UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION I
2100 RENAISSANCE BLVD., Suite 100
KING OF PRUSSIA, PENNSYLVANIA 19406-2713

October 30, 2018

Mr. Richard Bologna
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, UNIT NOS. 1 AND 2 – INTEGRATED INSPECTION REPORT 05000334/2018003 AND 05000412/2018003

Dear Mr. Bologna:

On September 30, 2018, the U.S. Nuclear Regulatory Commission (NRC) completed an inspection at Beaver Valley Power Station, Units 1 and 2. On October 11, 2018, the NRC inspectors discussed the results of this inspection with Rodney Penfield, General Plant Manager and other members of your staff. The results of this inspection are documented in the enclosed report.

NRC inspectors documented one finding of very low safety significance (Green) in this report. This finding involved a violation of NRC requirements. The NRC is treating this violation as a non-cited violation (NCV) consistent with Section 2.3.2.a of the Enforcement Policy.

If you contest the violation or significance of the NCV, 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. In addition, if you disagree with a cross-cutting aspect assignment or a finding not associated with a regulatory requirement 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.

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 the NRC Public Document Room in accordance with Title 10 of the *Code of Federal Regulations* (10 CFR), Part 2.390, "Public Inspections, Exemptions, Requests for Withholding."

Sincerely,

/RA/

Matthew Young, Chief
Reactor Projects Branch 6
Division of Reactor Projects

Docket Numbers: 50-334 and 50-412
License Numbers: DPR-66 and NPF-73

Enclosure:
Inspection Report 05000334/2018003 and
05000412/2018003

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U.S. NUCLEAR REGULATORY COMMISSION
Inspection Report

Docket Numbers:	50-334 and 50-412
License Numbers:	DPR-66 and NPF-73
Report Numbers:	05000334/2018003 and 05000412/2018003
Enterprise Identifier:	I-2018-003-0073
Licensee:	FirstEnergy Nuclear Operating Company (FENOC)
Facility:	Beaver Valley Power Station, Units 1 and 2
Location:	Shippingport, PA 15077
Inspection Dates:	July 1, 2018 to September 30, 2018
Inspectors:	J. Krafty, Senior Resident Inspector S. Horvitz, Resident Inspector R. Rolph, Health Physicist K. Mangan, Senior Reactor Inspector P. Ott, Operations Engineer L. Dumont, Reactor Inspector A. Turilin, Reactor Inspector N. Floyd, Senior Reactor Inspector
Approved By:	M. Young, Chief Reactor Projects Branch 6 Division of Reactor Projects

SUMMARY

The U.S. Nuclear Regulatory Commission (NRC) continued monitoring FirstEnergy Nuclear Operating Company's (FENOC's) performance at Beaver Valley Power Station Units 1 and 2 by conducting the baseline inspections described in this report 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. NRC identified and self-revealed findings, violations, and additional items are summarized in the table below.

List of Findings and Violations

Inadequate Verification of Full Low Head Safety Injection Suction Piping			
Cornerstone	Significance	Cross-Cutting Aspect	Report Section
Mitigating Systems	Green NCV 05000334/2018003-01 Closed	[H.11] – Human Performance – Challenge the Unknown	71111.15
A self-revealed Green non-cited violation (NCV) of technical specification (TS) 5.4.1, Procedures, was identified when FENOC failed to adequately implement procedure 1OM-52.4.R.2.A, "Station Startup Mode 6 to Mode 1 Administrative and Local Actions," to verify that the low head safety injection (LHSI) suction pipes were full of water. Specifically, the non-destructive examination (NDE) inspector incorrectly determined that the suction pipes were full which led to inoperability of one or more trains of LHSI for in excess of four hours on May 22, 2018, when the suction lines were found to be voided.			

PLANT STATUS

Unit 1 began the inspection period at 48 percent power due to a tube leak in the condenser. The unit was returned to rated thermal power on July 3, 2018, and remained at or near rated thermal power for the remainder of the inspection period.

Unit 2 began the inspection period at rated thermal power. On July 20, 2018, the unit reduced power to 40 percent due to a feedwater heater level control valve failure causing instability in the feedwater heating system. The unit was returned to rated thermal power on July 24, 2018. On August 12, 2018, the unit performed a TS required shutdown due to the loss of a 480 volt emergency bus. The unit was returned to rated thermal power on August 16, 2018, and remained 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 plant status activities described in IMC 2515 Appendix D, "Plant Status" and conducted routine reviews using IP 71152, "Problem Identification and Resolution." 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 (1 Sample)

The inspectors evaluated readiness to cope with external flooding during the week of August 27, 2018.

71111.04 - Equipment Alignment

Partial Walkdown (3 Samples)

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

(1) Unit 1, river water system following post maintenance testing of the 'A' river water pump on July 13, 2018
(2) Unit 1, 'A' train of auxiliary feedwater system following 'A' motor driven auxiliary feedwater pump surveillance test on July 16, 2018
(3) Unit 2, 'A' train of service water during 'C' service water pump surveillance test on July 25, 2018

71111.05A/Q - Fire Protection Annual/Quarterly

Quarterly Inspection (5 Samples)

The inspectors evaluated fire protection program implementation in the following selected areas:

(1) Unit 1, auxiliary feedwater and quench spray pumps, fire compartment 2-SB-2 on July 9, 2018
(2) Unit 2, normal switchgear room, fire compartment 2-SB-4 on July 10, 2018
(3) Unit 1, main feedwater regulating valve room, ventilation equipment room, and clean shop, fire compartment 1-SB-GEN on July 17, 2018
(4) Unit 2, condensate polishing building, fire compartment 2-CP-1 on July 26, 2018
(5) Unit 2, alternate shutdown panel room, fire compartment 2-ASP on September 24, 2018

71111.11 - Licensed Operator Requalification Program and Licensed Operator Performance

Operator Requalification (1 Sample)

The inspectors observed and evaluated a crew of licensed operators in the Unit 2 simulator during the annual licensed operator requalification exam on July 31, 2018.

Operator Requalification Examination Results (Annual) (1 Sample)

The inspectors reviewed and evaluated the Unit 1 requalification written examination (operating test results reviewed in first quarter report) results on September 5, 2018.

The inspectors reviewed and evaluated the Unit 2 requalification examination (operating test) results on September 5, 2018.

Operator Performance (1 Sample)

The inspectors observed power ascension following waterbox repairs at Unit 1 on July 3, 2018, and ‘A’ feedwater heater train repairs at Unit 2 on July 24, 2018.

71111.12 - Maintenance Effectiveness

Routine Maintenance Effectiveness (1 Sample)

The inspectors evaluated the effectiveness of routine maintenance activities associated with the following equipment and/or safety significant functions:

(1) Emergency response facility diesel generator failure on July 6, 2018

71111.13 - Maintenance Risk Assessments and Emergent Work Control (5 Samples)

The inspectors evaluated the risk assessments for the following planned and emergent work activities:

(1) Unit 2, elevated risk due to 'B' charging pump and emergency response facility transformer maintenance on July 27, 2018
(2) Unit 2, elevated risk due to unavailability of 2-2 emergency diesel generator (EDG) on August 2, 2018
(3) Unit 2, unplanned immediate maintenance on the 2-2 and 2-4 batteries on August 12, 2018
(4) Unit 2, risk management and compensatory actions required to comply with the notice of enforcement discretion granted for restoration of the 'B' train batteries following the loss of 2-9P 480 volt bus on August 13, 2018
(5) Unit 2, yellow risk due to loss of 2-9P 480 volt bus on August 13, 2018

71111.15 - Operability Determinations and Functionality Assessments (5 Samples)

The inspectors evaluated the following operability determinations and functionality assessments:

(1) Unit 2, turbine driven auxiliary feedwater pump steamline isolation valve, 2MSS-SOV105B, stroke times on July 6, 2018
(2) Unit 1, over temperature delta temperature channel 432 exceeded the TS allowable value on July 30, 2018
(3) Unit 1, 1-2 EDG 'C' fuel oil transfer pump, 1EE-P-1C, flow rate high out of acceptable range on August 22, 2018
(4) Unit 1, low head safety injection suction piping voiding on August 31, 2018
(5) Unit 2, 2-2 EDG output breaker, 2F10, failed to close on September 26, 2018

71111.18 - Plant Modifications (1 Sample)

The inspectors evaluated the following temporary or permanent modifications:

(1) Engineering Change Package 14-0623-003, Temporary Modification to Secure Damper Vanes for 1VS-D-57B1 in the Open Position

71111.19 - Post Maintenance Testing (5 Samples)

The inspectors evaluated post maintenance testing for the following maintenance/repair activities:

(1) Unit 2, turbine driven auxiliary feedwater pump steamline isolation valve, 2MSS-SOV105B, coil and reed switch replacement on July 9, 2018
(2) Unit 2, 'A' charging pump planned maintenance on July 13, 2018
(3) Unit 2, replacement of airline components on FCV-1FW-479, bypass feedwater regulating valve on July 24, 2018
(4) Unit 1 & 2, emergency response facility diesel generator governor planned maintenance on July 31, 2018
(5) Unit 2, 2F11 relay replacement following loss of 2-9P bus on August 13, 2018

71111.22 - Surveillance Testing

The inspectors evaluated the following surveillance tests:

Routine (3 Samples)

(1) 1OST-7.18C, Safety Injection Relay Test (Slave Relay K609) – Train 'A' on July 12, 2018
(2) 1OST-24.2, Motor Driven Auxiliary Feed Pump Test [1FW-P-3A] on July 16, 2018
(3) 1OST-36.22A, Diesel Generator 1-1 Simulated Undervoltage Start Signal on August 8, 2018

71114.06 - Drill Evaluation

Drill/Training Evolution (1 Sample)

The inspectors evaluated a simulator training evolution for Unit 2 licensed operators on July 31, 2018.

RADIATION SAFETY

71124.05 - Radiation Monitoring Instrumentation

Walk Downs and Observations (1 Sample)

The inspectors evaluated radiation monitoring instrumentation during plant walkdowns.

Calibration and Testing Program (1 Sample)

The inspectors evaluated the licensee's calibration and testing program.

OTHER ACTIVITIES – BASELINE

71151 - Performance Indicator Verification

The inspectors verified licensee performance indicator submittals listed below for the period from July 1, 2017, through June 30, 2018 (6 Samples)

(1) Unit 1 and 2, Heat Removal System
(2) Unit 1 and 2, Residual Heat Removal Systems
(3) Unit 1 and 2, Cooling Water System

71152 - Problem Identification and Resolution

Semiannual Trend Review (1 Sample)

The inspectors reviewed the licensee's corrective action program for trends that might be indicative of a more significant safety issue.

Annual Follow-up of Selected Issues (2 Samples)

The inspectors reviewed the licensee's implementation of its corrective action program related to the following issues:

(1) Condition Report 2017-11593, Full Inspection of Unit-1 Iso-phase Bus Duct Not Completed
(2) Condition Report 2017-03937, Severity Level IV Violation for Failure to Obtain Prior NRC Authorization.

71153 - Follow-up of Events and Notices of Enforcement Discretion

Personnel Performance (2 Samples)

The inspectors evaluated response during the following non-routine evolutions or transients.

(1) Unit 2 unplanned power reduction to 40 percent due to a feedwater heater level control valve failure causing instability in the feedwater heater system on July 20, 2018.
(2) Unit 2 TS required shutdown due to the loss of a 480 volt emergency bus on August 12, 2018.

Notice of Enforcement Discretion (1 Sample)

The inspectors evaluated FENOC's actions surrounding Notice of Enforcement Discretion No. 18-1-01 which can be accessed at http://www.nrc.gov/reading-rm/doc-collections/enforcement/notices/noedreactor.html on August 13, 2018. The inspectors verified the accuracy of the Notice of Enforcement Discretion and its consistency with Beaver Valley Power Station's oral assertions and implementation of compensatory measures and commitments.

OTHER ACTIVITIES – TEMPORARY INSTRUCTIONS, INFREQUENT, AND ABNORMAL

Impact of Financial Conditions on Continued Safe Performance

In that the licensee's parent company, FirstEnergy Solutions, was under bankruptcy protection/reorganization during the inspection period, NRC Region I conducted reviews of processes at Beaver Valley. Using the flexibilities in the baseline inspection program, the inspectors evaluated several aspects of FENOC's operations to assess whether any identified plant performance issues could be related to the station's financial condition. The factors reviewed included: (1) impact on regulatory required plant staffing, (2) corrective maintenance backlog, (3) changes to the planned maintenance schedule, (4) corrective action program implementation, and (5) reduction in outage scope, including risk-significant modifications. In particular, the inspectors assessed whether FENOC personnel continued to identify problems at an appropriate threshold and entered these problems into the corrective action program for resolution. The inspectors also assessed whether FENOC continued to develop and implement corrective actions commensurate with the safety significance of the problems identified.

INSPECTION RESULTS

Inadequate Verification of Full Low Head Safety Injection Suction Piping			
Cornerstone	Significance	Cross-Cutting Aspect	Report Section
Mitigating Systems	Green NCV 05000334/2018003-01 Closed	[H.11] – Human Performance – Challenge the Unknown	71111.15

A self-revealed Green non-cited violation (NCV) of technical specification (TS) 5.4.1, Procedures, was identified when FENOC failed to adequately implement procedure 1OM-52.4.R.2.A, "Station Startup Mode 6 to Mode 1 Administrative and Local Actions," to verify that the low head safety injection (LHSI) suction pipes were full of water. Specifically, the non-destructive examination (NDE) inspector incorrectly determined that the suction pipes were full, which led to inoperability of one or more trains of LHSI for in excess of four hours on May 22, 2018, when the suction lines were found to be voided.

Description: On May 22, 2018, at 1256, Unit 1 personnel, while performing 3BVT01.11.04, Void Monitoring, discovered voids in the LHSI system between the containment sump and the suction isolation valves for both pumps. The voids were greater than 5 cubic feet, which exceeded the procedure's acceptance criteria of 0.261 cubic feet. Both trains of LHSI were declared inoperable and TS 3.5.2, Condition C, and limiting condition for operation (LCO) 3.0.3 were entered. The 'A' train suction line was filled and LCO 3.0.3 was exited at 1559. The 'B' train suction line was then filled and TS 3.5.2 was exited at 1743.

FENOC's investigation concluded that, based on the amount of inventory that was lost, a total of 158 gallons, and interviews with the workers, the voids were most likely caused by water being pumped out as part of the containment sump inspection on May 5, 2018. Ultrasonic examination of the LHSI suction piping was performed on May 7, 2018, in accordance with FENOC's station startup procedure, 1OM-52.4.R.2.A, and documented that the LHSI suction lines were full. Interviews with the contract worker who performed the void monitoring indicated that although he was a qualified Level II NDE inspector, he primarily performed weld inspections and did not have significant experience inspecting piping for voids. He also mentioned experiencing difficulties performing the void monitoring procedure. FENOC concluded that the void monitoring results on May 7, 2018, were in error.

FENOC subsequently performed a reassessment of the voids found on May 22, 2018, and determined that during a design basis accident, the filing of the containment sump would have reduced the size of the voids and the LHSI pumps would have remained operable. The inspectors reviewed the calculations and agreed with the conclusion.

Corrective Actions: FENOC took immediate corrective action to restore operability of the LHSI system and subsequently reassessed the voids and determined that the system would have remained operable.

Corrective Action Reference: CR 2018-04735

Performance Assessment:

Performance Deficiency: The inspectors determined that FENOC's failure to adequately implement the station startup procedure, 1OM-52.4.R.2.A, as required by TS 5.4.1, was within their ability to foresee and prevent and therefore was a performance deficiency.

Specifically, FENOC failed to accurately determine the voids in the LHSI piping on May 7, 2018, which caused them to incorrectly enter Mode 4 without a satisfactory ultrasonic test of the LHSI suction lines.

Screening: The inspectors determined the performance deficiency was more than minor because it adversely affected the human performance attribute of the Mitigating Systems cornerstone and its objective of ensuring the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences.

Significance: The inspectors assessed the significance of the finding using IMC0609.04, "Initial Characterization of Findings," and IMC 0609, Appendix A, Exhibit 2, "Mitigating Systems Screening Questions." The inspectors determined that the finding did not represent a loss of system or function, did not result in the loss of a single train for greater that its TS allowed outage time, and did not result in an actual loss of function of one or more non-TS trains of equipment designated as high safety-significant for greater than 24 hours. Therefore, the inspectors determined the finding to be of very low safety significance (Green).

Cross-Cutting Aspect: The finding has a cross cutting aspect in the area of Human Performance - Challenge the Unknown, because the individual performing the test did not stop when he had difficulties performing the void monitoring procedure.

Enforcement:

Violation: TS 5.4.1, "Procedures," requires, in part, that written procedures shall be established, implemented, and maintained covering the applicable procedures recommended in Regulatory Guide (RG) 1.33, Revision 2, Appendix A, February 1978. RG 1.33, Appendix A recommended procedures include plant operating procedures for taking the plant from cold shutdown to hot standby. Procedure 1OM-52.4.R.2.A, "Station Startup Mode 6 to Mode 1 Administrative and Local Actions," requires that satisfactory ultrasonic test (UT) examinations of the LHSI piping from the containment sump to the suction of the LHSI pumps have been completed prior to entering Mode 4.

Contrary to the above, on May 7, 2018, FENOC failed to properly perform UT examinations of the LHSI suction piping in accordance with 1OM-52.4.R.2.A prior to entering Mode 4. Specifically, the NDE inspector incorrectly determined that the LHSI suction pipes were full which led to the inoperability of one or more trains of LHSI for greater than four hours on May 22, 2018, when the suction lines were found to be voided.

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

Observations	71152

The inspectors noted that there were two over temperature delta temperature (OTDT) surveillance failures in the past two years. No individual component failed, but the cumulative tolerances of the individual components caused the loop to exceed the TS allowed values for OTDT delta temperature and OTDT average temperature. Additionally, there were four surveillances in the past three years where the results were close to the TS limit (greater than 75 percent of the allowed range). In one instance, a calibration was performed. In the three instances where a calibration was not performed, the channel failed the following surveillance twice. The inspectors noted that typical strategies used to minimize failures such as, a surveillance range which is smaller than the allowable TS limit range, an as-found band and a

smaller as-left band, or trending of surveillance results and recommending corrective action when a negative trend develops, have not been implemented. FENOC documented this issue in CR-2018-08899.

Observations	71152
The inspectors reviewed the root cause analysis and the corrective actions taken to address the iso-phase bus short circuit which resulted in a reactor trip. The inspectors also reviewed the license renewal commitments submitted for the metal enclosed busses to mitigate degradation of the bus and enclosure. The inspectors concluded that the cause analysis was thorough, the extent of condition was sufficient to identify the scope of the problem, and the corrective actions addressed the deficiencies. The inspectors also determined that license renewal commitments related to metal enclosed bus inspections were met.	

Observations	71152
The inspectors performed an in-depth review of FENOC's corrective actions associated with CR-2017-03937 for the Severity Level IV Violation for failure to obtain prior NRC authorization before implementing an alternative to the American Society of Mechanical Engineers Operation and Maintenance Code requirements. The details of this violation were previously documented in NRC Inspection Report 05000334/2017001 (ADAMS Accession Number ML17135A162). The inspectors interviewed engineering staff and reviewed FENOC's maintenance and testing activities to further assess the cause and corrective actions. As a result of the issue, FENOC submitted a relief request to the NRC, which was subsequently approved in a letter dated March 2, 2017. FENOC staff tested the residual heat removal relief valve, RV-1RH-721, during the spring 2018 refueling outage with satisfactory results. FENOC also provided supplemental training on the issue and violation to engineering staff during a periodic training session. The inspectors determined FENOC's overall response to the issue was commensurate with the safety significance, was timely, and included appropriate corrective actions.	

EXIT MEETINGS AND DEBRIEFS

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

- On October 11, 2018, the inspectors presented the quarterly resident inspector inspection results to Mr. Rodney Penfield, General Plant Manager, and other members of the Beaver Valley Power Station staff.

DOCUMENTS REVIEWED

71111.13

Miscellaneous
Beaver Valley Unit 2 Week 7/23/2018, T-0 ICDP Profile, Revision 0
Beaver Valley Unit 2 Week 7/30/2018, T-0 ICDP Profile, Revision 0
Beaver Valley Unit 2 Week 08/06/2018, T-0 ICDP Profile, Revision 2
Narrative Logs 8/13/2018 Daylight

71111.15

Procedures
1MSP-13-RS Sump -1M, Containment Sump Inspection, Revision 6
1MSP-6.40-I, T-RC432 Delta T TAVG Protection Instrument Channel III Calibration, Revision 44
1MSP-6.79-I, Operational Alignment of Process Temperature Instrumentation, Revision 9
1OM-11.4.J, Filling and Venting the Safety Injection System, Revision 27
2OST-36.2, Emergency Diesel Generator [2EGS*EG2-2] Monthly Test, Revision 75
NOP-WM-2003, Work Management Surveillance Process, Revision 8

Condition Reports

2001-0406	2016-09904	2018-05926	2018-07931
2008-46771	2018-05678	2018-06101	2018-08493
2010-74947	2018-05700	2018-07441	

Miscellaneous
02.029-0035, Low Head Safety Injection Pump Air Entrainment Analysis, December 2008
601188892
Cause Analysis Report- Unexpected Gas Voids Between MOV-1SI-860A/B and the CNMT Sump
EER 601171557, Eval Void Volume
EER 601173192, Volume for BV1 LHSI Suction Piping
FAI/09-130, Technical Basis for Gas Transport to the Pump Suction, December 2009
MPR-3255, Beaver Valley Unit 1 Low Head Safety Injection Pump Past Operability Analysis, Revision 2
NEI 09-10, Guidelines for Effective Prevention and Management of System Gas Accumulation, Revision 1a-A
SP-1RC-19, Uncertainty Calculations for the 1.4% Uprated Conditions
WCAP-17276-P, Investigation of Simplified Equation for Gas Transport, Revision 1

71124.05

Procedures
1/2-HPP-4.06.007, Portable Air Sampler – Model HD-28 (RADECO), Revision 3
1/2-HPP-4.06.011, Portable Air Sampler – Model RAS-1 (Eberline Instruments), Revision 3
1/2-HPP-4.06.012, Eberline, AMS-4 Continuous Air Monitor, Revision 13
1/2-HPP-4.06.014, Gilian Air Sampler, Revision 1
1/2-HPP-4.06.015, Gilian Air Sampler Calibration, Revision 2
1/2-HPP-4.06.016, Mirion Alpha Beta Particulate Monitor – 203M, Revision 0
1-HPP-5.01.002, Emergency Operation of the PING Particulate, Iodine and Noble Gas Monitors, Revision 5

2-HPP-5.04.001, Emergency Operation of the WRGM Assembly, Revision 3
NOP-OP-4401, Radiation Protection Instrumentation Program, Revision 3
NOP-OP-4404, PCM-2 Calibration, Source Checks and Use, Revision 4
NOP-OP-4408, Portable Survey Instruments, Revision 00
NOP-OP-4410, Fluke 451 B Calibration and Use, Revision 01

Work Order

200607668	200502462	200645197	200645313
200615254	200596574	200536876	200578837
200667939	200535882	200669339	
200634673	200698514	200552455	
200370216	200597266	200632692	

71152

Procedures
NOP-LP-2001, Corrective Action Program, Revision 45

Condition Reports

2016-12335	2017-11215	2018-04593	2018-06893
2017-05664	2017-11238	2018-04783	2018-08232
2017-11134	2018-02783	2018-05678	

Work Orders

200121564	200209770	200469979	200734302
200121594	200429521	200643913	

Miscellaneous
1/2-ADM-2306, Metal Enclosed Bus Program, Rev. 0
1/2PMP-35-GML/TRF-03E, Iso-Phase Bus Inspection and Test, Issue 4 Rev. 6
1/2PMP-35-GML/TRF-03E, Iso-Phase Bus Inspection and Test, Issue 4 Rev. 7
DWG 08700-01.019, Shts. 1, 2, 3, and 4, Layout of Single Insulator Isolated Phase Bus Duct – Main Transformer to Station Transformer, Revs. B, B, E, and F
FLOV-ES-BV-16-04, Fleet Oversight Escalation – Gaps in behaviors during plant activities, Revision 0
FLOV-EL-BV-16-11, Fleet Oversight Elevation – Gaps in preventing foreign material from entering plant systems and components, Revision 0
LER 2017-003-00, Beaver Valley Power Station Unit 1 Reactor Trip due to Turbine Trip and Automatic Initiation of Auxiliary Feedwater System, Rev. 0
NOBP-ER-3015, License Renewal Implementation Guidelines, Rev. 01
PA-BV-2018-0002-007, Transient combustible walk down - Unit 1 Turbine Building
PA-BV-2018-0004-008, Deficiencies with documentation and record keeping
PA-BV-2018-0007-006, Environmental/chemical control in Unit 1 turbine building
PA-BV-2018-0008-001, Review of 1R25 Scope Change Request Deletions
PA-BV-2018-0008-004, Compliance with Appendix J Program Requirements for “Not Acceptable” Test Results
L-16-317, Beaver Valley Unit 1 Letter - Proposed Alternative VRR5 to Delay Valve Test, dated October 24, 2016