

January 25, 2006

Mr. James Lash
Site Vice President, Beaver Valley Power Station
FirstEnergy Nuclear Operating Company
Post Office Box 4
Shippingport, Pennsylvania 15077

SUBJECT: BEAVER VALLEY POWER STATION - NRC INTEGRATED INSPECTION
REPORT 05000334/2005008 AND 05000412/2005008

Dear Mr. Lash:

On December 31, 2005, 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 January 25, 2006, 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, one self-revealing finding was identified of very low safety significance (Green), which was determined to involve a violation of NRC requirements. However, because of the very low safety significance and because the issue was entered into the corrective action program, the NRC is treating this finding as a non-cited violation (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, and its enclosures, 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).

J. Lash

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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 7
Division of Reactor Projects

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

Enclosures: Inspection Report 05000334/2005008 and 05000412/2005008
w/Attachment: Supplemental Information

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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. 05000334/2005008 and 05000412/2005008

Licensee: FirstEnergy Nuclear Operating Company (FENOC)

Facility: Beaver Valley Power Station, Units 1 and 2

Location: Post Office Box 4
Shippingport, PA 15077

Dates: October 1, 2005 through December 31, 2005

Inspectors: P. Cataldo, Senior Resident Inspector
G. Smith, Resident Inspector
J. Caruso, Reactor Inspector
J. Richmond, Reactor Inspector

Approved by: R. Bellamy, Ph.D., Chief
Reactor Projects Branch 7
Division of Reactor Projects

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SUMMARY OF FINDINGS

IR 05000334/2005008, IR 05000412/2005008; 10/01/2005 - 12/31/2005; Beaver Valley Power Station, Units 1 & 2; Maintenance Risk Assessment and Emergent Work Control.

The report covered a 3-month period of inspection by resident inspectors and regional specialists. The inspection identified one Green finding which was a non-cited violation (NCV). 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 Nuclear Regulatory Commission (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," Rev. 3, dated July 2000.

A. NRC-Identified and Self-Revealing Findings

Cornerstone: Mitigating Systems

- Green. A Green, self-revealing, non-cited violation (NCV) of 10CFR50 Appendix B, Criterion V, "Instructions, Procedures, and Drawings," was identified for failure to properly execute a clearance procedure. Specifically, a safety-related auxiliary feedwater (AFW) pump was inadvertently disabled as a result of a procedural error during a clearance activity. The licensee entered this deficiency regarding procedure implementation into their corrective action program, performed a root cause evaluation, and implemented interim corrective actions that included a human performance stand-down to communicate lessons learned to the organization.

The finding was more than minor because it was associated with the equipment performance attribute of the mitigating systems cornerstone and affected the objective in that it impacted the availability/reliability of a safety-related AFW pump. The finding is of very low safety significance since the pump was unavailable and out-of-service for only two minutes (within the technical specification allowable outage time of 72 hours). The cause of the finding is related to the personnel subcategory of the cross-cutting element of human performance. (Section 1R13).

B. Licensee Identified Violations

None.

REPORT DETAILS

Summary of Plant Status:

Unit 1 began the inspection period at 100 percent power. On November 12, 2005, power was reduced to 97 percent to perform turbine valve testing and maintenance on the 'B' steam jet air ejector. The unit was returned to 100 percent on November 13, where it continued to operate for the remainder of the period.

Unit 2 began the inspection period at 100 percent power. On October 2, 2005, power was reduced to 90 percent power to repair the 'B' separator drain pump discharge control valve. The unit was returned to full power on the same day. On October 4, power was reduced to approximately 98 percent power to repair the reheater drain receiver tank normal and high level control valves following a high level in the reheater drain tank and subsequent increase in reactor power due to a loss of secondary efficiency. Following the repairs, the unit was returned to full power operation on October 5. On October 15, power was again reduced to 98 percent to perform turbine valve testing. Full power operation was restored the same day and the unit continued full power operation for the remainder of the period.

1. REACTOR SAFETY

Cornerstone: Initiating Events, Mitigating Systems, Barrier Integrity

1R01 Adverse Weather Protection 71111.01 - 1 sample)

a. Inspection Scope

The inspectors walked down risk significant plant areas for several days in November and December 2005 and assessed FENOC's protection activities for cold weather conditions. The inspectors were sensitive to outside instrument line conditions and the potential for unheated ventilation. The walkdown included the quench spray, low head safety injection and service/river water systems. The inspectors also reviewed implementation of FENOC's administrative procedures for cold weather conditions, 1OST-45.11, "Cold Weather Protection Verification," Rev. 16 and 2OST-45.11, "Cold Weather Protection Verification," Rev. 16. Other documents that were reviewed are listed in the attachment.

b. Findings

No findings of significance were identified.

Enclosure

1R04 Equipment Alignment

.1 Partial System Walkdowns (71111.04 - 3 samples)

a. Inspection Scope

The inspectors performed three partial system-walkdowns during this inspection period. The inspectors evaluated the operability of the selected train or system when the redundant train or system was inoperable or unavailable. The inspector verified correct valve positions and breaker alignments in accordance with the applicable procedures, and consistent with applicable chapters of the updated final safety analysis report (UFSAR).

C On November 7, 2005, the inspectors performed a walkdown of the Unit 2 'A' train Low Head Safety Injection (LHSI) system while the 'B' train was out-of-service for a breaker replacement associated with 2SIS-MOV8890B, 'B' LHSI pump minimum flow recirculation valve.

C On November 14, 2005, the inspectors performed a walkdown of two temporary fire pumps and various portions of the fire water system while the permanent fire pumps (electric and diesel) were out-of-service due to a clearance. The portable fire pumps were installed in accordance with 1OM-33.4.S, "Portable Fire Pump Operating While [1FP-P-1 and/or 2] are OOS," Rev. 4.

C On December 21, 2005, the inspectors performed a walkdown of the Unit 2 'B' train Quench Spray (QS) system while the 'A' train was out-of-service for a breaker replacement associated with 2QSS-MOV101A, 'A' QS pump discharge valve.

.2 Complete System Walkdowns (71111.04S - 1 sample)

a. Inspection Scope

The inspectors conducted a detailed review of the alignment and condition of the Unit 2 Recirculation Spray (RS) System. This system was selected based on its risk significance and the results of previous inspections. The inspectors reviewed plant drawings, abnormal operating procedures, and emergency operating procedures to determine proper equipment alignment. The inspectors reviewed and evaluated the impact on the RS system operation due to work orders based on existing deficiencies. Condition reports associated with the RS system were also reviewed to verify that the licensee was adequately identifying and correcting system deficiencies. In addition, the inspectors performed a detailed review of the RS system health report and the design basis document in order to gain insights on any long-standing issues. Other documents that were reviewed are listed in the attachment.

b. Findings

No findings of significance were identified.

1R05 Fire Protection

.1 Fire Protection - Tours (71111.05Q - 9 samples)

a. Inspection Scope

- Unit 1 Control Room (Fire Area CR-1)
- Unit 1 Turbine Building (Fire Area TB-1)
- Unit 1 Normal Switchgear Room (Fire Area NS-1)
- Unit 2 Control Building Instrumentation and Relay Area (Fire Area CB-1)
- Unit 2 Control Building Cable Spreading Area (Fire Area CB-2)
- Unit 2 Control Building Main Control Room (Fire Area CB-3)
- Unit 2 Control Building Computer Room (Fire Area CB-4)
- Unit 2 Condensate Polishing Building (Fire Area CP-1)
- Unit 2 Cable Vault and Rod Control (Cable Vault Area Only) (Fire Area CV-3)

The inspectors reviewed the fire protection conditions of the fire areas listed above to verify compliance with criteria delineated in Administrative Procedure 1/2-ADM-1900, "Fire Protection," Rev. 8. This review included FENOC's control of transient combustibles, material condition of fire protection equipment, and the adequacy of compensatory measures for any fire protection impairments. Other documents that were reviewed are listed in the attachment.

.2 Fire Protection - Drill Observation (71111.05A - 1 sample)

On November 16, 2005, the inspectors observed a fire drill conducted in the newly constructed Unit 1 containment access facility. The fire drill involved a simulated fire complicated by a simulated injured individual. The drill was conducted in accordance with the drill guide, "Fire Drill Scenario/1YARD-04," dated September 20, 2005, and was considered an announced drill. The inspectors evaluated: 1) effectiveness of communications during the drill; 2) assessment of the fire and the use of proper fire-fighting strategies in accordance with 1PFP-YARD-735, Rev 0; 3) adequacy and condition of fire fighting equipment; 4) control room response to the fire including emergency plan execution and control room evacuation considerations; 5) knowledge and skill of the fire brigade, including the use of personal protective equipment; and 6) effectiveness of the brigade leader in directing the actions of the fire brigade team. The inspectors attended the post-drill critique and assessed FENOC's drill evaluation and subsequent conclusions regarding the fulfillment of drill objectives.

b. Findings

No findings of significance were identified.

1R06 Flood Protection Measures (71111.06 - 1 sample)

a. Inspection Scope

The inspectors reviewed the flood protection measures associated with the intake structure to determine the adequacy of protection from external floods. This review included flood boundary penetration integrity, and the condition of flood barriers including inter-cubicle and exterior flood doors. Additionally, the inspectors reviewed design basis requirements in the UFSAR, and reviewed surveillance records associated with flood doors for the cubicles that contain safety-related river water pumps (Unit 1) and service water pumps (Unit 2). The inspectors also reviewed the abnormal operating procedure (AOP) for flooding, as well as implementation of this AOP on several occasions where Ohio river water level had risen to the entry point of the procedure where actions were required. Documents reviewed are listed in the attachment.

b. Findings

No findings of significance were identified.

1R07 Heat Sink Performance

.1 Annual Inspection (71111.07A - 1 Sample)

a. Inspection Scope

The inspectors conducted a review of FENOC's surveillance and control of heat exchanger performance by reviewing the results of a Unit 2 heat exchanger inspection for the 'B' Charging pump lube oil heat exchanger, 2CHS-E25B, performed on October 7, 2005. The review included an assessment of work order (WO) 200018129 and the heat exchanger inspection report performed in accordance with 1/2-ADM-2106, Rev 0, "River/Service Water System Control and Monitoring Program." The inspectors reviewed the results against applicable acceptance criteria and verified the inspection was consistent with NRC Generic Letter (GL) 89-13, "Service Water System Problems Affecting Safety-Related Equipment."

b. Findings

No findings of significance were identified.

.2 Biennial Inspection (71111.07B - 3 Samples)

a. Inspection Scope

The inspectors reviewed FENOC's programs for maintenance, testing, and monitoring of risk significant heat exchangers (HXs) to verify whether potential HX deficiencies could mask degraded performance, and to assess the capability of the HXs to perform their design functions. The inspectors assessed whether the HX programs conformed to

FENOC's commitments to GL 89-13, "Service Water System Problems Affecting Safety-Related Equipment." In addition, the inspectors evaluated whether any potential common cause heat sink performance problems could affect multiple HXs in mitigating systems or result in an initiating event. Based on risk significance and prior inspection history, the following HXs were selected:

- C Unit 2 "B" Emergency Diesel Generator (EDG) Jacket Water and Lube Oil HXs
- C Unit 2 "B" Recirculation Spray System (RSS) HX
- C Unit 1 "A" Residual Heat Removal (RHR) System HX

The inspectors also evaluated the Unit 1 river water (RW) system and the Unit 2 service water system (SWS), which provides the heat sink to the selected HXs and essential equipment during shutdown, abnormal, and accident conditions. The inspectors reviewed system health reports, HX inspection records, eddy current test results, performance and surveillance test results, as-left HX tube plugging, and design specifications and calculations. The inspectors assessed FENOC's methods to monitor and control bio-fouling, corrosion, erosion, and silting to verify whether FENOC's methodology and acceptance criteria, as-implemented, were adequate. In addition, the inspectors reviewed selected condition reports (CRs) to verify whether identified problems and degraded conditions had been appropriately resolved.

The inspectors compared as-found HX inspection results, and performance and surveillance test results, to established acceptance criteria to verify whether the as-found conditions were acceptable and conformed to design basis assumptions for heat transfer capability. The inspectors evaluated the performance trends to assess whether the inspection and test frequencies were adequate to identify degradation prior to loss of heat removal capabilities below their design requirements.

The inspectors performed field walkdowns of the accessible portions of the selected HXs, RW and SWS systems, and the common intake structure, to assess the material condition. Specific documents reviewed are listed in the attachment to this report.

b. Findings

No findings of significance were identified.

1R11 Licensed Operator Requalification Program (71111.11 - 1 sample)

.1 Resident Inspector Quarterly Review

a. Inspection Scope

The inspectors observed the Unit 2 licensed operator annual operating exam in the plant-reference simulator on November 2, 2005. The inspectors observed licensed operator performance relative to the following activities: effective communications; implementation of normal, abnormal and emergency operating procedures; command and control; technical specification compliance; and emergency plan implementation.

The inspectors observed simulator fidelity and verified that major, in-plant configurations or changes were appropriately reflected in the simulator. The inspectors evaluated the FENOC evaluators during the examination and verified that deficiencies in operator performance were properly identified, and that conditions adverse to quality were appropriately entered into the licensee's corrective action program for resolution.

.2 Biennial Review (71111.11B - 1 sample)

a. Inspection Scope

The inspectors reviewed documentation of the operating history since the last requalification program inspection, as well as facility operating events. Documents reviewed included NRC inspection reports, plant performance insights, licensee event reports (LERs), and licensee CRs that involved human performance issues for licensed operators, to ensure that operational events were not indicative of possible training deficiencies (see document list attached). The inspectors also utilized the following documents during the inspection and as acceptance criteria, as applicable:

- C NUREG-1021, Rev. 9, "Operator Licensing Examination Standards for Power Reactors;"
- C Manual Chapter (MC) 0609 Appendix I, "Operator Requalification Human Performance Significance Determination Process;"
- C 10 CFR 55.46 Simulator Rule

The inspectors reviewed three exam sets (i.e., weeks 2, 3, and 4) for both the comprehensive reactor operator (RO) and senior reactor operator (SRO) biennial written exams, as well as scenarios and job performance measures (JPMs) administered during the current exam cycle, to ensure the quality of these exams met or exceeded the criteria established in the Examination Standards and 10 CFR 55.59.

The inspectors also observed the administration of operating examinations to operating crew shift 1. The operating examinations consisted of three simulator scenarios and one set of five JPMs administered to each individual.

Conformance with Simulator Requirements Specified in 10 CFR 55.46

For the site-specific simulator, the inspectors observed simulator performance during the conduct of the examinations and discrepancy reports to verify compliance with the requirements of 10 CFR 55.46. The following areas were reviewed:

- C Listing of open and closed Simulator Deficiency Reports, selecting seven for a detailed review to determine if deficiencies are being adequately prioritized and are being corrected in a timely manner.
- C Three, controlling documents to ensure simulator capability, configuration control, and testing meet the guidance in ANSI/ANS 3.5 1985.

- C The completed simulator test schedule for 2001-2004 and the planned testing schedule for 2005-2008. Five individual simulator tests (two steady state tests and three core performance tests) performed over the last four years were sampled and confirmed that they were performed at the appropriate frequency. In addition, tests were confirmed that compared the simulator data to actual plant data or best estimate data, as appropriate. When best estimate data was used, it was determined that the process of estimating was rigorous and reasonable.

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

- C Remediation training records for four individuals for the past two-year training cycle.
- C Proficiency watch-standing and reactivation records. A sample of licensed operator reactivation records were reviewed, as well as a random sample watch-standing documentation (i.e., four staff license individuals) for time on shift, to verify currency and conformance with the requirements of 10 CFR 55.

Licensee's Feedback System.

The inspectors interviewed instructors, training/operations management personnel, Emergency Preparedness Staff and operators (i.e., Assistant Operations Manager, the Operation's Training Superintendent, three evaluators, the simulator lead, the Manager of Emergency Planning (EP), an EP Training Instructor and three ROs and two SROs) for feedback regarding the implementation of the licensed operator requalification program, to ensure the program was meeting their needs and was responsive to their noted deficiencies/recommended changes.

In-Office Review of Examination Results

On December 22, 2005, the inspectors conducted an in-office review of licensee requalification exam results that included the annual operating tests administered in 2005. The inspection assessed whether pass rates were consistent with the guidance of MC 0609, Appendix I. The inspectors verified that:

Beaver Valley Unit 1

- C Crew failure rate on the dynamic simulator was less than 20%. (Failure rate was 0.0%.)
- C Individual failure rate on the dynamic simulator test was less than or equal to 20%. (Failure rate was 0.0%.)
- C Individual failure rate on the walkthrough test (JPMs) was less than or equal to 20%. (Failure rate was 4.9%.)

- C Individual failure rate on the comprehensive biennial written exam was less than or equal to 20%. (Not applicable - biennial written exams were conducted in 2004.)
- C More than 75% of the individuals passed all portions of the exam (95.1% of the individuals passed all portions of the exam).

Beaver Valley Unit 2

- C Crew failure rate on the dynamic simulator was less than 20%. (Failure rate was 0.0%.)
- C Individual failure rate on the dynamic simulator test was less than or equal to 20%. (Failure rate was 0.0%.)
- C Individual failure rate on the walkthrough test (JPMs) was less than or equal to 20%. (Failure rate was 2.3%.)
- C Individual failure rate on the comprehensive biennial written exam was less than or equal to 20%. (Failure rate was 0.0%.)
- C More than 75% of the individuals passed all portions of the exam (97.7% of the individuals passed all portions of the exam).

b. Findings

No findings of significance were identified.

1R12 Maintenance Rule Implementation (71111.12 - 3 samples)

a. Inspection Scope

The inspectors evaluated follow-up actions for problems with selected structures, systems, and components (SSCs), and reviewed the performance history of these SSCs to assess the effectiveness of Beaver Valley's maintenance activities. The inspectors reviewed Beaver Valley's problem identification and resolution actions, as applicable, to evaluate whether plant staff had appropriately monitored, evaluated, and dispositioned the issues in accordance with station procedures and the requirements of 10 CFR 50.65(a)(1) and (a)(2), "Requirements for Monitoring the Effectiveness of Maintenance at Nuclear Power Plants." In addition, the inspectors reviewed selected SSC classification, performance criteria, and goals. The following three issues were reviewed:

- CR 05-07469, "2MSS-SOV120 Failed During 2OST-43.05"
- CR 05-07441, "Repeat Failure of 2SDS-AOV111B1 During Stroke Test"

- CR-05-04325, "Unit 2 4kV Bus Supply Breaker 242B Failed To Close Following Breaker Racking, dated June 14, 2005, and CR-05-06868, "Unit 2 - 4kV Supply Breaker To 2C Bus Improperly Racked," dated October 12, 2005.

b. Findings

No findings of significance were identified.

1R13 Maintenance Risk Assessment and Emergent Work Control (71111.13 - 6 samples)

a. Inspection Scope

The inspectors reviewed the scheduling and control of six activities, and evaluated the effect on overall plant risk. This review was against criteria contained in 10CFR50.65(a)(4); 1/2-ADM-2033, "Risk Management Program," Rev. 2; NOP-WM-2001, "Work Management Process," Rev. 2; 1/2-ADM-0804, "On-Line Work Management and Risk Assessment," Rev. 3; 1/2-ADM-2114, "Maintenance Rule Program Administrative Procedure," Rev. 0; and Conduct of Operations Procedure 1/2OM-48.1.I, "Technical Specification Compliance," Rev. 13. The inspectors reviewed the planned or emergent work for the following activities:

- C On November 17, 2005, Unit 2 entered a planned "yellow" risk status due to the performance of 2MSP-1.04-I, "Solid State Protection System Train 'A' Bi-Monthly Test," Rev. 29. The inspectors reviewed the risk assessment associated with the removal of one train of solid state protection from service.
- C On November 21, 2005, Unit 2 entered a planned "yellow" risk status due to the replacement of the molded case circuit breaker associated with valve 2RSS*MOV155C, "Recirculation Pump 2RSS*P21C Suction Valve."
- C On December 22, 2005, Unit 1 entered a planned "yellow" risk status due to a replacement of the 1-3 battery breaker.
- C The inspectors reviewed CR 05-06140, which described a potential for over-crediting from a risk perspective, the planned use of the Unit 2 spare battery charger which occurred during the week of September 5, 2005.
- C Emergent risk associated with the disabling of the Unit 2 'A' auxiliary feedwater (AFW) pump on December 6, 2005.
- C Planned "yellow" risk associated with maintenance on station air system (SA-TK-1A) on 11/21-22/05.

b. Findings

Introduction. A Green, self-revealing NCV was identified for the improper disabling of the Unit 2 "A" AFW pump.

Description. On December 6, 2005, during restoration from Unit 1 alternate intake bay cleaning, and in preparation for Unit 2 alternate intake bay cleaning, Operations personnel performed clearance (tagout) activities that required 2SWE-P23A, Unit 2 "A" standby service water pump, to be disabled. During implementation of the clearance, two operators (one from each unit) located in the Unit 2 'A' train emergency switchgear room, failed to implement proper self-checking and peer checking of their respective activities. As a result, while 2SWE-P23A was the immediate focus of the clearance activity, an operator inadvertently opened the breaker cubicle door associated with 2FWE-P23A, Unit 2 "A" AFW pump. While unaware they were in the wrong cubicle, the operators continued the clearance execution and pulled the DC control power fuses located inside this cubicle. This action resulted in an unexpected control room status alarm associated with the AFW system, and the control room operators paged the field operators to verify their activities. Once alerted, the field operators became aware of their error, and with control room permission, reinserted the fuses they had pulled for the Unit 2 'A' AFW pump circuit breaker. Removal of the control power fuses effectively disabled the pump and would preclude breaker operation following a demand signal from the solid state protection system. The pump was out-of-service for approximately two minutes.

Analysis. This issue involved a performance deficiency in that operators failed to self-check and peer-check during the performance of clearance (lockout/tagout) activities. This finding was considered more than minor since it was associated with the equipment performance attribute of the mitigating systems cornerstone, and affected the cornerstone objective in that it impacted the availability/reliability of a safety-related, motor-driven AFW pump. Specifically, a mitigating systems component (Unit 2 "A" AFW pump) that is required to respond to certain plant events and prevent undesirable consequences, was rendered incapable of performing its required safety function.

The inspectors evaluated this finding in accordance with IMC 0609, Appendix A, "Significance Determination of Reactor Inspection Findings for At-Power Situations." The inspectors conducted a Phase I SDP screening and determined the finding to be of very low safety significance (Green). This conclusion was reached because although the unavailable AFW pump represented a loss of safety function of a single train, it did not result in a loss of an entire system safety function, and was inoperable for only two minutes (within the TS allowable outage time of 72 hours). A contributing cause to this finding is related to the personnel subcategory of the human performance cross-cutting area. Specifically, this finding involved a human performance causal factor in following plant procedures.

Enforcement. 10 CFR 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings," requires, in part, that activities affecting quality shall be prescribed by, and be accomplished in accordance with, documented instructions, procedures or drawings,

Enclosure

and shall include appropriate quantitative or qualitative acceptance criteria for determining that important activities have been satisfactorily accomplished. Contrary to the above, an Operations Department procedure used for equipment restoration of safety-related equipment was not adequately implemented, and resulted in the unexpected inoperability of the Unit 2 'A' AFW pump. Because this deficiency was of very low safety significance and has been entered into the corrective action program as CR 05-07795, this violation is being treated as an NCV, consistent with Section VI.A.1 of the NRC Enforcement Policy: **NCV 05000412/2005008-01, "Procedural error resulted in the unexpected inoperability of the "A" motor-driven auxiliary feedwater pump."**

1R14 Personnel Performance During Non-routine Plant Evolutions (71111.14 - 1 sample)

a. Inspection Scope

The inspectors evaluated the human performance and regulatory aspects associated with the following Licensee Event Report:

C (Closed) Licensee Event Report (LER) 50000334/2005-001-00: Protection System Channel Delta Temperature Time Constant Switch Found Out of Position

On June 9, 2005, a Unit 1 reactor operator questioned the responsiveness of the channel 1 over-temperature delta-temperature (OTDT) setpoint. A subsequent investigation revealed the lead and lag switches were left in the "OFF" position from a previous average coolant temperature channel calibration completed on June 3. The channel was determined to be out of service in excess of the TS 3.3.1.1 LCO time that required the appropriate channel be placed in the tripped condition. This event was determined to be reportable pursuant to 10CFR50.73(a)(2)(i)(B) as a condition prohibited by Technical Specifications (TS). The event was previously documented as a Green finding in NRC Inspection Report No. 05000334/2005006, and detailed human performance deficiencies and process weaknesses. No new issues were revealed by the LER. This LER was closed during an onsite review.

b. Findings

No findings of significance were identified.

1R15 Operability Evaluations (71111.15 - 3 samples)

a. Inspection Scope

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 Technical Specification (TS) limiting conditions for operation (LCO)

requirements and UFSAR design basis requirements were properly addressed. This inspection activity represented three samples of the following issues:

- C An OD associated with the Unit 1 No. 2 Emergency Diesel Generator (EDG), as documented in CR 05-07274, regarding the failure of one of the two EDG ventilation inlet dampers, VS-D-22-2D, on November 2, 2005. The inspectors assessed the adequacy and acceptability of FENOC's conclusion in the OD that the 1-2 EDG would have started and powered the DF emergency 4160V bus, given a valid start signal on undervoltage or a safety injection actuation with one inlet damper closed. The inspectors evaluated the assumptions and methodology of the existing calculation, 8700-DMC-2800, "BVPS Unit 1 Diesel Generator Building - Ventilation Adequacy With One of Two Inlet Air Dampers Closed," Rev. 0.
- C The operability aspects of an interim 10 CFR 21 (Part 21) notification dated August 9, 2005, that involved a potential non-conformance associated with over-current devices for breakers delivered by Areva/Framatome. The potential defect was detailed in condition report CR-05-05738, and was previously evaluated for operability aspects as detailed in CR-03-10263. The inspector evaluated any changes that would impact the current OD based on the new Part 21 notification.
- C The operability aspects associated with an unanticipated failure of a newly-installed Square D Masterpact breaker that occurred on August 28 and 31, 2005, on the Unit 1 '1B' Vacuum Priming Pump. While non-safety-related, this newly installed breaker was also installed on the pressurizer heater backup groups A & D. This issue was documented originally regarding the vacuum priming pumps in CR-05-06011, and CR-05-06101, while the operability aspects of the pressurizer heaters were documented in CR-05-07253, dated November 2, 2005.

b. Findings

No findings of significance were identified.

1R16 Operator Workarounds (71111.16 - 2 samples)

a. Inspection Scope

The inspectors reviewed the current Unit 1 and Unit 2 Operator Work-Arounds (OWAs), which also included Operator Challenges and Control Room Deficiencies. This review consisted of an individual as well as a cumulative review. The OWAs were reviewed to identify any effect on emergency operating procedure (EOP) operator actions, and impact on possible initiating events and mitigating systems. Included in this review were the effect on: (1) the reliability, availability, and potential for mis-operation of a system; (2) the potential increase in initiating event frequency that could affect multiple mitigating systems; and, (3) the ability of operators to respond in a correct and timely manner to

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plant transients and accidents. The inspectors evaluated whether station personnel were identifying, assessing, and reviewing OWA as specified in BVBP-OPS-0002, Rev. 10, "Operator Work-Arounds, Operator Challenges, and Control Room Deficiencies." In addition, the inspectors reviewed the following OWA to evaluate its impact during emergencies:

C Operator Challenge 2-04-1, "Unit 2 PCS Computer"

Additionally, the inspectors reviewed the cumulative effects of OWAs on both units to determine the overall impact on mitigating systems and the operator's ability to respond to transients and accidents, and whether it could impact the reliability of the affected systems. The inspector also reviewed the overall impact of current operator challenges and control room deficiencies as defined by BVBP-OPS-0002 and verified that adverse conditions were entered into the corrective action program for resolution.

b. Findings

No findings of significance were identified.

1R17 Permanent Plant Modifications (71111.17A - 1 sample)

a. Inspection Scope

The inspectors evaluated the design basis impact of a permanent modification that installed cross-connect piping and valves between the fire protection system and the Unit 2 Service Water system, that was implemented in accordance with ECP 02-0176, "Crossconnection between Fire Protection Piping and Service Water Piping in Auxiliary Building." The inspectors reviewed the adequacy of the associated 10 CFR 50.59 screening, as well as the applicable design interface aspects, which included fire protection, piping stress analysis, and training. The inspector reviewed applicable procedures to verify revisions were implemented, as appropriate, and walked down the systems to verify that changes described in the package were actually implemented.

b. Findings

No findings of significance were identified.

1R19 Post-Maintenance Testing (71111.19 - 7 samples)

a. Inspection Scope

The inspectors reviewed and/or observed seven post-maintenance tests (PMTs) to ensure: 1) the PMT was appropriate for the scope of the maintenance work completed; 2) the acceptance criteria were clear and demonstrated operability of the component; and 3) the PMT was performed in accordance with applicable procedures. The following PMTs were observed:

- C 2OST-7.5, "Centrifugal Charging Pump [2CHS*P21B] Test, Rev. 28, performed on October 12, following a planned overhaul, including an impeller replacement, of the Unit 2 'B' Charging pump.
- C 2OST-47.3O, "Containment Penetration and ASME Section XI Valve Test - Work Week 10," Rev. 9 performed on November 7 following a planned replacement of the molded case circuit breaker associated with the Unit 2 valve 2SIS*MOV8890B, "21B Low Head Pump Suction Minimum Flow Recirc Isolation Valve."
- 2OST-30.2, "Service Water Pump [SWS*P21A] Test," Rev. 28, following a planned overhaul of the Unit 2 "A" Service Water (SW) pump, on November 12.
- 2OST-47.3G, "Containment Penetration and ASME Section XI Valve Test - Work Week 2," Rev. 4, performed on December 6, following a packing adjustment of 2SVS-HCV-104, "Residual Heat Release Valve."
- 2OST-47.3G, "Containment Penetration and ASME Section XI Valve Test - Work Week 2," Rev. 4, performed on December 7, following a planned replacement of the molded case circuit breaker associated with the Unit 2 valve 2RSS-156D, "21D Recirculation Spray Pump Discharge Valve."
- WO 200190057 testing instructions following replacement of the Unit 2 "A" SW pump 4.16 kv switchgear breaker cell switch on December 20.
- 2OST-15.1, "Primary Component Cooling Water Pump [2CCP*P21A] Test," Rev. 37, performed on December 23, following a coupling lube of the Unit 2 "A" Component Cooling Water Pump.

b. Findings

No findings of significance were identified.

1R20 Refueling and Outage Activities (71111.20 - 1 partial sample)

a. Inspection Scope

The inspectors evaluated selected receipt, movement and inspection activities associated with new fuel assemblies in preparation for the Unit 1 refueling outage, 1R17. The inspectors verified activities were performed in accordance with OMM-16, Rev. 8, "Site Receipt and Handling of New Fuel Assemblies and Shipping Containers." In addition, the inspectors verified appropriate fuel movement accountability was maintained.

b. Findings

No findings of significance were identified.

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

The inspectors observed and/or reviewed the following six operation surveillance tests (OSTs). This review verified that the equipment or systems were capable of performing their intended safety functions and to ensure compliance with related TS, UFSAR, and procedural requirements:

- C 3BVT-1.44.1, "Control Room Emergency Supply Fan Pressurization Test," Rev. 13
- C 2OST-7.6, "Centrifugal Charging Pump," Rev. 26. (Inservice testing sample requirement).
- C 1OST-36.2, "Diesel Generator No. 2 Monthly Test," Rev. 46
- C 2OST-11.2, "Low Head Safety Injection Pump [2SIS*P21B] Test," Rev. 23. (Inservice testing sample requirement).
- C 1RST-2.5, "Moderator Temperature Coefficient Determination," Issue 1, Rev. 7
- C 1OST-6.2A, "Reactor Coolant System Water Inventory Balance," Rev. 11.

Documents reviewed are listed in the attachment.

b. Findings

No findings of significance were identified.

1R23 Temporary Plant Modifications (71111.23 - 1 sample)a. Inspection Scope

The inspectors reviewed the following temporary modifications (TM) based on risk significance. The TM and associated 10CFR50.59 screening were reviewed against the system design basis documentation, including the UFSAR and the TS. The inspectors verified the TM was implemented in accordance with Administrative (ADM) Procedure, 1/2-ADM-2028, "Temporary Modifications," Rev. 3.

- C Unit 2 TM 2-05-015, "Temporary Plug at Pressure Gauge Connection on Main Feedwater Regulation Valve Accumulator."

b. Findings

No findings of significance were identified.

4. OTHER ACTIVITIES

4OA2 Problem Identification and Resolution (71152)

.1 Heat Sink Performance

a. Inspection Scope

The inspector reviewed a sample of CRs related to the selected HXs and the river water and service water systems, to verify that FENOC was appropriately identifying, characterizing, and correcting problems related to these systems and components.

b. Findings

No findings of significance were identified.

.2 Annual Sample Review (71152 - 1 sample)

a. Inspection Scope

The inspectors reviewed licensee corrective actions in response to the boric acid corrosion program issues and other associated programmatic and human performance deficiencies identified in CR-04-03642, "RWST Level Decrease Due To Leaking Plug SI-P-1A Discharge." The inspector also reviewed the associated root cause evaluation to ensure recommended corrective actions were appropriate and consistent with the identified root and contributing causes, that they were adequate to prevent recurrence, and would reasonably address the underlying issues that led to the event. Specifically, the inspectors reviewed all 63 corrective actions, identified the significant corrective actions that would address the underlying causes, and verified they were completed and appropriate. The inspector also sampled a number of improvements and enhancements, such as the conduct of training and procedure revisions, to verify they had been implemented.

b. Findings and Observations

No findings of significance were identified.

.3 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. During this review, the inspectors assessed the fundamental ability of the licensee to identify adverse conditions, and verified the licensee had entered these issues into the corrective action program for resolution. Where applicable, CRs reviewed during the inspection are documented under each

module, or under this section; however, for reviews that entailed large number of CRs, these are more appropriately documented in the Attachment.

b. Findings

No findings of significance were identified.

.4 Daily Condition Report Review

a. Inspection Scope

To identify repetitive equipment failures or specific human performance issues for follow-up, the inspectors performed a daily screening of items entered into the licensee's corrective action program. This review was accomplished by reviewing hard copies of each condition report, attending various daily screening meetings, and when necessary, by accessing the licensee's computerized corrective action program database.

b. Findings

No findings of significance were identified.

.5 Semi-Annual Review of PI&R Trends

a. Inspection Scope

The inspectors reviewed site trending results that were complete and available for the time frame January through June 2005, to determine if trending was appropriately evaluated by FENOC. This review covered FENOC's trending program, as well as other programs such as self-assessments, quality assurance reports, activity tracking reports, and other program reports that provide useful information, to verify that existing trends were appropriately captured and scoped by applicable departments, consistent with the inspectors' assessment from the daily CR and inspection module reviews (Section 40A2.4 and 5), and not indicative of a more significant safety concern. Additionally, the inspectors verified the performance of site trending against NOP-LP-2001, Rev. 12, "Condition Report Process," and NOBP-LP-2018, Rev. 01, "Integrated Performance Assessment /Trending."

b. Findings

No findings of significance were identified.

4OA3 Event Follow-up

- .1 (Closed) Licensee Event Report (LER) 50000412/2005001-00: Containment Isolation Valve Relay Failure Unknowingly Leads to Technical Specification Noncompliance.

On July 14, 2005, one of the two main steam system isolation valves supplying the Unit 2 turbine-driven AFW pump from the 'C' steam generator unexpectedly failed open. Since only one of the two series steam supply valves opened, the pump did not start. The failed-open steam supply valve, 2MSS-SOV-105C, was declared inoperable. Initial troubleshooting revealed that the solenoid coil had failed due to a short in the coil. During a followup investigation on July 19, it was noted that a failure had also occurred in the auxiliary control relay associated with 2MSS-SOV-105C. The failure was attributed to the high amperage drawn in the control circuit due to the lowered resistance of the solenoid coil just prior to the breaking of the circuit. As a result, this relay failed catastrophically and molten material caused damage to a neighboring relay within the control cabinet. This neighboring relay failed and could no longer provide a containment isolation function to four separate containment isolation valves (CIV). Since the time of failure was known and the affected CIVs were not closed and deactivated within four hours as required by TS 3.6.3.1 Action a, this is a condition prohibited by TS and reportable in accordance with 10CFR50.73(a)(2)(i)(B). The initial coil failure which caused the cascading relay failures was documented as a Green finding under NCV 05000412/2005007-01, "Failure to Demonstrate Effective Maintenance on the Unit 2 TDAFW Steam Admission Valves." The inspectors determined that no additional findings of significance or NRC violations were identified as a result of this LER review. This LER is closed.

- .2 (Closed) Licensee Event Report (LER) 50000412/2005002-00: Automatic Actuation of Standby Service Water (SW) Pump Following Unexpected Service Water Pump Trip

On August 2, 2005, the Unit 2 'A' SW pump unexpectedly tripped. The local switchgear revealed that the ground over-current relay had tripped the circuit breaker and de-energized the motor. Due to the low pressure in the SW system following the pump trip, the 'B' standby SW pump automatically started, as expected. The standby SW system is distinct from the SW system and is located in a separate structure called the alternate intake structure. This event is reportable under 10CFR50.73(a)(2)(iv)(A) as a condition that resulted in actuation of the emergency SW system. Since the condition was valid and the standby SW system is considered an emergency SW system that does not normally run, this event is reportable. The cause of the "A" SW pump trip was determined to be from a short in the motor. The most probable cause was attributed to insulation breakdown due to pre-existing voids from the manufacturing process. The inspectors determined that no findings of significance or NRC violations were identified as a result of this LER review. This LER is closed.

.3 (Closed) Licensee Event Report (LER) 50000334/2005001-00: Protection System Channel Delta Temperature Time Constant Switch Found Out of Position

This LER involved human performance and process deficiencies during a calibration that resulted in a safety channel that required technical specification actions to be taken that were not performed. The closure of this LER is described in Section 1R14.

4OA5 Other

.1 Institute of Nuclear Power Operations (INPO) Plant Assessment Report Review

The inspectors reviewed the final report for the INPO plant assessment of Beaver Valley that was conducted during the weeks of September 20 and September 27, 2004. The inspectors reviewed the final report to verify that identified issues concerning plant performance were consistent with the NRCs perspective of licensee performance and that no significant safety issues required follow-up.

4OA6 Meetings, including Exit

1. Heat Sink Performance

The inspectors presented the results of the inspection to Mr. R. Mende, Director - Site Operations, and other members of the station staff at the conclusion of the inspection, on December 9, 2005.

2. Licensed Operator Requalification Program

The inspectors presented inspection results to members of licensee management at the conclusion of the inspections at an interim exit on October 28, 2005 at the site. In addition, on December 22, 2005, the licensee was contacted via telecom and a final summary exit was conducted.

3. Inspection Report Exit

On January 25, 2006, the resident inspectors presented the inspection results to you and other members of the staff, who acknowledged the findings. The inspectors confirmed that while proprietary information was provided during the inspection period, all documents have been handled in accordance with established agency policy to preclude unauthorized disclosure.

ATTACHMENT: SUPPLEMENTAL INFORMATION

SUPPLEMENTAL INFORMATION

KEY POINTS OF CONTACT

Licensee personnel

M. Adams	System Engineer
T. Bean	Staff Nuclear Specialist
R. Boyle	Staff Nuclear Engineer
B. Buck	Operations Administrative Assistant
G. Davie	Training Manager
P. Dearborn	Staff Nuclear Engineer
T. Domckrovic	Staff Specialist
D. Gratta	Senior Nuclear Engineer
R. Harris	Senior Nuclear Specialist, EPP
A. Hartner	Shift Manager
T. Kuhar	Licensed Operator Retraining - Lead
V. Linnenbom	Chemistry
J. Mauck	Compliance Engineer
E. McFarland	Lead, Simulator Configuration Support Group
J. Meyers	Unit 2 Service Water Engineer
M. Mulkerrin	Heat Exchanger Program Engineer
B. Paul	Senior Nuclear Specialist
P. Pauvlinch	Rapid Response Supervisor
R. Scheib	Operations Training Supervisor
K. Schweikart	Staff Nuclear Engineer
D. Schwer	Unit 2 Operations Superintendent
P. Sena	Director, Engineering
B. Sepelak	Supervisor, Regulatory Compliance
S. Vicinie	Manager, Emergency Planning
B. Winters	Chemistry
J. Witter	Shift Manager

NRC Personnel:

C. Cahill	Senior Reactor Analyst
B. Haagensen	Operations Engineer
Z.B. Fu	Senior Reactor Engineer
R. Fuhrmeister	Senior Project Engineer
P. Kaufman	Senior Reactor Inspector
W. Schmidt	Senior Reactor Analyst

LIST OF ITEMS, OPENED, CLOSED, AND DISCUSSED

Open/Closed

05000412/2005008-01	NCV	Procedural error resulted in the unexpected inoperability of the 'A' motor-driven auxiliary feedwater pump. (Section 1R13)
05000334/2005001-00	LER	Protection System Channel Delta Temperature Time Constant Switch Found Out of Position. (Section 1R14)
05000412/2005001-00	LER	Containment Isolation Valve Relay Failure Unknowingly Leads to Technical Specification Noncompliance. (Section 4OA3.1)
05000412/2005002-00	LER	Automatic Actuation of Standby Service Water Pump Following Unexpected Service Water Pump Trip. (Section 4OA3.2)

LIST OF DOCUMENTS REVIEWED

Section 1R01: Adverse Weather Protection

Condition Reports

CR 05-06362
CR 05-06961

Section 1R04: Equipment Alignment

Drawings

10080-RM-411-2, "Low/High Head Safety Injection," Rev. 12
8700-RM-433-1, "Fire Protection - Water," Rev. 16
10080-RM-433-1A, "Fire Protection Water - Distribution Network," Rev. 16
10080-RM-413-1, "Recirculation Spray System," Rev. 8
10080-RM-413-2, "Quench Spray System," Rev. 13

Procedures

2OM-11.3.B.1, "Valve List - 2SIS," Rev. 9
2OM-11.3.C, "Power Supply and Control Switch List," Rev. 9
1OM-33.3.B.1, "Valve List - 1FP," Rev. 19
1OM-33.3.C, "Power Supply and Control Switch List," Rev. 12
2OM-33.3.B.3, "Valve List - 2FPW," Rev. 16

2OM-33.3.C, "Power Supply and Control Switch List," Rev. 8
1OM-33.4.S, "Portable Fire Pump Operating While [1FP-P-1 and/or -2] are O.O.S.," Rev. 4
2OM-13.3.B.1, "Valve List - 2QSS," Rev. 7
2OM-13.3.B.2, "Valve List - 2RSS," Rev. 7
2OM-13.3.C, "Power Supply and Control Switch List," Rev. 7
2OM-53.A.1.E-1, "Loss of Reactor or Secondary Coolant," Rev. 7
2OM-53.C.4.2.6.7, "Excessive Primary Plant Leakage," Rev. 2

Miscellaneous

2DBD-13, "Design Basis Document for Containment Depressurization System," Rev. 9
PRA Notebook, "Quench Spray and Recirculation Spray System," Rev. 1
Current System Health Report for Recirculation Spray System (System #13B)

Condition Reports

CR 05-01736
CR 05-02884
CR 05-03178

Section 1R05: Fire Protection

Condition Reports

CR-05-06986, "Failure To Recognize Significance Of Fire Seal Deficiency."
CR-05-06871, "Penetration Seal Not Included In Fire Seal Database."

Other

Human Performance Evaluation for CR-05-06986
Degraded Fire Barrier/Penetration Seal Evaluation Checklist for unevaluated fire seal.
BVPS Unit 2 Drawing 10080-RP-117G, "Sleeve Location Plan Auxiliary Bldg. El. 755'-6",
Rev.9
Quality Control Report No. 3092, dated 10/21/05.
Unit 1 Appendix R Compliance Report, Rev. 26.
1/2-PIP-S17.3, "Fire Door Assemblies," Rev. 5
BVPS Unit 2 Fire Seal Database, Mechanical Inspection Report
2BVT 1.33.5, "Fire Rated Assemblies Visual Inspection," Issue 2, Rev. 8.

Section 1R06: Flood Protection Measures

1/2OST-30.21A & B, "Group 1' and 'Group 2 Flood Door Seal System Operability Check,"
Rev 1.

Section 1R07: Biennial Heat Sink PerformanceProcedures

2OM-30.4.M, revision 27, "Asiactic Clam & Zebra Mussel Chemical Treatment Program"
 1/2-ADM-1738, revision 1, "Closed Loop & River Water Systems Monitoring Program"
 2OST-30.20.B, revision 1, "Train B RSS HXs and SWS Supply Header Dry Layup Check"
 2-CHM-SAM-3.65, revision 12, "Diesel Generator Jacket Water Heat Exchangers"
 1/2-CMP-75-Expansion Joint-2M, revision 1, "Inspection & Repair of Metal Expansion Joints"
 1/2-ADM-2146, revision 1, "BOP Eddy Current Program"
 2BVT-1.30.3, revision 8, "Service Water Heat Exchanger Performance Program"
 1/2-ADM-2106, revision 1, "River/Service Water System Control and Monitoring Program"
 2OST-30.3, revision 29, "Service Water Pump Test"
 1OST-10.1, revision 18, "Residual Heat Removal Pump Performance Test"
 2BVT-2.30.07, "Charging Pump Lube Oil Cooler (2CHS-E25A,B,C) Heat Exchanger Thermal Performance Testing," Rev. 0

Calculations & Analyses

10080—795, rev. 0, "Min. Tube Wall Thickness & Max Tube Plugging Limits - 2EGS-E21A/B"
 10080—805, rev. 0, "Min. Tube Wall Thickness & Max Tube Plugging Limits - 2EGS-E22A/B"
 10080-DMC-0092, rev. 0, "Min. Wall Thickness Limit - 2RSS*E21A/B/C/D"
 10080-US(B)-223, rev. 0, "89°F TS Curve with Reduced SWS Flow & RSS HX Plugging"
 12241-NP(N)-X4Z, rev.3, Addendum 7, "Expansion Joint Stress - 2SWS-EJM2222A/B/C"

Drawings

2006-730-240-029, revision B, "24 inch Expansion Joint Assembly - 2SWS-EJM2222A/B/C"
 10080-RT-113-B, revision 5, "Tubesheet Map for Heat Exchanger 2RSS-E21B"
 10080-RT-113-D, revision 5, "Tubesheet Map for Heat Exchanger 2RSS-E21D"
 10080-RT-136-B, revision 1, "Tubesheet Map for Diesel Generator 2EGS-E21B"
 10080-RT-136-D, revision 1, "Tubesheet Map for Diesel Generator 2EGS-E21D"
 2OM-30.3.B.1, "Valve List - 2SWS," Rev. 36
 2OM-30.3.C, "Power Supply and Control Switch List," Rev. 15

Condition Reports (* denotes a CR generated as a result of this inspection)

03-10666	03-11683	04-03324	04-03950	04-04128	04-08383
04-09023	04-09937	04-09939	04-09949	05-00847	05-01033
05-03719	05-04510	05-07358	05-07806*	05-07809*	05-07819*
05-07842*	05-07862*	05-07868*			

Audits and Self Assessments

BV-SA 04-07, "Heat Exchanger Program," dated 07-22-2004
 EEN-004-04, "Heat Exchanger Program Review," dated 12-17-2004

Work Orders and Completed Surveillances

2BVT-2.30.8, performed 11-26-2002
2-CHM-SAM-3.65, performed 04-12-2005
2OM-30.4.M, performed 08-17-2005
2OST-30.13.B, performed 03-23-2005
2OST-30.20.B, performed 12-07-2005
2OST-30.1B, performed 06-2005
1OST-10.1, performed 1R16

Heat Exchanger Inspection Reports

2CCP-E21C, dated 05-12-2004	2CCP-E21C, dated 08-05-2005
2CHS-E25B, dated 09-20-2005	2EGS-E21B, dated 09-28-2003
2EGS-E21B, dated 04-16-2005	2EGS-E22B, dated 09-28-2003
2EGS-E22B, dated 04-15-2005	2RSS-E21B, dated 10-05-2003
2RSS-E21B, dated 04-15-2005	2RSS-E21D, dated 10-05-2003
2RSS-E21D, dated 04-15-2005	

System Health Reports (SHRs)

Unit 1&2 Emergency Diesel Generators SHR, 2005-3
Unit 1 River Water SHR, 2005-3
Unit 2 Service Water SHR, 2005-3
Unit 1&2 Containment Depressurization System SHR, 2005-3
Unit 1&2 Residual Heat Removal System SHR, 2005-3
Heat Exchanger GL 89-13 Program SHR, 2003-4, 2004-1/2/4, and 2005-2/3

Miscellaneous

Operator Daily Log Sheet for Unit 2 PAB, revision 24, pages 21-26
BV Response to NRC Generic Letter 89-13, dated 01-29-1990
BV Engineering Memorandum 201045, dated October 2000

Section 1R11: Licensed Operator Requalification Program

Procedures

1/2-ADM-1351 "Licensed Operator Retraining Program"
1/2-ADM-1362 "Security Provisions for Licensed Operator Examinations"
BVBP-TR-0008 "Licensed Operator Annual Requalification Exam Development and Administration"
1/2-ADM-1359, "Simulator Configuration Control"
1/2-ADM-1357, "Conduct of Simulator Training"
SQT-14.1.2.2 2004, "Simulator Duty Cycle Test"
SQT 14.1.5.2.2.1 2004, "Steady State Drift Test – Full Power"
2RST-2.1, "Initial Approach to Criticality"

2RST-2.2, "Core Design Check Test"
2OM-50.4D, "Reactor Startup Mode 3 to Mode 2"

Other

ANSI 3.5, 1985, "Nuclear Power Plant Simulators for Use in Operator Training and Evaluation"
Management Observation No. BVT2005-0460
Management Observation No. BV20004-0795
Unit 2 Tests and Schedules for 2001 to 2004
Unit 2 Tests and Schedules for 2005 to 2008
Biennial Written Exams 2005, Weeks #2, 3, and 4
Scenarios and JPMs - 2005 Annual Operating Exams, Weeks #2, 3, and 4

Condition Reports (New CRs generated as a result of inspection activities)

CR 05-07147, "NRC Licensed Operator Requalification Inspection Feedback"
CR 05-07168, "Open Item from Unit 2 License Requalification Training Program Inspection" (Emergency Classification)

Section 1R13: Maintenance Risk Assessment and Emergent Work Control

Procedures

2MSP-1.04-I, "Solid State Protection System Train A Bi-Monthly Test," Rev. 29

Miscellaneous

Root Cause Report, "Technical Specification Entry due to Manipulation of Incorrect Breaker,"
dated 12/29/2005

Section 1R15: Operability Evaluations

Miscellaneous

Technical Evaluation Report 7175, Rev. 0

Section 1R22: Surveillance Testing

Condition Reports

CR 05-06823, CR-05-06954, CR-05-06968, CR 05-07163, CR 05-07239

Miscellaneous

Problem Solving Plan, "Elevated Recirc Flow on 2CHS-P-21C During Performance of
2OST-7.6," Rev 4

LIST OF ACRONYMS

AFW	Auxiliary Feedwater
BOP	Balance of Plant
BVPS	Beaver Valley Power Station
CFR	Code of Federal Regulations
CR	Condition Report
FENOC	First Energy Nuclear Operating Company
GL	Generic Letter
HX	Heat Exchanger
IMC	Inspection Manual Chapter
NCV	Noncited Violation
NRC	Nuclear Regulatory Commission
OST	Operations Surveillance Test
OWA	Operator Work-Arounds
PI	Performance Indicator
PI&R	Problem Identification and Resolution
RSS	Recirculation Spray System
RW	River Water
SDP	Significance Determination Process
SHR	System Health Report
SSC	Structure, Systems, and Components
SWS	Service Water System
TS	Technical Specification
UFSAR	Updated Final Safety Analysis Report
WO	Work Order