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**UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION I
2100 RENAISSANCE BLVD.
KING OF PRUSSIA, PA 19406-2713**

August 18, 2016

Mr. Marty Richey
Site Vice President
FirstEnergy Nuclear Operating Company
Beaver Valley Power Station
P. O. Box 4
Shippingport, PA 15077-0004

**SUBJECT: BEAVER VALLEY POWER STATION – EVALUATION OF CHANGES, TESTS,
OR EXPERIMENTS AND PERMANENT MODIFICATIONS –TEAM INSPECTION
REPORT 05000334/2016007 AND 05000412/2016007**

Dear Mr. Richey:

On June 24, 2016, the U.S. Nuclear Regulatory Commission (NRC) completed an inspection at the Beaver Valley Power Station, Units 1 and 2. The enclosed inspection report documents the inspection results, which were discussed onsite on June 24, 2016, with you and other members of your staff. A subsequent teleconference exit was held on June 27, 2016, with Mr. Carmen Mancuso.

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. In conducting the inspection, the team reviewed selected procedures, calculations and records, observed activities, and interviewed station personnel.

The report documents one violation, associated with security, for which the NRC is exercising enforcement discretion. The NRC is not taking enforcement action for this violation because it meets the criteria established in an NRC Memorandum from Barry C. Westreich, Director, Cyber Security Directorate, Office of Nuclear Security and Incident Response, to each Regional Office and Director, Division of Reactor Safety, Subject: Enhanced Guidance for Licensee Near-Term Corrective Actions to Address Cyber Security Inspection Findings and Licensee Eligibility for "Good-Faith" Attempt Discretion dated July 1, 2013 (ADAMS Accession Number ML13178A203). Consistent with the NRC Memorandum, you should inform Javier Brand, the inspection team leader, in the Region I Office at 610-337-5346, when you complete and close corrective actions associated with this violation. The NRC is treating this violation as a non-cited violation (NCV) consistent with Section 2.3.2.a of the Enforcement Policy.

Enclosure 2 contains Sensitive Unclassified Non-Safeguards Information. When separated from Enclosure 2, the transmittal document is decontrolled.

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M. Richey

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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, U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001; and the NRC resident inspector at the Beaver Valley Power Plant.

In accordance with Title 10 of the *Code of Federal Regulation* (10 CFR) 2.390 of the NRC's "Rules of Practice," a copy of this letter will be available electronically for public inspection in NRC's Public Document Room or from the Publicly Available Records (PARS) component of NRC's Agencywide Document Access and Management System (ADAMS). ADAMS is accessible from the NRC's Website at <http://www.nrc.gov/reading-rm/adams.html> (the Public Electronic Reading Room). However, the material enclosed herewith contains Security-Related Information in accordance with 10 CFR 2.390(d)(1) and its disclosure to unauthorized individuals could present a security vulnerability. Therefore, the material in Enclosure 2 will not be made available, electronically, for public inspection, in the NRC's Public Document Room or from the PARS component of NRC's ADAMS. If you choose to provide a response and Security-Related Information is necessary to provide an acceptable response, please mark your entire response "Security-Related Information – Withhold from public disclosure under 10 CFR 2.390" in accordance with 10 CFR 2.390(d)(1) and follow the instructions for withholding in 10 CFR 2.390 (b)(1). In accordance with 10 CFR 2.390(b)(1)(ii), the NRC is waiving the affidavit requirements for your response.

Sincerely,

/RA/

Paul G. Krohn, Chief
Engineering Branch 2
Division of Reactor Safety

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

Enclosures:

1. (Public) Inspection Report 05000334/2016007 and 05000412/2016007
w/Attachment: Supplemental Information
2. (Non-Public) Security-Related Finding (**CONTAINS OFFICIAL USE ONLY
SECURITY-RELATED INFORMATION (OUO-SRI)**)

cc w/Encl 1, w/o Encl 2; w/o OUO-SRI: Distribution via ListServ

cc w/Encl 1, Encl 2; w/OUO-SRI:

L. Willis, Manager, Nuclear Security
D. Allard, State Liaison Officer, PA
C. Salz, Acting State Liaison Officer, Ohio
J. Frame, State Liaison Officer, West Virginia

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M. Richey

-2-

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DOCUMENT NAME: G:\DRS\Engineering Branch 2\Brand\BeaverValley IR2016-007 MODs final PUBLIC.docx
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ADAMS ML16232A125 (Cover Letter w/Enclosure 2 Non-Public)
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Letter to Mr. Marty Richey from Paul G. Krohn dated August 18, 2016

SUBJECT: BEAVER VALLEY POWER STATION – EVALUATION OF CHANGES, TESTS,
OR EXPERIMENTS AND PERMANENT MODIFICATIONS –TEAM INSPECTION
REPORT 05000334/2016007 AND 05000412/2016007

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**U. S. NUCLEAR REGULATORY COMMISSION
REGION I**

Docket Nos. 50-334 and 50-412

License Nos. DPR-66 and NPF-73

Report Nos. 05000334/2016007 and 05000412/2016007

Licensee: First Energy Nuclear Operating Company (FENOC)

Facility: Beaver Valley Power Station, Units 1 and 2

Location: Shippingport, PA 15077

Inspection Period: June 6 through June 24, 2016

Inspectors: J. Brand, Reactor Inspector, Division of Reactor Safety
Team Leader (DRS)
K. Mangan, Senior Reactor Inspector, DRS
J. Rady, Reactor Inspector, DRS

Approved By: Paul G Krohn, Chief
Engineering Branch 2
Division of Reactor Safety

Enclosure 1

SUMMARY

Inspection Report 05000334/2016007 and 05000412/2016007; 06/06/2016-06/24/2016; Beaver Valley Power Station, Units 1 and 2; Permanent Plant Modifications Engineering Team Inspection.

This report covers a two week on-site inspection period of the evaluations of changes, tests, or experiments and permanent plant modifications. The inspection was conducted by three region based engineering inspectors. One finding of very low safety significance (Green) was identified (Green) which was considered to be a non-cited violation (NCV). This violation contains security-related information and is documented in Enclosure 2. The significance of most findings is indicated by their color (i.e., greater than Green, or Green, White, Yellow, Red) and determined using Inspection Manual Chapter (IMC) 0609, "Significance Determination Process," dated April 29, 2015. Cross-cutting aspects are determined using IMC 0310, "Aspects Within the Cross-Cutting Areas," dated December 4, 2014. All violations of U.S. Nuclear Regulatory Commission (NRC) requirements are dispositioned in accordance with the NRC's Enforcement Policy, dated February 4, 2015. The NRC's program for overseeing the safe operation of commercial nuclear power reactors is described in NUREG-1649, "Reactor Oversight Process," Revision 6.

A. NRC-Identified Findings and Self-Revealing Findings

See Enclosure 2.

B. License-Identified Violations

None.

REPORT DETAILS

1. REACTOR SAFETY

Cornerstones: Initiating Events, Mitigating Systems, and Barrier Integrity

1R17 Evaluations of Changes, Tests, or Experiments and Permanent Plant Modifications (IP71111.17T)

.1 Evaluations of Changes Tests, or Experiments Inspection Scope (23 Samples)

a. Inspection Scope

The team reviewed three safety evaluations to determine whether the changes to the facility or procedures, as described in the Updated Final Safety Analysis Report (UFSAR), had been reviewed and documented in accordance with 10 CFR 50.59 requirements. In addition, the team evaluated whether First Energy Nuclear Operating Company (FENOC) had been required to obtain NRC approval prior to implementing the changes. The team interviewed plant staff and reviewed supporting information including calculations, analyses, design change documentation, procedures, the UFSAR, the Technical Specifications (TSs), and plant drawings to assess the adequacy of the safety evaluations. The team compared the safety evaluations and supporting documents to the guidance and methods provided in Nuclear Energy Institute (NEI) 96-07, "Guidelines for 10 CFR 50.59 Evaluations," as endorsed by NRC Regulatory Guide 1.187, "Guidance for Implementation of 10 CFR 50.59, Changes, Tests, and Experiments," to determine the adequacy of the safety evaluations.

The team also reviewed a sample of twenty 10 CFR 50.59 screenings for which FENOC had concluded that no safety evaluation was required. These reviews were performed to assess whether FENOC's threshold for performing safety evaluations was consistent with 10 CFR 50.59. The sample included design changes, calculations, and procedure changes.

The team reviewed all safety evaluations and selected screenings that FENOC had performed and approved during the time period covered by this inspection (i.e., since the last modifications inspection) not previously reviewed by NRC inspectors. The screenings and applicability determinations were selected based on the safety significance, risk significance, and complexity of the change to the facility.

In addition, the team compared FENOC's administrative procedures used to control the screening, preparation, review, and approval of safety evaluations to the guidance in NEI 96-07 to determine whether those procedures adequately implemented the requirements of 10 CFR 50.59. The reviewed safety evaluations and screenings are listed in the attachment.

b. Findings

No findings were identified.

.2 Permanent Plant Modifications (10 samples for Enclosure 1; 1 sample for Enclosure 2)

.2.1 Replacement of Unit 1 Vital Bus Inverters and Static Switches

a. Inspection Scope

The team reviewed a modification associated with engineering change package (ECP) 08-0033-000 that replaced two sets of vital bus inverters and static switches with two sets of vital bus inverters with integral static switches. The replacement units have an output rating (20kVA) that are the same as the existing units. The modification was performed due to poor equipment performance and obsolescence issues associated with the existing inverters and static switches. The review was performed to verify that the design bases and licensing bases of replacing the two sets of inverters with integral static switches had not been degraded by the modification. Additionally, the equivalent 10 CFR 50.59 screen associated with this modification was reviewed as described in section 1R17.1 of this report.

The team assessed if the modification was consistent with requirements in the design and licensing bases. Design assumptions were reviewed to evaluate whether they were technically appropriate and consistent with the UFSAR. The team reviewed design calculations to assess whether the modification met the necessary electrical requirements. The team also verified whether selected drawings and maintenance procedures were properly updated based on replacement of the two sets of inverters with integral static switches. The team reviewed the post maintenance testing to verify proper operation of the equipment. The team performed a walkdown of the equipment to identify any abnormal conditions related to replacement of the inverters. Finally, the team conducted interviews with engineering staff to determine if the equipment would function in accordance with the design assumptions. The documents reviewed are listed in the attachment.

b. Findings

No findings were identified.

.2.2 Replacement of Power Pack Assemblies for Unit 1 Emergency Diesel Generators (EDGs)

a. Inspection Scope

The team reviewed a modification associated with ECP 13-0357-001 that replaced the power pack assemblies on both Unit 1 EDGs. The power pack assembly consists of the piston, connecting rod, piston pin bearing, cylinder head, cylinder liners, gaskets and miscellaneous items. The new assemblies include a revised piston pin bearing design. The modification was performed because the original bearing design utilized a silver/lead coating which is susceptible to wear and failure.

The review was performed to verify that the design bases, licensing bases, and performance capability of the replacement EDG power pack assemblies had not been degraded by the modification. Additionally, the equivalent 10 CFR 50.59 screen associated with this modification was reviewed as described in section 1R17.1 of this report.

The team evaluated whether the modification was consistent with requirements in the design and licensing bases. The team reviewed technical evaluations and drawings to assess whether the modification was consistent with design assumptions. The team also verified that selected maintenance procedures were properly updated based on the installation of the replacement power pack assemblies. The team reviewed the post maintenance testing (PMT) to verify proper operation of the equipment. Finally, the team conducted interviews with engineering staff to determine if the affected SSCs would function in accordance with the design assumptions. The documents reviewed are listed in the attachment.

b. Findings

No findings were identified.

.2.3 Replace BV-1RS-P-1B, Inside Recirculation Spray Motor

a. Inspection Scope

The team reviewed a modification associated with ECP 13-0294-001 which replaced the internal recirculation pump motor with a rebuilt motor. The modification was performed to replace the installed motor with a refurbished motor as part of a maintenance activity. After refurbishment of the motor, the new motor was tested to verify its capability to meet the voltage and amperage assumptions for the electrical system and the horse power requirements of the pump. Additionally, the team verified that the motor was qualified to meet environmental qualification (EQ) requirements for post-accident operation within containment.

The team reviewed the modification to determine if the design, licensing bases, and performance capability of the internal recirculation system had been degraded by the modification. The team reviewed calculations, licensee design documents, motor test reports and associated maintenance work orders to determine if the changes were appropriately implemented. The team also reviewed the EQ test criteria to verify that the tested environment bounded the Beaver Valley design requirements and that test results were satisfactory. The team also reviewed post maintenance testing to evaluate whether the motors installed configuration was in accordance with the installation requirements and whether the installation was in accordance with EQ requirements.

A review of corrective action program condition reports was performed to evaluate whether there were any reliability or performance issues associated with the internal recirculation system following the modification. Finally, the team interviewed design engineers to determine if the changes met design and licensing requirements. Documents reviewed are listed in the attachment.

b. Findings

No findings were identified.

.2.4 Revise BV1 Primary Water Setpoint

a. Inspection Scope

The team reviewed a modification associated with ECP 08-0484-004 which was performed to resolve vortexing and water inventory concerns associated with the primary water storage tank (PWST). This modification along with several other associated modifications was performed to ensure adequate water inventory was maintained in the PWST to ensure accident analysis assumptions for water inventory were maintained. These modifications raised alarm setpoints, reduced measurement uncertainty, and revised calculations.

The team reviewed the modification to determine if the design basis, licensing basis, or performance capability of the PWST and post-accident sump design assumptions had been affected by the modifications. The team interviewed design engineers, reviewed alarm setpoint calibration procedures, operating procedures, and water inventory calculations to determine if the changes were consistent with the design and licensing requirements. Additionally, the team reviewed PMT results, and associated maintenance work orders to determine if the changes were appropriately implemented and testing adequately validated the new setpoints. Documents reviewed are listed in the attachment.

b. Findings

No findings were identified.

.2.5 BV2 EDG Speed Sensing Relays

a. Inspection Scope

The team reviewed a modification associated with ECP 10-0440-003 which replaced the emergency diesel generator speed sensing panel and associated relays with a new panel due to obsolescence of the original part. The team verified that the new panel met the design and licensing requirement of the emergency diesel generator (EDG) system. The team also verified that the design limits of the relays met the system's electrical, seismic, and EQ requirements for the EDG system.

The team also reviewed system design requirements to evaluate whether the design bases, licensing bases, and performance capability of the EDG system had been degraded by the new panel and relays. Specifically, the team reviewed the modification to evaluate whether the system frequency and voltage bands were within the design limits of the new relay. The team reviewed the associated analysis to evaluate whether the design inputs and outputs were technically reasonable.

The team also determined that the seismic qualifications of the relays met the Beaver Valley design requirements. Additionally, the team reviewed PMT results, and associated maintenance work orders to determine if the changes were appropriately implemented, testing adequately validated the relays, and the panel had been installed correctly such that the EDG was able to respond to design basis events. Finally, the team interviewed design engineers to determine if the modification had been implemented correctly and if there were any subsequent problems with the system. Documents reviewed are listed in the attachment.

b. Findings

No findings were identified.

.2.6 U2 Repair Low Head Safety Injection Pump

a. Inspection Scope

The team reviewed a modification associated with ECP 14-0305 which refurbished the low pressure safety injection (LPSI) pump including replacement of the pump impeller. The modification was performed to repair damage to the pump that occurred during testing. FENOC refurbished the pump, repaired damage to the volute and installed wear rings, seals, and bearings. Additionally, a new larger impeller was installed. Following repairs the pump was tested at a pump repair facility, reinstalled in the system, and retested.

The team reviewed the modification to determine if the design, licensing bases, and performance capability of the LPSI pump and the associated safety related electrical supply to the pump motor had been degraded by the modification. The team reviewed calculations, licensee design documents, repair facility pump test reports, and associated maintenance work orders to determine if the changes were appropriately implemented. Additionally, the team reviewed pump testing results to ensure that the pump would meet design basis flow and head requirements.

The team also evaluated whether the increased loading on the pump motor was within the capability of the motor and the associated electrical system. The team verified breaker trip setpoints would allow for operation of the pump during all design basis voltage and frequency conditions and the most limiting pump flow and head conditions. The team also reviewed pump testing following installation of the pump in the system to evaluate whether the pump testing was in accordance with TS surveillance and American Society of Mechanical Engineering (ASME) code requirements and the test results ensured design basis assumptions were met. Additionally, the team reviewed post maintenance testing to evaluate whether the motors installed configuration matched calculation assumptions for the cable ampacity, breaker trip setpoints, and EDG loading. A review of corrective action program condition reports was performed to evaluate whether there were any reliability or performance issues associated with the equipment following the modification. Finally, the team interviewed design engineers to determine if the changes met design and licensing requirements. Documents reviewed are listed in the attachment.

b. Findings

No findings were identified.

.2.7 U2 Replace 2MSS-SOV105C Conduit Seal and Field Wire

a. Inspection Scope

The team reviewed a modification associated with ECP 13-0461-003 which replaced the environmentally qualified (EQ) conduit seals and field wiring for the turbine-driven auxiliary feedwater pump (TDAFW) steam supply valve, 2MSS-SOV105C. The modification was performed to address an extent of condition concern with degraded and brittle wiring previously identified in one of the six redundant steam supply solenoid valves (2MSS-SOV105A) to the TDAFW pump (2FWE-P22) due to elevated temperatures. Because the existing conduit seal and wire are no longer available, this modification installed EGS/Patel conduit seals and individual high temperature wire conductors manufactured by Valcor in place of the existing cables running from the solenoid valves to the associated local terminal boxes.

The team reviewed the modification to determine if the design, licensing bases, and performance capability of the TDAFW pump had been degraded by the modification. The team reviewed calculations, licensee design documents, test reports, and associated maintenance work orders to determine if the changes were appropriately implemented. The team also reviewed the EQ test criteria to verify that the tested environment bounded the Beaver Valley design requirements and that test results were satisfactory. The team also reviewed post maintenance testing and performed field walkdown and inspections of all six solenoid valves to evaluate whether the valves configuration was in accordance with the installation requirements and whether the installation was in accordance with EQ requirements. The team also reviewed temperature trending activities of all six solenoids and verified that temperature of the critical components for these solenoid valves are maintained within acceptable values.

A review of corrective action program condition reports was also performed to evaluate whether there were any reliability or performance issues associated with the TDAFW pump following the modification. Finally, the team interviewed design and system engineers to determine if the changes met design and licensing requirements. Documents reviewed are listed in the attachment.

b. Findings

No findings were identified.

.2.8 U1 Containment Liner Repair-Replace Section of Steel Plate

a. Inspection Scope

The team reviewed a modification associated with ECP 13-0700-001 which implemented a repair of a small surface defect on the Unit 1 containment liner plate that was identified during the fall 2013 maintenance and refueling outage. The repairs included removing the degraded portion of the liner plate and welding a replacement plate in place.

In addition, following the repairs, a pneumatic local leak test was performed in accordance with sub-article IWE-5221.

The team reviewed the modification to determine if the design, licensing bases, and performance capability of the Unit 1 containment liner had been degraded by the modification.

The team reviewed calculations, licensee design documents, test reports and associated maintenance work orders to determine if the changes were appropriately implemented. A review of corrective action program reports was performed to evaluate whether there were any reliability or performance issues associated with the Unit 1 containment liner and liner repair.

Finally, the team interviewed design and system engineers to determine if the changes met design and licensing requirements. Documents reviewed are listed in the attachment.

b. Findings

No findings were identified.

.2.9 U1 New Penetrations, Cable Spreading Room to 'B' Emergency Switch Gear Room

a. Inspection Scope

The team reviewed floor penetrations associated with modification ECP 15-0234-004 which plans to re-route cables associated with emergency diesel generator output breakers and 125 VDC control power cables for the four KV breakers through independent fire protected conduits. This modification is part of the Beaver Valley transition of their fire protection program to a new risk-informed, performance-based fire protection program (NFPA 805). The team focused the inspection on the penetration seals associated with this modification, and their capability to perform their safety-related function of a flood and fire barrier.

The team reviewed the modification to determine if the design, licensing bases, and performance capability of the cable spreading room and the emergency switch gear room were degraded by the modification. The team reviewed calculations, licensee design documents, test reports and associated maintenance work orders, and performed extensive walkdowns and inspections of the new and existing wall and floor penetration seals in both rooms, to determine if the changes were appropriately implemented. A review of corrective action program condition reports was also performed to evaluate whether there were any reliability or performance issues associated with the floor and wall penetration seals in general. Finally, the team interviewed design and system engineers for the Units 1 and 2 fire and flood protection programs to determine if the changes met design and licensing requirements. Documents reviewed are listed in the attachment.

b. Findings

No findings were identified.

.2.10 Evaluate the use of Smaller Pore Size Filters (2 Microns, 1 Micron, 0.45 Micron, 0.01 Micron) in the BV-2-RCS Filter (2- CHS-FLT22) as Part of the BVPS Source Term Reduction Program

a. Inspection Scope

The team reviewed modification PERP-000930 which evaluated the replacement of the BV-2 reactor coolant filter unit (2CHS-FLT22) with smaller pore size filters as part of the source term reduction program. The goal is to improve the reactor cooling system (RCS) particulate levels and reduce radiation dose rates and contamination levels being allowed to pass through the filters, and extend equipment service life.

The team reviewed the modification to determine if the design, licensing bases, and performance capability of the RCS or the chemical and volume control system (CVCS) had been degraded by the modification. The team reviewed calculations, licensee design documents, test reports and associated maintenance work orders to determine if the changes were appropriately implemented.

A review of corrective action program condition reports was also performed to evaluate whether there were any reliability or performance issues associated with the RCS or CVCS systems following the modification. Finally, the team interviewed design and system engineers to determine if the changes met design and licensing requirements. Documents reviewed are listed in the attachment.

b. Findings

No findings were identified.

4. OTHER ACTIVITIES

4OA2 Identification and Resolution of Problems (IP 71152)

a. Inspection Scope

The team reviewed a sample of problems that FENOC had previously identified and entered into the corrective action program associated with 10 CFR 50.59 and plant modification issues to evaluate whether FENOC was appropriately identifying, characterizing, and correcting problems associated with these areas, and whether the planned or completed corrective actions were appropriate. In addition, the team reviewed condition reports (CRs) written on issues identified during the inspection to verify FENOC adequately described the issue and incorporated the issue into their corrective action system. The CRs reviewed are listed in the attachment.

b. Findings

No findings were identified.

4OA6 Meetings, Including Exit

The team debriefed the inspection results on June 24, with Mr. Marty Richey, Site Vice President and other members of FENOC's staff.

The team presented the inspection results to Mr. Carmen Mancuso, Design Engineering Manager, and other members of FENOC's staff at an exit teleconference on July 27, 2016. The team verified that no proprietary information was documented in the report.

ATTACHMENT: SUPPLEMENTAL INFORMATION

SUPPLEMENTAL INFORMATION

KEY POINTS OF CONTACT

FENOC Personnel

J. Battner	Design Engineering Supervisor
D. Butor	Cyber Security Program Specialist
G. Cacciani	BVPS Modifications Program Manager
T. Dometrovich	Regulatory Assurance Specialist
C. Eberle	Staff Nuclear Engineer
K. Gillespie	System Engineer
R. Hayward	System Engineer Mechanical
J. Jansto	Equipment Qualification Program Owner
M. Johnston	Operating Experience Program Manager
M. Kinzell	System Engineer
C. Lord	Design Engineering
C. Mancuso	Design Engineering Manager
V. Oravitz	Procurement Engineering-Fleet
L. Padgett	Procurement Engineering-Fleet
B. Paul	Electrical Design Engineer
M. Ressler	Design Engineering Supervisor
M. Testa	Design Consultant Engineer
E. Thomas	Regulatory Assurance Specialist
Z. Warchol	Balance of Plant Supervisor
D. Zimba	System Engineer

LIST OF ITEMS OPENED, CLOSED AND DISCUSSED

05000334; 05000412/2016007-01 NCV Security Finding (Enclosure 2)

LIST OF DOCUMENTS REVIEWED

10 CFR 50.59 Safety Evaluations

SE 14-00547, U-2, Reactor Containment Building Construction Opening, Revision 1
SE 14-01335, Analysis of Reactor Coolant System Supports – Replacement Steam Generator Project, Revision 1
SE 15-00463, Extend the Licensing Requirements Manual Calibration Period for the Engdahl Peak Shock Recorders, Dated 4/6/15

10 CFR 50.59 Screened-out Evaluations

06-0271-006, Replace Solenoid Valve SOV-1CV-150C, Revision 0
10-0086935, Procurement Package for Motor Starting Capacitor, Dated 6/26/13
10-0100499, Procurement Package for Printed Circuit Board, Dated 3/26/15
11-0296-010, Replace MOV-1RW-102A2, 1A RW Pump Discharge Valve, Revision 4

Attachment for Enclosure 1

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A-2

13-0700-001, U-1 Containment Liner Repair-Replace Section of Steel Plate, Revision 2
13-01057, Emergency Diesel Generator Fuel Oil Storage Tanks, Revision 0
13-01165, Beaver Valley Unit 2 Safeguards Building Heatup Analysis Using MAAP-DBA,
Revision 0
13-01321, Unit 2 LEFM Allowed Outage Time Extension, Revision 1
13-01598, Evaluation of Charging Flows During a Loss of Power Event, Calc. 10080-N-874,
Revision 0
13-01982, Cyber Security Requirements for the Installation of Data Diodes on Main Plant
Computers, Dated 5/22/12
13-02024, Replace Inside Recirc. Spray 1RS-P-1B and 1RS-P-1A Motors, Revision 0
13-02305, Replace Unit 1 Safety-Related 480V MCC HFB Breakers, Revision 0
13-0461-003, U-2 Replace 2MSS-SOV105C Conduit Seal and Field Wire, Revision 1
14-00547, Reactor Containment Building Construction Opening, Revision 0
15-00237, Grounding of Unit 1 Vital Bus 1 Neutrals, Dated 2/2/15
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PERP-001174, Replacement Thermal Overload Relay, Revision 0

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** ECP-08-0484-004, Revise BV1 Primary Water Setpoint, Revision 1
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*ECP 10-0440-003, BV2 EDG Speed Sensing Relays, Revision 2
ECP 13-0053-001, LEFM Allowed Outage Time Extension BV-1, Revision 0
ECP 13-0294-000, Replace Inside Recirc. Spray 1RS-P-1B and 1RS-P-1A Motors, Revision 3
* ECP 13-0294-001, Replace BV-1RS-P-1B, Inside Recirc. Spray Motor, Revision 1
* ECP 13-0357-001, Replacement of Power Pack Assemblies for Unit 1 Emergency Diesel
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* ECP 13-0461-003, U-2 Replace 2MSS-SOV105C Conduit Seal and Field Wire, Revision 1
* ECP 13-0700-001, U-1 Containment Liner Repair-Replace Section of Steel Plate, Revision 2
* ECP 14-0305, U2 Repair LHSI Pump, Revision 3
* ECP 15-0234-000, New Penetration Cable Spreading to 'B' Emergency Switch Gear,
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*Credited as a Modification Sample

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Bechtel Calc. 25849-000-SSC-0004-00015, Evaluation of Containment Structure for
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CEF 1-10-009, Electrical Calculation Evaluation Form for 125Vdc Panel, Dated 4/22/10
CEF 1-11-001, Electrical Calculation Evaluation Form for 125Vdc Panel, Dated 1/31/11
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EQ Package No. 2BV-719, Target Rock Corporation Solenoid Operated Valves, Revision 9
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8700-DMC-2653, Analysis on Untested Fire Seals Design, Revision 2
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CR-2013-15766	CR-2013-16731	CR-2013-16775
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10080-RC-50H, Floor Plan Int. Conc. Reactor Containment, Revision 8
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10080-RE-3CBG, Wiring Diagram Vertical Board Section C Recorders, Revision 9
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10080-RM-0002G, Sht. 7, Machine Location Reactor Containment Sections 3-3 & 4-4,
Revision 15
10080-RM-0407-001A, Valve Operator Chemical and Volume Control, Sheet 1, Revision 25
10080-RM-0413-002, Valve Operating Diagram Quench Spray System, Revision 21
10080-RM-0420-001, Valve Operating Diagram Fuel Pool Cooling and Purification, Revision 12
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Report No. 4501, Hot Flow Continuous Energization Solenoid Valve Test, Model 1032110-4, Revision 0
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1OM-38.4S, 120Vac Distribution and Lighting Operating Procedures, Revision 0
1OM-43.4.ABB, High Alarm Auxiliary Building Area Monitor, Revision 1
1OM-54.3.L5, Surveillance Verification Log, Revision 88
1OM-54.4.C1-3, Daily Heat Balance, Revision 34
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1OST-33.35B, Cable Tunnel CV-3 Fire Rated Assemblies Visual Inspection, Revision 0
1OST-33.35C, Service Building Fire Rated Assemblies Visual Inspection, Revision 1
1OST-36.1, Diesel Generator 1 Monthly Test, Revision 64
1OST-36.8, Alternating Current Power Source Weekly Breaker Alignment Verification, Revision 20
2OST-47.3M, U-2, Containment System Operating Surveillance Test Containment Penetration and ASME Valve Test, Revision 33
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1BVT 1.33.07, Flood Seals Visual Inspection, Revision 5

2BVT 1.33.7, Flood Seals Visual Inspection, Category I, Revision 4

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20M-54.4.C1, Daily Heat Balance, Revision 27

BV-2OST-11-14A, LHSI Full Flow Test, performed 5/7/14

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200316453	200316454	200316455	200316456
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1PMP-38VB-UPS-1-3I, Uninterruptible Power Supply Maintenance, Revision 19, Performed 10/26/13

Vendor Manuals

01.024-0270, Instruction and Technical Manual for Vital Buses 1 and 2 20kVA Uninterruptible Power Supply, Dated 5/23/12

LIST OF ACRONYMS

ANO	Arkansas Nuclear One Power Station
AOP	Abnormal Operating Procedures
ASME	American Society of Mechanical Engineers
CAP	Corrective Action Program
CDA	Critical Digital Assets
CFR	Code of Federal Regulations
CR	Condition Report
CVCS	Chemical and Volume Control System
DC	Direct Current
DCP	Design Change Package
DRS	Division of Reactor Safety
DRU	Digital Reference Unit
ECP	Engineering Change Package
EDG	Emergency Diesel Generator
EOP	Emergency Operating Procedure
EPU	Extended Power Uprate
EQ	Environmental Qualification
EQ	Environmentally Qualified
FENOC	First Energy Nuclear Operating Company
FOL	Facility Operating License
GL	Generic Letter
IMC	Inspection manual Chapter
IP	Inspection Procedure
KVA	Kilo-Volts Amperes
LPS1	Low Pressure Safety Injection
NCV	Non-Cited Violation
NEI	Nuclear Energy Institute
NFPA	National Fire Protection Association
NRC	Nuclear Regulatory Commission
OPE	Industry Operating Experience
PCS	Reactor Coolant System
PM	Preventive Maintenance
PMT	Post Maintenance Test
PWST	Primary Water Storage Tank
RCP	Reactor Cooling Pump
RHR	Residual Heat Removal
SDP	Significance Determination Process
SSC	Structures, Systems, and Components
TDAFW	Turbine Driven Auxiliary Feedwater Pump
TS	Technical Specification
UFSAR	Updated Final Safety Analysis Report
V	Volts
Vac	Volts Alternating Current
Vdc	Volts Direct Current