



UNITED STATES
NUCLEAR REGULATORY COMMISSION

REGION I
475 ALLENDALE ROAD
KING OF PRUSSIA, PA 19406-1415

February 1, 2012

Mr. Paul A. Harden
Site Vice President
FirstEnergy Nuclear Operating Company
Beaver Valley Power Station
P. O. Box 4, Route 168
Shippingport, PA 15077

SUBJECT: BEAVER VALLEY POWER STATION - NRC INTEGRATED INSPECTION
REPORT 05000334/2011005 AND 05000412/2011005

Dear Mr. Harden:

On December 31, 2011, the U.S. Nuclear Regulatory Commission (NRC) completed an inspection at your Beaver Valley Power Station, Units 1 and 2. The enclosed inspection report documents the inspection results, which were discussed on January 24, 2012, with Mr. Raymond Lieb, Director of Site Operations, and other members of your staff.

The inspection examined activities conducted under your license as they relate to safety and compliance with the Commission's rules and regulations and with the conditions of your license. The inspectors reviewed selected procedures and records, observed activities, and interviewed personnel.

This report documents one (1) self-revealing finding of very low safety significance (Green). This finding was determined to be a violation of NRC requirements. However, because of its very low safety significance, and because it was entered into your corrective action program, the NRC is treating this finding as a non-cited violation (NCV) consistent with Section 2.3.2 of the NRC Enforcement Policy. If you contest this non-cited violation in this report, you should provide a written response within 30 days of the date of this inspection report, with the basis for your denial, to the Nuclear Regulatory Commission, ATTN.: Document Control Desk, Washington DC 20555-0001; with copies to the Regional Administrator, Region I; the Director, Office of Enforcement, United States Nuclear Regulatory Commission, Washington, DC 20555-0001; and the NRC Resident Inspector at Beaver Valley Power Station. In addition, if you disagree with the cross-cutting aspect assigned to the finding 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 Regional Administrator, Region I; and the NRC Resident Inspector at the Beaver Valley Power Station.

In accordance with 10 CFR 2.390 of the NRCs "Rules of Practice," a copy of this letter and its enclosure, and your response (if any) will be available electronically for public inspection in the

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Sincerely,



Gordon K. Hunegs, Chief
Reactor Projects Branch 6
Division of Reactor Projects

Docket Nos.: 50-334, 50-412
License Nos: DPR-66, NPF-73

Enclosures: Inspection Report 05000334/2011005; 05000412/2011005
w/ Attachment: Supplemental Information

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Sincerely,
/RA/

Gordon K. Hunegs, Chief
Reactor Projects Branch 6
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U.S. NUCLEAR REGULATORY COMMISSION**REGION I**

Docket Nos. 50-334, 50-412

License Nos. DPR-66, NPF-73

Report Nos. 05000334/2011005 and 05000412/2011005

Licensee: FirstEnergy Nuclear Operating Company (FENOC)

Facility: Beaver Valley Power Station, Units 1 and 2

Location: Shippingport, PA 15077

Dates: October 1, 2011 through December 31, 2011

Inspectors: D. Spindler, Senior Resident Inspector
E. Bonney, Resident Inspector
D. Silk, Senior Operations Engineer

Approved by: G. Hunegs, Chief
Reactor Projects Branch 6
Division of Reactor Projects

Enclosure

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SUMMARY OF FINDINGS

IR 05000334/2011005, IR 05000412/2011005; 10/01/2011-12/31/2011; Beaver Valley Power Station, Units 1 & 2; Drill Evaluation

This report covered a three-month period of inspection by resident inspectors and announced inspections performed by regional inspectors. One self-revealing finding of very low safety significance (Green) was identified. The significance of most findings is indicated by their color (Green, White, Yellow, Red) using Inspection Manual Chapter (IMC) 0609, "Significance Determination Process" (SDP). The cross-cutting aspects for the findings were determined using IMC 0310, "Components Within Cross-Cutting Areas." Findings for which the SDP does not apply may be Green, or be assigned a severity level after NRC management review. The NRC's program for overseeing the safe operation of commercial nuclear power reactors is described in NUREG-1649, "Reactor Oversight Process," Revision 4, dated December 2006.

Cornerstone: Emergency Preparedness

- Green. A Green, self-revealing non-cited violation (NCV) of 10 CFR 50.47(b)(2) to ensure timely augmentation of response capabilities is available was identified. Specifically, FENOC failed to fully staff two primary Emergency Response Organization (ERO) positions during an unannounced activation drill. FENOC entered this issue into their corrective action program as CR 2011-04431.

Traditional enforcement does not apply because the issue did not have an actual safety consequence or the potential for impacting NRC's regulatory function, and was not the result of any willful violation of NRC requirements. The inspectors determined that the finding was not similar to the examples for minor deficiencies contained in IMC 0612, Appendix E, "Examples of Minor Issues." The finding is more than minor because it affects the Emergency Preparedness cornerstone. The finding is associated with the ERO readiness attribute of the Emergency Preparedness cornerstone to ensure that the licensee is capable of implementing adequate measures to protect the health and safety of the public in the event of a radiological emergency.

In accordance with IMC 0609, Appendix B, Sheet 1, "Failure to Comply" flowchart, the performance deficiency screens to green because it is considered a degraded planning standard function.

The cause of this NCV relates to the cross-cutting aspect of Human Performance, Work Practices, in that FENOC personnel did not effectively communicate expectations regarding drill participation and staff did not respond in the required time for ERO positions they had accepted in the call out system [H.4(b)]. (Section 1EP6)

REPORT DETAILS

Summary of Plant Status

Unit 1 began the inspection period at 100 percent power and remained at or near 100 percent power throughout the inspection period.

Unit 2 began the inspection period at 100 percent power and remained at or near 100 percent power throughout the inspection period.

1. REACTOR SAFETY

Cornerstones: Initiating Events, Mitigating Systems, and Barrier Integrity

1R01 Adverse Weather Protection (71111.01 – 1 sample)

.1 Readiness for Seasonal Extreme Weather Conditions

a. Inspection Scope

The inspectors performed a review of the Beaver Valley Power Station's readiness for the onset of seasonal cold temperatures. The review focused on external storage tanks and associated piping and the emergency diesel generators (EDGs). The inspectors reviewed the Updated Final Safety Analysis Report (UFSAR), technical specifications, control room logs, and the corrective action program to determine what temperatures or other seasonal weather could challenge these systems, and to ensure Beaver Valley personnel had adequately prepared for these challenges. The inspectors reviewed station procedures, including Beaver Valley's seasonal weather preparation procedure and applicable operating procedures. The inspectors performed walkdowns of the selected systems to ensure station personnel identified issues that could challenge the operability of the systems during cold weather conditions. Documents reviewed for each section of this inspection report are listed in the Attachment.

b. Findings

No findings were identified.

1R04 Equipment Alignment

.1 Partial System Walkdowns (71111.04Q – 3 samples)

a. Inspection Scope

The inspectors performed partial walkdowns of the following systems:

- Unit 1, 'B' Low head safety injection system (LHSI) during 'A' LHSI pump testing on October 18
- Unit 1, 'A' Outside recirculation spray system during 'B' outside recirculation spray pump maintenance on October 25
- Unit 1, 1-2 Emergency diesel generator (EDG) fuel oil, air start, and cooling during 1-1 EDG testing on November 9

The inspectors selected these systems based on their risk-significance relative to the reactor safety cornerstones at the time they were inspected. The inspectors reviewed applicable operating procedures, system diagrams, the UFSAR, technical specifications, work orders, condition reports, and the impact of ongoing work activities on redundant trains of equipment in order to identify conditions that could have impacted system performance of their intended safety functions. The inspectors also performed field walkdowns of accessible portions of the systems to verify system components and support equipment were aligned correctly and were operable. The inspectors examined the material condition of the components and observed operating parameters of equipment to verify that there were no deficiencies. The inspectors also reviewed whether licensee staff had properly identified equipment issues and entered them into the corrective action program for resolution with the appropriate significance characterization.

b. Findings

No findings were identified.

.2 Full System Walkdown (71111.04S – 1 sample)

a. Inspection Scope

On November 21, the inspectors performed a complete system walkdown of accessible portions of the Unit 1 quench spray system to verify the existing equipment lineup was correct. The inspectors reviewed operating procedures, drawings, equipment line-up check-off lists, and the UFSAR to verify the system was aligned to perform its required safety functions. The inspectors also reviewed electrical power availability, component lubrication and equipment cooling, hangar and support functionality, and operability of support systems. The inspectors performed field walkdowns of accessible portions of the systems to verify system components and support equipment were aligned correctly and operable. The inspectors examined the material condition of the components and observed operating parameters of equipment to verify that there were no deficiencies. Additionally, the inspectors reviewed a sample of related condition reports and work orders to ensure FENOC appropriately evaluated and resolved any deficiencies.

b. Findings

No findings were identified.

1R05 Fire Protection

.1 Resident Inspector Quarterly Walkdowns (71111.05Q – 5 samples)

a. Inspection Scope

The inspectors conducted tours of the areas listed below to assess the material condition and operational status of fire protection features. The inspectors verified that FENOC controlled combustible materials and ignition sources in accordance with administrative procedures. The inspectors verified that fire protection and suppression equipment was available for use as specified in the area pre-fire plan, and passive fire barriers were maintained in good material condition. The inspectors also verified that

station personnel implemented compensatory measures for out of service, degraded, or inoperable fire protection equipment, as applicable, in accordance with procedures.

- Unit 1, Process rack room, CR-04 on October 27
- Unit 1, Cable tray mezzanine, CS-1 on October 27
- Unit 1, West cable vault, CV-1, on November 15
- Unit 2, Main feed regulating valve room, SB-5, on November 8
- Unit 2, Normal switchgear room, SB-4, on November 8

b. Findings

No findings were identified.

1R06 Flood Protection Measures (71111.06 – partial sample)

.1 Annual Review of Cables Located in Underground Bunkers/Manholes

a. Inspection Scope

The inspectors conducted an inspection of underground bunkers/manholes subject to flooding that contain cables whose failure could disable risk-significant equipment. The inspectors performed walkdowns of risk-significant areas, including manholes 1EMH8A and 1EMH8B, which contain service water and river water cables. Inspectors verified that the cables were not submerged in water, that cables appeared intact, and observed the condition of cable support structures. The inspectors verified proper sump pump operation and verified level alarm circuits were set in accordance with station procedures to ensure that the cables will not be submerged.

b. Findings

No findings were identified.

1R07 Heat Sink Performance (71111.07A – 1 sample)

a. Inspection Scope

The inspectors reviewed the Unit 2 'A' primary component cooling water heat exchanger (2CCP-E21A) to determine its readiness and availability to perform its safety functions. The inspectors reviewed the design basis for the component and verified FENOC commitments to NRC Generic Letter 89-13. The inspectors reviewed the results of previous inspections of 2CCP-E21A and similar heat exchangers. The inspectors discussed the results of the most recent inspection with engineering staff. The inspectors verified that FENOC initiated appropriate corrective actions for identified deficiencies. The inspectors also verified that the number of tubes plugged within the heat exchanger supports an operable but degraded status of the heat exchanger, limited by river water temperature.

b. Findings

No findings were identified.

1R11 Licensed Operator Requalification Program (71111.11 – 2 samples)

.1 Biennial Review of Operator Licensing Requalification Program

a. Inspection Scope

The following inspection activities were performed using NUREG-1021, "Operator Licensing Examination Standards for Power Reactors," Revision 9, Supplement 1, Inspection Procedure Attachment 71111.11, "Licensed Operator Requalification Program," Appendix A "Checklist for Evaluating Facility Testing Material," and Appendix B "Suggested Interview Topics."

A review was conducted of recent operating history documentation found in inspection reports and the licensee's corrective action program. The inspectors also reviewed specific events from the licensee's corrective action program which indicated possible training deficiencies, to verify that they had been appropriately addressed. The senior resident inspector was also consulted for insights regarding licensed operators' performance. These reviews did not detect any operational events that were indicative of possible training deficiencies.

The operating tests for the week of October 17, 2011, were reviewed for quality and performance.

On November 9, 2011, the results of the biennial written exam and the annual operating tests for year 2011 for Beaver Valley Units 1 and 2 were reviewed to determine if pass fail rates were consistent with the guidance of NUREG-1021, "Operator Licensing Examination Standards for Power Reactors," Revision 9, Supplement 1, and NRC Manual Chapter 0609, Appendix I, "Operator Requalification Human Performance Significance Determination Process (SDP)." The review verified the following:

For Unit 1

- Crew pass rates were greater than 80 percent. (Pass rate was 100 percent.)
- Individual pass rates on the dynamic simulator test were greater than 80 percent. (Pass rate was 100 percent.)
- Individual pass rates on the job performance measures of the operating exam were greater than 80 percent. (Pass rate was 100 percent.)
- Individual pass rates on the written examination were greater than 80 percent. (There was no biennial written examination this year for Unit 1 operators.)
- More than 75 percent of the individuals passed all portions of the exam. (100 percent of the individuals passed all portions of the operating examination.)

For Unit 2

- Crew pass rates were greater than 80 percent. (Pass rate was 100 percent.)

- Individual pass rates on the dynamic simulator test were greater than 80 percent. (Pass rate was 93.5 percent.)
- Individual pass rates on the job performance measures of the operating exam were greater than 80 percent. (Pass rate was 100 percent.)
- Individual pass rates on the written examination were greater than 80 percent. (Pass rate was 100 percent.)
- More than 75 percent of the individuals passed all portions of the exam. (93.5 percent of the individuals passed all portions of the operating examination.)

Observations were made of the dynamic simulator exams and job performance measures (JPM) administered during the week of October 17, 2011. These observations included facility evaluations of crew and individual performance during the dynamic simulator exams and individual performance of five JPMs. Written and operating examination material was reviewed to ensure excessive overlap did not exist among examination items.

The remediation plans for one crew and nine individual written quiz failures were reviewed to assess the effectiveness of the remedial training.

Seven operator license re-activations were reviewed to ensure that 10 CFR 55.53 license conditions and applicable program requirements were met.

Four operators were interviewed for feedback on their training program and the quality of training received.

Simulator performance and fidelity were reviewed for conformance to the reference plant control room.

A sample of records for requalification training attendance, program feedback, reporting, and medical examinations were reviewed for compliance with license conditions, including NRC regulations. Proficiency watch records for Unit 2 operators were also reviewed for the third quarter 2011.

b. Findings

No findings were identified.

.2 Quarterly Review of Licensed Operator Requalification Testing and Training (71111.11Q – 1 sample)

a. Inspection Scope

The inspectors observed licensed operator simulator training on October 6, 2011, which included a fire in the 1DF switchgear, loss of an emergency diesel, and a loss of primary containment. The inspectors evaluated operator performance during the simulated event and verified completion of risk significant operator actions, including the use of abnormal and emergency operating procedures. The inspectors assessed the clarity

and effectiveness of communications, implementation of actions in response to alarms and degrading plant conditions, and the oversight and direction provided by the control room supervisor. The inspectors verified the accuracy and timeliness of the emergency classification made by the shift manager and the technical specification action statements entered by the shift technical advisor. Additionally, the inspectors assessed the ability of the crew and training staff to identify and document crew performance problems.

b. Findings

No findings were identified

1R12 Maintenance Effectiveness (71111.12 – 3 samples)

a. Inspection Scope

The inspectors reviewed the samples listed below to assess the effectiveness of maintenance activities on SSC performance and reliability. The inspectors reviewed system health reports, corrective action program documents, maintenance work orders, and maintenance rule basis documents to ensure that FENOC was identifying and properly evaluating performance problems within the scope of the maintenance rule. For each sample selected, the inspectors verified that the SSC was properly scoped into the maintenance rule in accordance with 10 CFR 50.65 and verified that the (a)(2) performance criteria established by FENOC staff was reasonable. As applicable, for SSCs classified as (a)(1), the inspectors assessed the adequacy of goals and corrective actions to return these SSCs to (a)(2). Additionally, the inspectors ensured that FENOC staff was identifying and addressing common cause failures that occurred within and across maintenance rule system boundaries.

- Unit 2, Fire protection early warning panel failures on December 15, 2011
- Unit 1 and 2, Maintenance rule program Periodic Assessment Review of September 2009 through February 2011
- Unit 1 and 2, 8A Manhole sump pump failures on December 12, 2011

b. Findings

No findings were identified.

1R13 Maintenance Risk Assessments and Emergent Work Control (71111.13 – 5 samples)

a. Inspection Scope

The inspectors reviewed station evaluation and management of plant risk for the maintenance and emergent work activities listed below to verify that FENOC performed the appropriate risk assessments prior to removing equipment for work. The inspectors selected these activities based on potential risk significance relative to the reactor safety cornerstones. As applicable for each activity, the inspectors verified that FENOC personnel performed risk assessments as required by 10 CFR 50.65(a)(4) and that the assessments were accurate and complete. When FENOC performed emergent work, the inspectors verified that operations personnel promptly assessed and managed plant risk. The inspectors reviewed the scope of maintenance work and discussed the results

of the assessment with the station's probabilistic risk analyst to verify plant conditions were consistent with the risk assessment. The inspectors also reviewed the technical specification requirements and inspected portions of redundant safety systems, when applicable, to verify risk analysis assumptions were valid and applicable requirements were met.

- Unit 2, 'B' System station service transformer (SSST) tap changer emergent repair on October 8
- Unit 2, Rescheduled maintenance on 'A' SSST on October 13
- Unit 2, Emergent maintenance on service water system 2SWP-P21A, B, C seal water and motor cooling water strainer (2SWS-STRM48) on October 29
- Unit 1 and 2, Risk assessment for emergent work on 2-2 EDG on October 5
- Unit 1 and 2, Risk assessment for emergent work on the Emergency Response Facility (ERF) EDG during the week of December 12

b. Findings

No findings were identified.

1R15 Operability Determinations and Functionality Assessments (71111.15 – 5 samples)

a. Inspection Scope

The inspectors reviewed operability determinations for the following degraded or non-conforming conditions:

- Unit 1, Containment electrical penetration test gauges reading zero, CR 11-96117 on October 17
- Unit 2, A Service water supply header to 2-1 EDG through-wall leak, CR 2011-02562 on October 3
- Unit 2, Pinhole leak in fire protection piping DV-1FP-5, CR 2011-02362 on October 3 and 4
- Unit 2, 'B' Service water pump strainer packing failure, CR 2011-04562 on October 29
- Unit 2, 'A' Component cooling water heat exchanger, CR 2011-02159 on November 4

The inspectors selected these issues based on the risk significance of the associated components and systems. The inspectors evaluated the technical adequacy of the operability determinations to assess whether technical specification operability was properly justified and the subject component or system remained available such that no unrecognized increase in risk occurred. The inspectors compared the operability and design criteria in the appropriate sections of the technical specifications and UFSAR to FENOC's evaluations to determine whether the components or systems were operable. Where compensatory measures were required to maintain operability, the inspectors determined whether the measures in place would function as intended and were properly controlled by FENOC. The inspectors determined, where appropriate, compliance with bounding limitations associated with the evaluations.

b. Findings

No findings were identified.

1R19 Post-Maintenance Testing (71111.19 – 7 samples)a. Inspection Scope

The inspectors reviewed the post-maintenance tests for the maintenance activities listed below to verify that procedures and test activities ensured system operability and functional capability. The inspectors reviewed the test procedure to verify that the procedure adequately tested the safety functions that may have been affected by the maintenance activity, that the acceptance criteria in the procedure was consistent with the information in the applicable licensing basis and/or design basis documents, and that the procedure had been properly reviewed and approved. The inspectors also witnessed the test or reviewed test data to verify that the test results adequately demonstrated restoration of the affected safety functions.

- Unit 1, Containment isolation valve, TV-1DA-100B, repair on October 11
- Unit 1, 1-1 EDG air start system solenoid operated valve replacement on November 9
- Unit 1, 1-2 Battery bus supply breaker replacement on November 23
- Unit 2, 2-2 EDG cylinder head test valve replacement on October 5
- Unit 2, 'A' Component cooling water pump shaft and outboard bearing repair on October 14
- Unit 2, Steam driven auxiliary feedwater (AFW) pump steam supply header valve repair on December 9
- Unit 2, 'C' steam supply isolation to the steam driven AFW PUMP [2MSS-SOV105C] solenoid operator replacement on December 16

b. Findings

No findings were identified.

1R22 Surveillance Testing (71111.22 – 6 samples)a. Inspection Scope

The inspectors observed performance of surveillance tests and/or reviewed test data of selected risk-significant SSCs to assess whether test results satisfied technical specifications, the UFSAR, and licensee procedure requirements. The inspectors verified that test acceptance criteria were clear, tests demonstrated operational readiness and were consistent with design documentation, test instrumentation had current calibrations and the range and accuracy for the application, tests were performed as written, and applicable test prerequisites were satisfied. Upon test completion, the inspectors considered whether the test results supported that equipment was capable of performing the required safety functions. The inspectors reviewed the following surveillance tests:

- Unit 1, 1OST-36.1, 1-1 EDG monthly test on October 11
- Unit 1, 1OST-6.2A, Reactor coolant system inventory balance on October 14-18, (RCS leak rate)
- Unit 1, 1OST-30.1A, Auxiliary river water pump test on October 21 (in-service test)
- Unit 2, 2MSP-24.02-I, Loop 1 Narrow range steam generator water level channel I test on October 13
- Unit 2, 2MSP-21.24-I, Loop 'B' Steamline pressure protection channel IV calibration, on November 4
- Unit 1 and 2, 1/2OST-33.31, Fire brigade equipment test on November 26

b. Findings

No findings were identified.

Cornerstone: Emergency Preparedness

1EP6 Drill Evaluation (71114.06 – 2 samples)

.1 Emergency Preparedness Drill Observation

a. Inspection Scope

The inspectors evaluated the conduct of routine FENOC emergency drill on October 6 and unannounced activation drill on October 25 to identify any weaknesses and deficiencies in the classification, notification, and protective action recommendation development activities. The inspectors observed emergency response operations in the simulator, technical support center, and emergency operations facility to determine whether the event classification, notifications, and protective action recommendations were performed in accordance with procedures. The inspectors also attended the station drill critique to compare inspector observations with those identified by FENOC staff in order to evaluate FENOC's critique and to verify whether the licensee staff was properly identifying weaknesses and entering them into the corrective action program.

b. Findings

Introduction: A Green, self-revealing non-cited violation (NCV) of 10 CFR 50.47(b)(2) to ensure timely augmentation of response capabilities is available was identified. Specifically, FENOC failed to fully staff two primary Emergency Response Organization (ERO) positions during an unannounced activation drill.

Description: On October 25, Beaver Valley Power Station failed an Emergency Response off-hours, unannounced activation drill. At 0411, a simulated Alert was initiated by the control room as a site wide activation with all ERO responders required to report to assigned positions. Two primary ERO positions that augment on-shift personnel, Radiation Technician and Field Monitoring Driver, were not fully staffed within the required 60 minute activation per the Emergency Preparedness Plan, Section 5, Table 5.1, Minimum On-Shift Staffing Requirements. Four of the ten required Radiation Technician positions were not fully staffed until 69 minutes from drill declaration, and one of two required Field Monitoring Driver positions was not filled until 71 minutes after drill declaration. These positions are filled by personnel not required to carry pagers. All

personnel were initially contacted via pager, followed by calls to home phones and/or cell phones. The automated callout system continues to contact personnel until all ERO positions are acknowledged by a call from the responder committing to report to the station within the required time.

The licensee conducted a root cause analysis of the failed activation drill. Several changes were made to the ERO automated call-out system that contacts ERO responders. More phone lines were dedicated to calling Radiation Technicians. The number of Radiation Technicians contacted for ERO positions required to respond to the site was increased from 10 to 20 personnel. The automated callout system now contacts personnel via home phone, cell phone, and pager, when positions remain unfilled after the initial call-out system transmission. A text message is also sent out with the initial page to cell phones.

Analysis: The failure to fully staff the Radiation Technician positions and Field Monitoring Driver position within the required time is considered a performance deficiency. Traditional enforcement does not apply because the issue did not have an actual safety consequence or the potential for impacting NRC's regulatory function, and was not the result of any willful violation of NRC requirements. The inspectors determined that the finding was not similar to the examples for minor deficiencies contained in IMC 0612, Appendix E, "Examples of Minor Issues." The finding is more than minor because it affects the Emergency Preparedness cornerstone. The finding is associated with the ERO readiness attribute of the Emergency Preparedness cornerstone to ensure that the licensee is capable of implementing adequate measures to protect the health and safety of the public in the event of a radiological emergency. In accordance with IMC 0609, Appendix B, Sheet 1, "Failure to Comply" flowchart, the performance deficiency screens to green because it is considered a degraded planning standard function.

The cause of this NCV relates to the cross-cutting aspect of Human Performance, Work Practices, in that FENOC personnel did not effectively communicate expectations regarding drill participation and staff did not respond in the required time for ERO positions they had accepted in the automated callout system [H.4(b)].

Enforcement: 10 CFR 50.54(q) requires that FENOC follow and maintain in effect emergency plans which comply with the standards of 10 CFR 50.47(b)(2), to ensure timely augmentation of response capabilities is available. Contrary to the above, FENOC failed to fill two primary ERO positions required by the Emergency Preparedness Plan during an off-hours, unannounced, activation drill. Because this deficiency is considered to be of very low safety significance (Green), and was entered into the corrective action program (CR 2011-04431), this violation is being treated as an NCV, consistent with Section 2.3.2 of the NRC Enforcement Policy. **(NCV 05000334, 412/2011005-01, Unannounced Emergency Response Organization Activation Drill Failure)**

4. OTHER ACTIVITIES

40A1 Performance Indicator Verification (71151)

.1 Mitigating Systems Performance Index (4 samples)

a. Inspection Scope

The inspectors reviewed FENOC's submittal of the Mitigating Systems Performance Index for the following systems for the period of October 1, 2010 through September 30, 2011:

- Unit 1 Emergency AC Power System
- Unit 2 Emergency AC Power System
- Unit 1 High Pressure Injection System
- Unit 2 High Pressure Injection System

To determine the accuracy of the performance indicator data reported during those periods, the inspectors used definitions and guidance contained in NEI Document 99-02, "Regulatory Assessment Performance Indicator Guideline," Revision 6. The inspectors also reviewed operator narrative logs, condition reports, mitigating systems performance index derivation reports, event reports, and NRC integrated inspection reports to validate the accuracy of the submittals.

b. Findings

No findings were identified.

4OA2 Problem Identification and Resolution (71152 – 4 samples)

.1 Routine Review of Problem Identification and Resolution Activities

a. Inspection Scope

As required by Inspection Procedure 71152, "Problem Identification and Resolution," the inspectors routinely reviewed issues during baseline inspection activities and plant status reviews to verify that FENOC entered issues into the corrective action program at an appropriate threshold, gave adequate attention to timely corrective actions, and identified and addressed adverse trends. In order to assist with the identification of repetitive equipment failures and specific human performance issues for follow-up, the inspectors performed a daily screening of items entered into the corrective action program and periodically attended management review board condition report screenings.

b. Findings

No findings were identified.

.2 Annual Sample: Review of the Operator Workaround Program

a. Inspection Scope

The inspectors reviewed the cumulative effects of the existing operator workarounds, operator burdens, existing operator aids and disabled alarms, and open main control room deficiencies to identify any effect on emergency operating procedure operator actions, and any impact on possible initiating events and mitigating systems. The

inspectors evaluated whether station personnel had identified, assessed, and reviewed operator workarounds as specified in FENOC procedure NOBP-OP-0012, "Operator Work-Arounds, Burdens, and Control Room Deficiencies."

The inspectors reviewed FENOC's process to identify, prioritize and resolve main control room distractions to minimize operator burdens. The inspectors reviewed the system used to track these operator workarounds and recent self assessments of the program. The inspectors also toured the control room and discussed the current operator workarounds with the operators to ensure the items were being addressed on a schedule consistent with their relative safety significance.

b. Findings and Observations

No findings were identified.

3. Annual Sample: Degrading Trend in Operations Procedure Content and Usage

a. Inspection Scope

The inspectors performed an in-depth review of FENOC's corrective actions associated with the full apparent cause for condition report CR 10-82360 and limited apparent cause for condition report CR 11-88214 regarding Operations procedure usage and content during the third and fourth quarters of 2010.

The inspectors assessed FENOC's problem identification threshold, cause analyses, extent of condition reviews, and the prioritization and timeliness of FENOC's corrective actions to determine whether FENOC was appropriately identifying, characterizing, and correcting problems associated with the procedure usage by operations department personnel.

b. Findings and Observations

No findings were identified.

FENOC's cause analyses identified that errors in procedures was a significant contributor to errors made by operations personnel. A significant backlog of procedural changes exists on site, and prior to the CR 10-82360, prioritization of procedure changes was not effectively managed. Operators were identifying procedure issues in the corrective action program, but procedure corrections were not being addressed in a timely manner commensurate with the frequency and safety importance of the procedure usage. FENOC is now actively managing the document change request list with a backlog reduction plan that includes weekly updates to management. Human performance was not recognized as a significant contributor in the analysis and corrective actions.

CR 11-88214 assessed the human performance aspect of the errors that occurred in 2010. A decline in procedure adherence was identified in the analysis. The corrective actions directed management to reinforce standards to operations regarding the importance of procedural compliance. Operations human performance has started to decline in the Clearance/Tagging Program, NOP-OP-1001, implementation, as evidenced by CR 2011-04088, "Inadvertent de-energization of MCC-2-14,"

CR 2011-01798 "Locking device not properly installed" and CR 2011- 02791 "Incorrect clearance posting causes trip of 'C' chiller" in the fourth quarter of 2011. While not adversely affecting safety related equipment, human performance by Operations has not exhibited a high level of attention to detail to FENOC clearance program procedures, which are general field references. There has been an improvement in step-by-step procedure usage by Operations personnel in the fourth quarter of 2011.

4. Annual Sample: Radiation Protection and Chemistry Safety Conscious Work Environment 2010/2011 Survey Results

a. Inspection Scope

The inspectors performed an in-depth review of FENOC's corrective actions associated with the full apparent cause for condition reports CR-10-83224 and 10-83492 regarding multiple negative responses in the 2010 Radiation Protection and Chemistry department safety conscious work environment (SCWE) survey.

The inspectors assessed FENOC's problem identification threshold, cause analyses, extent of condition reviews, and the prioritization and timeliness of FENOC's corrective actions to determine whether FENOC was appropriately identifying, characterizing, and correcting problems associated with the negative responses identified in the SCWE survey. The inspectors reviewed the 2011 and 2010 SCWE survey results for the site. Interviews were conducted by inspectors to assess employees' willingness to raise safety concerns onsite. Condition reports generated by Radiation Protection and Chemistry personnel were reviewed by inspectors. Inspectors also performed observations of site personnel response to issues discovered in the field.

b. Findings and Observations

No findings were identified.

FENOC identified several communication issues between Radiation Protection and Chemistry management and staff that is a potential driver of the negative responses in the annual SCWE survey. Based on inspector interviews and discussions with Radiation Protection and Chemistry personnel, the staff is aware of various means of raising safety concerns on site. The employee concerns program is consistently used throughout the year by FENOC employees.

2011 Chemistry SCWE survey results improved from the 2010 results. Radiation Protection SCWE survey results remained unchanged. Inspectors reviewed a sampling of condition reports to determine if Radiation Protection and Chemistry personnel were identifying issues through the corrective action process. Condition reports denote if the issue is identified by an individual, supervisor, oversight or is self-revealing. Based on a random sampling of thirty-three condition reports generated in the past three months by the Radiation Protection group, over half were identified by individuals. Twenty-two condition reports generated by Chemistry personnel in the last three months were reviewed, with approximately 65% of issues identified by individuals. The inspectors determined that, combined with the inspectors' daily review of condition reports, issues are being raised by individuals on site.

4OA6 Meetings, Including Exit**.1 Licensed Operator Requalification**

On October 21, 2011, the inspectors presented the inspection results of 1R11 to Chris Hynes, Training manager and other members of the FENOC staff at an exit meeting. The inspectors verified that no proprietary information was retained by the inspectors or documented in this report.

.2 Quarterly Inspection Report Exit

On January 24, 2012, the inspectors presented the inspection results to Mr. Raymond Lieb, Director of Site Operations, and other members of the FENOC staff. The inspectors verified that no proprietary information was retained by the inspectors or documented in this report.

ATTACHMENT: SUPPLEMENTARY INFORMATION

SUPPLEMENTARY INFORMATION**KEY POINTS OF CONTACT**Licensee Personnel

D. Auditori	Supervisor, Instrumentation and Control
S. Baker	Manager, Radiation Protection
D. Batina	Coordinator, Employee Concerns Program
R. Boyle	Supervisor, Engineering
G. Cramer	Manager, Emergency Planning
T. Cunningham	Technician, Instrumentation and Control
K. Deberry	Engineer, Mechanical
P. Eisenmann	Fleet Exam Developer
R. Ernfield	Simulator Operations Tester
I. Forbes	Fleet Exam Developer
J. Gallagher	Coordinator, Maintenance Rule Program
D. Gyms	Engineer, Fire Protection
P. Harden	Site Vice President
D. Haser	U2 Operations Superintendent
D. Huff	Director, Maintenance
C. Hynes	Manager Training
S. Kubis	Engineer, Electrical
R. Lieb	Director, Site Operations
M. Manoleras	Director, Engineering
K. Martin	Supervisor Continuing Training
J. Matsko	Supervisor, Electrical Engineering
O. McElligott	Simulator Software Engineer
E. McFarland	Supervisor Initial Training
C. McFeaters	Manager, Operations
J. Miller	Site Fire Marshall
D. Murray	Director, Performance Improvement
W. Rudolph	Operations Training Superintendent
B. Sepelak	Supervisor, Regulatory Compliance
D. Salera	Manager, Chemistry

Other Personnel

L. Ryan	Inspector, Pennsylvania Department of Radiation Protection
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LIST OF ITEMS OPENED, CLOSED, DISCUSSED, AND UPDATEDOpened/Closed

05000334, 412/2011005-01	NCV	Unannounced Emergency Response Organization Activation Drill Failure
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LIST OF DOCUMENTS REVIEWED

Section 1R01: Adverse Weather Protection

Procedures

1OST-45.11, Cold Weather Protection Verification, Rev. 20
2OST-45.11, Cold Weather Protection Verification, Rev. 19

Section 1R04: Equipment Alignment

Procedures

1OM-11.3.D.1, Safety Injection System Startup Checklist, Revision 1
1OM-13.3.C, Power Supply and Control Switch List, Revision 6
1OM-13.3.B.1, Valve List-1QS, Revision 14

Maintenance Orders/Work Orders

200316403 200367561 200165958 200295271 200295271 200375189

Drawings

8700-RM-0053A, Flow Diagram Emergency Diesel Generator Fuel and Air System, Revision 32
8700-RM-0430-001, Piping and Instrument Diagram River Water System, Revision 31
RM-0413-002, Revision 12
RM-0411-001, Piping and Instrument Diagram Safety Injection System, Revision 24
RM-0413-001

Miscellaneous

Unit 1 System Health report 2011-3, dated 11/15/11

Section 1R05: Fire Protection

Procedures

1PFP-SRVB-725, Cable Tray Mezzanine Prefire Plan, Revision 0
1PFP-SRVB-713, Process Rack Room Prefire Plan, Revision 0
1PFP-SFGB-735, West Cable Vault Prefire Plan, Revision 2
2PFP-SRVB-780, Main Feed Reg Valve Room, Revision 0
2PFP-SRVB-760, Normal Switchgear Room Prefire Plan, Revision 0
1/2ADM-1900, Fire Protection Program, Revision 25

Miscellaneous

WO 200248579
Beaver Valley Unit 1 Appendix R Update, Revision 21

Condition Reports

09-64328 09-60931 2011-00336 2011-05012 2011-00410 2011-01016

Section 1R06: Flood Protection Measures

Miscellaneous

Response to NRC Generic Letter 2007-01, Inaccessible or Underground Power Cable Failures
that Disable Accident Mitigation Systems or Cause Plant Transients, dated May 7, 2007
WO 200328616

1/2MI-75-Manhole-1E, Inspection of Manholes for Water Induced Damage, Revision 7

Section 1R07: Heat Sink Performance

Miscellaneous

EPRI-NP-7552, Heat Exchanger Performance Monitoring Guidelines, December 1991
 Root Cause Analysis Report, "Eddy Current Results of 2CCP-E21A," dated October 19, 2011
 BETA Laboratory Services Component/Material Test Report, "Heat Exchanger 2CCP-E21A
 Tube Load Test," dated October 22, 2011

Condition Reports

2011-01747 2011-02159 2011-04840 2011-94662

Work Orders

200459261 200459273 200413546

Section 1R11: Licensed Operator Requalification Program

Miscellaneous

Beaver Valley Power Station 2011 Blue Team Mini Drill October 6, 2011 controller book
 2011 Unit 2 Sample Plan
 Written Exam ARE11U2C3E2
 Written Exam ARE11U2C3E3
 Scenario 2DRLS-FS-S.1.006
 Scenario 2DRLS-E-2.007
 JPM 2AD-026
 JPM 2CR-154
 JPM 2CR-570
 JPM 2CR-589
 JPM 2PL-054
 JPM 2PL-072
 BVBP-TR-0008, Licensed Operator Requalification Exam Development and Administration
 NOP-TR-1010, Licensed Operator Requalification Exam Development
 1/2-ADM-1351, Licensed Operator Continuing Training Program
 1/2-ADM-1357, Conduct of Simulator Training
 Lesson Plan 2011U1C3D3-Low Power Ops with Malfunctions
 Lesson Plan 2011U2C3D3-Low Power Ops with Malfunctions
 Lesson Plan IOA Practice and Shift Manager Requests

Simulator Work Requests

SWR-6505, Add Bypass Feed Reg Valve Oscillation Per CR 11-92603-05
 SWR 6434, MFP Suction Pressure Trip 2CNM-PS118A/B Incorrect
 SWR 6445, ECP 10-0082 Remove Automatic Anti-Motoring Trip Function
 SWR 6500, ECP 10-0082 Restore Turbine Anti-Motoring Trip
 SWR 6467, 2RCS-PCV455C Indication Remains On With Loss of Dc Bus 2
 SWR 6506, Transient Review 4/10/11 NR Level Trip CR 11-92603-05
 SWR 6512, Heater Drain Check Valves 2HDH-695 & 696 Not Allowing Flow
 SWR 6514, Plant MUG Sync Shrink/Swell Transient Comparison
 SWR 6515, Plant Transient 2SWS*P21A Trip SWS Header Pressure Response

Simulator Tests

SQT-6.1, Steady State Drift Test – Full Power (2010 and 2011)
 SGT-6.2, Steady State Drift Test – Interim Power (2010 and 2011)
 SQT-6.3, Steady State Drift Test – Low Power (2010 and 2011)
 SQT-14.1.5.2.1.01, Reactor Plant Heatup from CSD to HSB (2010)
 SQT-14.1.5.2.1.03, Plant Startup from Zero Power to Full Power (2011)
 SQT-14.1.5.2.6.45, OST 2.24.2 Motor-Driven Aux Feed Pump 2FWE*P23A Test (2011)
 SQT-14.1.5.5.2.02, 2FWS-P21A Sheared Shaft (2011)
 SQT-5.1, Reactor Trip Test (2011)
 SQT-5.8, DBA Loss of Coolant Accident Transient Test (2010 and 2011)

Section 1R12: Maintenance EffectivenessProcedures

1BVT 1.33.07, Flood Seals Visual Inspection, Revision 5
 NOP-LP-2018, Quality Control Inspections of Maintenance and Modification Activities,
 Revision 7
 NOP-ER-3004, FENOC Maintenance Rule Program, Revision 1

Condition Reports

11-91853	10-72119	06-04144	09-69171	10-69762	10-70075
10-73441	10-73646	10-76283	10-76947	10-77375	10-77719
10-86127	11-88256	11-88624	11-91282	11-91773	11-94715
2011-04101					

Work Orders/Notifications

200338750	200338751	200399885	200399375	200400348	200218584
200403250	200415001	200437337	200448590	200446176	200479350
600480437	600438206	600585364	600589042	600590241	600604445
600613749	600618520	600649594			

Section 1R13: Maintenance Risk Assessments and Emergent Work ControlProcedures

1/2ADM-2035, Risk Program, Revision 4
 NOP-WM-0001, Work Management Process, Revision 7
 NOP-WM-2001, Work Management Scheduling/Assessment/Seasonal Readiness Processes,
 Revision 12

Condition Reports

2011-04562 2011-02655 2011-02710 2011-02958 2011-03005

Miscellaneous

BV Unit 1 Weekly Maintenance Risk Summary, Revision 1, dated 10/5/11
 BV Unit 1 Weekly Maintenance Risk Summary, Revision 1, dated 12/12/11
 BV Unit 2 Weekly Maintenance Risk Summary, Revision 2, dated 10/5/11
 BV Unit 2 Weekly Maintenance Risk Summary, revision 3, dated 10/7/11
 BV Unit 2 Operator Logs, dated 10/8/11
 BV Unit 2 Weekly Maintenance Risk Summary, Revision 2, dated 10/24/11
 BV Unit 2 Weekly Maintenance Risk Summary, Revision 1, dated 12/12/11
 BV Unit 2 Weekly Maintenance Risk Summary, Revision 2, dated 12/12/11

BV Unit 2 Weekly Maintenance Risk Summary, Revision 3, dated 12/14/11
 BV Unit 2 Weekly Maintenance Risk Summary, Revision 4, dated 12/15/11
 BV Unit 2 Weekly Maintenance Risk Summary, Revision 5, dated 12/16/11

Section 1R15: Operability Determinations and Functionality Assessments

Procedures

BOP-UT-11-313, NDE Characterization of Flow, 9/29/11
 NOBP-OP-1009, Prompt Operability Determination and Functionality Assessment Preparation Guide, Revision 4
 1BVT11.47.2, Containment Leakage Rate Testing Program, Revision 9
 1BVT1.47.4, Containment Electrical Penetrations Type 'B' Leak Test, Revision 14
 BOP-UT-11-327, UT Erosion/Corrosion Examination Report, dated 10/26/11

Condition Reports

2011-02562
 2011-04404

Drawings

L24334, Electrical Penetration Details and Assemblies, Revision 3
 Drawing 10080-RC-45E

Miscellaneous

UT Erosion/Corrosion Examination, dated 9/29/11
 AWS/ANSI 56.8-1994, Containment System Leakage Testing Requirements
 WO 200480681
 BVPS Unit 2 Logs, dated 10/29/11

Section 1R19: Post-Maintenance Testing

Procedures

1/2CMP-75-SOV-1I, Replacement of ASCO Solenoid Operated Valves, Revision 10
 2OST-36.2, Emergency Diesel Generator [2EGS*EG2-2], Revision 62
 2OST-15.1, Primary Component Cooling Water Pump [2CCP*P21A] test, Revision 46
 1MSP-36.70A-I, No. 1 Emergency Diesel Generator air start solenoid valve [SOV-1EE-101] replacement, Revision 0
 1OST-36.1, Diesel Generator No. 1 Monthly Test, Revision 53
 1OMG-36.4.AG, Diesel Generator No. 1 Startup and Shutdown, Revision 16
 1OM-36.4.AM, Diesel Generator No. 1 Fast Start, Revision 3
 NOP-WM-1005, Work Management Order Testing Process, Revision 3
 BVBP-SITE-0053, Post Maintenance Test Requirements, Revision 5
 2OST-24.4, Steam Driver Auxiliary Feed Pump [2FWE*P22] Quarterly Test, Revision 69

Condition Reports

2011-03080	2011-02989	2011-02613	2011-05608	2011-02406	2011-05033
2011-05072	2011-05034	2011-05151	2011-05857	09-58615	2011-05088

Maintenance Orders/Work Orders

200402334	200477583	200441945	200468900	600717668	204438659
200436535	200438668	200481956			

Section 1R22: Surveillance TestingProcedures

2MSP-21.24-I, 2MSS-P486 Loop B Steamline Pressure Protection Channel IV calibration,
Revision 10

2MSP-21.24-I, 2MSS-P486 Loop B Steamline Pressure Protection Channel IV calibration,
Revision 14

1OST-6.2A, Reactor Coolant System Water Inventory Balance, Revision 20

1OST-30.1A, [1WR-P-9A] Auxiliary River Water Pump Test, Revision 40

1OST-36.1, Diesel Generator No. 1 Monthly Test, Revision 53

1/2OST-33.31, Fire Protection System Operating Surveillance Test, Revision 15

Work Orders

200374579 200435914 200435015 200455637

Condition Reports

2011-03292 2011-03965

Section 1EP6: Drill EvaluationProcedures

1/2-ADM-1111, Rev. 4, "NRC EPP Performance Indicator Instructions"

1/2-ADM-1111.F01, Rev. 3, "Emergency Preparedness Performance Indicators
Classifications/Notifications/PARS"

EPP-I-1a/b, Rev. 14, "Recognition and Classification of Emergency Conditions;"

1/2-EPP-I-2, Rev. 35, "Unusual Event"

1/2-EPP-I-3, Rev. 33, "Alert"

1/2-EPP-I-4, Rev. 33, "Site Area Emergency" and

1/2-EPP-I-5, Rev. 34, "General Emergency"

Other

Blue Team mini-drill timeline

Drill Rosters, dated 10/25/11

Condition Reports

2011-03110 2011-03150 2011-03163 2011-03170 2011-03115 2011-04300

2011-04525 2011-04452 2011-04616 2011-04361 2011-04431 2011-04408

2011-04406 2011-04407

Section 4OA1: Performance Indicator VerificationProcedures

NOBP-LP-4012, NRC Performance Indicators, Revision 3

Condition Reports

10-84733 10-86428 10-86553 10-86618 10-86652 10-87284

10-87341 2011-01795 2011-02316 11-88069 11-90570 11-91377

11-92231 11-92235 11-92470 11-94172 11-94784 11-95145

11-96222 11-97251 11-97306 11-98014 11-98162

Miscellaneous

NOBP-LP-4012-23, MSPI Emergency AC Power Systems Beaver Valley Unit #1, Revision 0, Monthly forms dated September 2010 through September 2011
 NOBP-LP-4012-24, MSPI High Pressure Injection Valley Unit #1, Revision 0, Monthly forms dated September 2010 through September 2011
 NOBP-LP-4012-28, MSPI Emergency AC Power Systems Beaver Valley Unit #2, Revision 1, Monthly forms dated September 2010 through September 2011
 NOBP-LP-4012-29, MSPI High Pressure Injection Valley Unit #2, Revision 0, Monthly forms dated September 2010 through September 2011

Section 40A2: Problem Identification and ResolutionProcedures

NOP-OP-1002, Conduct of Operations, Revision 5
 NOP-OP-1001, Clearance/Tagging Program, Revision 15
 NOP-OP-1014, Plant Status Control, Revision 1
 1/2OM-48.3.D, Administrative Control of Valves and Equipment, Revision 6
 NOBP-OP-0012, Operator Work-Arounds, Burdens and Control Room Deficiencies, Revision 1

Condition Reports

2011-00001	2011-00363	2011-00368	2011-01065	2011-01344	2011-01347
2011-01410	2011-01618	2011-01818	2011-01847	2011-01875	2011-02793
2011-04382	2011-01814	2011-04846	2011-04849	2011-02527	2011-02888
2011-01701	2011-01408	2011-01730	2011-00797	2011-03696	2011-02598
2011-04058	2011-03725	2011-03172	2011-04473	2011-00214	2011-00289
2011-00292	2011-00313	2011-00319	2011-00654	2011-00914	2011-01336
2011-01653	2011-01616	2011-01690	2011-01746	2011-01910	2011-02203
2011-02204	2011-01504	2011-01910	2011-01692	2011-03182	2011-04359
2011-02801	2011-03902	2011-00430	2011-02791	2011-01798	2011-00316
10-85773	10-87312	10-78090	10-82360	11-88214	10-85927
10-83224	10-83492	10-83797	10-87005	11-91225	11-91368

Work Order/Notifications

200016861	200016927	200017002	200017903	200292766	200316431
200394803	200394804	200394805	200402644	200412988	200415221
200430019	200434874	200435497	200442124	200446751	200448745
200452191	200454933	200456660	200456916	200456917	200457477
200462230	200464681	200466792	200468740	200472575	200473734
200474932	200476985	200468900	600711841	600055485	600065430
600073429	600214790	600420576	600499191	600542194	600542196
600556279	600573445	600641058	600662735	600676512	600677547
600680257	600691406	600696104	600696146	600703356	600703496
600711542	600711545	600711634	600714412		

Miscellaneous

Beaver Valley SCWE Survey Results for August 2011
 IP-SA-11-033, Integrated Performance Assessment and Trending, Operations, 2010

LIST OF ACRONYMS

AC	Alternating Current
ADAMS	Agency-wide Documents Access and Management System
ADM	Administrative Procedure
BCO	Basis for Continued Operations
BVPS	Beaver Valley Power Station
CAP	Corrective Action Program
CFR	Code of Federal Regulations
CR	Condition Report(s)
EDG	Emergency Diesel Generator
FA	Functionality Assessments
FENOC	First Energy Nuclear Operating Company
HPCI	High Pressure Coolant Injection
IEEE	Institute of Electrical and Electronics Engineers
IMC	Inspection Manual Chapter
INPO	Institute of Nuclear Power Operations
IOD	Immediate Operability Determination
IP	Inspection Procedure
ISI	Inservice Inspection
JPM	Job Performance Measures
KV	Kilovolt
LCO	Limiting Conditions for Operations
LER	Licensee Event Report
LHSI	Low Head Safety Injection
MR	Maintenance Rule
MSP	Maintenance Surveillance Package
NCV	Non-cited Violation
NEI	Nuclear Energy Institute
NRC	Nuclear Regulatory Commission
OD	Operability Determinations
OST	Operations Surveillance Test
pCi/g	Picocuries per Gram
PARS	Publicly Available Records
PI	Performance Indicator
PI&R	Problem Identification and Resolution
POD	Prompt Operability Determination
PMT	Post Maintenance Testing
RCS	Reactor Coolant System
RPS	Reactor Programs System
SDP	Significance Determination Process
SSC	Structure, System, or Component
TS	Technical Specification
UFSAR	Updated Final Safety Analysis Report
URI	Unresolved Item