from PTC-25 incorporated," dated May 10, 2022
CAR 1040, "Legacy CGD Signature Date Mismatch," dated May 11, 2022
CAR 1041, "ISO 17025 Template Requiring 10 CFR 50 Appendix B and 10 CFR Part 20 not Required on Deduction on Calibration and Material Testing Service," dated May 12, 2022
CAR 1042, "SCAQs not fully integrated into the corrective action program," dated May 12, 2022

Test Records

Baker Hughes Dimensional Inspection Report, "10-inch Butterfly Valve with Actuator Class 150," dated March 22, 2022

Baker Hughes Dimensional Inspection Report, "Relief Valve 4" inlet x 6" Outlet, ANSI Class 300," dated December 22, 2021

Baker Hughes Dimension Inspection Report, "Relief Valve ¾ x 1 inch, 150 psig," dated November 22, 2021

Baker Hughes Functional Test Report, "Valve 1970C-2-S4-MS-31-05-05-NC3459," dated May 10, 2022

Baker Hughes Functional Test Report, "Relief Valve 4" inlet x 6" Outlet, ANSI Class 300," dated December 23, 2021

Baker Hughes Functional Test Report, "Relief Valve ¾ x 1 inch, 150 psig," dated November 22, 2021

Baker Hughes Hydrostatic Test Report, "Base 19096M/MS-2 1' MNPT," dated May 10, 2022

Baker Hughes Hydrostatic Test Report, "10-inch Butterfly Valve with Actuator Class 150," dated March 21, 2022

Baker Hughes Hydrostatic Test Report, "Globe Valve, 600#, ¾ inch, WCB Seat Ring, schedule 80," dated June 21, 2021

Baker Hughes Hydrostatic Test Report, "Relief Valve 4" inlet x 6" Outlet, ANSI Class 300," dated June 18, July 20, July 30, August 16, and August 17, 2021

Baker Hughes Liquid Penetrant Inspection Report, "Relief Valve 4" Inlet x 6" Outlet, ANSI Class 300," dated October 23, 2021

Baser Hughes Minimum Wall Inspection Report, "Relief Valve 4" Inlet x 6" Outlet, ANSI Class 300," dated August 17, 2021

Dresser Valve Test Record 1136324, "10-inch Butterfly Valve with Actuator Class 150," dated March 22, 2022

Production Order Operation List Production Order 31140865 Part Number 90171001

Production Order Operation List Production Order 31186758 Part Number 6001101N

Training Records

Dresser staff's nuclear hydrostatic testing qualification

Dresser staff's nuclear safety valve functional testing qualification

Dresser staff's Nuclear Training records

JAX NCR Engineering Training PowerPoint Slides, dated September 10, 2021

Compliance Refresher PowerPoint Slides, dated December 15, 2021

Quality at Dresser LLC PowerPoint Slides, dated December 15, 2021

Training Attendance Record, Training Topic: BHJAX-QP-QCP003 Rev 2.0 Sec 6.2 Materials, 6.2.3 and 6.2.4, dated February 23, 2022

Training Attendance Record, Safety Topic: Parking Lot Safety/Training Topic: Receiving Inspection Review, dated November 24, 2021

Training Attendance Record, Safety Topic: Tool Safety/Training Topic: QC005 PMI Updated Review, dated September 08, 2021

Training Attendance Record, Safety Topic: Crane Safety/Training Topic: QSWI 3020 Rev B Review, dated February 23, 2022

Training Attendance Record, Safety Topic: COVID Testing/Training Topic: NUPIC Audit Findings 1017, February 2, 2022

Training Attendance Record, Safety Topic: Fork Truck Operation/Training Topic: MT Training, dated March 23, 2022

Training Attendance Record, Safety Topic: Safety and Security Policy Review/Training Topic: XRF Explained, dated March 30, 2022

Training Attendance Record, Safety Topic: PPE/Training Topic: NUPIC Audit Finding Review- QSWI3021 Review, dated April 27, 2022

Training Attendance Record, Hardness Testing Recordable Injury – Contact with Chemicals dated September 29, 2020

Training Attendance Record, Safety Topic: Use of Hand-Held Emory Cloth on Lathe Machines/Training Topic: BHJAX-QF-QC014 Visual INSP Report, Duties of the Ombudsman, dated August 25, 2021

Training Attendance Record, Service Now Work Instructions Revision (GEFPT-QWI 7.2-001, Rev. 1.2) dated September 9, 2021

Training Attendance Record, GEFPT-QWI 7.2-0001, Rev. 1.2) dated September 12, 2021

Training Attendance Record, NCR Training dated September 9, 2021

Training Attendance Record, NCR Training dated October 7, 2021

Training Attendance Record, Compliance Refresher dated December 15, 2021

Training Attendance Record, Quality Training dated October 21, 2021

Microsoft Teams Meeting Appointment on August 26, 2021, “Respect in the Workplace Training”

Miscellaneous

WI Update Tracker _ QC Team