



**UNITED STATES  
NUCLEAR REGULATORY COMMISSION**  
REGION I  
475 ALLENDALE ROAD  
KING OF PRUSSIA, PA 19406

November 9, 2007

Mr. Peter P. Sena III  
Site Vice President  
FirstEnergy Nuclear Operating Company  
Post Office Box 4  
Shippingport, Pennsylvania 15077

**SUBJECT: BEAVER VALLEY POWER STATION - NRC INTEGRATED INSPECTION  
REPORT 05000334/2007004 AND 05000412/2007004**

Dear Mr. Sena:

On September 30, 2007, the United States Nuclear Regulatory Commission (NRC) completed an inspection at your Beaver Valley Power Station Units 1 and 2. The enclosed integrated inspection report documents the inspection findings, which were discussed on October 30, 2007, with you 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.

Based on the results of this inspection, this report documents two (2) NRC-identified findings of very low safety significance (Green). These findings were determined to involve violations of NRC requirements. However, because of the very low safety significance and because these issues have been entered in the corrective action program, the NRC is treating the findings as non-cited violations (NCV) consistent with Section VI.A.1 of the NRC Enforcement Policy. If you contest any of the findings in this report, you should provide a 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.

In accordance with 10 CFR 2.390 of the NRC's "Rules of Practice," a copy of this letter its enclosure, and your response (if any) will be available electronically for public inspection in the NRC Public Document Room or from the Publicly Available Records (PARS) component of NRC's document system (ADAMS). ADAMS is accessible from the NRC Website at <http://www.nrc.gov/reading-rm/adams.html> (the Public Electronic Reading Room).

We appreciate your cooperation. Please contact me at 610-337-5200 if you have any questions regarding this letter.

Sincerely,

**/RA/**

Ronald R. Bellamy, Ph.D., Chief  
Reactor Projects Branch 6  
Division of Reactor Projects

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

Enclosures: Inspection Report 05000334/2007004; 05000412/2007004  
w/Attachment: Supplemental Information

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J. Lewis, Commissioner, Division of Labor, State of West Virginia  
W. Hill, Beaver County Emergency Management Agency  
J. Johnsrud, National Energy Committee, Sierra Club

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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. 05000334/2007004 and 05000412/2007004

Licensee: FirstEnergy Nuclear Operating Company (FENOC)

Facility: Beaver Valley Power Station, Units 1 and 2

Location: Post Office Box 4  
Shippingport, PA 15077

Dates: July 1, 2007 through September 30, 2007

Inspectors: D. Werkheiser, Senior Resident Inspector  
T. Fish, Senior Operations Engineer  
P. Kaufman, Senior Reactor Inspector  
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Approved by: R. Bellamy, Ph.D., Chief  
Reactor Projects Branch 6  
Division of Reactor Projects

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## SUMMARY OF FINDINGS

IR 05000334/2007004, IR 05000412/2007004; 07/01/2007 – 09/30/2007; Beaver Valley Power Station, Units 1 & 2; Fire Protection, Problem Identification and Resolution.

The report covered a 3-month period of inspection by resident inspectors, regional reactor inspectors, and a regional health physics inspector. Two (GREEN) non-cited violations (NCVs) were 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). 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 3 dated July 2000.

### A. NRC-Identified and Self-Revealing Findings

#### **Cornerstone: Mitigating Systems**

- Green. (Section 1R05) The inspectors identified a non-cited violation (NCV) of Unit 2 license condition 2.F for failure to maintain adequate protection of a post-fire safe-shutdown area. Ammonia gas migrated through a floor drain, and concentrated in an area (MCC\*2-E04 cubicle) at Unit 2 required to achieve and maintain hot standby and cold shutdown. The ammonia gas concentration was sufficient to impede entry into the cubicle and resulted in a degradation of FENOC's fire protection safe shutdown capabilities. The licensee took corrective actions to stage emergency breathing equipment near the area, established monitoring and mitigative actions for the ammonia gas in the cubicle, and entered the deficiency into their corrective action program.

This finding is more than minor because it affects the licensee's post-fire safe-shutdown capability and is associated with the Mitigating Systems Cornerstone and the respective attribute of external factors. Using Phase 1 and 2 of the Fire Protection Significance Determination Process, Inspection Manual Chapter (IMC) 0609, Appendix F, the inspectors determined this finding was of very low safety significance because: (1) duration factor was based on less than three days, (2) fire frequency was based on a cable vault with other electrical equipment, and (3) at least one train of safe shutdown system is still available. The cause of this finding is related to the cross-cutting area of problem identification and resolution, in that timely and appropriate actions were not taken to address safety issues and adverse trends [P.1 (d)].

#### **Cornerstone: Mitigating Systems**

- Green. (Section 4OA2) The inspectors identified a non-cited violation of 10 CFR Part 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings," for the failure to specify post-maintenance acceptance criteria for important turbine parameters after turbine overhaul, or maintenance that could affect turbine bearing performance, and prescribe adequate performance monitoring of the Unit 1 turbine-driven auxiliary feedwater (TDAFW) turbine (1FW-T-2). The licensee entered the issue into their corrective action program (CR 07-24074).

The finding was more than minor because, if left uncorrected, the failure to adequately monitor turbine performance after significant maintenance could result in the TDAFW turbine being degraded without the knowledge of the licensee. The licensee has revised applicable post-maintenance test procedures and has implemented adequate turbine performance monitoring for 1FW-T-2. The inspectors determined the finding did not result in an actual loss of safety function of a system or train of equipment; therefore, the finding was considered to be of very low safety significance.

B. Licensee-Identified Violations

None

## REPORT DETAILS

### Summary of Plant Status:

Unit 1 began the inspection period at 100 percent power. On August 4, the unit was down-powered to 97 percent for planned main turbine control valve testing, and returned to full power later that day. On August 7, the unit was down-powered to 98 percent to maintain secondary plant parameters within specification during warm, humid, environmental conditions, and returned to full power later that day. Additional high ambient weather conditions occurred during brief summer afternoon periods on both August 8 and August 24, resulting in unit down-powers of similar magnitude. From September 1 to September 22, the unit commenced a planned end-of-cycle  $T_{ave}$  / power coastdown (Sections 1R20, 1R23) from 100 percent power to approximately 92 percent power. From September 22 to September 24, the unit began a controlled downpower from 92 percent power to a shutdown condition, for planned refueling outage 1R18 (Section 1R20).

Unit 2 began the inspection period operating at 100% power and essentially remained at full power for the inspection period. However, due to cooling tower performance associated with warm, humid, environmental conditions, the unit was manually down-powered approximately 3-5% several times throughout the inspection period to maintain secondary plant parameters within specification. Also, on July 7, the unit was down-powered to 97 percent for planned main turbine valve testing and returned to full power later that day.

### 1. REACTOR SAFETY

Cornerstone: Initiating Events, Mitigating Systems, Barrier Integrity

#### 1R04 Equipment Alignment (71111.04)

##### .1 Partial System Walkdowns (71111.04Q)

##### a. Inspection Scope (3 samples)

The inspectors performed 3 partial equipment alignment inspections during conditions of increased safety significance, including when redundant equipment was unavailable during maintenance or adverse conditions. The partial alignment inspections were also completed after equipment was recently returned to service after significant maintenance. The inspectors performed partial walkdowns of the following systems, including associated electrical distribution components and control room panels, to verify the equipment was aligned to perform its intended safety functions:

- On August 1, Unit 2 'B' Component Cooling Water System;
- On August 21, Unit 2 'A' Service Water (SW) System during 'B' SW System outage and testing; and
- On September 6, Unit 1 'A' Quench Spray (QS) System during 'B' QS testing.

b. Findings

No findings of significance were identified.

.2 Complete System Walkdown (71111.04S)

a. Inspection Scope (1 sample)

The inspectors completed a detailed review of the alignment and condition of the Unit 1 'B' Emergency Diesel Generator (EDG). The inspectors conducted a walkdown of the system to verify that the critical components, such as valve positions, switches, and breakers, as well as supporting system components, were correctly aligned in accordance with procedures, and to identify discrepancies that may have had an effect on operability.

The inspectors also reviewed outstanding maintenance work orders to verify that the deficiencies did not significantly affect the EDG system function. In addition, the inspectors discussed system health with the system engineer and reviewed the condition report database to verify that equipment alignment problems were being identified and appropriately resolved. Documents reviewed are listed in the Attachment.

- On September 19, Unit 1 'B' EDG, during 'A' Monthly Surveillance.

b. Findings

No findings of significance were identified.

1R05 Fire Protection (71111.05)

.1 Quarterly Sample Review (71111.05Q - 9 samples)

a. Inspection Scope

The inspectors reviewed the conditions of the fire areas listed below, to verify compliance with criteria delineated in Administrative Procedure 1/2-ADM-1900, "Fire Protection," Rev. 16. This review included FENOC's control of transient combustibles and ignition sources; material condition of fire protection equipment including fire detection systems, water-based fire suppression systems, gaseous fire suppression systems, manual firefighting equipment and capability; passive fire protection features; and the adequacy of compensatory measures for any fire protection impairments. Documents reviewed are listed in the Attachment.

- Unit 1 East Cable Vault (Fire Area CV-2);
- Unit 1 West Cable Vault (Fire Area CV-1);
- Unit 1 Intake Structure Cubicle (Fire Area IS-1);
- Unit 1 Fuel Building (Fire Area FB-1);
- Unit 2 Cable Vault and Rod Control Area (Fire Area CV-5);

- Unit 2 Cable Vault and Rod Control Area Relay Room (Fire Area CV-6);
- Unit 2 Auxiliary Building General Area (Fire Area PA-4);
- Unit 2 Primary Auxiliary Building (Fire Area PA-5); and
- Unit 2 Turbine Building and Deluge Systems (Fire Area TB-1).

b. Findings

Introduction. The inspectors identified an NCV of very low safety significance (green) of Unit 2 license condition 2.F, "Fire Protection Program," for failure to maintain adequate fire protection safe shutdown (SSD) capabilities outside the control room. The inspectors determined that elevated ammonia gas levels in a motor control cubicle (MCC) room were sufficient to impede entry into the cubicle and impact manual actions needed to achieve and maintain hot standby and cold shutdown for Unit 2.

Description. On March 14, 2003, condition report (CR) 03-02972 was written to document recurrent issues concerning a strong ammonia odor in the station's common access facility located on the Unit 2 turbine deck. This facility is the common access entrance to both Unit 1 and Unit 2 radiological areas. Gaseous ammonia is a normal breakdown byproduct of aqueous hydrazine, which is used for corrosion control in secondary plant water chemistry during power operation. Ammonia gas is normally discharged through the main condenser steam jet air-ejector (SJAЕ) off-gas system through a ventilation path that leads to the turbine building roof, where it is exhausted. The exhaust path is in close proximity to the air intake for the common access facility. A portion of the SJAЕ exhaust can be directed to the gaseous waste system in the primary auxiliary building (PAB). Initial corrective actions were to redirect all the ammonia gas to the gaseous waste system. These actions proved to have limited effect when the ammonia odor was detected at various locations throughout the PAB. This issue was entered into the corrective action program (CR-03-05790).

Engineering Change Package (ECP) 03-0262 was developed to relocate the turbine building vent stack away from the air intakes. This was to be accomplished in two stages. The first stage was to use a temporary hose attached to the turbine building vent with the intention of determining the optimal location to install a permanent hard pipe. The second stage would be to install the hard pipe.

On October 14, 2003, a corrective action was approved to direct a portion of the ammonia gas back to the turbine building roof ventilation pathway through a temporary hose extension. Engineering was assigned to monitor and evaluate the new ventilation location, and determine if stage two of the ECP was feasible. Engineering monitored the performance of the temporary hose from August 6, 2004 until March 15, 2005, and determined stage two should be installed. On May 13, 2005, notification 600208949 was written to replace the temporary hose, since it had deteriorated and was torn apart. With the temporary hose torn, ammonia gas was once again drawn into the air intake of the common access point. The flowpath was once again redirected completely to the gaseous waste system. On September 19, 2005, corrective action 03-02972-08, via work order 200015715, was written to install the permanent piping. This corrective action was extended twice (6/13/2006, 1/23/2007).

On August 7, 2007, during a fire protection walkdown of Fire Area PA-4 and PA-5 in the PAB, inspectors detected a strong ammonia gas odor in motor control center cubicle MCC\*2-E04. The Fire Protection Safe Shutdown Report, Addendum 29, shows that operator actions are required in MCC\*2-E04 to achieve and maintain hot standby, as well as cold shutdown for a postulated fire in fire area CV-1. Upon exit from the PAB, the ammonia odor was reported to the radiation protection (RP) technician, who informed plant safety personnel. Site safety personnel obtained ammonia readings of 300 parts per million (ppm) in MCC\*2-E04. CR 07-24892 was documented on August 9. Inspectors reviewed 1/2OM-53C.4A.44A.1, Rev. 17, "Toxic Gas Release" for toxicity limits of ammonia. It was determined that this procedure did not apply to this situation, but a short-term (less than one hour) Occupational Safety and Health Administration (OSHA) limit of 300 ppm for ammonia was identified. The eight-hour average exposure limit for ammonia is 50 ppm.

Several actions were taken by FENOC to mitigate the ammonia concentration and re-establish access to the cubicle. Actions include staging self-contained breathing apparatus (SCBA) outside near cubicle MCC\*2-E04; posting of danger signs while ammonia concentrations were high; opening the fire door to MCC\*2-E04 cubicle and ventilating with temporary fans; and establishing a fire watch. These actions reduced ammonia levels to below 10 ppm. FENOC continues to monitor the cubicle. The licensee also evaluated potential equipment degradation due to high ammonia concentrations and determined the equipment to be unaffected. Inspectors determined there were no entry conditions for an emergency declaration and the licensee's final assessments were appropriate. (Section 4OA3)

The temporary hose at the turbine building vent continues to be used and Unit 2 operators control off-gas flow between the turbine building ventilation path and gaseous waste, as necessary, to prevent significant build-up of ammonia gas in any single location within the plant. Corrective action to install a permanent piping ventilation pathway outside of the turbine building, scheduled under order 200015715, has been re-prioritized and schedule coded to be completed by January 28, 2008.

Analysis. The inspectors reviewed this finding using the guidance contained in Appendix B, "Issue Disposition Screening," of IMC 0612, "Power Reactor Inspection Reports." The inspectors determined that the failure to maintain adequate fire protection SSD capabilities outside the control room by not implementing timely corrective actions to prevent the accumulation of toxic levels of ammonia gas in a SSD area was a performance deficiency. The degradation in post-fire SSD capability was a previously unknown weakness in FENOC's condition report evaluations.

The performance deficiency was determined to be greater than minor because it is associated with the cornerstone attribute of external factors, and it affected the mitigating systems cornerstone objective to ensure the availability of systems that respond to initiating events to prevent undesirable consequences. Specifically, failure to correct the buildup of ammonia gas in the MCC\*2-E04 cubicle resulted in a toxic hazard, and degraded the fire-protection defense-in-depth strategy involving operator actions relied upon for fire protection safe shutdown capability. The inspectors performed a Fire Protection SDP Phase 1 and Phase 2 screening in accordance with IMC 0609, Appendix

F, "Fire Protection Significance Determination Process (SDP)." The inspectors assigned a degradation rating of 'moderate' based on the feasibility to perform actions in a hazardous environment. However, the staging of SCBA equipment near MCC\*2-E04 would allow for performance of the operator actions relied upon for post-fire safe shutdown, and the gas hazard would not have affected safe shutdown strategy or adversely affect action timelines. Additionally, the duration factor was based on less than three days and since a fire in area CV-1 would require this SSD method, the fire frequency was set to that of a cable vault with other electrical equipment. In addition, review of the SSD methods shows at least one train of safe shutdown equipment remaining available. This finding screened as very low safety significance (Green) because, in accordance with Appendix F, step 2.1, "Independent SSD Path First Screening Assessment," the calculated delta CDF (core damage frequency) is less than the moderate degradation screening criteria from table 2.1.3 for post-fire SSD.

The cause of this finding is related to the cross-cutting area of problem identification and resolution, in that timely and appropriate actions were not taken to address safety issues and adverse trends [P.1 (d)].

Enforcement. Unit 2 Operating License Condition 2.F requires the fire protection program to be implemented and maintained in accordance with the requirements of section 9.5 of the FSAR, as amended. Contrary to the above, FENOC failed to take timely corrective action to eliminate high ammonia gas concentrations in the Auxiliary Building resulting in a degraded fire protection safe-shutdown capability. Because this finding is of low safety significance and has been entered into FENOC's corrective action program as CR 07-25046, this violation is being treated as an NCV, consistent with section VI.A.1 of the NRC Enforcement Policy. **(NCV 05000412/2007004-01, Post-Fire Safe Shutdown Capability Degraded due to Ammonia Gas Hazard)**

.2 Annual Fire Drill Observation (71111.05A)

a. Inspection Scope (1 sample)

The inspectors observed personnel performance during a fire brigade drill on August 5, to evaluate the readiness of station personnel to prevent and fight fires. The drill simulated a fire in the Unit 2 Condensate Polishing Filter Banks on level 773. The inspectors observed the fire brigade members using protective clothing, turnout gear, self-contained breathing apparatus, and entering the fire area in a controlled manner. The inspectors also observed the fire fighting equipment brought to the fire scene to evaluate whether sufficient equipment was available to effectively control and extinguish the simulated fire. The inspectors evaluated whether the permanent plant fire hose lines were capable of reaching the fire area and whether hose usage was adequately simulated. The inspectors observed the fire fighting directions and communications between fire brigade members. The inspectors verified that the pre-planned drill scenario was followed and observed the post drill critique to evaluate if the drill objectives were satisfied and that any drill weaknesses were discussed.

b. Findings

No findings of significance were identified.

1R11 Licensed Operator Requalification Program (71111.11)

.1 Resident Inspector Quarterly Review (71111.11Q)

a. Inspection Scope (1 sample)

On August 30, the inspectors observed Unit 2 licensed operator simulator training and evaluated drill scenarios which highlighted plant transients and selected alarm responses. The inspectors evaluated licensed operator performance regarding command and control, implementation of normal, annunciator response, abnormal, and emergency operating procedures, communications, technical specification review and compliance, and emergency plan implementation. The inspectors evaluated the licensee staff training personnel to verify that deficiencies in operator performance were identified, and that conditions adverse to quality were entered into the licensee's corrective action program for resolution. The inspectors reviewed simulator physical fidelity to assure the simulator appropriately modeled the plant control room. The inspectors verified that the training evaluators adequately addressed whether the applicable training objectives had been achieved. Documents reviewed are listed in the Attachment.

b. Findings

No findings of significance were identified.

.2 Biennial Review by Regional Specialist (71111.11B)

a. Inspection Scope

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

The inspectors reviewed documentation of operating history since the last requalification program inspection. The inspectors also discussed facility operating events with the resident staff. Documents reviewed included NRC inspection reports, and licensee condition reports (CRs) that involved human performance issues for licensed operators to ensure that operational events were not indicative of possible training deficiencies.

The inspectors reviewed two comprehensive written exams, and the scenarios and job performance measures administered during the weeks of June 18 and 25 to ensure the quality of these exams met or exceeded the criteria established in the Examination Standards and 10 CFR 55.59. The inspectors observed the administration of the operating exams to two crews.

#### Conformance with Simulator Requirements Specified in 10 CFR 55.46

The inspectors observed simulator performance during the conduct of the examinations, and reviewed simulator discrepancy reports to verify facility staff were complying with the requirements of 10 CFR 55.46. The inspectors reviewed a sample of simulator tests including transients, normal, steady state, malfunction as well as core performance tests. Inspectors also verified that a sample of completed simulator work requests (SWRs) from the past two-year period effectively addressed the described issue.

#### Conformance with operator license conditions was verified by reviewing the following records:

Six medical records (four for Unit 2; two for Unit 1). All records were complete; restrictions noted by the doctor were reflected on the individual's license; and physical exams were given within 24 months.

- One proficiency watch-standing and two reactivation records. Records indicated the licensed operators conformed with proficiency and reactivation watch-standing requirements of 10 CFR 55.53.
- Remediation training records for two licensed operators. These operators had failed their previous annual operating tests. The remediation records were acceptable.

Licensee's Feedback System. The inspectors interviewed instructors, training and operations management personnel, and three licensed operators for feedback regarding the implementation of the licensed operator requalification program to ensure the requalification program was meeting their needs and was responsive to their recommended changes.

On August 31, 2007, the inspectors conducted an in-office review of licensee requalification exam results. These results included the annual operating tests and the comprehensive written exams administered this year. The inspection assessed whether pass rates were consistent with the guidance of NRC Manual Chapter 0609, Appendix I, "Operator Requalification Human Performance Significance Determination Process (SDP)." The inspectors verified that:

- Crew failure rate on the dynamic simulator was less than 20%. (Failure rate was 0.0%)
- Individual failure rate on the dynamic simulator test was less than or equal to 20%. (Failure rate was 0.0%)
- Individual failure rate on the walkthrough test (JPMs) was less than or equal to 20%. (Failure rate was 0.0%)

- Individual failure rate on the comprehensive written exam was less than or equal to 20%. (Failure rate was 5.0%)
- More than 75% of the individuals passed all portions of the exam (95% of the individuals passed all portions of the exam).

b. Findings

No findings of significance were identified.

1R12 Maintenance Rule Implementation (71111.12)

.1 Routine Maintenance Effectiveness Inspection (71111.12Q)

a. Inspection Scope (3 samples)

The inspectors evaluated Maintenance Rule (MR) implementation for the issues listed below. The inspectors evaluated specific attributes, such as MR scoping, characterization of failed structures, systems, and components (SSCs), MR risk characterization of SSCs, SSC performance criteria and goals, and appropriateness of corrective actions. The inspectors verified that the issues were addressed as required by 10 CFR 50.65 and the licensee's program for MR implementation. For the selected SSCs, the inspectors evaluated whether performance was properly dispositioned for MR category (a)(1) and (a)(2) performance monitoring. MR System Basis Documents were also reviewed, as appropriate. Documents reviewed are listed in the Attachment.

- Unit 2 Chilled Water System issues, as they relate to appropriateness and adequacy of (a)(1) system classification, goals, performance monitoring and corrective actions;
- CR 07-12719, "New Style Appendix R Emergency Light 2DG-ELT-021 Battery Red Light Found Lit;" and
- CR 07-12400, "Adverse Trend in 4<sup>th</sup> Quarter Maintenance Rule Functional Failure."

b. Findings

No findings of significance were identified.

1R13 Maintenance Risk Assessment and Emergent Work Control (71111.13)

a. Inspection Scope (8 samples)

The inspectors reviewed the scheduling and control of eight activities that evaluated the effect on overall plant risk. This review was conducted to ensure compliance with applicable criteria contained in 10 CFR 50.65(a)(4). Documents reviewed are listed in

the Attachment. The inspectors reviewed the planned or emergent work for the following activities:

- On July 7, the inspectors assessed overall risk due to a Unit 1 off-site supply breaker (OCB-92) low pressure alarm, with regards to off-site power reliability and planned maintenance activities;
- On July 9, the inspectors assessed overall plant risk to Unit 1 and Unit 2 due to hot weather and planned maintenance activities;
- During the week of July 20, Inspectors assessed Unit 2 overall risk during ground isolation procedures;
- On August 3 and August 6, inspectors assessed overall risk when Unit 1 entered an unplanned “yellow” risk during performance of 1MPS-1.04I, Rev. 35, “Solid State Protection Train ‘A’ Bi-Monthly Test” and 1MPS-1.05I, Rev. 37, “Solid State Protection Train ‘B’ Bi-Monthly Test,” following the replacement of universal logic boards in each train of the solid state protection system (SSPS). The cards were replaced due to the failure alarm functions associated with high steam generator water levels. The safety functions of SSPS associated with these alarms were not affected;
- During the week of August 20, Inspectors assessed station overall risk during ground isolation procedures;
- On September 5, inspectors assessed overall risk when Unit 1 conducted an Infrequently Performed Test Evaluation (IPTE) while bringing the main turbine governor valves to 100% open (Valves Wide Open, or VWO) during end-of-cycle coastdown;
- During the week of September 10, Inspectors assessed overall risk during Unit 1 planned “yellow” risk while performing 1OST-33.10H, Rev. 4, “1B Service Station Transformer and ERFs Transformer 3B Deluge Valve Test,” and also during performance of 1MSP-1.05-I, Rev. 37, “Solid State Protection System Train ‘B’ Bi-Monthly Test;” and
- September 28 and 29, inspectors assessed Unit 1 shutdown risk during cavity draindown to the reactor vessel flange.

b. Findings

No findings of significance were identified.

1R15 Operability Evaluations (71111.15)

a. Inspection Scope (7 samples)

The inspectors evaluated the technical adequacy of selected operability determinations (OD), Basis for Continued Operations (BCO), or operability assessments, to verify that determinations of operability were justified, as appropriate. In addition, the inspectors verified that TS limiting conditions for operation (LCO) requirements and UFSAR design basis requirements were properly addressed. Documents reviewed are listed in the Attachment. This inspection activity represents 7 samples of the following issues:

- On July 2, the inspectors evaluated the licensee's assessment of operability for the refueling water storage tank (RWST) instrumentation, as detailed in CR 07-22902. This assessment was performed for an identified potential degradation of instrumentation due to a postulated fire in Unit 1 Fire Area PT-1;
- On July 5, inspectors reviewed issues identified in CR 07-23005 concerning the automatic isolation function of control room dampers as actuated from the installed radiation monitoring system;
- On July 5, inspectors evaluated the licensee's evaluation of issues identified during review of 10CFR21 notification, documented in CR 07-23032, regarding Fischer Controls type 67 Series air regulators;
- On July 9, inspectors evaluated the licensee's response to and assessment of operability of Unit 1 Charging Pumps due to the loosening of a support bracket on the common suction header. This assessment was performed due to the identification of a potential common-mode failure in the event of a seismic event and is document in CR 07-23207;
- On July 17, inspectors evaluated the licensee's assessment of operability of Unit 1 'B' train River Water while it's associated ventilation fan was out of service. Licensee analysis determined that an installed Unit 2 ventilation fan, of sufficient capacity for Unit 1, was operating in the 'B' intake structure cubicle. This issue is documented in CR 07-25594;
- On August 17, inspectors evaluated the licensee's operability assessment of Unit 2 'A' and 'C' Main Steam Isolation Valves (MSIVs) due to the identification of a potential inability to close during reverse flow conditions. Discussions with the vendor revealed that the degraded condition is attributed to time-related fatigue. Unit 2 MSIVs have been in operation for less than one operating cycle and would not be affected. FENOC submitted 10CFR21 notification 2007-28-00 (ML072760115) on October 1. This issue is documented in CR 07-25108; and
- On September 17, inspector evaluated the licensee's operability assessment of the Unit 1 Containment Sump, as detailed in CR 07-26841. The assessment was performed due to the identification of different retaining bolt types used for fastening the sump grating to the sump frame.

b. Findings

No findings of significance were identified.

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

The inspectors reviewed the following activities to determine whether the post-maintenance tests (PMT) adequately demonstrated that the safety-related function of the equipment was satisfied given the scope of the work specified, and that operability of the system was restored. In addition, the inspectors evaluated the applicable acceptance criteria to verify consistency with the associated design and licensing bases, as well as TS requirements. The inspectors also verified that conditions adverse to quality were entered into the corrective action program for resolution. Documents reviewed during the inspection are listed in the Attachment. The following seven maintenance activities and associated PMTs were evaluated:

- On July 5, Unit 2 'A' charging pump retests following a maintenance outage (WO 200243590);
- On July 7, 1OST-36.7, Rev. 14, "Offsite to Onsite Power Distribution System Breaker Alignment Verification-Train B," following hydro-motor replacement in OCB-92;
- On July 9, 2OST-39.5, Rev. 4, "Station Battery Check," following replacement of breaker in safety-related battery charger 2-2;
- On July 11, 1OST-36.2, Rev. 49, "Diesel Generator No. 2 Monthly Test," following corrective maintenance on a system relief valve;
- On July 18, 2OST-47.3G, Rev. 9, "Containment System Operating Surveillance Test Containment Penetration and ASME Section XI Valve Test – Work Week 2," following planned maintenance activities on the residual heat release valve;
- On August 1, 1OST-39.1C, "Weekly Station Battery Check, Battery No. 3" Rev 15, following maintenance on its associated battery charger; and
- On September 20, 2OM-6.4.Q & R following repairs to heat trace equipment for power operated relief valve 2RCS-PCV455C.

b. Findings

No findings of significance were identified.

1R20 Refueling and Outage Activities (71111.20).2 Unit 1 Refueling Outage (1R18)a. Inspection Scope (1 partial sample)

The inspectors observed selected Unit 1 outage activities to determine whether shutdown safety functions (e.g. reactor decay heat removal, spent fuel pool cooling, and containment integrity) were properly maintained as required by TS and plant procedures. The inspectors evaluated specific performance attributes including operator performance, communications, and instrumentation accuracy. The inspectors reviewed procedures and/or observed selected activities associated with the Unit 1 refueling outage. The inspectors verified activities were performed in accordance with procedures and verified required acceptance criteria were met. The inspectors also verified that conditions adverse to quality identified during performance of selected outage activities were identified as required by the licensee's corrective action program. Documents reviewed are listed in the Attachment. The inspectors also evaluated the following activities:

- Receipt of new fuel assemblies;
- $T_{ave}$  / power coastdown (section 1R23);
- Pre-Outage Shutdown Safety Review;
- Load Drop Analysis for Heavy Load Lift (OpE Smart Sample 2007-03);
- Reactor plant shutdown and cooldown, including evaluation of cooldown rates;
- Initial mode 4 as-found boric acid walkdown inside containment;
- 'A' and 'C' Main Steam Safety Valve testing,
- Spent fuel pool cooling operations;
- Maintenance of decay heat removal flowpaths; and
- Minimization of shutdown risk.

b. Findings

No findings of significance were identified.

1R22 Surveillance Testing (71111.22)

a. Inspection Scope (7 samples: 3 in-service testing (IST), and 4 routine)

The inspectors observed Pre-Job test briefings, observed selected test evolutions, and reviewed the following completed Operation Surveillance Test (OST) and Maintenance Surveillance (MSP) packages. The reviews verified that the equipment or systems were being tested as required by TS, the UFSAR, and procedural requirements. Documents reviewed are listed in the Attachment. The following 7 activities were reviewed:

- On June 28, 1RST-02.5, Rev. 8, "Moderator Temperature Coefficient Determination";
- On July 12, 2OST-30.6B, Rev. 15, "Service Water Pump [28WS\*P21C] Test on Train B Header";
- On August 14, 2OST-36.2, Rev. 52, "Emergency Diesel Generator [2EGS\*EG2-2] Monthly Test";
- On August 22, 1OST-36.22A, Rev. 8, "Unit 1 Emergency Diesel Generation

- Under Voltage Relay Checks”;
- On August 23, 2OST-30.06A, Rev. 14, “Unit 2 Service Water Pump [2SWP21C]” [IST];
- On September 20, 1OST-30.12A, Rev 24, “Train A Reactor Plant River Water System Full Flow Test” [IST]; and
- On September 30, 1OST-11.15, Rev. 6, “Safety injection Accumulator Check Valve Test” [IST].

b. Findings

No findings of significance were identified.

1R23 Temporary Plant Modifications (71111.23)

a. Inspection Scope (1 sample)

The inspectors reviewed the following temporary modifications (TMOD) based on risk significance. The TMOD and associated 10CFR50.59 screening were reviewed against the system design basis documentation, including the UFSAR and the TS. The inspectors verified the TMODs were implemented in accordance with Administrative (ADM) Procedure, 1/2-ADM-2028, “Temporary Modifications,” Rev. 8. Documents reviewed are listed in the Attachment.

- TMOD ECP 07-0229, associated with the Unit 1  $T_{ave}$  / Power coastdown. Coastdown began September 4 and continued as predicted until the 18<sup>th</sup> refueling outage began on September 24. For this activity, the inspectors observed various activities including management, operations, and shop briefings. The inspectors reviewed various documents used to justify and implement the TMOD and walked down the systems to verify that changes described in the package were actually implemented, and verified the post-modification testing was satisfactorily accomplished.

b. Findings

No findings of significance were identified.

**Cornerstone: Emergency Preparedness [EP]**

1EP7 Force-On-Force (FOF) Exercise Evaluation (71114.07)

a. Inspection Scope (1 sample)

On August 29, the inspectors observed Beaver Valley’s control room drill players respond during an on-site emergency preparedness drill conducted in conjunction with a FOF exercise, documented in inspection report 05000334/05000412-2007201. During

the exercise, the participants correctly utilized the security response procedures and classified the scenario appropriately. All time requirements were met. The inspectors also observed portion of the post drill critique to determine whether any observed deficiencies were also identified by the licensee evaluators.

b. Findings

No findings of significance were identified.

**2. RADIATION SAFETY**

**Cornerstone: Public Radiation Safety**

2PS3 Radiological Environmental Monitoring Program (REMP) and Radioactive Material Control Program (71122.03)

a. Inspection Scope (10 Samples)

During the period July 9 - 13, 2007, the inspector conducted the following activities to verify that the licensee implemented the radiological environmental monitoring program (REMP) consistent with the Technical Specifications (TS) and the Off-Site Dose Calculation Manual (ODCM) to validate that radioactive effluent releases met the design objectives of Appendix I to 10 CFR 50.

Additionally, the inspector verified that radiological surveys and controls were adequate to prevent the inadvertent release of radioactive material into the public domain. Implementation of these controls was reviewed against the criteria contained in 10 CFR 20 & 50, relevant TS and the licensee's procedures.

This inspection activity represents completion of ten (10) samples relative to this inspection area.

REMP Inspections:

- The inspector reviewed the 2006 Annual Radiological Environmental Operating Report and the 2006 REMP Land Use Census Report to verify that the environmental monitoring programs were implemented as required by the ODCM (Revision 6).
- The inspector walked down five (of 10) air sampling stations (Nos. 28, 29B, 32, 46.1, 47), four (of 6) milk sampling stations (Nos. 25, 69, 96, 113), three (of 3) surface water sampling stations (Nos. 2.1, 5, 49), two (of 2) drinking water stations (Nos. 14, 15), and 22 (of 44) thermoluminescent (TLD) monitoring stations (See Attachment A) to determine if sampling was conducted as described in the ODCM, and to evaluate the sampling equipment material condition.
- As part of the walkdown, the inspector observed the technician collect and

prepare for analysis air particulate/iodine filter samples, milk samples, water samples, and TLDs; and verified that environmental sampling was representative of the release pathways as specified in the ODCM, and that sampling techniques were in accordance with procedures.

- Based on direct observation and review of records, the inspector verified that the meteorological instrumentation was operable, calibrated, and maintained in accordance with the guidance contained in the FSAR, NRC Safety Guide 23, and the licensee procedures. The inspector verified that the meteorological data readout and recording instruments in the control room and at the tower were operable for wind direction, wind speed, and delta temperature. The inspector confirmed that redundant instrumentation was available for channels taken out of service for repair.
- The inspector reviewed the calibration records for ten (10) air samplers and observed the technician verifying the calibration of three water compositors.
- The inspector reviewed Condition Reports, a Nuclear Oversight Assessment Report (BV-C-05-02), and a Nuclear Oversight Field Observation report (BV320052197), relevant to the REMP requirements, to evaluate the threshold for which issues are entered into the corrective action program, the adequacy of subsequent evaluations, and the effectiveness of the resolution. The inspector also reviewed monthly RETS/ODCM effluent occurrence reports to evaluate the adequacy and timeliness of performance indicator information.
- The inspector reviewed the results of the licensee's quarterly laboratory cross-check program to verify the accuracy of the licensee's environmental air filter, charcoal cartridge, water, and milk sample analyses.
- The inspector reviewed any significant changes made by the licensee to the ODCM as a result of changes to the land use census or sampler station modifications since the last inspection. The inspector also reviewed technical justifications for any change in sampling location (or frequency) and verified the licensee performed the reviews required to ensure that the changes did not affect its ability to monitor the radiological condition of the environment.

#### Unrestricted Release of Material from the Radiologically Controlled Area (RCA)

- The inspector observed several locations in Units 1 and 2, including the Health Physics Main Control Point, the Decontamination Facility, and the Site Tool Facility, where the licensee monitors potentially contaminated material leaving the RCA, and inspected methods used for control, survey, and release from these areas, including observing the performance of personnel surveying and releasing material for unrestricted use. With the assistance of a technician, the inspector verified that the Small Article Monitors (SAM) alarmed when a check source was counted.
- The inspector verified that the radiation monitoring instrumentation (SAM-9, SAM-11, Frisker) was appropriate for the radiation types potentially present and was

calibrated with appropriate radiation sources. The inspector reviewed the licensee's criteria for the survey and release of potentially contaminated material; verified that there was guidance on how to respond to an alarm which indicates the presence of contamination; and reviewed instrument alarm setpoints to ensure that radiation detection sensitivities are consistent with the NRC guidance contained in IE Circular 81-07 and IE Information Notice 85-92 for surface contamination and HPPOS-221 for volumetrically contaminated material. The inspector also reviewed the licensee's procedures and records to verify that the radiation detection instrumentation was used at its typical sensitivity level based on appropriate counting parameters, and verified that the licensee has not established a release limit by altering the instruments sensitivity through such methods as raising the energy discrimination level or locating the instrument in a high radiation background area.

b. Findings

No findings of significance were identified.

**4. OTHER ACTIVITIES [OA]**

4OA1 Performance Indicator Verification (71151)

a. Inspection Scope (2 samples)

.1 Cornerstone: Mitigating Systems

The inspectors sampled FENOC submittals for the one Performance Indicator (PI) listed below for Unit 1 and Unit 2. The inspectors reviewed data from third quarter 2006 through the third quarter 2007. To verify the accuracy of the PI data reported during these periods, PI definitions and guidance contained in Nuclear Energy Institute (NEI) 99-02, "Regulatory Assessment Indicator Guideline," Revision 4, were used to verify the reporting basis for each data element.

Safety System Functional Failure

The inspectors reviewed portions of the operations logs and raw PI data developed from monthly operating reports and discussed the methods for compiling and reporting the PIs with cognizant licensing and engineering personnel. The inspectors compared graphical representations from the most recent PI report to the raw data to verify that the data was correctly reflected in the report.

b. Findings

No findings of significance were identified.

4OA2 Problem Identification and Resolution (71152 – 3 samples total)

.1 Daily Review of Problem Identification and Resolution

a. Inspection Scope (1 sample)

As required by Inspection Procedure 71152, "Identification and Resolution of Problems," and in order to help identify repetitive equipment failures or specific human performance issues for followup, the inspectors performed a daily screening of items entered into FENOC's corrective action program. This review was accomplished by reviewing summary lists of each CR, attending screening meetings, and accessing FENOC's computerized CR database.

b. Findings

No findings of significance were identified.

.2 Semi-Annual Trend Review

a. Inspection Scope (1 sample)

The inspectors reviewed site trending results for the time period January through June, 2007, to determine if trending was appropriately performed and evaluated by FENOC. This review covered the site trending program under FENOC's Integrated Performance Assessment process, and included a sample of self-assessments from the several organizations at Beaver Valley; BV-SA-07-107 through 130. This review verifies that existing trends were (1) appropriately captured and scoped by applicable departments, (2) consistent with the inspectors' assessment from the daily CR and inspection module reviews (Section 40A2.1, .3 through .5), and (3) not indicative of a more significant safety concern. Additionally, the inspectors verified the performance of site trending against NOP-LP-2001, Rev. 17, "Condition Report Process", and NOBP-LP-2018, Rev. 03, "Integrated Performance Assessment (IPA)/Trending." The inspectors also reviewed quarterly Quality Assurance reports and issues captured in the Activity Tracking database to identify issues and trends to evaluate during the inspection.

b. Findings and Observations

No findings of significance were identified. The licensee identified line management effectiveness as an area for improvement and two potential emerging trends in program / process weakness, and human performance. The licensee also identified a negative trend in housekeeping (BV-SA-07-116). Condition reports were written to document the potential trends and additional actions taken to evaluate mitigating programs. Overall, integrated performance assessments appear comprehensive and section performance ratings were considered effective. Attributes of the core indicators are considered effective.

.3 Annual Sample Review

Focused Review of Solid State Protection Circuit Board Failures

a. Inspection Scope

The inspectors performed a focused review of the actions taken in response to the

failures of several universal logic circuit boards in the solid state protection system. The review included a failure that resulted in a Unit 1 reactor trip on September 9, 2006. The inspectors reviewed the licensee's root cause analysis report, corrective actions to prevent recurrence, the implementation of associated corrective actions, and interviewed personnel.

b. Findings and Observations

No findings of significance were identified.

The inspectors determined that the licensee's actions to address the issue were appropriate. The system operability was properly assessed and the failure was reported to the NRC in Licensee Event Report (LER) 2006-004 as required by 10 CFR 50.73. The root cause evaluation was thorough and included the effective use of testing laboratories to perform a detailed analysis of the circuit card failures. The extent of condition review was good and corrective actions to prevent recurrence addressed immediate equipment concerns as well as improvements to procurement requirements and specifications for future card purchases.

Focused Review of Procedure Quality and Non-Compliance Issues

a. Inspection Scope (1 sample)

The inspectors selected licensee actions to address negative trends regarding procedure quality and non-compliance for detailed review. Condition reports and integrated performance assessment reports were reviewed to ensure that a comprehensive evaluation was performed and appropriate corrective actions were specified. The inspectors evaluated the reports against the requirements of procedure NOP-LP-2018, Rev. 17, "Corrective Action Program," NOP-LP-2004, Rev. 6, "Internal Assessment Process," NOP-LP-2601, Rev. 0, "Procedure Use and Adherence," and 10 CFR Part 50, Appendix B.

b. Findings and Observations

No findings of significance were identified.

The adequacy of causal analysis, extent of condition review, and the timeliness of the specified recommendations and corrective actions were determined to be reasonable.

.4 REMP and Radioactive Material Control Program

a. Inspection Scope

The inspector reviewed eighteen (18) condition reports, a Nuclear Oversight Department assessment report ( BV-C-05-02), and a Nuclear Oversight field observation report (BV320052197 ) to evaluate the licensee's threshold for identifying, evaluating, and effectively resolving problems in implementing the REMP and radioactive material control programs. This review was conducted against the criteria contained in 10 CFR 20, TS, and the licensee's procedures.

b. Findings

No findings of significance were identified.

.5 Inspection Module Problem Identification and Resolution (PI&R) Review

a. Inspection Scope

The inspectors reviewed various CRs associated with the inspection activities captured in each inspection module of this report. Specific focus was placed on CR 07-20307, documenting a high oil level in the outboard turbine bearing for the TDAFW pump. In addition, related CR 06-05216 was reviewed.

b. Findings

Introduction: The inspectors identified an NCV of very low safety significance (Green) of 10 CFR Part 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings," for the failure to specify post-maintenance acceptance criteria for key turbine parameters after turbine overhaul, or maintenance that could affect turbine bearing performance, and prescribe adequate performance monitoring of the Unit 1 TDAFW turbine (1FW-T-2). Specifically, turbine temperatures for 1FW-T-2 were not monitored.

Description: The inspectors noted during a review of the operability determination documented in CR 07-20307 and completed TDAFW surveillance tests, that turbine bearing temperature data was not recorded or available for Unit 1, but was available for Unit 2. EPRI Technical Report (TR) 1007461, "Terry Turbine Maintenance Guide, AFW Application," an industry standard for this TDAFW turbine, recommends various monitoring data for evaluating and trending system operational readiness and overall performance. An oil piping temperature from the discharge side of the pump bearings was recorded during Unit 1 surveillances, because unlike Unit 2, Unit 1 does not have installed turbine bearing thermocouples. The inspectors noted that Unit 2 monitors their turbine bearing temperature during surveillances and post maintenance tests (PMT). Though the oil system is common between the pump and turbine, oil piping temperatures taken at the specified location may not accurately represent turbine performance conditions. The inspectors requested turbine temperature data from previous turbine overhauls or PMTs. Licensee personnel indicated that no turbine temperature data was available and no information was available to correlate the oil piping discharge temperatures to turbine bearing performance, which is not consistent with standard industry and vendor monitoring guidance. Engineering did provide a trend of oil piping temperatures from October 2001 through August 2007. Temperatures ranged from 81 to 114 degrees Fahrenheit; (acceptance criteria is less than 155 degrees).

Following turbine overhaul or maintenance that could affect turbine bearing performance, the possibility of operating a degraded TDAFW turbine could exist without detection. The licensee offered that a significant change in TDAFW pump oil discharge temperature would necessitate further investigation and that oil sampling analysis is performed following maintenance. Oil samples did not indicate any particulate or observable water. However, investigation summary for CR 07-20307 identifies leakage past the carbon

shaft seals and/or the existing outboard gland leak as apparent causes of the high oil level in the turbine bearing sight glass.

The vendor technical manual recommends obtaining stable turbine bearing and oil temperatures on initial startup after overhaul. Also, EPRI Technical Report (TR) 1007461, "Terry Turbine Maintenance Guide, AFW Application," an industry standard for this TDAFW turbine, recommends various monitoring data points for evaluating and trending system operational readiness and overall performance.

The FENOC Condition Monitoring program states, in part, that monitored parameter criteria are influenced by industry and operating experience. Also, Continuous Equipment Performance Improvement procedure guidance on monitoring parameters states, in part, to look for leading indicators that predict performance. The severity of a condition must be determined by all observed symptoms and consideration given to prior experience with similar equipment, industry standards, regulatory requirements and vendor recommendations. The inspectors concluded that post-maintenance acceptance criteria for key turbine parameters was not obtained after significant maintenance and that performance monitoring of 1FW-T-2 was not adequate to ensure that key turbine parameters were reasonably monitored and evaluated, considering industry standards and vendor recommendations.

The inspectors determined the failure to specify post-maintenance acceptance criteria for key turbine parameters after turbine overhaul or maintenance that could affect turbine bearing performance and prescribe adequate performance monitoring to assess the performance of the TDAFW turbine at Unit 1 was a performance deficiency that warranted a significance evaluation in accordance with IMC 0612, "Power Reactor Inspection Reports," Appendix B, "Issue Screening."

Analysis: The inspectors determined the finding impacted the equipment performance attribute of the Mitigating Systems Cornerstone and impacted the objective to ensure the reliability of systems that respond to initiating events because , if left uncorrected, the failure to adequately monitor turbine performance following significant maintenance could result in the TDAFW turbine being degraded without the knowledge of the licensee. Using IMC 0609, Appendix A, "Determining the Significance of Reactor Inspection Findings for At-Power Situations," Attachment 1, "SDP Phase 1 Screening Worksheet for IE, MS, and B Cornerstones," the inspectors determined that the finding did not result in an actual loss of safety function of a system or train of equipment. Therefore, the finding was considered to be of very low safety significance (Green). Adequate monitoring exists for the Unit 2 TDAFW turbine which demonstrates that this issue is not indicative of current plant performance. No cross-cutting aspect was identified for this finding.

Enforcement: 10 CFR Part 50, Appendix B, Criterion V, requires, in part, that activities affecting quality be prescribed by documented instructions or procedures of a type appropriate to the circumstances and include appropriate quantitative or qualitative acceptance criteria to determine that important activities were satisfactorily accomplished. Contrary to the above, the licensee did not specify post-maintenance acceptance criteria for key turbine parameters after turbine overhaul, or maintenance that could affect turbine bearing performance, and prescribe adequate performance monitoring to assess the performance of the TDAFW turbine at Unit 1. Because of the very low safety significance of this finding and because the finding was entered into the licensee's corrective action program as CR 07-24074, this violation is being treated as an

NCV, consistent with Section VI.A.1 of the NRC Enforcement Policy. **(NCV 05000334/2007004-02, Inadequate Procedure and Monitoring Program for Turbine-Driven Auxiliary Feedwater Pump Turbine, 1FW-T-2)**

4OA3 Followup of Events and Notices of Enforcement Discretion (71153)

a. Inspection Scope (3 samples)

The inspectors responded to and reviewed licensee actions to three events. The inspectors observed operations in the control room and station. Applicable operating and alarm response procedures, technical specifications, plant process computer indications, and control room shift logs were reviewed to evaluate the adequacy of FENOC's response to these events. The inspectors also verified the events were entered into the corrective action program to resolve identified adverse conditions. Documents reviewed during the inspection are listed in the Attachment.

1. Fire in Beaver Valley Station Switchyard - July 28 – Unit 1 & Unit 2:

Inspectors responded to a fire that occurred in the station's switchyard at 4:05PM on July 28. The fire was caused by a failed 'B' phase and subsequent insulator failure on oil-circuit breaker 98 (OCB-98). The station fire brigade and local fire department responded to the fire. The fire did not affect any safety related equipment or off-site power to the station. The fire was completely extinguished at 5:47PM. The inspectors also reviewed the initial licensee notification to verify that it met the requirements specified in NUREG-1022, Event Reporting Guidelines.

2. Ammonia Odor in electrical cubicle MCC\*2-E04 – August 7-9 – Unit 2:

Inspectors evaluated FENOC's response to a strong ammonia odor that was identified in motor control cubicle (MCC) MCC\*2-E04 located in the Unit 2 Auxiliary Building 755' elevation. The odor originated from the main condenser air ejector discharge that was routed via the gaseous waste system. There is a common floor drain system that connects to the MCC cubicle loop seal. Ammonia gas is a normal by-product of hydrazine during plant operations. Hydrazine is used for secondary plant corrosion control.

In response to the strong ammonia odor, operators took action to re-align the discharge of the air ejectors to an approved alternate path (turbine building vent). This was performed under procedural guidance. Operations and safety personnel posted local danger signs and staged self-contained breathing apparatus (SCBA) outside the MCC cubicle in case immediate entry was required. Air samples were taken in the MCC cubicle by the station safety-specialist. The inspectors reviewed Abnormal Operating Procedures and Emergency Action Levels (EALs) and determined that no emergency declaration was warranted. Also, the inspectors interviewed plant personnel, reviewed shift narrative logs, procedures, printouts and other documents. The event was entered into the corrective action program as CR 07-24892, CR 07-25046 and CR 07-25075. (section 1R05)

3. Failure of Normal Switchgear Fan – August 15 - Unit 2:

Inspectors observed station response to a report of smoke in the main feed water regulator valve room, adjacent to the service building. The source of the smoke was from the non-safety normal switchgear ventilation fan 2HVZ-FN217. The fire brigade was assembled. The inspectors noted licensee response to be prompt and with appropriate protective gear. Operators promptly secured fan 2HVZ-FN217 which secured the fan from smoking. There was no observable fire and the smoke rapidly dissipated. Based on EAL review, no emergency declaration was warranted. Appropriate compensatory actions were established for ventilation, fire protection, and equipment operation. The licensee determined that the fan had failed. The inspectors reviewed shift narrative logs, printouts and other documents, and interviewed plant employees. The event was entered into the corrective action program as CR 07-25174.

b. Findings

No findings of significance were identified.

4OA5 Other

.1 Follow-up to Response to Confirmatory Order EA-06-152

a. Inspection Scope

The inspectors verified the completion of commitments made by First Energy Nuclear Operating Company (FENOC) during an Alternate Dispute Resolution (ADR) meeting between the NRC and FENOC on September 28, 2006, in response to Confirmatory Order EA-06-152, issued December 19, 2006. The inspectors review related documents and verified actions taken by FENOC as summarized:

- FENOC submitted an operating experience report on March 29, 2007 to the industry, via the Institute of Nuclear Power Operators (INPO), conveying the lessons learned.
- FENOC developed and provided lessons learned training, in a case-study format, to engineers at all FENOC nuclear facilities. Training was completed on June 19, 2007, except for three engineers due to extended absence. The engineers will receive the lessons learned training prior to assuming engineering duties. This action is documented in the FENOC corrective action program (CR 06-1171-CA-5).
- FENOC modified the engineering change procedure (NOP-CC-2003) to clarify the intent of the responsible engineer's signature
- The above actions were completed by June 30, 2007

b. Findings

No findings of significance were identified.

4OA6 Management Meetings

.1 Licensed Operator Requalification

The inspectors presented the inspection results discussed in section 1R11.2 to members of licensee management at the conclusion of the inspection on June 26, 2007. The licensee acknowledged the conclusions and observations presented.

.2 Radiological Environmental Monitoring Program (REMP) and Radioactive Material Control Program

The inspectors presented the inspection results discussed in section 2PS3 to Mr. Mark Manoleras, Director of Engineering, and other members of FENOC staff, at the conclusion of the inspection on July 12, 2007. The licensee acknowledged the conclusions and observations presented. No proprietary information is presented in this report.

.3 Quarterly Inspection Report Exit

On October 30, the inspectors presented the normal baseline inspection results to Mr. Peter Sena, Beaver Valley Site Vice President, and other members of the licensee staff. The licensee acknowledged the conclusions and observations presented. The inspectors confirmed that proprietary information was not retained at the conclusion of the inspection period.

ATTACHMENT: SUPPLEMENTAL INFORMATION

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

S. Baker	Radiation Protection Manager
M. Banko	Environmental & Chemistry Supervisor
T. Bean	Staff Nuclear Specialist
R. Bisbee	Regulatory Compliance
R. Bologna	Unit 2 Operations Manager
D. Branch	Engineer, Instrumentation & Control
A. Brunner	System Engineer
S. Checketts	Unit 2 Operations
R. Dinello	Environmental Field Specialist
R. Fedin	Regulatory Compliance
L. Freeland	Director, Performance Improvement
R. Freund	Supervisor, Radiation Protection Services
F. Gardner	System Engineer
D. Gernat	Station Safety Specialist
K. Grada	Director, Operations & Maintenance
A. Hartner	Unit 1 Supervisor
C. Hynes	Unit 1 Shift Manager
C. Keller	Manager, Regulatory Compliance
B. Klinko	System Engineer
M. Kogelschatz	Unit 1 Shift Manager
D. Kopp	BV Health Services
T. Kuhar	Staff Nuclear Specialist
S. Lieberman	Mechanical Maintenance
A. Lonnett	Advanced Nuclear Specialist
R. Lubert	Plant Engineering
J. Lutz	Unit 2 Supervisor
C. Mancuso	Design Manager
M. Manoleras	Director, Engineering
M. Mascio	Plant Engineering
J. Mauck	Regulatory Compliance
E. McFarland	Simulator Support
T. McGourty	System Engineer, Unit 2 Chilled Water
D. Mickinac	Regulatory Compliance
T. Migdal	Unit 1 Shift Supervisor
J. Miller	Fire Marshall
L. Miller	Fire Protection Engineer
N. Morrison	Superintendent, Maintenance
P. Pauvlinch	Supervisor, Engineering
D. Price	Supervisor, Nuclear Project Engineering
D. Salera	Chemistry Supervisor
R. Scheib	Operations Training Supervisor
P. Sena	Beaver Valley Site Vice President; Director, Site Operations
B. Sepelak	Supervisor, Regulatory Compliance
D. Sharbaugh	Unit 2 Fire Brigade Chief



Condition Reports

07-25818    07-25405    07-25075    07-25046    07-24892    07-24428  
03-02972

Calculations

8700-B-084, Rev. 4, "Unit 1 Fire Hazard Analysis"  
10080-B-085, Rev. 12, "Unit 2 Fire Hazard Analysis"

Drawings

10080-RM-301D, Rev. 14  
10080-RM-419-2, Rev. 8  
10080-RM-409-3, Rev. 8  
12241-RB-40E-8, Floor Drainage Aux Building, Unit 2

Pre-fire Plans

U1 IS-1        U2 PA-4        U2 PA-5        U1 FB-1, Rev. 1  
U1 CV-1        U2 CV-6        U1 CV-2

Procedures

1/2OM-53C.4A.44A.1, Toxic Gas Release, Rev. 17  
2OM-19.4.H, Condenser Air Ejector Blower Operations, Rev. 12  
EPP-I-1b, Recognition and Classification of Emergency Conditions, Rev. 11  
(EAL 4.4 Toxic Hazards)

Other

Alarm Response Procedure 2ON-33.4.AAU & AAH for annunciator A10-7B & 8B  
ECP 03-0262, Relocation of Turbine Building Vent Pipe  
Fire Drill Scenario 2CPB-03, dated August 5, 2007  
NIOSH Pocket Guide to Chemical Hazards, dated September 2005  
Timeline for Temp Hose to Turbine Roof, dated August 30, 2007  
Unit 1 Appendix R Compliance Report, Rev. 26 & 27  
Unit 2 Fire Protection Safe Shutdown Report, Addendum 29  
Unit 2 Operations Logs, dated August 7 – 31, 2007  
USNRC EN#43652, dated September 20, 2007  
US Department of Labor, OSHA, Safety and Health Topics, "Ammonia",  
[http://www.osha.gov/dts/chemicalsampling/data/CH\\_218300.html](http://www.osha.gov/dts/chemicalsampling/data/CH_218300.html)

**Section 1R11: Licensed Operator Requalification Program**

Procedures

1/2-ADM-1357, Attachment D, "Conduct of Simulator Training," Rev. 8  
1/2-ADM-1, Attachment 0, "Plant Transients and Operator Fundamentals," Rev. 6

Other

2 DRLS-E03.015, Dated 6/22/07 [Lesson Plan]  
2 LRTS-2007 M5D1, D2, D3, D4, Rev. 0, Issue 1  
2007-Module 5 License Operator Requalification Training Topics Schedule, Rev. 2  
Scenario E-0, Reactor Trip-Safety Injection  
Scenario E-3, Steam Generator Tube Rupture

**Section 1R12: Maintenance Rule Implementation**Procedures

1/2-ADM-2114, Rev. 4, "Maintenance Rule (MR) Program Administrative Procedure"  
 2DBD-29, Rev. 4, "Design Basis Document for Chilled Water System"  
 NOP-ER-3004, Rev. 0, "FENOC Maintenance Rule Program"

Condition Reports

07-12400    07-16385    07-18761    07-19174    07-19195    07-19263  
 07-22531    07-24671

Other

"Unit 2 Systems With Increased Monitoring per the Maintenance Rule," 09/12/07  
 NOP-ER-3004-01, 03/16/2007, "Maintenance Rule (a)(1) Evaluation Form, System #29"

**Section 1R13: Maintenance Risk Assessment and Emergent Work Control**Procedures

Alarm Response Procedure, A8-41  
 NOP-OP-1003, "Grid Reliability," Rev. 0  
 NOP-OP-1005, Rev. 10, "Shutdown Safety"  
 NOP-OP-1007, "Risk Determination" Rev. 4  
 1/2-ADM-2033, "Risk Management Program," Rev. 4  
 1MSP-1-04I, "Solid State Protection Train 'A' Bi-Monthly Test," Rev. 35  
 1MSP-1-05i, "Solid State Protection Train 'B' Bi-Monthly Test," Rev. 37  
 1OM-6.4.N, Rev. 20, "Draining the RCS for Refueling"  
 1OM-52.4B, "Load Following," Rev. 35  
 1OST-33.10H, "1B Service Station Transformer and ERFS Transformer 3B  
 1OST-49.3, Rev. 15, "Refueling Operations Prerequisites"  
 Deluge Valve Test," Rev. 4

Condition Reports

07-23084    07-24608    07-25466    07-27431    07-27509

Other

Unit 1 Daily Operations Logs, dated 7/6/07, 7/7/07, and 7/9/07  
 Unit 2 Daily Operations Log, dated 7/9/07  
 Weekly Maintenance Risk Summary for the week of July 30, 2007, Rev. 1  
 Weekly PRA Risk Profile for Unit 1, dated 9/3/07  
 1R18 End-of-Cycle T-Ave/Power Coastdown IPTE Briefing Package, dated 9/4/07  
 Weekly PRA Risk Profile for Unit 1 and Unit 2, September 10, 2007

Technical Specifications

ITS 3.3.1, Reactor Trip System (RTS) Instrumentation  
 ITS 3.3.2, Engineered Safety Feature Actuation System (ESFAS) Instrumentation  
 ITS 3.8.1, AC Sources - Operating

**Section 1R15: Operability Evaluations**Drawings

DWG 8700-RE-55D, Rev. 10

Procedures

1OM-56B.4.H, "Safe Shutdown Following a Serious Fire in Safeguards," Rev. 13  
NOP-OP-1009, "Immediate and Prompt Operability Determination," Rev. 0

Condition Reports

07-22902      07-23032      07-23207      07-25108      07-26841      03-05481

Miscellaneous

Unit 1 Daily Shift Logs, dated 7/2/07  
Unit 1 Daily Shift Logs, dated 7/9/07  
Unit 1 Daily Shift Logs, dated 9/21/07  
Unit 1 Appendix R Report, Rev. 26  
Unit 1 Fire Area Map PT-1  
Event Notification #43472, dated 7/5/07  
Fischer Information Notice 2007-01, dated 7/3/07  
Engineering Evaluation 07-23207-01  
Prompt Operability Determination Form, associated with CR 07-25108  
Prompt Operability Determination Form, associated with CR 07-26849  
ECP 04-0813

**Section 1R19: Post-Maintenance Testing**

Procedures

1OST-36.7, "Off-Site to On-Site Power Distribution System Breaker Alignment Verification,"  
Rev. 14  
1OST-39.1C, "Weekly Station battery Check, Battery No. 3" Rev 15  
1OST-36.2, "Diesel Generator No. 2 Monthly Test," Rev. 49  
2OM-6.4.Q, "Isolation of a Power Operated Relief Valve", Rev. 19  
2OM-6.4.R, "Restoring an Isolated Power Operated Relief Valve to Service", Rev. 17  
2OST-47.3G, "Containment System Operating Surveillance Test Containment Penetration and  
ASME Section XI Valve Test – Work Week 2," Rev. 9

Work Orders

WO 200243590

Condition Reports

07-23060      07-23084      07-23308      07-26810

Other

Alarm response to Annunciator A8-6B, Heat Trace System Trouble  
NOTF 600397907  
NOTF 600413734

**Section 1R20: Refueling and Outage Activities**

Condition Reports

07-27493      07-27424      07-27418      07-27050      07-27049      07-27032  
07-27022      07-26976      07-26957      07-26797      07-26556      07-24114  
07-19265      07-18811      07-18722      06-00794

Calculations

8700-DMC-3589, Rev. 0, "Evaluation of a Postulated Head Drop Event for Beaver Valley Unit 1"

Procedures

1BVT 1.21.2, Issue 2, Rev. 14, "Trevitest method for main Steam Safety Valve Setpoint Check"  
 1OM-6.4.N, Rev. 20, "Draining the RCS for Refueling"  
 1OM-6.4.A0, Rev. 20, "Isolating and Draining a Reactor Coolant Loop"  
 1OM-52.4.R.1.F, Rev. 14, "Station Shutdown From 100% Power to Mode 5"  
 1OST-49.3, Rev. 15, "Refueling Operations Prerequisites"  
 1OST-11.15, Rev. 6, "Safety Injection Accumulator Check Valve Test"  
 1OST-49.2, Rev. 21, "Shutdown Margin Calculation (Plant Shutdown) (Updated for Cycle 18)"  
 1/2RP-2.9, Issue 0, Rev. 8, "Reactor Vessel Head Installation/Second Head Lift"  
 1/2-RP-3.16, Rev. 12, "Core Unload"  
 NDE-VT-510, Rev. 14, "Visual Inspection for Evidence of Boric Acid Leakage"  
 NOP-ER-2001, Rev. 6, "Boric Acid Corrosion Control Program"  
 NOP-OP-1005, Rev. 10, "Shutdown Safety"

Other

ANSI B30.2.0-1967, "Overhead and Gantry Cranes", dated Oct 1969  
 Unit 1 Daily Shift Logs, dated 9/23/07  
 Improved Technical Specifications - Unit 1, Amendment 280  
 Updated Final Safety Analysis Report – Unit 1, Rev. 23

**Section 1R22: Surveillance Testing**

Procedures

2OST-30.6B, "Service Water Pump [28WS\*P21C] Test on Train B Header," Rev. 15  
 1RST-02.5, "Moderator Temperature Coefficient Determination," Rev. 8  
 2OST-36.2, "Emergency Diesel Generator [2EGS\*EG2-2] Monthly Test," Rev. 52  
 1-OST-36.22A, "Unit 1 Emergency Diesel Generation Under Voltage Relay Checks", Rev 8  
 2-OST-30.06A, "Unit 2 Service Water Pump 2SWP21C IST," Rev. 14  
 ECP 06-0176-02, Rev. 0

Condition Reports

07-23372	07-25058	07-25068	07-25094	07-25125	05-03953
07-25101	07-24849	07-25499	07-26849	07-27028	

Technical Specifications

BV 1/2 ITS Section 3.7.8  
 BV 1/2 ITS Section 3.8.1

Other

ASME Sect XI, OM-6  
 BVPS Daily Status Report for August 14, 2007  
 BVPS On-Line Scheduling Working Project, dated August 13, 2007  
 BV Unit 1 Daily Operations Log (Afternoon), dated September 20, 2007  
 BV Unit 2 Weekly Maintenance Risk Summary for the week of August 13, 2007, Rev. 0  
 Prompt Operability Determination Form, associated with CR 07-26849

**Section 1R23: Temporary Plant Modifications**

Condition Reports

07-26377 07-25952

Regulatory Applicability Determination (RAD) and 10 CFR 50.59 Screens

RAD 07-03564

ECP 07-0229

TMOD 07-0229-ID-01, 02, 03

Procedures

1CAL-6-T408E, T408D

1OM-52.4B – Load Following

1OM-54.4.C1-3 – Daily Heat Balance

Other

Infrequently Performed Testing Evolution for Coastdown, dated September 4, 2007

Operational Decision Making Issue for Coastdown, dated

Operator Impact Matrix (Tave/Power Coastdown), dated August 24, 2007

Plant Health Committee Briefing Slides, dated August 21, 2007

WO 2002275022, WO 200275023, WO 200275025

**1EP7: Force-On-Force (FOF) Exercise Evaluation**

Condition Reports

07-25577

Other

½-EPP-IP-1.1.F01, Rev. 1, "Initial Notification Form", exercise dated August 29, 2007

½-EPP-IP-4.F01, Rev. 1, "Site Area Emergency Page Announcement", exercise dated August 29, 2007

2SQS-23.1 TP-8, Second Point Heater Drain Receiver Diagram

FOF Daily Exercise Schedule

Operations Evaluation Checklist, filed August 29, 2007

**Section 2PS3: Radiological Environmental Monitoring Program (REMP) and Radioactive Material Control Program**

Procedures:

1/2-ODC-01.01, Rev 5, ODCM: Index, Matrix, and History of ODCM Changes

1/2-ODC-02.01, Rev 6, Overall Environmental Monitoring Program

1/2-ODC-02.03, Rev 1, ODCM: Radiological Environmental Monitoring Programs

1/2-ODC-03.02, Rev 2, ODCM: Bases for ODCM Controls

1/2-ODC-03.03, Rev 5, ODCM: Controls for RETS and REMP Program

1/2-ENV-03.01, Rev 5, Environmental Sampling

1/2-ENV-03.02, Rev 2, Maintenance & Calibration of Automatic Water Sampling Equipment

1/2-HPP-4.04.024, Rev 1, NE Technology Small Article Monitor

1MSP-45.17-1, Rev 18, Meteorological Monitoring System Calibration

Sampling Sites:

Milk: Nos. 25, 69, 96, 113

Air Particulate/Iodine: Nos. 28, 29B, 32, 46.1, 47

Drinking Water: Nos. 14, 15

Surface Water: Nos. 2.1, 5, 49

Thermoluminescent Dosimeters: Nos. 10, 33-44, 46, 46.152-54, 70, 72, 111,112

Nuclear Oversight (NO) Reports:

Second Quarter 2005 Assessment Report (BV-C-05-02)

NO Field Observation Report No. BV320052197

Condition Reports:

07-22289	07-23243	07-23244	07-23246	07-23248	07-22429
07-23250	07-23251	07-23254	07-23256	07-12344	06-09951
06-01028	06-09984	05-06450	05-06723	07-12708	07-21151

Calibration Records

Air Sampler Nos. 6115, 6126, 6114, 6127, 6117, 6123, 6122, 6119, 6116,

Meteorological Instrumentation dated 06/22/07, 03/12/07

Small Article Monitors Nos. 135, 140, 428, 489, 290

Miscellaneous Reports:

2005 and 2006 Annual Radioactive Effluent Release Reports

BVPS Applicability to IE Bulletin 80-10 and IE Information Notices 88-22 & 2006-13

On-site Ground Water Monitoring Report, 2<sup>nd</sup> Quarter 2007

**Section 40A2: Identification and Resolution of Problems**

Procedures

1MSP-1.04-I, Rev. 35, Solid State Protection System Train A Bi-Monthly Test

1OST-24.4, Rev. 35, "Steam Turbine Driven Auxiliary Feed Pump Test [1FW-P-2]"

1OST-24.9, Rev. 36, 36, "Turbine-Driven AFW Pump [1FW-P-2] Operability Test"

½-ADM-2101, Rev. 3, "Predictive Monitoring"

2OST-24.4, Rev. 59, 60, "Steam Driven Auxiliary Feed pump [2FW\*P-2] Quarterly Test"

2OST-24.4A, Rev. 12, "Steam Driven Auxiliary Feed pump [2FW\*P-2] Full Flow Test"

NOP-ER-1001, Rev. 1, "Continuous Equipment Performance Improvement"

NOP-ER-4001, Rev. 1, "FENOC Condition Monitoring"

NOP-LP-2001, Rev. 17, "Corrective Action Program"

NOP-LP-2004, Rev. 6, "Internal Assessment Process"

NOP-LP-2018, Rev. 3, "Quality Control Inspection of Maintenance and Modification Activities"

NOP-LP-2601, Rev. 6, "Procedure Use and Adherence"

Condition Reports

06-10097	06-08795	06-06090	06-03562	06-02118	06-01942
06-08506	06-01412	06-04086	07-24608	07-17219	06-10032
07-25758	07-25582	07-25572	07-25570	07-25318	07-24760
07-24759	07-24758	07-23554	07-22699	07-12968	07-12077
06-11299					

Work Orders and Notifications

200135740 200016213 200263046 200038342 200135740

600398020 600406546 600411260 600384251

Other

BV Procedure Non-Compliance Evaluations; dated from October 2006 – March 8, 2007

BV Site Procedure Survey, June 2007

BV-SA-07-124, IPA Work Management  
ECP 02-0027

EPRI Terry Turbine Maintenance Guide, AFW Application, 1007461, November 2002  
FENOC-06-221, Evaluation of SSPS Universal Board Failure for C0636-002, Westinghouse  
letter to FENOC dated November 13, 2006

Root Cause Analysis Report – BVPS Unit 1 Reactor Trip, dated November 11, 2006  
Westinghouse Root Cause Analysis Report for CAPs-RCA-06-255-M002, Rev. 1 and CAPs-  
RCA-06-262-M003, Rev. 1, January 3, 2007

02.018-001, Terry Steam Turbine Manual (ZS-4), Rev. U

1OST-24.4 Lube Oil Temperature Trend for Oil Pipe.

1TR1023, Beaver Valley SSPS Cards Evaluation of Universal Logic Card Failures, Rev. 0

1TR1024, Failure Analysis for 6056D21G01 Universal Logic Boards, Rev. 0

### **Section 4OA3: Event Response**

#### Condition Reports

03-02972	07-24313	07-24892	07-24929	07-25046	07-25075
07-25174	07-25405				

#### Drawings

10080-RM-419-2, Rev. 8, "Valve Oper No Diagram, Gaseous Waste Disposal Piping"

10080-RM-409-3, Rev. 6, "Nuclear Equipment Sump Drains Sys"

#### Procedures

1/2OM-53C.4A.44A.1, "Toxic Gas Release," dated June 6, 2007

2OM-19.4.H, "Condenser Air Ejector Blower Operation," dated August 22, 2002

EPP-I-1b, Rev. 11, "Recognition and Classification of Emergency Conditions"

NOP-OP-1003, Rev. 00 "Grid Reliability Protocol"

#### Other

USNRC Event Notification 43534, dated July 28, 2007

BVPS EALs

BVPS Unit 1 & Unit 2 Control Room Logs, dated July 24, 2007

BVPS Unit 2 Operation Logs dated August 9, 2007

BVPS Unit 2 Operation Logs dated August 15, 2007

BVPS Unit 2 Operation Logs dated August 31, 2007

Beaver Valley Power Station Unit 2: Fire Protection Safe Shutdown Report,  
Addendum 29

Engineering Change Package 03-0262

FENOC Press Release, "Beaver Valley Power Plant Extinguishes Minor Fire in Switchyard",  
dated July 28, 2007

### **Section 4OA5: Other Activities**

#### **Follow-up to Response to Confirmatory Order EA-06-152**

#### **Licensee Letter L-07-093, dated July 17, 2007**

#### Condition Reports

CR 06-11701, "NRC Violation and Confirmatory Order 9/28/06 Alternate Dispute Resolution  
Meeting," dated December 20, 2006

CR 06-11701-CA-1, FENOC Submittal of Operating Experience to Industry via Institute of Nuclear Power Operators  
 CR 06-11701-CA-2, FENOC Lessons Learned Case-Study Training and Tracking  
 CR 06-11701-CA-2, Summary of Contractor Design Control Issue Lesson Learned Training Reports, Attachment dated June 20, 2007  
 CR 06-11701-CA-5, Make-up Training Tracking for 1BV and 2Perry Engineers, including three Make-up Recommendation Sheets  
 CR 06-11701-CA-3, FENOC Modifications to Procedure NOP-CC-2003  
 CR 05-04351

Other

SAP 19313  
 FENOC Memorandum; NRC Call on FENOC's Planned Actions Regarding Lessons Learned Training of Engineers Required by December 19, 2006 Confirmatory Order, dated May 17, 2007  
 "Alternate Dispute Resolution at BVPS – Contractor Design Control Issue," FENOC Lessons Learned Training  
 NOP-CC-2003, "Engineering Changes," Rev. 11, dated April 27, 2007  
 EA-06-152, "Notice of Violation and Confirmatory Order (Effective Immediately) (NRC Office of Investigations Report No. 1-2005-036). NRC Letter dated December 19, 2006  
 L-07-093, "BVPS, Unit Nos. 1 and 2 BV-1 Docket No. 50-334, License No. DPR-66 BV-2 Docket No. 50-412, License No. NPF-73 Response to Confirmatory Order; EA-06-152." FENOC Letter dated July 17, 2007

**LIST OF ACRONYMS**

ADM	Administrative Procedure
ADR	Alternate Dispute Resolution
AFW	Auxiliary Feedwater
BCO	Basis for Continued Operations
BVPS	Beaver Valley Power Station
CFR	Code of Federal Regulations
CR	Condition Report(s)
EAL	Emergency Action Level
ECP	Engineering Change Package
EDG	Emergency Diesel Generator
EP	Emergency Preparedness
EPRI	Electrical Power Research Institute
FENOC	First Energy Nuclear Operating Company
FOF	Force-On-Force
IMC	Inspection Manual Chapter
IP	Inspection Procedure
IPTE	Infrequently Performed Test Evaluation
JPM	Job Performance Measure
LCO	Limiting Conditions for Operation
LER	Licensee Event Report
MCC	Motor Control Center
MR	Maintenance Rule
MSP	Maintenance Surveillance Package
NRC	Nuclear Regulatory Commission

## A-11

OCB	Oil-Circuit Breaker
OD	Operability Determinations
ODCM	Off-Site Dose Calculation Manual
OST	Operations Surveillance Test
PI	Performance Indicator
PI&R	Problem Identification and Resolution
PMT	Post Maintenance Testing
QS	Quench Spray
RCA	Radiologically Controlled Area
REMP	Radiological Environmental Monitoring Program
RETS	Radiological Environmental Technical Specification
RWST	Refueling Water Storage Tank
SAM	Small Article Monitors
SCBA	Self-Contained Breathing Apparatus
SSC	Structures, Systems, and Components
SDP	Significance Determination Process
SSPS	Solid State Protection System
SWR	Simulator Work Request
TDAFW	Turbine-Driven Auxiliary Feedwater Pump
TLD	Thermoluminescent Dosimeter
TMOD	Temporary Modification
TS	Technical Specification
UFSAR	Updated Final Safety Analysis Report
VWO	Valves Wide Open