



**UNITED STATES  
NUCLEAR REGULATORY COMMISSION**

**REGION I  
2100 RENAISSANCE BOULEVARD, SUITE 100  
KING OF PRUSSIA, PENNSYLVANIA 19406-2713**

February 14, 2022

Mr. John Grabnar  
Site Vice President  
Beaver Valley Power Station  
Energy Harbor Nuclear Corp.  
Route 168  
Shippingport, PA 15077

**SUBJECT: BEAVER VALLEY POWER STATION, UNITS 1 AND 2 – INTEGRATED  
INSPECTION REPORT 05000334/2021004 AND 05000412/2021004**

Dear Mr. Grabnar:

On December 31, 2021, the U.S. Nuclear Regulatory Commission (NRC) completed an inspection at Beaver Valley Power Station, Units 1 and 2. On January 28, 2022, the NRC inspectors discussed the results of this inspection with you and other members of your staff. The results of this inspection are documented in the enclosed report.

Three findings of very low safety significance (Green) are documented in this report. All of these findings involved violations of NRC requirements. We are treating these violations as non-cited violations (NCVs) consistent with Section 2.3.2 of the Enforcement Policy.

If you contest the violations or the significance or severity of the violations documented in this inspection report, you should provide a response within 30 days of the date of this inspection report, with the basis for your denial, to the U.S. Nuclear Regulatory Commission, ATTN: Document Control Desk, Washington, DC 20555-0001; with copies to the Regional Administrator, Region I; the Director, Office of Enforcement; and the NRC Resident Inspector at Beaver Valley Power Station, Units 1 and 2.

If you disagree with a cross-cutting aspect assignment in this report, you should provide a response within 30 days of the date of this inspection report, with the basis for your disagreement, to the U.S. Nuclear Regulatory Commission, ATTN: Document Control Desk, Washington, DC 20555-0001; with copies to the Regional Administrator, Region I; and the NRC Resident Inspector at Beaver Valley Power Station, Units 1 and 2.

This letter, its enclosure, and your response (if any) will be made available for public inspection and copying at <http://www.nrc.gov/reading-rm/adams.html> and at the NRC Public Document Room in accordance with Title 10 of the *Code of Federal Regulations* 2.390, "Public Inspections, Exemptions, Requests for Withholding."

Sincerely,

Matt R. Young, Chief  
Projects Branch 2  
Division of Operating Reactor Safety

Docket Nos. 05000334 and 05000412  
License Nos. DPR-66 and NPF-73

Enclosure:  
As stated

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SUBJECT: BEAVER VALLEY POWER STATION, UNITS 1 AND 2 – INTEGRATED  
INSPECTION REPORT 05000334/2021004 AND 05000412/2021004 DATED  
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**U.S. NUCLEAR REGULATORY COMMISSION**  
**Inspection Report**

Docket Numbers: 05000334 and 05000412

License Numbers: DPR-66 and NPF-73

Report Numbers: 05000334/2021004 and 05000412/2021004

Enterprise Identifier: I-2021-004-0033

Licensee: Energy Harbor Nuclear Corporation

Facility: Beaver Valley Power Station, Units 1 and 2

Location: Shippingport, PA 15077

Inspection Dates: October 1, 2021 to December 31, 2021

Inspectors: G. Eatmon, Senior Resident Inspector  
R. Rolph, Resident Inspector  
D. Mills, Senior Resident Inspector  
L. Cline, Senior Project Engineer  
S. Lichvar, Project Engineer  
E. Eve, Senior Reactor Inspector  
S. Wilson, Senior Health Physicist  
B. Edwards, Health Physicist

Approved By: Matt R. Young, Chief  
Projects Branch 2  
Division of Operating Reactor Safety

Enclosure

## SUMMARY

The U.S. Nuclear Regulatory Commission (NRC) continued monitoring the licensee's performance by conducting an integrated inspection at Beaver Valley Power Station, Units 1 and 2, in accordance with the Reactor Oversight Process. The Reactor Oversight Process is the NRC's program for overseeing the safe operation of commercial nuclear power reactors. Refer to <https://www.nrc.gov/reactors/operating/oversight.html> for more information.

### List of Findings and Violations

Failure to follow Functional Test procedure results in Diesel Generator 1-1 auto start			
Cornerstone	Significance	Cross-Cutting Aspect	Report Section
Mitigating Systems	Green NCV 05000334/2021004-01 Open/Closed	[H.12] - Avoid Complacency	71111.13
A self-revealing Green non-cited violation (NCV) of Technical Specification (TS) 5.4, "Procedures," was identified when the licensee did not implement Step 10 of procedure 1MSP-36.81-E, 'Functional Test of 1AE 4KV Emergency Bus Loss of Voltage Relay and Diesel Start Loss of Voltage Relay'. Specifically, the bus 1AE undervoltage signal was not defeated during testing which resulted in an unplanned automatic start of diesel generator 1-1.			

Failure to Ensure Unobstructed Egress from a High Radiation Area per 10 CFR 20.1601(d)			
Cornerstone	Significance	Cross-Cutting Aspect	Report Section
Occupational Radiation Safety	Green NCV 05000334,05000412/2021004-02 Open/Closed	[H.4] - Teamwork	71124.01
A self-revealing finding of very low safety significance (Green) and an associated NCV of 10 CFR 20.1601 "Control of access to high radiation areas," was identified on October 24, 2021, when the licensee failed to ensure that high radiation area controls were implemented in accordance with 10 CFR 20.1601, "Control of access to high radiation areas." Specifically, licensee personnel received unplanned radiation exposure when a worker was inadvertently locked within a (locked) high radiation area as defined by 10 CFR 20.1003, "Definitions."			

Failure to Perform a Radiation Survey to Identify and Control a High Radiation Area			
Cornerstone	Significance	Cross-Cutting Aspect	Report Section
Occupational Radiation Safety	Green NCV 05000334,05000412/2021004-03 Open/Closed	[H.13] - Consistent Process	71124.01
A self-revealing finding of very low safety significance (Green) and an associated NCV of 10 CFR 20.1501(a), was identified when the licensee failed to perform a radiological survey identifying a high radiation area in accordance with 10 CFR 20.1902, "Posting Requirements." Specifically, radiation protection personnel were notified by a worker who had received a dose rate alarm upon entering an unlocked and unidentified high radiation area with dose rates greater than 100 millirem/hour at 30 centimeters in the Unit 2 'C' steam generator secondary side. Subsequent surveys of the area in question were performed and the licensee identified that the dose rates met the criteria for a high radiation area and should have been posted as such.			

### **Additional Tracking Items**

None.

## **PLANT STATUS**

Unit 1 operated at or near rated thermal power for the entire inspection period.

Unit 2 began the inspection period at approximately 92 percent rated thermal power due to end of cycle coast down to planned refueling outage 2R22. On October 5, 2021, Unit 2 automatically tripped from 90 percent power when the low power trip logic unexpectedly unblocked. After repairs, the unit commenced startup on October 8, 2021, and achieved 46 percent rated thermal power to conduct planned pre-outage testing and surveillances. The refueling outage began on October 10, 2021, and following completion of planned outage scope the reactor trip breakers were closed and the unit startup commenced November 11, 2021. On November 13, 2021, the unit was manually tripped while at 17 percent rated thermal power due to unstable steam generator secondary water levels. On November 13, 2021, the unit commenced startup. The unit achieved 100 percent rated thermal power on November 16, 2021. On November 17, 2021, the unit was manually tripped after the 21B main feedwater pump tripped. After repairs to feedwater system, the unit commenced startup on November 19, 2021, when the reactor trip breakers closed and 100 percent rated thermal power was reached on November 20, 2021. Unit 2 operated at or near rated thermal power for the remainder of the inspection period.

## **INSPECTION SCOPES**

Inspections were conducted using the appropriate portions of the inspection procedures (IPs) in effect at the beginning of the inspection unless otherwise noted. Currently approved IPs with their attached revision histories are located on the public website at <http://www.nrc.gov/reading-rm/doc-collections/insp-manual/inspection-procedure/index.html>. Samples were declared complete when the IP requirements most appropriate to the inspection activity were met consistent with Inspection Manual Chapter (IMC) 2515, "Light-Water Reactor Inspection Program - Operations Phase." The inspectors performed activities described in IMC 2515, Appendix D, "Plant Status," conducted routine reviews using IP 71152, "Problem Identification and Resolution," observed risk significant activities, and completed on-site portions of IPs. The inspectors reviewed selected procedures and records, observed activities, and interviewed personnel to assess licensee performance and compliance with Commission rules and regulations, license conditions, site procedures, and standards.

## **REACTOR SAFETY**

### 71111.01 - Adverse Weather Protection

#### External Flooding Sample (IP Section 03.03) (1 Sample)

- (1) The inspectors evaluated that flood protection barriers, mitigation plans, procedures, and equipment are consistent with the licensee's design requirements and risk analysis assumptions for coping with external flooding for Unit 2 emergency switchgear on December 2, 2021

#### 71111.04 - Equipment Alignment

##### Partial Walkdown Sample (IP Section 03.01) (4 Samples)

The inspectors evaluated system configurations during partial walkdowns of the following systems/trains:

- (1) Unit 2, recirculation spray, train 'B', subsystem 'B' and subsystem 'D,' on October 5, 2021
- (2) Unit 2, unborated water source isolation per TS 3.1.8 prior to entry into Mode 4, verified on October 12, 2021
- (3) Unit 2, spent fuel pool cooling and purification system, train 'A' and 'B,' on October 28, 2021
- (4) Unit 1, quench spray, train 'B' on December 7, 2021

##### Complete Walkdown Sample (IP Section 03.02) (1 Sample)

- (1) The inspectors evaluated system configurations during a complete walkdown of the Unit 2 residual heat removal system, 'A' and 'B' trains, during reduced inventory on October 14, 2021

#### 71111.05 - Fire Protection

##### Fire Area Walkdown and Inspection Sample (IP Section 03.01) (4 Samples)

The inspectors evaluated the implementation of the fire protection program by conducting a walkdown and performing a review to verify program compliance, equipment functionality, material condition, and operational readiness of the following fire areas:

- (1) Unit 2, containment, 767', 738' 718', and the 692', on October 13, 2021
- (2) Unit 2, turbine building, 774', 752', and 730' east and west, on October 13, 2021
- (3) Unit 2 normal switchgear room, fire compartment 2-SB-4, on October 27, 2021
- (4) Unit 1, turbine building, 735', 713', 693' east and west, on December 2, 2021

#### 71111.06 - Flood Protection Measures

##### Inspection Activities - Internal Flooding (IP Section 03.01) (1 Sample)

The inspectors evaluated internal flooding mitigation protections in the:

- (1) Unit 2, safeguards north pump cube area and north service water piping annulus area, elevation 718'-6", on December 14, 2021

#### 71111.08P - Inservice Inspection Activities (PWR)

##### PWR Inservice Inspection Activities Sample (IP Section 03.01) (1 Sample)

- (1) The inspectors verified that the reactor coolant system boundary, steam generator tubes, reactor vessel internals, risk significant piping system boundaries, and containment boundary are appropriately monitored for degradation and that repairs



and replacements were appropriately fabricated, examined and accepted by reviewing the following activities from October 18 through October 29, 2021:

03.01.a - Nondestructive Examination and Welding Activities.

- Direct observation of ultrasonic testing of pressurizer weld, 2RCS-102-1C (Work Order: 200804337)
- Direct remote observation of bare metal visual examination of reactor pressure vessel head penetrations (Work Order: 200805166)
- Document review and independent walk down of general visual examination of the containment liner (Report No.: 2BVT1.47.1)

03.01.b - Pressurized-Water Reactor Vessel Upper Head Penetration Examination Activities.

- Liquid penetrant testing of penetration 40 post weld overlay repair (Report No.: PT-918682-03)
- Ultrasonic testing of penetration 40 post weld overlay repair (Report No.: DMW-R22-CP04-40-01G)
- As found ultrasonic testing and liquid penetrant testing of penetrations 3, 27, 37, 41, and 60
- Repair activities associated with an indication found on Unit 2 reactor vessel head penetration 40 (MRS-SSP-1511, Revision 12)

03.01.c – Pressurized-Water Reactor Boric Acid Corrosion Control Activities.

- CR-2020-03503, boric acid evaluation for the flange of the 'B' residual heat removal heat exchanger, 2RS-E21B
- CR-2021-07566, dry boric acid on 2B residual heat removal pump, 2RHS-P21B
- CR-2021-07596, dry boric acid on safety injection accumulator tank discharge, 2SIS-MOV852B

03.01.d – Pressurized-Water Reactor Steam Generator Tube Examination Activities.

- Direct remote observation of eddy current testing of 2B steam generator
- Direct remote observation of tube unplugging activities in 2A steam generator
- Direct remote observation of tube sleeve installation in 2C steam generator

71111.11Q - Licensed Operator Requalification Program and Licensed Operator Performance

Licensed Operator Performance in the Actual Plant/Main Control Room (IP Section 03.01)  
(1 Sample)

- (1) The inspectors observed and evaluated licensed operator performance in the Control Room during Unit 2 automatic reactor trip due to spurious unblocking of the 'A' train power range low setpoint neutron flux high on October 5, 2021, multiple startup attempts after making repairs, and during the Unit 2 shut down activities for planned refueling outage, 2R22, on October 9, 2021

## 71111.12 - Maintenance Effectiveness

### Maintenance Effectiveness (IP Section 03.01) (3 Samples)

The inspectors evaluated the effectiveness of maintenance to ensure the following structures, systems, and components (SSCs) remain capable of performing their intended function:

- (1) Unit 1 and Unit 2, maintenance rule program structural monitoring inspections for the third (2012) and four (2017) five-year cycle report
- (2) Unit 2, dual indication of recirculation spray system containment isolation valve, 2RSS-MOV115C, on bench board classified as condition monitoring failure of containment depressurization system (system #13) on October 26, 2021
- (3) Unit 2, feedwater (system #24) level control failure resulted in steam generator feedwater level oscillations and manual reactor trip on November 12, 2021

### Quality Control (IP Section 03.02) (2 Samples)

The inspectors evaluated the effectiveness of maintenance and quality control activities to ensure the following SSC remains capable of performing its intended function:

- (1) Unit 2 'B' train of service water during replacement of valves BV-2SWS-103B and BV-2SWS-106B on October 18 through October 21, 2021
- (2) Unit 2 emergency diesel generator 2-2 during preventative maintenance replacement of tachometer relay BV-19-VF210 on October 18 through October 21, 2021

## 71111.13 - Maintenance Risk Assessments and Emergent Work Control

### Risk Assessment and Management Sample (IP Section 03.01) (3 Samples)

The inspectors evaluated the accuracy and completeness of risk assessments for the following planned and emergent work activities to ensure configuration changes and appropriate work controls were addressed:

- (1) Unit 2, elevated risk for power availability during refueling outage 22 with planned maintenance on the power sources for emergency electrical bus DF, specifically emergency diesel generator 2-2 and offsite power source 480VUS-2-9P, with the associated emergency DF loads re-energized via a temporary power FLEX connection on October 22, 2021
- (2) Unit 2, emergent repair to high head safety injection throttle valves 2SIS-69 and 2SIS-68, that failed to fully isolate the reactor vessel prior to reactor vessel drain down to reduced inventory on October 26, 2021
- (3) Unit 1, unplanned auto start diesel generator 1, an engineered safety feature (ESF) actuation, during surveillance requirement, 1MSP-36.81-E, 'Functional Test of 1AE 4KV Emergency Bus Loss of Voltage Relay and Diesel Start Loss of Voltage Relay' on September 30, 2021

## 71111.15 - Operability Determinations and Functionality Assessments

### Operability Determination or Functionality Assessment (IP Section 03.01) (3 Samples)

The inspectors evaluated the licensee's justifications and actions associated with the following operability determinations and functionality assessments:

- (1) Unit 2, TS 3.0.4, condition 'B', risk assessment to credit the 2-2 emergency diesel generator as the Mode 6 operable emergency diesel generator per TS 3.8.2, AC Sources-Shutdown, without the minimum diesel fuel identified in TS 3.8.3 while the 2-1 emergency diesel generator was inoperable on October 30, 2021
- (2) Unit 2, service water system, train 'A', through-wall pipe leak at the blind flange upstream of the of the service water supply to the primary and secondary component cooling water systems, identified on November 19, 2021
- (3) Unit 1, Part 21 response to Engine Systems, Inc. lube oil gallery swing check valve installed in emergency diesel generators 1 and 2 lube oil systems.

## 71111.19 - Post-Maintenance Testing

### Post-Maintenance Test Sample (IP Section 03.01) (9 Samples)

The inspectors evaluated the following post-maintenance test activities to verify system operability and functionality:

- (1) Unit 2, 2OST-10.2, residual heat removal pump 2RHS-P21B, performance test after seal replacement, on October 27, 2021
- (2) Unit 2, 2OST-30.13B, service water train 'B' monthly surveillance, after replacement of BV-2SWS-MOV106B, on October 28, 2021
- (3) Unit 2, 2OST-36.2, diesel generator 2-2 monthly surveillance, after governor replacement, on October 28, 2021
- (4) Unit 2, 2OST-36.2, diesel generator 2-2 monthly surveillance, after replacement of train 'B' tachometer relay 19-VF210 on emergency diesel generator 2-2, on October 30, 2021
- (5) Unit 2, 2OST-47.173, Valve Integrity Test for 2CHS-LCV115D, charging pumps suction from refueling water storage tank, after a packing adjustment to correct an active boric acid leak, on November 2, 2021
- (6) Unit 2, 2OST-36.1, diesel generator 2-1 monthly surveillance, after governor replacement, on November 9, 2021
- (7) Unit 2, 2OM-22A.4L, "Operating the [2CNM-21(A)(B)(C), Condensate pump 21A(B)(C), Motor Uncoupled For PMT", condensate pump (2CNM-P21A) motor uncoupled test after pump motor refurbished and reinstalled, on November 19, 2021
- (8) Unit 1, 1OST-15.3, "[1CC-P-1C] Quarterly Test", surveillance of the reactor closed cooling pump (1CC-P-1C) after preventative maintenance, on November 23, 2021
- (9) Unit 2, emergency diesel generator 2 underground fuel oil tank 10-year inspection and restoration per license requirement surveillance 3.8.3.1, on December 12, 2021

## 71111.20 - Refueling and Other Outage Activities

### Refueling/Other Outage Sample (IP Section 03.01) (2 Samples)

- (1) The inspectors evaluated Unit 2 forced outage activities from October 5, 2021 through October 9, 2021 after an unplanned October 5, 2021 trip
- (2) The inspectors evaluated refueling outage 2R22 activities from October 10, 2021 through November 12, 2021

## 71111.22 - Surveillance Testing

The inspectors evaluated the following surveillance tests:

### Surveillance Tests (other) (IP Section 03.01) (3 Samples)

- (1) 2OST-30.13B, Unit 2, train 'B', service water full flow operational surveillance test, WO 200799920
- (2) 2OST-11.14B, Unit 2, high head safety injection system, full flow testing, on November 2, 2021
- (3) 2OST-15.2, Unit 2, 'B' primary component cooling water pump, 2CCP-P21B, on November 19, 2021

### Inservice Testing (IP Section 03.01) (1 Sample)

- (1) 1OST-7.5, Unit 1, 'B' charging pump, 1CH-P-1B, operational surveillance test, on November 9, 2021

### Containment Isolation Valve Testing (IP Section 03.01) (1 Sample)

- (1) 2OST-47.118, Unit 2, type 'C' test – penetration #29, primary drains transfer pump discharge, on October 14, 2021

## 71114.06 - Drill Evaluation

### Select Emergency Preparedness Drills and/or Training for Observation (IP Section 03.01) (1 Sample)

- (1) The inspectors evaluated the conduct of a routine, full participation emergency planning drill on December 14, 2021

## **RADIATION SAFETY**

### 71124.01 - Radiological Hazard Assessment and Exposure Controls

#### Contamination and Radioactive Material Control (IP Section 03.03)

The inspectors evaluated licensee processes for monitoring and controlling contamination and radioactive material.

#### Radiological Hazards Control and Work Coverage (IP Section 03.04) (2 Samples)

The inspectors evaluated the licensee's control of radiological hazards for the following radiological work:

- (1) Unit 2 reactor containment activities - flux thimble nondestructive testing (eddy current); radiation work permit 221-2006
- (2) Unit 2 residual heat removal equipment scaffold build; radiation work permit 221-5047

#### High Radiation Area and Very High Radiation Area Controls (IP Section 03.05) (2 Samples)

The inspectors evaluated licensee controls of the following High Radiation Areas and Very High Radiation Areas:

- (1) Unit 2 reactor head stand on the 692' elevation in containment; radiation work permit 221-5050
- (2) Unit 2 'C' steam generator secondary entrance postings; radiation work permit 221-5015

### **OTHER ACTIVITIES – BASELINE**

#### 71151 - Performance Indicator Verification

The inspectors verified licensee performance indicators submittals listed below:

#### BI01: Reactor Coolant System (RCS) Specific Activity Sample (IP Section 02.10) (2 Samples)

- (1) Unit 1 October 1, 2020 through September 30, 2021
- (2) Unit 2 October 1, 2020 through September 30, 2021

#### BI02: RCS Leak Rate Sample (IP Section 02.11) (2 Samples)

- (1) Unit 1 October 1, 2020 through September 30, 2021
- (2) Unit 2 October 1, 2020 through September 30, 2021

#### 71152 - Problem Identification and Resolution (PI&R)

#### Semiannual Trend Review (IP Section 02.02) (1 Sample)

- (1) The inspectors reviewed the licensee's corrective action program for potential adverse trends in equipment reliability and work management that might be indicative of a more significant safety issue for large safety related SSCs and did not find an adverse trend.

#### 71153 - Follow-Up of Events and Notices of Enforcement Discretion

#### Personnel Performance (IP Section 03.03) (3 Samples)

The inspectors reviewed the following unplanned events and evaluated the license response:

- (1) October 5, 2021, Unit 2 automatic reactor trip due to a solid state protection system failure that actuated the protection logic.
- (2) November 12, 2021, Unit 2 manual trip due to 'A', 'B', and 'C' steam generator water levels exceeding the 85 percent manual trip criteria in procedure, BVBP-OPS-0024, Transient Response Guidelines, during 2R22 reactor power escalation.
- (3) November 17, 2021, Unit 2 manual reactor trip due to a trip of the 21B main feedwater pump.

## INSPECTION RESULTS

Failure to follow Functional Test procedure results in Diesel Generator 1-1 auto start			
Cornerstone	Significance	Cross-Cutting Aspect	Report Section
Mitigating Systems	Green NCV 05000334/2021004-01 Open/Closed	[H.12] - Avoid Complacency	71111.13
A self-revealing Green NCV of TS 5.4, "Procedures," was identified when the licensee did not implement Step 10 of procedure 1MSP-36.81-E, 'Functional Test of 1AE 4KV Emergency Bus Loss of Voltage Relay and Diesel Start Loss of Voltage Relay'. Specifically, the bus 1AE undervoltage signal was not defeated during testing which resulted in an unplanned automatic start of diesel generator 1-1.			
<p><u>Description:</u> On September 30, 2021, Beaver Valley Power Station, Unit 1, performed procedure 1MSP-36.81-E, "Functional Test of 1AE 4KV Emergency Bus Loss of Voltage Relay and Diesel Start Loss of Voltage Relay," to satisfy Surveillance Requirement 3.3.5.1 for diesel generator 1-1 (1EE-EG-1). During the test, diesel generator 1-1 unexpectedly started when the 1AE 4kV emergency bus undervoltage signal was initiated in accordance with the test procedure. After the unexpected auto start, diesel generator 1-1 was considered inoperable per TS 3.3.5 and TS 3.8.1. The licensee determined that the auto start occurred because technicians did not perform Step 10 of 1MSP-36.81-E that states: "OPEN all Flexitest Switches except #7 and #8 (relay coil) on Relay [62-VE1100X]." These switches prevent automatic start when the undervoltage signal is initiated during the test.</p> <p>The licensee performed a human performance review of the relay technicians' performance and determined three items. First, procedure use and adherence were ineffective because technicians incorrectly used the Reader/Doer method instead of the Performer/Verifier method and the circle/slash place keeping was ineffective because steps were marked circle/slash without being performed. Second, self and peer checks were not used correctly and effectively implemented. Third, supervisor oversight of critical steps was ineffective because the supervisor did not remain engaged as a supervisor during the performance of critical steps.</p> <p>The inspectors also noted that to increase sensitivity to the potential for an unplanned automatic start of the diesel during the performance of this testing the procedure identified the critical steps, and provided cautions before critical steps to identify the consequence if the step is performed improperly. Step 10 of the procedure is identified as an ESF actuation critical step and a caution is provided before the step. "This is a CRITICAL STEP. All Flexitest Switches except #7 and #8 on Relay [62-VE1100X] must be opened before functional testing of Relay [27-VE1100] or an auto start of diesel generator [1EE-EG-1] may occur." Step 10 is also identified with a caution symbol noting the ESF actuation potential if the step is performed improperly.</p>			

The actuation of ESF was a reportable event as a System Actuation as stated in NUREG-1022, Revision 3, "Event Report Guidelines 10 CFR 50.72 and 50.73". In accordance with subsection 50.73(a)(2)(iv), the licensee provided a telephone notification to the NRC Operations Center within 60 days after discovery of the event.

Corrective Actions: The licensee entered the condition into their corrective action program, used an existing procedure to operate and shutdown diesel generator 1-1, maintained the existing surveillance schedule for diesel generator 1-1, and performed the required NRC 50.73(a)(2)(iv) notifications.

Corrective Action References: CR-2021-07334, CR-2021-07342

Performance Assessment:

Performance Deficiency: The licensee failed to follow procedure while performing procedure 1MSP-36.81-E "Functional Test of 1AE 4KV Emergency Bus Loss of Voltage Relay [27-VE100] and Diesel Start Loss of Voltage Relay [27-VE1100]". This failure led to an inadvertent ESF actuation, specifically an auto start of the 1-1 diesel generator.

Screening: The inspectors determined the performance deficiency was more than minor because it was associated with the Human Performance attribute of the Mitigating Systems cornerstone and adversely affected the cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. Specifically, the unplanned auto start of diesel generator 1-1 caused unplanned unavailability of diesel generator 1-1.

Significance: The inspectors assessed the significance of the finding using Appendix A, "The Significance Determination Process (SDP) for Findings At-Power." The significance of the finding was assessed using IMC 0612, Appendix B, "Additional Screening Guidance"; IMC 0612, Appendix E, "Minor Examples"; IMC 0609, Attachment 4, "Initial Characterization of Findings"; and IMC 0609, Appendix A, "The SDP for Findings At-Power". This finding is of very low safety significance (Green) because the finding does not represent a loss of the design or qualification of a mitigating SSC, the PRA function of a single train of TS system for greater than its TS allowed outage time, a loss of the PRA function of one train of a multi-train TS system for greater than its TS allowed outage time, the PRA function of two separate TS systems for greater than 24 hours, a PRA system and/or function as defined in the licensee's PRA for greater than 24 hours, and PRA function of one or more non-TS trains of equipment designated as risk significant in accordance with the licensee's maintenance rule program for greater than 3 days.

Cross-Cutting Aspect: H.12 - Avoid Complacency: Individuals recognize and plan for the possibility of mistakes, latent issues, and inherent risk, even while expecting successful outcomes. Individuals implement appropriate error reduction tools. The finding has a cross-cutting aspect in the area human performance associated with Avoid Complacency. Specifically, licensee personnel did not implement appropriate error reduction tools. Specifically, Power Sources testing procedure included independent verification, additionally the supervisor failed to follow licensee expectations for engagement during critical steps in the procedure [H.12]

Enforcement:

Violation: TS 5.4.1 states "Written procedures shall be established implemented and maintained covering the following activities". Subsection (a), "The applicable procedures recommended in Regulatory Guide 1.33. Revision 2. Appendix A. February 1978. The list in Appendix A includes general operating procedures for Emergency Power Sources (e.g., diesel generators). Station procedure 1MSP-36.81-E "Functional Test of 1AE 4KV Emergency Bus Loss of Voltage Relay [27-VE100] and Diesel Start Loss of Voltage Relay [27-VE1100]", was implemented and maintained to perform functional testing of low and loss of voltage relays for the 1AE 4 kV bus. Section VII of the procedure, step 10, requires that operators open all Flexitest Switches except #7 and #8 on Relay [62-VE1100X] before functional testing of Relay [27-VE1100].

Contrary to the above, on September 30, 2021, operators did not open all Flexitest Switches except #7 and #8 on Relay [62-VE1100X].

Enforcement Action: This violation is being treated as a non-cited violation, consistent with Section 2.3.2 of the Enforcement Policy.

Failure to Ensure Unobstructed Egress from a High Radiation Area per 10 CFR 20.1601(d)			
Cornerstone	Significance	Cross-Cutting Aspect	Report Section
Occupational Radiation Safety	Green NCV 05000334,05000412/2021004-02 Open/Closed	[H.4] - Teamwork	71124.01
A self-revealing finding of very low safety significance (Green) and an associated NCV of 10 CFR 20.1601 "Control of access to high radiation areas," was identified on October 24, 2021, when the licensee failed to ensure that high radiation area controls were implemented in accordance with 10 CFR 20.1601, "Control of access to high radiation areas." Specifically, licensee personnel received unplanned radiation exposure when a worker was inadvertently locked within a (locked) high radiation area as defined by 10 CFR 20.1003, "Definitions."			
<p><u>Description:</u> On October 24, 2021, during a refueling outage at Energy Harbor's Beaver Valley Unit 2 reactor, a performance deficiency was identified when the licensee failed to ensure that high radiation area controls were implemented in accordance with 10 CFR 20.1601, paragraph (d). Specifically, a site employee was inadvertently locked in the reactor head stand area, which was a posted high radiation area, and the individual was unable to leave the area until the gate was unlocked approximately 35 minutes later.</p> <p>The fenced-in high radiation area was constructed on the 692-foot elevation of the Unit 2 containment building to prevent unauthorized individuals from entering the head stand area. The worker was briefed on the radiological conditions and entered the area to adjust lighting. The areas accessed by the worker averaged eight to thirty millirem per hour. Although dose rates under the reactor head were significantly higher, the worker did not enter those areas. Based on the time the worker reportedly spent in the area and the average dose rates it is estimated that the worker received approximately four millirem of unplanned dose while waiting to exit.</p> <p>Radiation Work Permit 221-5050, "Reactor Head Inspection," was used for the entry. The alarming dosimeter setpoints for this entry were 50 millirem and 500 millirem per hr. The area was locked using the gate's installed lock, which could be operated to allow egress from</p>			



the area; however, an additional chain and padlock were installed, which prevented the gate from being opened until the padlock was unlocked using the key. When the worker entered the area, another work group was already in the area. In the interim, the door guard was relieved and replaced by another door guard. A short time later the other workers exited the area; however, this worker was not involved in the same activities and remained in the area. When the other work crew left the area, they told the door guard they would not require access again for a few hours. The door guard locked the gate and padlock and left the area not realizing that one additional worker was still in the area. When the worker tried to exit the area and realized that the access door guard had left and the gate was locked, he called his supervisor for assistance. Approximately 35 minutes elapsed until a radiation protection technician was able to respond to unlock the gate and allow the individual to leave the area.

While the worker was locked in the area, the individual was: unable to exit the area; not monitored remotely via teledosimetry; had no access to an emergency communications system in case of emergency to summon assistance; was not monitored via closed-circuit video or direct observation; and no emergency escape plan was discussed or implemented.

**Corrective Actions:**

- A work stand-down was held with the work party and the radiation protection technicians and / or access control guards to ensure understanding of roles and responsibilities for all individuals involved with activities at the reactor head stand.
- The access control guards were stationed at the gate continuously for the duration of remaining reactor head work activities.
- The access control guards maintained a personnel access log to ensure accountability of personnel in the area.
- The licensee required a radiation protection technician to verify no personnel remain in the area prior to locking the gate.
- The licensee conducted an extent-of-condition review to ensure no other areas were subject to this type of error.
- The licensee will evaluate optional actions to improve communication between radiation protection staff and work groups.

**Corrective Action References:** CR-2021-08055; ATL-2022-0015-ATA-31

**Performance Assessment:**

**Performance Deficiency:** The licensee failed to ensure that high radiation area controls were implemented in accordance with 10 CFR 20.1601, "Control of access to high radiation areas." Specifically, an unplanned radiation exposure was received by a worker when licensee personnel inadvertently locked him within a high radiation area as defined by 10 CFR 20.1003, "Definitions." The individual was prevented from leaving the area until the fence was unlocked by licensee personnel. 10 CFR 20.1601(d), requires that individuals must not be prevented from leaving a high radiation area.

**Screening:** The inspectors determined the performance deficiency was more than minor because if left uncorrected, it would have the potential to lead to a more significant safety concern. Specifically, the failure to ensure workers were able to leave the high radiation area resulted in a personnel safety concern (e.g., inability to egress the area in case of a nuclear, industrial, health, or natural disaster type of emergency) when it rendered the access control radiation protection program barrier ineffective, resulting in an unanticipated radiation dose exposure of approximately four millirem to the worker.

Significance: The inspectors assessed the significance of the finding using Appendix C, "Occupational Radiation Safety SDP." The inspectors assessed the significance of the finding using Appendix C, "Occupational Radiation Safety SDP," and determined that the finding was of very low safety significance (Green) because it was not an as low as reasonably achievable (ALARA) planning issue, there was no overexposure nor was there a substantial potential for an overexposure, and the licensee's ability to assess dose was not compromised.

Cross-Cutting Aspect: H.4 - Teamwork: Individuals and work groups communicate and coordinate their activities within and across organizational boundaries to ensure nuclear safety is maintained. Specifically, teamwork, including communication and coordination between work groups and radiation protection staff was determined to be inadequate and could have prevented the event.

Enforcement:

Violation: Energy Harbor's Beaver Valley Unit 2's Renewed Operating License, License Number NPF 73, Section 2.C states, in part, that the renewed operating license shall be deemed to contain and is subject to the conditions specified in the Commission regulations set forth in 10 CFR Chapter 1 and is subject to all applicable provisions of the Act and to the rules, regulations, and orders of the Commission now or hereafter in effect.

Beaver Valley Technical Specifications Section 5.7.2 states, in part, that in addition to the requirements of Specification 5.7.1 above (regarding high radiation area controls), for each high radiation area in which the intensity of radiation is > 1000 mrem/hr, locked doors shall be provided to prevent unauthorized entry into such areas.

10 CFR 20.1101 "Radiation protection programs" states, in part, that (a) each licensee shall develop, document, and implement a radiation protection program commensurate with the scope and extent of licensed activities and sufficient to ensure compliance with the provisions of this part.

10 CFR 20.1601(d) states, in part, that the licensee shall establish high radiation area controls in a way that does not prevent individuals from leaving a high radiation area.

Contrary to the above, on October 24, 2021, Energy Harbor failed to establish high radiation area controls in a way that did not prevent an individual from leaving a high radiation area. Specifically, the licensee established high radiation area controls around the Unit 2 reactor head stand that included a fence, personnel access gate, and locking mechanisms. The access controls were employed in a manner that prevented individuals from leaving and an employee was locked inside the high radiation area and was unable to leave until the area was unlocked, in violation of the 10 CFR 20.1601(d).

Enforcement Action: This violation is being treated as a non-cited violation, consistent with Section 2.3.2 of the Enforcement Policy.

Failure to Perform a Radiation Survey to Identify and Control a High Radiation Area			
Cornerstone	Significance	Cross-Cutting Aspect	Report Section
Occupational Radiation Safety	Green NCV 05000334,05000412/2021004-03 Open/Closed	[H.13] - Consistent Process	71124.01
<p>A self-revealing finding of very low safety significance (Green) and an associated NCV of 10 CFR 20.1501(a), was identified when the licensee failed to perform a radiological survey identifying a high radiation area in accordance with 10 CFR 20.1902, "Posting Requirements." Specifically, radiation protection personnel were notified by a worker who had received a dose rate alarm upon entering an unlocked and unidentified high radiation area with dose rates greater than 100 millirem/hour at 30 centimeters in the Unit 2 'C' steam generator secondary side. Subsequent surveys of the area in question were performed and the licensee identified that the dose rates met the criteria for a high radiation area and should have been posted as such.</p>			
<p><u>Description:</u> On October 27, 2021, during a refueling outage at Beaver Valley's Unit 2 reactor, an individual received a dose rate alarm while performing maintenance activities in the secondary side of the 'C' steam generator. In accordance with the radiation work permit, the individual's dosimeter alarm setpoints were 80 millirem accumulated dose and 150 millirem per hour (mrem/hr) dose rate. The individual's dosimeter alarmed at 152 millirem per hour and his accumulated dose was 9 millirem upon exit from the radiologically controlled area. Based on the alarm, the individual stopped work and reported to the radiation protection staff. A subsequent radiation survey was performed and the licensee determined that the area met the criteria for high radiation area; however, the area was posted "radiation area." During interviews with site personnel, they indicated that changes to the generator's secondary side water level could increase the exposure rates in the generator and speculated that the water level was lowered due to natural evaporation in this case.</p> <p>Licensees are required to perform surveys as necessary to comply with the requirements outlined in 10 CFR Part 20. Site personnel had performed a survey of the area on October 27, 2021, at 0318 hours and the survey results did not indicate or reflect the presence of a high radiation area. A survey conducted after the individual received a dose rate alarm and on the same day at 1727 hours identified that the highest dose rate at 30 centimeters from the generator tubes was 160 mrem/hr, meeting the criteria for a high radiation area. This survey was contrary to the previous survey results which showed the 30 centimeter dose rate as 75 mrem/hr. Site radiation protection management stated that they speculated that the water level in the steam generator was lowered through evaporation or leakage, creating the conditions for a high radiation area. Based on the documents reviewed and statements provided, the inspectors determined that this was performance deficiency for failure to perform surveys necessary to comply with 10 CFR 20.1501(a). The failure to perform a radiation dose rate survey resulted in the licensee failing to post, barricade and control the area as a high radiation area as required by 10 CFR 20.1902, "Posting Requirements," and Beaver Valley TS 5.7 "High Radiation Area." The unposted high radiation area was identified when a worker received a dose rate alarm while in the area.</p> <p><u>Corrective Actions:</u></p> <ul style="list-style-type: none"> <li>• Documented the issue in the corrective action program</li> <li>• Posted the area "High Radiation Area"</li> <li>• Communicated the issue and results to the radiation protection staff</li> </ul>			

- Captured the event as a lesson-learned
- Scheduled an update to the posting procedure for future outages

Corrective Action References: CR-2021-08180, CR-2021-08245

Performance Assessment:

**Performance Deficiency:** On October 27, 2021, Energy Harbor failed to perform a radiation dose rate survey to evaluate the magnitude and extent of radiation levels on the secondary side of Beaver Valley's Unit 2 'C' steam generator, as required by 10 CFR 20.1501(a). The licensee's failure to survey the area resulted in a failure to post, barricade, and control a high radiation area; and an individual received a dosimeter dose rate alarm when the worker entered the area, unaware of the magnitude of the radiation levels. The licensee's failure to survey the area in a timely manner and post the area accordingly was a performance deficiency.

**Screening:** The inspectors determined the performance deficiency was more than minor because if left uncorrected, it would have the potential to lead to a more significant safety concern. Specifically, the licensee's failure to survey resulted in an unposted High Radiation Area where a worker accessed the area and his dosimeter dose rate alarm setpoint was not sufficiently low to allow him to take appropriate action before encountering dose rates exceeding 100 mrem/hr. The finding was similar to Example 6(f) in Appendix E to IMC 0612, "Power Reactor Inspection Reports – Examples of Minor Issues."

**Significance:** The inspectors assessed the significance of the finding using Appendix C, "Occupational Radiation Safety SDP." The finding was not related to ALARA planning, nor did it involve an overexposure or substantial potential for overexposure, and the licensee's ability to assess dose was not compromised.

**Cross-Cutting Aspect:** H.13 - Consistent Process: Individuals use a consistent, systematic approach to make decisions. Risk insights are incorporated as appropriate. Specifically, site personnel and procedures did not reflect a consistent, systematic approach, and failed to incorporate risk insights into the process of posting areas at the start of an outage or when system configurations change. The secondary side of the steam generator was previously posted as a high radiation area in anticipation of the water level being lowered and the dose rates elevated. However, in this instance the licensee had not posted the area prior to the dose rates changing.

Enforcement:

**Violation:** 10 CFR 20.1501 "General" states, in part, (a) each licensee shall make or cause to be made, surveys of areas, that (1) May be necessary for the licensee to comply with the regulations in this part; and, (2) Are reasonable under the circumstances to evaluate (i) The magnitude and extent of radiation levels; and, (ii) Concentrations or quantities of residual radioactivity; and, (iii) The potential radiological hazards of the radiation levels and residual radioactivity detected.

10 CFR 20.1003, "Definitions" states, in part, that *high radiation area* means an area, accessible to individuals, in which radiation levels from radiation sources external to the body could result in an individual receiving a dose equivalent in excess of 0.1 rem (1 mSv) in 1 hour at 30 centimeters from the radiation source or 30 centimeters from any surface that the radiation penetrates.

10 CFR 20.1902, "Posting Requirements," states in part that the licensee shall post each high radiation area with a conspicuous sign or signs bearing the radiation symbol and the words "CAUTION, HIGH RADIATION AREA" or "DANGER, HIGH RADIATION AREA."

Beaver Valley TS 5.7, "High Radiation Area," states, in part, that in lieu of the "control device" or "alarm signal" required by 10 CFR 20.1601, each high radiation area in which the intensity of radiation is > 100 mrem/hr but < 1000 mrem/hr shall be barricaded and conspicuously posted as a high radiation area and entrance thereto shall be controlled by requiring issuance of a radiation work permit.

Contrary to the above requirements, on October 27, 2021, Energy Harbor failed to make or cause to be made, surveys of areas that may be necessary for the licensee to comply with the regulations in 10 CFR Part 20; and are reasonable under the circumstances to evaluate the magnitude and extent of radiation levels; and to post and barricade an area with conspicuous signs bearing the radiation symbol and the words "CAUTION, HIGH RADIATION AREA" or "DANGER, HIGH RADIATION AREA" where the area radiation intensity was >100 mrem/hr but < 1000 mrem/hr. Specifically, the Beaver Valley Unit 2 "C" steam generator secondary side was posted "radiation area" and it was later identified through a radiation survey that the area met the conditions for a "high radiation area" posting.

Enforcement Action: This violation is being treated as a non-cited violation, consistent with Section 2.3.2 of the Enforcement Policy.

## **EXIT MEETINGS AND DEBRIEFS**

The inspectors verified no proprietary information was retained or documented in this report.

- On October 29, 2021, the inspectors presented the Inservice Inspection Activities inspection results to John Grabnar, Site Vice President, and other members of the licensee staff.
- On January 28, 2022, the inspectors presented the integrated inspection results to John Grabnar and other members of the licensee staff.

## DOCUMENTS REVIEWED

Inspection Procedure	Type	Designation	Description or Title	Revision or Date
71111.01	Miscellaneous	Calculation No. 10080-DSC-6794	Beaver Valley Power Station: Effects of Local Intense Precipitation Analysis	
		ECP 15-0357-000	Barrier Installation at External Plant Doors	
71111.04	Corrective Action Documents	2020-03127		
		2020-03339		
		2020-03503		
		2021-07381		
		2021-07699		
	Drawings	10080-RM-0082A		Revision 33
		10080-RM-0411-001	Valve Oper No Diagram Low/High Head Safety Injection	Revision 23
		10080-RM-0413-001	Valve Oper No Diagram Recirculation Spray System	Revision 12
		10080-RM-0420-001		Revision 12
		RM-0406-001	Reactor Coolant System	Revision 32
		RM-0407-002	Valve Oper No. Diagram Charging System VCT and Make-Up	Revision 20
		RM-0410-001	Valve Oper No Diagram Residual Heat Removal Piping	Revision 17
		RM-0413-001	Containment Depressurization Sys	Revision 27
	Miscellaneous		Operations Log Entry	10/10/2021 at 00:46:00
	Procedures	1OST-13.2	Quench Spray Pump [1QS-P-1B] Test	Revision 50
		2OM-10.3	Table of Contents	Revision 5
		2OM-10.3.B.1	Valve List - 2RHS	Revision 7
		2OM-10.3.C	Power Supply and Control Switch List	Revision 7
		2OM-10.3.D	RHS Startup Checkoff List	Revision 1
		2OM-10.4.A	Residual Heat Removal System Startup	Revision 45
		2OM-13.3.B.2	Valve List – 2RSS	Revision 8
		2OM-20.3.B.1	Valva list – 2FNC	Revision 12
		2OM-20.4.A	Fuel Pool Cooling/Purification System startup and operation	Revision 17
		2OM-52.4.R.1.F	Attachment 23, Isolate PG Eater	Revision 42

Inspection Procedure	Type	Designation	Description or Title	Revision or Date
		2OST-13.9	Containment Depressurization System Position Verification Test-Train 'B'	Revision 2
71111.05	Miscellaneous	BVBP-Site-0062	Unit1/Unit2 Transient Combustible Storage Areas	Revision 3
		Calculation Number B-084	Fire Loading Calculation	Revision 16
		ID: I-TCP-21-702458	Transient Combustible Permit	
		ID:m1TCP-21-624137	Transient Combustible Permit	
	Procedures	1PFP-TRBB-693-East	Turbine Building Basement East Fire Compartment 1-TB-1	2
		1PFP-TRBB-693-West	Turbine Building Basement West Fire Compartment 1-TB-1	3
		1PFP-TRBB-713	Turbine Mezzanine Fire Compartment 1-TB-1	3
		1PFP-TRBB-735	Turbine Operating Deck Fire Compartment 1-TB-1	2
		2PFP-RCBX-692	Reactor Containment Building Fire Compartment 2-RC-1	Revision 2
		2PFP-RCBX-718	Reactor Containment Building Fire Compartment 2-RC-1	Revision 2
		2PFP-RCBX-738	Reactor Containment Building Fire Compartment 2-RC-1	Revision 3
		2PFP-RCBX-767	Reactor Containment Building Fire Compartment 2-RC-1	Revision 2
		2PFP-SRVB-760-NORM	Normal Switchgear Room Fire Compartment 2-SB-4	Revision 1
		2PFP-TRBB-730	Turbine Basement East Fire Compartment 2-TB-1	Revision 3
		2PFP-TRBB-730	Turbine Basement West Fire Compartment 2-TB-1	Revision 3
		2PFP-TRBB-730-TURB-OIL	Turbine Oil Reservoir Fire Compartment 2-TB-1	Revision 1
		2PFP-TRBB-752	Turbine Building Mezzanine Fire Compartment 2-TB-1	Revision 3
		2PFP-TRBB-774	Turbine Building Operating Deck Fire Compartment 2-TB-1	Revision 4
71111.06	Miscellaneous	Calculation 211-N-265	Flooding Analysis Outside Containment	Revision 6
		PRA-BV2-AL-R07a	PRA Notebook for Internal Flooding Analysis	Revision 7a
71111.08P	Procedures	DMW-19-21	Examination Technique Specification Sheet for Alloy 800 Sleeve Ghent G3/G4	Revision 0
		MRS 2.3.2 GEN-	Machining of Steam Generator Tubes and Plugs	Revision 13

Inspection Procedure	Type	Designation	Description or Title	Revision or Date
		14		
		MRS 2.4.2 GEN-35	Eddy Current Inspection of pre-service and inservice heat exchanger tubes.	Revision 19
71111.11Q	Procedures	2OM-52.4.R.1.A	Station Shutdown Mode 1 to Mode 6 Administrative and Local Actions	Revision 16
		2OM-53A.1.E-0	Unit 2 Reactor Trip or Safety Injection	12/07/2016
71111.12	Corrective Action Documents	2014-09120, 2014-09256, 2014-12092, 2014-12311, 2014-17378, 2015-06886, 2015-13659, 2016-03114, 2017-04094, 2017-04655, 2017-05182, 2017-05447, 2017-11683, 2018-05318, 2018-07653, 2018-08536, 2019-00656, 2020-02998, 2020-04040, 2021-08663, 2021-07330		
			Maintenance Rule Failure Review Form for CR-2021-08663	
			Maintenance Rule System Basis Document, Main Feedwater System, System 24A	Revision 6
			Maintenance Rule Basis Document, Unit 1 Structures	
			Maintenance Rule Basis Document, Unit 2 Structures	Revision 9
		BVPS Maintenance Rule	Structural Inspections of BVPS Structures, Fourth Five Year Cycle Inspection – 2017	09/29/2021



Inspection Procedure	Type	Designation	Description or Title	Revision or Date
		Program		
		BVPS Maintenance Rule Program	Structural Inspections of BVPS Structures, Third Five Year Cycle Inspection – 2012	11/11/2014
	Procedures	2OM-52.4.A	Raising Power from 5 percent to Full Load Operation	Revision 90
		Unit1/Unit2-ADM-2016	General Area Structural Inspections	Revision 6
71111.13	Drawings	10080-RM-0411-001		Revision 23
	Miscellaneous		White Paper Discussing 480VUS-2-9P Temporary Power Technical Specification Implications During 2R22	
71111.15	Corrective Action Documents	2021-08273		
		2021-08846	Including Follow-Up Operability Determination (FOD)	
		2021-09086		
	Miscellaneous		Engine Systems, Inc., Report # 10CFR21-0133	Revision 0, 11/24/2021
		2EGS-EG2-2 OOS	for 2R22 MODE 6 Risk Assessment	
		ASME code case N-513-4		
		Report BOP-UT-21-219		
		TSTF-359	Industry/TSTF Standard Technical Specification Change Traveler	
		TSTF-IG-06-02	Implementation Guidance for TSTF-359, Revision 9, “Increase Flexibility in Mode Restraints”	May 2006
		TSTF-IG-06-02	Implementation Guidance for TSTF-359, “Increase Flexibility in Mode Restraints,” issued May 2006	Revision 9
	Procedures	NOP-OP-1009	Operability Determinations and Functionality Assessments	Revision 09
		NORM-OP-1009	SRO Review off Condition Reports	Revision 11
		Unit1/Unit2OM-48.1.I	Technical Specification Compliance	09/01/2021
		Unit1/Unit2OM-48.1.I	Technical Specification Compliance	Revision 37

Inspection Procedure	Type	Designation	Description or Title	Revision or Date
71111.19	Corrective Action Documents	2021-07649		
		2021-07699		
		2021-07792		
		2021-08000		
		2021-08248		
		2021-08483		
	Miscellaneous	2003.280-054-035	Vendor Technical Information Review Form, Unit 2, Diesel Generator Fuel Oil Storage Tank	03/12/2007
		2R21 JIT U2-21 A&B RHS Pump		
	Procedures	1OST-15.3	[1CC-P-1C] Quarterly Test	Revision 51
		2OM-22A.4.E	Shifting Condensate Pumps	Revision 7
		2OM-22A.4.L	Operating the [2CNM-P21A(B)(C)], Condensate Pump 21A(B)(C), Motor Uncoupled for PMT	
		2OM-36.4.AE	Post-Maintenance Governor Testing	Revision 4
		2OM-36.4.AF	Emergency Diesel Generator [2EGS*EG2-1] startup and shutdown	Revision 32
		2OM-36.4.AG	Emergency Diesel Generator [2EGS*EDG2-2] startup and shutdown, step-by-step	Revision 24
		2OST-36.1A	Emergency Diesel Generator [2EGS*EG2-1] 9-Hour Test	Revision 6
		Unit1/Unit2-CMP-M-10-001	Residual Heat Removal Pump Overhaul for Closed Coupled Pumps	06/21/2017
	Work Orders	200542983		
		200723925		
71111.22	Drawings	10080-RM-0411-001		Revision 23
		RM-0415-001	Primary Component Cooling Water	Revision 20
	Miscellaneous	2OST-11.14B	Tabular Logs	
	Procedures	1OST-7.5	Centrifugal Charging Pump Test (1CH-P-1B)	Revision 48
		2OM-52.4.R.1.F	Operating Manual	
		2OST-11.14B	Operational Surveillance Testing - HHSI Full Flow Test	Revision 44
		2OST-15.2	Primary Component Cooling Water Pump [2CCP*P21B] Test	Revision 64
	Work Orders	200802625		

Inspection Procedure	Type	Designation	Description or Title	Revision or Date
71124.01	Corrective Action Documents	2021-08055	Condition report for individual inadvertently locked in the reactor head stand area	
		2021-08180, 2021-08245	Condition report for dosimeter alarm and failure to post high radiation area	