



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

March 8, 2023

William Meehan, Quality Assurance Manager  
Curtis-Wright – EMS - Target Rock  
1966E Broadhollow Road  
Farmingdale, NY 11735

SUBJECT: NUCLEAR REGULATORY COMMISSION VENDOR INSPECTION REPORT OF  
CURTIS-WRIGHT – EMS - TARGET ROCK NO. 99900060/2023-201, NOTICE  
OF NONCONFORMANCE

Dear Mr. Meehan:

On January 23 – 27, 2023, the U.S. Nuclear Regulatory Commission (NRC) staff conducted an inspection at Curtis-Wright – EMS – Target Rock (hereafter referred to as Target Rock) facilities in East Farmingdale, NY. The purpose of this limited-scope inspection was to assess Target Rock's compliance with 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."

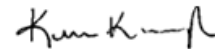
This technical focused inspection specifically evaluated Target Rock's implementation of the quality activities associated with the design, manufacture, and testing of safety-related valves and components for U.S. nuclear power plants. The enclosed report presents the results of the inspection. This NRC inspection report does not constitute NRC endorsement of Target Rock's overall quality assurance (QA) or 10 CFR Part 21 program.

Based on the results of this inspection, the NRC inspection team determined that the implementation of your QA program did not meet certain regulatory requirements imposed on you by your customers or NRC licensees. Specifically, the NRC inspection team determined that Target Rock was not fully implementing its QA program in the area of Criterion XVI, "Corrective Action," of Appendix B to 10 CFR Part 50. The specific findings and references to the pertinent requirements are identified in the enclosures to this letter. In response to the enclosed notice of nonconformance, Target Rock should document the results of the extent of condition review for these findings and determine if there are any effects on safety-related components. Please provide a written statement or explanation within 30 days of this letter in accordance with the instructions specified in the enclosed NON. We will consider extending the response time if you show good cause for us to do so.

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, its enclosure, and your response through the NRC 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>. To the extent possible, your response, should not include any personal privacy, proprietary, or Safeguards Information (SGI) 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, 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 be 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 would 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 SGI 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,



Signed by Kavanagh, Kerri  
on 03/08/23

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

Docket No.: 99900060

EPID No.: I-2023-201-0002

Enclosures:

1. Notice of Nonconformance
2. Inspection Report No. 99900060/2023-201  
and Attachment

SUBJECT: NUCLEAR REGULATORY COMMISSION VENDOR INSPECTION REPORT OF  
CURTIS-WRIGHT – EMS - TARGET ROCK NO. 99900060/2023-201, NOTICE  
OF NONCONFORMANCE Dated: March 8, 2023

DISTRIBUTION:

ASakadales  
BHughes  
RFelts  
AArmstrong  
OAYegbusi  
FVega  
VVoltaggio  
NHansing  
bmeehan@curtisswright.com

**ADAMS Accession No.: ML23062A501****NRR-106**

<b>OFFICE</b>	NRR/DRO/IQVB	NRR/DRO/IQVB	NRR/DRO/IQVB	NRR/DRO/IQVB
<b>NAME</b>	DZhang	AArmstrong	FVega	OAYegbusi
<b>DATE</b>	3/6/2023	3/7/2023	3/6/2023	3/8/2023
<b>OFFICE</b>	NRR/DRO/IQVB	NRR/DEX/EMIB	NRR/DRO/IRAB	NRR/DRO/IQVB
<b>NAME</b>	VVoltaggio	NHansing	BHughes	KKavanagh
<b>DATE</b>	3/7/2023	3/8/2023	3/8/2023	3/8/2023

**OFFICIAL RECORD COPY**

## NOTICE OF NONCONFORMANCE

Target Rock  
1966 Broadhollow Rd,  
Farmingdale, NY 11735

Docket No. 99900060  
Report No. 2023-201

Based on the results of a U.S. Nuclear Regulatory Commission (NRC) inspection conducted at the Target Rock facility in Farmingdale, NY from January 23, 2023, through January 27, 2023, Target Rock did not conduct certain activities in accordance with NRC requirements that were contractually imposed on Target Rock by its customers or NRC licensees:

- A. 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," states, in part that "Measures shall be established to assure that conditions adverse to quality such as failures, malfunctions, deficiencies, deviations, defective material and equipment, and nonconformances are promptly identified and corrected. In the case of significant conditions adverse to quality, the measures shall assure that the cause of the condition is determined, and corrective action taken to preclude repetition."

Section 1.0 of Target Rock's Quality Management Procedure (QMP) No. 1014, "Corrective and Preventive Action," Revision L, dated March 29, 2022, states that this procedure is used "to establish a system for controlling corrective and preventive actions, to describe the system used to identify and correct significant conditions adverse to the quality of items, services and activities." Section 4.12 of QMP No. 1014 defines "Significant Condition Adverse to Quality" as "A condition adverse to quality that if left uncorrected, could have serious effect on safety... The [Corrective Action Report (CAR)] shall be assigned a CAR Severity Level A1 or A2." Section 5.2.2.8 of QMP No. 1014 states that the "Quality Assurance Manager is required to verify corrective action has been implemented at the committed effectivity point, and to assure all implemented corrective action is effective in solving the root cause of the reported discrepancy."

Section 18.5.1.2 of QMP No. 1023, "Energy Products Nuclear Quality Assurance Manual," Revision 0, dated December 9, 2022, states, in part, that "the audit frequency established in the internal audit schedule shall be such that the entire program is audited at least once annually." QMP No. 1023 defines "annual" as a period not to exceed 12 months.

Section 5.1.2.3 of Target Rock's QMP No. 1017, "Quality Audits," Revision J, dated December 7, 2021 (Redline), states in part, that "at a minimum, one internal procedural audit per year shall be performed on each QMP listed in the index to QMP1001." Section 5.2.4.5 of QMP No. 1017 states in part, that "The Audit Report shall be approved by the Lead Auditor and the Manger, Supplier Quality and Audits and distributed to management of both the audited and auditing organizations, and other affected organizations, within 30 days of the post-audit conference."

Contrary to the above, as of January 27, 2023, Target Rock failed to assure that conditions adverse to quality such as failures, malfunctions, deficiencies, deviations, defective material and equipment, and nonconformances are promptly identified and corrected. Specifically, Target Rock closed corrective action report (CAR) No. 21-212 and No. 22-235 without adequately implementing the corrective actions to assure that conditions adverse to quality are promptly identified and corrected.

1. Target Rock initiated CAR No. 22-235 in November 2022 to address its failure to conduct internal audits for 2022 as required by Section 5.1.2.3 of QMP No. 1017. CAR No. 22-335 identified this issue as A2 and thus considered a significant condition adverse to quality. CAR No. 22-335 stated that the immediate corrective action was to revise the 2022 internal audit schedule. The CAR was closed with a verification plan to review the revised 2022 internal audit schedule and develop a strategy regarding whether additional resources are needed to complete the remaining 2022 audit sections. However, as of January 27, 2023, Target Rock did not perform any of the internal audits for 2022 in accordance with the revised internal audit schedule or identified additional resource requirements to complete the audits.
2. Target Rock initiated CAR No. 21-212 in June of 2021 to address its failure to complete audit reports within 30 days of the Post-Audit Conference as required by QMP No. 1017 for Internal Audit Numbers 18-01, 19-01, 19-06, and 20-24. CAR No. 21-212 identified this issue as A2 and thus considered a significant condition adverse to quality. The root cause was attributed to the internal audit schedule not containing any formal way to identify the closeout date. The corrective and preventive action identified in CAR 21-212 was to add a status column to the internal audit schedule to indicate when the Post-Audit Conference was held. This corrective and preventive action failed to prevent reoccurrence of cases where audit reports are issued more than 30 days from the Post-Audit Conference.

This issue has been identified as Nonconformance 99900060/2023-201-01.

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, Quality Assurance and Vendor Inspection Branch, Division of Reactor Oversight, Office of Nuclear Reactor Regulation, 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 further noncompliance; and (4) the date when the corrective action will be completed. Where good cause is shown, the NRC will consider extending the response time.

In accordance with the requirements of 10 CFR 2.390, "Public inspections, exemptions, requests for withholding," of the NRC's "Rule of Practice," your response will be made available electronically for public inspection in the NRC Public Document Room or from the NRC's document system (ADAMS), 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 8th day of March 2023.

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

Docket No.: 99900060

Report No.: 99900060/2023-201

Vendor: Curtis-Wright – EMS - Target Rock (Target Rock)  
William Meehan  
Phone: 631-396-4558  
Email: [bmeehan@curtisswright.com](mailto:bmeehan@curtisswright.com)

Nuclear Industry Activity: Target Rock supplies safety-related valves and components and related services to the commercial nuclear industry.

Inspection Dates: January 23 – 27, 2023

Vendor Location: 1966E Broadhollow Road  
Farmingdale, NY 11735

Inspection Team Leader: Deanna Zhang      NRR/DRO/IQVB

Inspectors: Frankie Vega      NRR/DRO/IQVB  
Odunayo Ayegbusi      NRR/DRO/IQVB  
Aaron Armstrong      NRR/DRO/IQVB  
Vince Voltaggio      NRR/DRO/IQVB  
Nicholas Hansing      NRR/DEX/EMIB

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

## **EXECUTIVE SUMMARY**

Curtis-Wright – EMS - Target Rock  
99900060/2023-201

The U.S. Nuclear Regulatory Commission (NRC) staff conducted a routine vendor inspection at the Curtis-Wright – EMS - Target Rock (hereafter referred to as Target Rock) facility in East Farmingdale, NY, to verify it had implemented an adequate quality assurance (QA) program that complies with the requirements of Appendix B, “Quality Assurance Criteria for Nuclear Power Plants and Fuel Reprocessing Plants,” to Title 10 of the *Code of Federal Regulations* (10 CFR) Part 50, “Domestic Licensing of Production and Utilization Facilities,” and 10 CFR Part 21, “Reporting of Defects and Noncompliance.” The NRC inspection team conducted this inspection on-site from January 23 – 27, 2023.

This technically-focused inspection specifically evaluated Target Rock’s implementation of the quality activities associated with the design, fabrication, and testing of safety-related valves and components being supplied to U.S. nuclear power plants.

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

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

During this inspection, the NRC inspection team implemented Inspection Procedure (IP) 43002, “Routine Inspections of Nuclear Vendors,” dated 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 of Defects and Noncompliance,” dated May 16, 2019.

The NRC inspection team observed the following specific activities:

- Testing of Solenoid Valve
- Liquid Penetration Testing and Acceptance
- Welding
- Quality Control Inspection

The results of this inspection are summarized below.

### **Nonconforming Materials, Parts, or Components and Corrective Action**

The NRC inspection team reviewed Target Rock’s policies and implementing procedures that govern the implementation of its nonconforming materials, parts, or components and corrective action programs 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 the procedures contained sufficient guidance for evaluating nonconforming conditions, ensuring that conditions are evaluated for possible corrective action and checking for 10 CFR Part 21 applicability. The NRC inspection team reviewed a sample of nonconformance reports (NCRs) and corrective action reports (CARs) to verify compliance with regulatory requirements and adherence to Target Rock’s procedures.



In addition, the NRC inspection team reviewed the implementation and closure of the corrective actions opened to address the Notice of Nonconformances (NONs) documented in the NRC's inspection reports (IR) 99900060/2017-202 dated April 24, 2017 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML17104A205) and IR No. 99900060/2018-201 dated July 2, 2018 (ADAMS Accession No. ML18183A384). Based on the review of the corrective actions, the NRC inspection team closed NON 99900060/2017-202-01, NON 99900060/2018-201-01 and NON 99900060/2018-201-02.

The NRC inspection team issued Nonconformance 99900060/2023-201-01 in association with Target Rock's failure to implement the regulatory requirements of Criterion XVI of Appendix B to 10 CFR Part 50. Nonconformance 99900060/2023-201-01 cites Target Rock's for failing to assure that conditions adverse to quality such as failures, malfunctions, deficiencies, deviations, defective material and equipment, and nonconformances are promptly identified and corrected. Specifically, Target Rock closed CAR 21-212 and CAR 22-235 without adequately implementing the corrective actions to assure that conditions adverse are promptly identified and corrected.

### Internal Audits

The NRC inspection team reviewed Target Rock's policies and implementing procedures that govern the control of nonconformances to verify compliance with the requirements of Criterion XVIII, "Audits" of Appendix B to 10 CFR Part 50. The NRC inspection team reviewed Target Rock's internal audit plans, internal audit reports and CARs generated during internal audits when applicable. The NRC inspection team verified that Target Rock adequately planned and performed an internal audit for the year 2021. The NRC inspection team observed that as of January 27, 2023, Target Rock had not completed internal audits for the calendar year 2022. As discussed above, the NRC inspection team found that while Target Rock had identified this issue in CAR No. 22-235; the CAR was closed before adequately correcting the issue. The NRC inspection team finds the issue of failing to complete internal audits by the required periodicity specified in Target Rock procedures to be minor because this issue did not yield any negative impacts to safety-related SSCs. No findings of significance were identified.

The NRC inspection team determined that Target Rock is implementing its design control, commercial-grade dedication, procurement document control and supplier oversight, identification and control of material, parts and components, control of special processes, test control, control of measuring and test equipment, in accordance with applicable regulatory requirements of Appendix B to 10 CFR Part 50. In addition, the NRC inspection team determined that Target Rock is implementing its 10 CFR Part 21 program for evaluating deviations and reporting defects that could create a substantial safety hazard in accordance with regulatory requirements. 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 Target Rock's 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 Target Rock'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 Target Rock's nonconformance and corrective action procedures provide a link to the 10 CFR Part 21 program.

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

The NRC inspection team also discussed the design control program with Target Rock'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 Target Rock was implementing its 10 CFR Part 21 program in accordance with the regulatory requirements of 10 CFR Part 21. Based on the limited sample of documents reviewed, the NRC inspection team also determined that Target Rock was adequately implementing its policies and procedures associated with the 10 CFR Part 21 program. No findings of significance were identified.

### 2. Nonconforming Materials, Parts, or Components and Corrective Action

#### a. Inspection Scope

The NRC inspection team reviewed Target Rocks policies and implementing procedures that govern the control of nonconformances and corrective actions to verify compliance with the requirements of Criterion XV, "Nonconforming Materials, Parts, or Components," and Criterion XVI, "Corrective Action," of , "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 verified that Target Rock'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 Target Rock’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 Target Rock dispositioned the nonconforming materials in accordance with the applicable procedures, documented an appropriate technical justification for various dispositions, and took adequate corrective action regarding the nonconforming items to prevent recurrence, as appropriate. In addition, the NRC inspection team confirmed that the nonconformance process provides a link to the 10 CFR Part 21 program.

The NRC inspection team also reviewed a sample of corrective action reports (CARs) to verify: (1) adequate documentation and description of conditions adverse to quality; (2) an appropriate analysis of the cause of these conditions and the corrective actions taken to prevent recurrence; (3) direction for review and approval by the responsible authority; (4) a description of the current status of the correction actions; and (5) the actions taken to verify timely and effective implementation of the corrective actions. In addition, the NRC inspection team confirmed that the corrective action process provides a link to the 10 CFR Part 21 program.

The NRC inspection team also reviewed Target Rock’s corrective actions in response to the inspection findings identified in NRC Inspection Report (IR) No. 99900060/2017-202 dated April 24, 2017 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML17104A205) and IR No. 99900060/2018-201 dated July 2, 2018 (ADAMS Accession No. ML18183A384).

Additionally, the NRC inspection team discussed the nonconformance and corrective action program with Target Rock’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

During the review of a sample of CARs, the NRC inspection team observed multiple instances in which Target Rock failed to assure that conditions adverse to quality such as failures, malfunctions, deficiencies, deviations, defective material and equipment, and nonconformances are promptly identified and corrected. Specifically, Target Rock closed CAR No. 21-212 and No. 22-235 without adequately implementing the corrective actions to assure that conditions adverse to quality are promptly identified and corrected.

Target Rock initiated CAR No. 22-235 in November 2022 to address its failure to conduct internal audits for 2022 as required by Section 5.1.2.3 of QMP No. 1017. CAR No. 22-335 identified this issue as A2 and thus considered a significant condition adverse to quality. CAR No. 22-335 stated that the immediate corrective action was to revise the 2022 internal audit schedule. The CAR was closed with a verification plan to review the revised 2022 internal audit schedule and develop a strategy regarding whether additional resources are needed to complete the remaining 2022 audit sections. However, as of January 27, 2023, Target Rock

did not perform any of the internal audits for 2022 in accordance with the revised internal audit schedule or identified additional resource requirements to complete the audits.

Target Rock initiated CAR No. 21-212 in June of 2021 to address its failure to complete audits reports within 30 days of the Post-Audit Conference as required by QMP No. 1017 for Internal Audit Numbers 18-01, 19-01, 19-06, and 20-24. CAR No. 21-212 identified this issue as A2 and thus considered a significant condition adverse to quality. The root cause was attributed to the internal audit schedule not containing any formal way to identify the closeout date. The corrective and preventive action identified in CAR 21-212 was to add a status column to the internal audit schedule to indicate when the Post-Audit Conference was held. This corrective and preventive action failed to prevent reoccurrence of cases where audit reports are issued more than 30 days from the Post-Audit Conference.

The NRC inspection team identified issued Notice of Nonconformance (NON) 99900060/2023-201-01 for Target Rock's failure to promptly identify and correct a condition adverse to quality. Target Rock initiated CAR No. 23-012 to address this issue.

b1. Corrective Action Associated with NON 99900060/2017-201-01

Following the April 2017 inspection at Target Rock, the NRC issued NON 99900060/2017-202-01 for Target Rock's failure to implement the appropriate measures associated with the dedication of items and services procured from several commercial suppliers. Specifically, Target Rock failed to conduct commercial-grade surveys or use another verification method to verify the critical characteristics (CC), that, when verified, provide reasonable assurance that items and services will perform their intended safety function.

In its response to the NON 99900060/2017-202-01, dated May 22, 2017, Target Rock initiated CAR No. 17-39. In its response, Target Rock committed to review all their Method 2 critical characteristics attribute verification (CCAV) sheets to ensure each CC is related to the safety function of the item, is aligned with a specific attribute(s) requiring verification, and clearly identifies the method for verification. In addition, Target Rock committed to revise the commercial grade survey (CGS) plans to include checklists based on the revised Method 2 characteristics verification methods identified on the CCAV sheets.

The NRC inspection team reviewed the documentation that provided the objective evidence for the completion of the corrective actions, including a review of CAR No. 17-39. The NRC inspection team confirmed that Target Rock has updated their CCAV sheets, as committed to by Target Rock in CAR No. 17-39. CCAV sheets are used to ensure that the correct CCs are properly identified, and the method of verification is identified when conducting CGSs. In addition, the NRC inspection team verified a sample of recently completed CCAVs and confirmed that these CCAVs have been modified to identify and align the CCs with the attribute requiring verification. Therefore, these actions provide reasonable assurance that CCs are properly identified and verified when conducting CGSs.

The NRC inspection team determined that Target Rock's corrective actions were adequately implemented to address NON 99900060/2017-202-01.

b2. Corrective Action Associated with NON 99900060/2018-202-01

Following the July 2018 inspection at Target Rock, the NRC issued NON 99900060/2018-201-01 for Target Rock's failure to translate the applicable design basis requirements as

specified in NuScale's task order (TO) for the emergency core cooling system (ECCS) valves into their specifications, drawings, procedures and instructions. In addition, Target Rock failed to provide objective evidence to NuScale ensuring the selection and review for suitability of application of materials, parts, equipment, and processes that are essential to the safety-related functions of the SSCs were met. Specifically, Target Rock failed to translate certificate of conformance (CoC) requirements from NuScale's TO No. 11, SW-1114-9480 into applicable specifications, drawings, procedures and instructions. In addition, Target Rock failed to submit eight CoC requirements for the ECCS valve proof of concept (POC) testing services to NuScale.

In its response to NON 99900060/2018-201-01, dated July 31, 2018, Target Rock initiated CAR No. 18-117. In CAR No. 18-117, Target Rock committed to revised QMP No. 1004, "Design Control," to incorporate a new automated document submittal and tracking system in Target Rock's enterprise resource planning system. This action requires the contracts department to track the submittal status of the CoC and will prevent close out of the project until all outstanding contract document submittals, including CoC, are provided to the customer.

The NRC inspection team reviewed the documentation that provided the objective evidence for the completion of the corrective actions, including a review of CAR No. 18-117. The NRC inspection team confirmed that QMP No. 1004 has been updated to include provisions to identify whether a CoC is required for the customer PO. In addition, the NRC inspection team reviewed the objective evidence that confirmed that the eight CoC requirements referenced in the NON were issued per the PO requirement. The NRC inspection team also reviewed a recent CoC issued to NuScale and confirmed that the CoC was issued per PO requirements.

The NRC inspection team determined that Target Rock's corrective actions were adequately implemented to address NON 99900060/2018-201-01. No findings of significance were identified.

### b3. Corrective Action Associated with NON 99900060/2018-201-02

Following the July 2018 inspection at Target Rock, the NRC issued NON 99900060/2018-201-02 for Target Rock's failure to establish measures to assure that measuring and test instrumentation used during the safety-related ECCS valve proof of concept (POC) testing activities affecting quality were adequately controlled, calibrated, and adjusted at specified periods to maintain accuracy within necessary limits. Specifically, Target Rock failed to control traceability and the calibration status of a linear variable differential transformer, pressure transducers and micrometer, under their calibration program.

In its response to NON 99900060/2018-201-02, dated July 31, 2018, Target Rock initiated CAR No. 18-118. Target Rock committed to update several procedures to address the issues identified by the inspection team in the NON.

The NRC inspection team reviewed the documentation that provided the objective evidence for the completion of the corrective actions, including a review of CAR No. 18-118. The NRC inspection team confirmed that QMP No. 1004, QMP No. 1011 "Control of Measuring, Inspection and Test Equipment," and A&T No. 001 "Organization and Operation of the Assembly and Test Department," were updated to adequately control the traceability and the calibration status, of the measuring and test equipment (M&TE) referenced above, under

Target Rock's calibration and quality assurance (QA) programs.

The NRC inspection team determined that Target Rock's corrective actions were adequately implemented to address NON 99900060/2018-201-02.

c. Conclusion

The NRC inspection team concluded that Target Rock is implementing its procedures that govern control of nonconforming parts, materials, or components in accordance with the regulatory requirements of Criterion XV of Appendix B to 10 CFR Part 50.

The NRC inspection team issued NON 99900060/2023-201-01 in association with Target Rock's failure to implement the regulatory requirements of Criterion XVI of Appendix B to 10 CFR Part 50. NON 99900060/2023-201-01 cites Target Rock's for failing to assure that conditions adverse to quality such as failures, malfunctions, deficiencies, deviations, defective material and equipment, and nonconformances are promptly identified and corrected. Specifically, Target Rock closed CAR 21-212 and CAR 22-235 without adequately implementing the corrective actions to assure that conditions adverse are promptly identified and corrected. Target Rock initiated CAR No. 23-012 to address this issue.

The NRC inspection team closed NON 99900060/2017-202-01 because Target Rock revised CCAVs to identify and align the CCs with the attribute requiring verification. The NRC inspection team closed NON 99900060/2018-201-01 because Target Rock revised procedures to include provisions to identify whether a CoC is required for the customer PO. The NRC inspection team closed NON 99900060/2018-201-02 because Target Rock revised procedures to include provisions for controlling the traceability and the calibration status.

3. Internal Audits

a. Inspection Scope

The NRC inspection team reviewed Target Rock's policies and implementing procedures that govern the control of nonconformances to verify compliance with the requirements of Criterion XVIII, "Audits" of Appendix B to 10 CFR Part 50. The NRC inspection team reviewed Target Rock's internal audit plans, internal audit reports and CARs generated during internal audits when applicable. The NRC inspection team verified that the audit documents reviewed were adequately completed and that Target Rock adequately corrected CARs generated during internal audits. The NRC inspection team verified that Target Rock's procedures described the scope and purpose of audits to be performed, the frequency, audit criteria, and corrective actions when required. The NRC inspection team verified that the audit teams were selected using qualified auditors and that they were not auditing their own work. The NRC inspection team verified from review of a sample of audits that they were performed using checklists.

The NRC inspection team discussed the internal audits program with Target Rock'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 verified that Target Rock adequately planned and performed an internal audit for the year 2021. The NRC inspection team observed that as of January 27, 2023, Target Rock had not completed internal audits for the calendar year 2022. The NRC inspection team found that Target Rock had identified this issue in CAR No. 22-235; however, the CAR was closed before adequately correcting the issue. The NRC inspection team documented the issues related to corrective actions in Section 2.b of this inspection report. Target Rock initiated CAR No. 23-012 to address this issue and committed to complete the 2022 internal audits by the end of the first quarter of 2023 in the CAR. The NRC inspection team finds the issue of failing to complete internal audits by the required periodicity specified in Target Rock procedures to be minor because this issue did not yield any negative impacts to safety-related SSCs. No findings of significance were identified.

c. Conclusion

With the exception of the minor issues identified above, the NRC inspection team concluded that Target Rock is implementing its procedures that govern audits in accordance with the regulatory requirements of Criterion XVIII of Appendix B to 10 CFR Part 50. Based on the limited sample of documents reviewed, the NRC inspection team determined that Target Rock is adequately implementing its policies and procedures associated with the internal audit program. No findings of significance were identified.

4. Design Control

a. Inspection Scope

The NRC inspection team reviewed Target Rock'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 to 10 CFR Part 50. The NRC inspection team selected a sample of valves provided to U.S. nuclear power plants and reviewed relevant POs, design reports, customer specifications, drawings, test procedures, and engineering change notices for the sampled valves. The NRC inspection team verified that these documents contained the required technical information in accordance with Target Rock's procedures and the applicable American Society of Mechanical Engineers (ASME) Boiler and Pressure Vessel (BPV) Code requirements.

The NRC inspection team reviewed a design package for a solenoid operated globe valve, ensuring that the documents included the correct technical and regulatory requirements per the customer specifications, Target Rock's procedures, and the applicable ASME BPV Code requirements. The NRC inspection team reviewed a design change package to incorporate a bolted bonnet into an existing valve design and verified that the design change received a level of review commensurate with that applied to the original design by a qualified design engineer. The NRC inspection team verified that Target Rock's design control process effectively translated the request into the affected Target Rock documentation.

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

5. Commercial-Grade Dedication

a. Inspection Scope

The NRC inspection team reviewed Target Rock'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 Target Rock's program for the dedication of commercial-grade items for use in safety-related applications to verify its compliance with the applicable regulatory requirements. This assessment included a review of the policies and procedures governing the implementation CGD activities, interviews with Target Rock's personnel, observation of dedication activities, and review of related documentation. Specifically, the NRC inspection team reviewed dedication packages to assess the different elements of the CGD program, including the technical evaluation process, design drawings, work package instructions, and inspection reports. The NRC inspection team evaluated 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 to verify effective implementation of Target Rock's CGD process.

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



## 6. Procurement Document Control and Oversight of Contracted Activities

### a. Inspection Scope

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

The NRC inspection team reviewed Target Rock's approved vendor list (AVL), and a sample of POs, supplier audits, job travelers, and receipt inspection records. For the sample of POs reviewed, the NRC inspection team verified that the POs included, as appropriate: scope of work, right of access to the suppliers' facilities, and conditions and restrictions imposed to sub-suppliers. The NRC inspection team confirmed that the POs adequately invoked the applicable technical, regulatory, and quality requirements have been adequately incorporated into these POs. In addition, the NRC inspection team verified that for the sample of receipt inspection records reviewed (e.g., receipt inspection reports, Certificates of Compliance, and Certificate of Calibration), these records were (1) reviewed by Target Rock for compliance with the requirements of the POs, (2) the records were approved by qualified individuals, and (3) the records contained the applicable technical and regulatory information. The NRC inspection team performed a walkdown of the receipt inspection area and observed Target Rock's Quality Control personnel performing receipt inspections of procured safety-related components.

The NRC inspection team selected a sample of suppliers from the AVL to review the methodology for conducting and documenting audits to verify adequate evaluation of the suppliers' controls for meeting the applicable requirements of Appendix B to 10 CFR Part 50. For the sample of supplier audits reviewed, the NRC inspection team verified the following: the audit reports included an audit plan; audits were performed according to established frequency; audit reports included adequate documented objective evidence of compliance with the applicable requirements; and audit documentation was reviewed by Target Rock's responsible management. The NRC inspection team also verified that audits performed by the Nuclear Industry Assessment Committee were evaluated by Target Rock in accordance with its written procedures for applicability to its scope of activities.

The NRC inspection team discussed the procurement document control and supplier oversight program with Target Rock'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 Target Rock is implementing its supplier oversight program in accordance with the regulatory requirements of Criterion IV and Criterion VII of Appendix B to 10 CFR Part 50. Based on the limited sample of documents reviewed, the

NRC inspection team determined that Target Rock is adequately implementing its policies and procedures associated with the supplier oversight program. No findings of significance were identified.

7. Identification and Control of Materials, Parts, and Components

a. Inspection Scope

The NRC inspection team reviewed Target Rock's policies and implementing procedures that govern the implementation of its material identification and 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 also observed implementation of the material identification and control program by Target Rock's employees during in-process fabrication activities including receipt inspection, special testing, storage and inventory control, and machining. The NRC inspection team verified that all materials inspected were adequately marked with appropriate lot, batch and/or heat numbers using the markings and labeling conventions in accordance with written procedures and instructions.

The NRC inspection team discussed the material identification and control program with Target Rock'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 Target Rock is implementing its material identification and control 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 and direct observation of material control practices in the manufacturing facility, the NRC inspection team also determined that Target Rock is adequately implementing its policies and procedures associated with the material identification and control program. No findings of significance were identified.

8. Control of Special Processes

a. Inspection Scope

The NRC inspection team reviewed Target Rock's policies and implementing procedures that govern the implementation of its control of special processes program to verify compliance with the regulatory requirements of Criterion IX, "Control of Special Processes," of Appendix B to 10 CFR Part 50 and with the requirements of the ASME BPV Code.

The NRC inspection team reviewed the processes for controlling weld filler metal and cleanliness of valve components to applicable procedures and technical specifications. The NRC inspection team observed welding activities (the application of Stellite hardfacing to several valve components) and verified that the welding activities were performed in

accordance with Target Rock procedures. The NRC inspection team verified that applicable welding data, such as the weld material and heat/lot number were recorded in accordance with the applicable Target Rock procedures. The NRC inspection team also reviewed the associated welder qualification records and confirmed that the welders had completed the required training and had maintained their qualifications in accordance with the applicable Target Rock procedures.

The NRC inspection team discussed the control of special processes program with Target Rock'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 Target Rock 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 activities observed, the NRC inspection team determined that Target Rock is implementing its policies and procedures associated with the control of special processes. No findings of significance were identified.

9. Test Control

a. Inspection Scope

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

The NRC inspection team witnessed liquid penetrant testing (PT) of a weld prep for several valve components that would receive Stellite hardfacing and verified that the testing and associated inspections were performed in accordance with Target Rock procedures. The NRC inspection team confirmed that the non-destructive examination (NDE) personnel performing the PT activities were qualified in accordance with the applicable Target Rock procedures. The NRC inspection team reviewed a sample of test reports associated with liquid PT and confirmed that the test reports recorded the test objectives, acceptance criteria, testing activities, test results, and M&TE used in accordance with Target Rock procedures.

The NRC inspection team also observed implementation of the test control program by Target Rock's employees during testing activities which included observing seat leakage testing of a one-inch solenoid valve and reviewed test report and related test data for proof testing on a NuScale ECCS reactor recirculation valve. The NRC inspection team verified that all the testing activities and results were in accordance with written procedures and instructions, and they included adequate test objectives and acceptance criteria. The NRC inspection team verified that the test results were documented and evaluated by qualified individuals.

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

10. Control of Measuring and Test Equipment

a. Inspection Scope

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

For a sample of M&TE, the NRC inspection team reviewed M&TE on the shop floor as well as reviewed the records for selected M&TE to ensure, appropriate calibration stickers and current calibration dates, including the calibration due date. The NRC inspection team also verified that all M&TE reviewed during observed maintenance activities was properly calibrated, adjusted, and maintained at prescribed intervals prior to use. 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, Target Rock generates an M&TE out-of-tolerance condition 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 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 the control of M&TE with Target Rock'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 Target Rock is implementing its M&TE program in accordance with the regulatory requirements of Criterion XII of Appendix B to 10 CFR Part 50. Based on the limited sample of documents reviewed, the NRC inspection team also determined that Target Rock is implementing its policies and procedures associated with the M&TE program. No findings of significance were identified.

11. Entrance and Exit Meetings

On January 23, 2023, the NRC inspection team presented the inspection scope during an entrance meeting with Mr. William Meehan, Target Rock Quality Assurance Manager, and other members of Target Rock management and technical staff. On January 27, 2023, the NRC inspection team presented the inspection results to Mr. Meehan and other members of Target Rock 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

<b>Name</b>	<b>Position</b>	<b>Affiliation</b>	<b>Entrance</b>	<b>Exit</b>	<b>Interviewed</b>
William Meehan	Quality Assurance Manager	Target Rock	X	X	X
Alex DiMeo	Director of Quality Assurance	Target Rock	X	X	X
James White	Senior General Manager	Target Rock		X	
Matthew Fattibene	Supplier, Audits, and QA Supervisor	Target Rock	X	X	X
Michael Cinque	General Manager	Target Rock	X		
Michael Savino	QA Engineer	Target Rock		X	
Sean Kim	Project Engineer	Target Rock	X	X	
Joseph Simonetti	Director Energy Products	Target Rock	X		
Greg Sant	Senior Manager HR	Target Rock	X		
Cory Ryan	Director Mfg	Target Rock	X	X	
Mike Grant	Director Mfg Operations	Target Rock	X	X	
Brandon Kotan	QA Engineer	Target Rock	X	X	

George Kalmbacher	Welder	Target Rock			X
Scott Schoeps	Manager A&T Testing	Target Rock	X		
Charles Leser	Welding Supervisor	Target Rock	X	X	
Daniel Applegate	Welding Engineer	Target Rock			X
Walter Opak	Engineering Manager	Target Rock	X		X
Will Velkoff	Design Engineering Manager	Target Rock	X	X	X
Robert Strum	NDE Examiner	Target Rock			X
John DeVito	Test Technician	Target Rock			X
Jarek Zak	Raw Store Attendant	Target Rock			X
Alyssa Holmborg	Quality Control Specialist	Target Rock			X
Deborah Maone	Quality Control Specialist	Target Rock			X
Odunayo Ayegbusi	Inspector	NRC	X	X	
Frankie Vega	Inspector	NRC	X	X	
Deanna Zhang	Inspector	NRC	X	X	
Aaron Armstrong	Inspector	NRC	X	X	
Vince Voltaggio	Inspector	NRC	X	X	
Nicholas Hansing	Mechanical Engineer	NRC	X	X	

2. INSPECTION PROCEDURES USED:

- Inspection Procedure (IP) 43002, "Routine Inspections of Nuclear Vendors," dated April 5, 2022
- IP 43004, "Inspection of Commercial-Grade Dedication Programs," dated April 5, 2022
- IP 36100, "Inspection of 10 CFR Part 21 and Programs for Reporting of Defects and Noncompliance," dated May 16, 2019

3. LIST OF ITEMS OPENED, CLOSED, AND DISCUSSED

Item Number	Status	Type	Description
99900060/2023-201-01	OPENED	Nonconformance	Criterion XVI
99900060/2017-201-01	CLOSED	Nonconformance	Criterion VII
99900060/2018-201-01	CLOSED	Nonconformance	Criterion III
99900060/2018-201-02	CLOSED	Nonconformance	Criterion XI Criterion XII

4. DOCUMENTS REVIEWED

Quality Assurance Procedures (QAP)

- QMP1003, "Contract Review," Revision K, dated July 28, 2020
- QMP1004, "Design Control," Revision K, dated May 5, 2022
- QMP1006, "Purchasing," Revision L, dated June 14, 2021
- QMP1010, "Inspection and Testing," Revision H, dated October 1, 2013
- QMP1011, "Control of Measuring, Inspection and Test Equipment," Revision N, January 26, 2022
- QMP1012, "Inspection and Test Status," Revision D, dated October 31, 2018
- QMP1013, "Control of Nonconforming Product," Revision O, March 29, 2022
- QMP1014, "Corrective and Preventive Action," Revision L, March 29, 2022
- QMP1015, "Material Handling, Storage, Packaging, Preservation, and Delivery," Revision K, dated October 5, 2021
- QMP1004, "Design Control," Revision K, dated May 12, 2022
- QMP1017, "Quality Audits," Revision J, dated September 13, 2019 (redline dated December 7, 2021)
- QMP1023, "Energy Products Nuclear Quality Assurance Manual," Edition 12, Revision 0, dated December 9, 2022
- PMS 4.2, "Field Service Inspection, Test and Repair Procedure," Initial Release, dated January 19, 2021
- OP-ENG-001, "Item Master Procedure," Revision G, dated May 19, 2021
- OP-ENG-003, "Creation and Maintenance of Engineering Bills of Material (BOM)," Revision E, dated May 21, 2021
- OP-ENG-004, "Engineering Change Order (ECO) Procedure for Bills of Material," Revision D, dated August 21, 2021
- QMP1018 "Training," Revision L, dated March 8, 2022



- TRP 3957, "Qualification of Certifying Engineers Engaged in Certifying Activities for ASME Section III Projects," Revision AB, dated December 8, 2022
- TRP 5783, "Engineering Change Notice (ECN) System," Revision K, dated September 22, 2022
- TRP 654, "Maintenance of Welder Qualifications," Revision G, dated June 8, 2017
- QCP1016 Qualification and Certification of Nondestructive Examination Personnel for Energy Products, Revision C, dated May 19, 2021
- TRP 2001, "Hardware Cleanliness," Revision W, dated December 20, 2018
- TRP 5041, "Dedication Requirements for Commercial Grade Items," Revision K, February 16, 2015
- TRP 5527, "Control of Special Processes Heat Treatment." Revision F, dated November 27, 2022
- TRP 7265, "Control of Special Processes Welding and Hardsfacing," Revision F, dated January 15, 2010
- ME017, "Control of Detrimental Materials in the Manufacturing Department," Revision B, dated January 14, 2022
- A&T 001, "Organization and Operation of the Assembly and Test Department," Revision N, dated November 29, 2021
- A&T 002, "Training of Technicians in the Assembly and Test Department," Revision D dated February 1, 2019

Design Documents:

- Report Number 10289, "ASME Code Design Report, Code Class 2, Solenoid Operated Valve, Assembly Number 84DD-002BB," dated January 21, 2021
- Report 4142F, "Production Test Procedure Project 84DD," dated October 29, 1984
- TRP 1689, "Liquid Penetrant Inspection Procedure, ASME Boiler & Pressure Vessel Code Section V and ASME Boiler & Pressure Vessel Code Section III," Revision T, dated April 24, 2018
- TRP 2297, "Liquid Penetrant Acceptance Criteria Requirements for the 1971 thru 2013 ASME Boiler & Pressure Vessel Code Section III Subsections NB, NC, ND Class 1, 2, and 3 Products," Revision P, dated April 20, 2018
- JWP 11.208, "Manual GTAW Stellite 6 Hardsurfacing of P8 Stainless Steels," Revision C, dated July 2, 2010
- TRP 11.200, "GTAW Hardsurfacing Procedure for ASME Nuclear Valve Components," Revision G, dated January 31, 2012
- Design Specification 4Z449ZS1005, "Design Specification for ASME Section III Solenoid Valves 4Z449ZS1005 for the Houston Lighting & Power Company South Texas Project Electric Generating Station," Revision 6, dated February 25, 1986
- Report Number 10289, "ASME Code Design Report, Code Class 2, Solenoid Operated Valve, Assembly Number 84DD-002BB," dated January 21, 2021
- Design specification FLO 2998.110A, "Solenoid Valves, Nuclear Safety Class 1, 2 & 3, Seismic Class 1," Revision 5, dated March 4, 1982
- NuScale Document ID No. CO-125753
- NuScale Document ID No. CO-110272
- TRP 10369, "Production Test Procedure for Target Rock Solenoid Operated Valve Models 75KK-201BB and 75KK-206BB," dated February 24, 2022
- WO 483286
- WO 473181
- WO 442959

- WO 487543
- WO 491324
- Project Review Record for Project 20Z510
- TRP 6410, "Design and Seismic Report of the Target Rock 98F-001, ASME Class 1, Seismic Class 1, Solenoid Operated Globe Valves Prepared in Accordance with Arizona Public Service Company Purchase Order No. 500215166, Design Specification No. 13-JN-0699, Rev. 2," Revision D, dated July 23, 2021
- Document Change Notice JS-12
- Document Change Notice 0702008
- Design Change Document 07-66-221, Revision 0
- Document Change Package 96-930-44
- Engineering Release for Project C-20Z510, Printed January 23, 2023
- Report No. 4142F, "Production Test Procedure Project 84DD Solenoid Operated Valves." dated October 29, 1984
- Project Review Record for Project 19Z516, dated February 3, 2022
- TRP 5886A, "ASME Code Class 1 Design Report and Seismic Analysis of the Target Rock Corporation Solenoid Operated Valve Model 74Q-005BB Bolted Bonnet Configuration," Revision A, dated February 7, 1995
- Engineering Release for Project C-19Z516
- SW-106230, "NPM-20 ECCS Valve Design Revisions," Revision 1, signed March 1, 2022
- Drawing ECCS-RVV-001, "Reactor Vent Valve (RVV) Assembly, Pilot Operated, Fail Open, On/Off, NPS 5 Class 2500, Flanged," Revision 5
- Drawing ECCS-RRV-001, "Reactor Recirculation Valve (RRV) Assembly, Pilot Operated, Fail Open, On/Off, NPS 2 Class 2500, Flanged," Revision 4
- Drawing ECCS-TRV-002, "Trip/Reset Valve (TRV) Assembly, On/Off, NPS 3 SCH 160 BW Connection, Revision 1
- Drawing ECCS-IAB-001, "IAB Valve Assembly," Revision 5
- ECN 2022-168
- ECN 2022-052
- Project Review Record for Project C-21Z507, dated August 31, 2022
- Engineering Release for Project C-21Z507
- TRP 10369, "Production Test Procedure for Target Rock Solenoid Operated Valve Models 75KK-201BB and 75KK-206BB," Initial Issuance, dated February 24, 2022
- TRP 10377, "Environmental Qualification Report of Solenoid Operated Globe Valve, Model 75KK-206BB Prepared in Accordance with: Talen Energy Purchase Order No. 00674557 Design Specification No. J-1052," Initial Issuance, March 9, 2022
- Report Number 1512, "Production Test Procedure for Solenoid Motor Operated Globe Valves," Revision H, dated August 13, 2012
- Certificate of Conformance, NuScale Power, Agreement number CO-1012-2074, AM 2, SW-0120-68461 Rev 3
- SW-0120-68461, "ECCS Valve Proof Testing Statement of Work," Revision 3, dated April 15, 2021
- EOS-SA106. Rev.2001/2003.C, "Engineering Order Specification for Seamless Carbon Steel Pipe for High Temperature Service," dated March 31, 2016
- EOS-SA182. Rev.2001/2003.E, "Engineering Ordering Specification for Forged or Rolled Alloy-Steel Pipe Flanges, Forged Fittings, and Valves and Parts for High Temperature Service," dated March 1, 2016
- EOS-AISI.REV.A, Revision A, "Engineering Ordering Specification for AISI Materials (Safety Related)," dated March 8, 2012

- PRS 08-45, "Target Rock Procurement Specification Testing Services," Revision A, dated July 7, 2016

Commercial Grade Dedication Packages (CGD) and Critical Characteristics Attribute and Verification (CCAV) sheets:

- CGD package Wire, 18 ga, DWG 102993-1, Project C-140 for PO#60394, Rev E
- CCAV #102993-1 thought -4, sheet 1-2 , Rev H
- CofC M\*1381/11-18-N "D"
- 22-2342 Analytical Laboratory
- Survey for Analytical Laboratory Report #210802, dated August 3, 2021
- CGD package Piston Ring 2.75, DWG#100948-1, Rev H
- CCAV #56643 Part #100948-1 Rev H, dated October 2, 2007
- CofC Part #100948-1 material testing service and heat treat
- CGD package Solenoid Assembly DWG #300926-1 Rev K, Project C1051403, Rev E
- CCAV DWG #300926-1 Rev K,
- CofC Coil supplier for PO 57451-1, dated September 22, 2021
- CofC potting compound testing service for PO #21065A
- CofC for equipment repair for PO #58285-0 for item #BC9785
- CCAV #670-0001 thru 670-0110, dated February 15, 2018
- CCAV # 205522-1 and 205522-2, dated September 1, 2017
- CCAV # EP-HT134, dated September 1, 2017
- CCAV #670-0001 thru 670-0110, dated March 11, 2016
- CCAV # 205522-1 and 205522-2, dated August 15, 2014
- CCAV # EP-HT134, dated September 18, 2014

Audit/Survey:

- 21-01, "Internal Audit of Contracts Administration, Project Engineering and Design Engineering," dated June 9, 2021
- 21-02, "Internal Audit of Purchasing, Planning, and Production Control," dated July 27, 2021
- 21-03, "Internal Audit of Welding, Assembly & Test, Manufacturing Engineering, and Production," dated November 1, 2021
- 21-04, "Internal Audit of Human Resources, Quality Control, Security, Stock Room, and Shipping/Receiving," dated December 13, 2021
- 21-05, "Internal Audit of Quality Assurance," dated February 8, 2022
- 21-06, "Internal Audit of Field Service," dated September 13, 2021
- 27079 – 220901, "Supplier Audit Package of Effort Foundry," dated September 12-15, 2022
- 26020 – 210501, "Supplier Audit Package of NOVA Machine Products Corporation (Curtis Wright)," dated September May 26-27, 2021
- 26011 – 210502, "Supplier Audit Package of Dubose National Energy Services" dated May 18-21, 2021
- "Audit Report of Onsite Audit of Kropp Forge Inc," dated May 21- 23, 2019

Purchase Orders:

- PO 247293, Revision 4
- PO 02378683, dated April 9, 2019

- PO 02402837, dated October 23, 2019
- PO 00674557, Revision 1, dated June 10, 2021
- PO 00676049, dated June 11, 2021
- PO 60291-0, dated February 25, 2022
- PO 59337-0, dated October 18, 2021
- PO 5155-0, dated April 18, 2019
- PO 49004-0, dated May 31, 2018
- PO 62504-0, dated November 11, 2022
- PO 62399-0, dated November 1, 2022
- PO 56152, Revision 2, dated August 6, 2022
- PO 62911, Revision 0, dated January 10, 2023
- PO 62211, Revision 0, dated October 6, 2022

#### Test Reports

- Report 230295 for WO 483286
- Welding Report 106427
- Test Report Number 10443, "Final Test Report for Reactor Recirculation Valve (ECCS-RRV-ETV) NuScale ECCS Valve Proof Testing," Revision A, dated September 28, 2022

#### Measuring and Test Equipment Documents:

- Calibration Certification Report, Micro-Hite 600, ID#7812, January 26, 2023
- Certificate of Calibration, Micro-Hite 600, ID#7812, January 26, 2022
- Calibration Certification Report, Press Gauge, ID#TR-6381, January 23, 2023
- Certificate of Calibration, Dead Weight Tester Pistons, ID#TR341-B, August 16, 2022
- Certificate of Calibration, Flowmeter/Variable Area, ID#TR4286, November 1, 2021
- Calibration Certification Report, TGR Timer, ID#TR7429-B, August 31, 2021
- Certificate of Calibration, Digital Timer, ID#TR6350, May 10, 2021
- Certificate of Calibration, Ammeter/Clamp-on/AC-DC, ID#9455, October 1, 2022
- Certificate of Calibration, Digital Thermometer, ID#01663, May 13, 2022
- PRS 07-16 Rev. 5, Calibration Services, October 25, 2021

#### NCRs

- NCR 25854, dated December 5, 2022
- NCR 26100, dated January 18, 2022
- NCR 18025, dated November 15, 2019
- NCR 18026, dated November 15, 2019
- NCR 18029, dated November 15, 2019
- NCR 19106, dated July 6, 2020
- NCR 19113, dated July 8, 2020
- NCR 19114, dated July 8, 2020
- NCR 19218, dated July 22, 2020
- NCR 17946, dated October 29, 2019
- NCR 26133, dated January 23, 2023
- NCR 25901, dated December 14, 2022

#### Corrective Action Reports (CARs) and Problem Reports (PR) Reviewed During the NRC Inspection

- PBL 69834
- CAR 17-139, dated March 9, 2017
- CAR 18-117, dated May 16, 2018
- CAR 18 -118, dated May 17, 2018
- CAR 17-145
- CAR 19-284 (Part 21), dated May 30, 2019
- CAR 19-310 (Part 21), dated November 18, 2019
- CAR 21-212, dated June 18, 2021
- CAR 21-213, dated June 18, 2021
- CAR 22-342 A2, dated December 9, 2022
- PR-090, dated January 12, 2021
- PR-087, dated January 10, 2020
- PR-086, dated December 19, 2019

#### CARs and Observations Drafted as a Result of the NRC Inspection

- CAR 23-012, dated January 26, 2023
- CW - Target Rock Quality Observation, dated January 26, 2023

#### Training Records

- Qualifications of Nicholas A. Campanelli
- Qualifications of Hugh O'Brien
- Qualifications of William Jeffrey Velkoff, Jr.
- Qualifications of Alton Jordan Reich
- Welder Qualification of George Kalmbacher
- Qualifications of Robert Strum
- Qualifications of John DeVito
- Qualifications of Kyle Simpson
- Qualifications of Sean Kim
- Qualifications of Matthew Fattibene
- Qualifications of Marta Herrera
- Qualifications of Al Connolly
- Qualification of Maha Weehed
- Qualification of Alyssa Holmborg
- Qualification of Deborah Maone