February 23, 2001

Mr. L. W. Myers
Senior Vice President
Post Office Box 4
FirstEnergy Nuclear Operating Company
Shippingport, Pennsylvania 15077

SUBJECT: BEAVER VALLEY POWER STATION - NRC INSPECTION REPORT 05000334/2000-015; 05000412/2000-015

Dear Mr. Myers:

On February 10, 2001, the NRC completed an inspection at your Beaver Valley Units 1 and 2. The enclosed report documents the inspection findings which were discussed with Mr. Robert Saunders and members of your staff on February 20.

This inspection was an examination of 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.

No findings of significance were identified.

In accordance with 10 CFR 2.790 of the NRC's "Rules of Practice," a copy of this letter and its enclosures will be placed in the NRC Public Document Room and 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 Web site at http://www.nrc.gov/NRC/ADAMS/index.html (the Public Electronic Reading Room).

Sincerely,

/RA/

John F. Rogge, Chief
Projects Branch 7
Division of Reactor Projects

Docket Nos.: 05000334; 05000412
License Nos: DPR-66, NPF-73

Enclosures: Inspection Report 05000334/2000-015; 05000412/2000-015

cc w/encl:

L. W. Pearce, Plant General Manager
R. Fast, Director, Plant Maintenance
F. von Ahn, Director, Plant Engineering
R. Donnellon, Director, Projects and Scheduling
M. Pearson, Director, Plant Services
T. Cosgrove, Manager, Licensing
J. A. Hultz, Manager, Projects and Support Services, FirstEnergy
M. Clancy, Mayor, Shippingport, PA
Commonwealth of Pennsylvania
State of Ohio
State of West Virginia

Distribution w/encl:
Region I Docket Room (with concurrences)
D. Kern, DRP - NRC Resident Inspector
H. Miller, RA
J. Wiggins, DRA
J. Rogge, DRP
N. Perry, DRP
C. O'Daniell, DRP
J. Shea, OEDO
E. Adensam, NRR
M. Gamberoni, NRR
L. Burkhart, NRR
R. Schaaf, NRR

DOCUMENT NAME: G:\BRANCH7\BV\IR2000-015.wpd
After declaring this document "An Official Agency Record," it **will** be released to the Public.
To receive a copy of this document, indicate in the box: "C" = Copy without attachment/enclosure "E" = Copy with attachment/enclosure "N" = No copy

OFFICE	RI/DRP		RI/DRP				/	
NAME	Kern/al		Rogge					
DATE	02/21/01		02/23/01					

OFFICIAL RECORD COPY

U. S. NUCLEAR REGULATORY COMMISSION

REGION I

Docket Nos.	05000334, 05000412
License Nos.	DPR-66, NPF-73
Report Nos.	05000334/2000-015, 05000412/2000-015
Licensee:	FirstEnergy Nuclear Operating Company
Facility:	Beaver Valley Power Station, Units 1 and 2
Location:	Post Office Box 4 Shippingport, PA 15077
Dates:	December 31, 2000 through February 10, 2001
Inspectors:	D. Kern, Senior Resident Inspector G. Dentel, Resident Inspector G. Wertz, Resident Inspector N. Perry, Senior Project Engineer
Approved by:	J. Rogge, Chief Projects Branch 7 Division of Reactor Projects

SUMMARY OF FINDINGS

IR 05000334-015, IR 05000412-015, on 12/31/2000-2/10/2001; FirstEnergy Nuclear Operating Company; Beaver Valley Power Station; Units 1 & 2. Resident inspector report.

The inspection was conducted by resident inspectors and a regional inspector providing assistance to the resident inspectors. No findings of significance were identified.

Report Details

SUMMARY OF PLANT STATUS: Unit 1 began this inspection period at 100 percent power. In January, operators performed several power reductions to 90 percent power to maintain adequate main condenser vacuum during main condenser waterbox cleaning. After completion of waterbox cleaning, operators maintained the unit at 100 percent power through the end of the inspection period.

Unit 2 began this inspection period at 100 percent power. In January, operators performed several power reductions to 90 percent power to support main condenser expansion joint replacements. Unit 2 was at 100 percent power at the end of the inspection period.

1. REACTOR SAFETY

Cornerstone: Initiating Events, Mitigating Systems, Barrier Integrity

1R04 Equipment Alignments

.1 Unit 1 Main Feedwater System Full Walkdown

a. Inspection Scope

The inspectors conducted a complete walkdown of the Unit 1 feedwater system. The inspectors reviewed Operations Manual Figure Numbers 24-1 and 24-3 and procedure 1OM-24.3.B.1, "Valve List - 1FW," Rev. 9 to determine proper equipment alignments. In addition, the inspectors reviewed and evaluated impact on feedwater system operation for the open work orders, design change packages, engineering evaluations, and corrective action program condition reports. The system health report was reviewed and open issues were discussed with the system engineer.

b. Issues and Findings

No findings of significance were identified.

.2 Unit 2 Main Steam System Full Walkdown

a. Inspection Scope

The inspectors conducted a complete walkdown of all accessible portions of the Unit 2 main steam system. Documents reviewed that are applicable to the main steam system alignment verification included: Operations Manual Figure Numbers 21-1 and 21-2; and procedure 2OM-21.3.B.3, "Valve List - 2MSS," Rev. 8. In addition, all open work orders, temporary modifications, operator work arounds, and corrective action program condition reports associated with the main steam system were reviewed and discussed with the system engineer.

b. Issues and Findings

No findings of significance were identified.

1R05 Fire Protection

a. Inspection Scope

The inspectors reviewed the fire protection analyses for both units and identified the following risk significant areas:

- Unit 2 cable tunnel (Area CT-1)
- Unit 2 normal switchgear room (Area SB-4)

Specific fire protection conditions examined included control of transient combustibles, material condition of fire protection equipment, and the adequacy of any fire impairments and compensatory measures.

In addition, the inspectors observed operator and fire brigade response to an inadvertent carbon dioxide discharge in the Unit 2 high pressure turbine enclosure. The inspectors reviewed the emergency preparedness evaluation, the actions taken to lockout the carbon dioxide system, and the overall safety measures used. The inspectors verified that the mitigating and compensatory actions were appropriately applied. No actual fire existed and no personnel injuries occurred due to the discharge.

b. Issues and Findings

No findings of significance were identified.

1R12 Maintenance Rule Implementation

a. Inspection Scope

The inspectors evaluated Maintenance Rule (MR) implementation for the issues listed below. Specific attributes reviewed included MR scoping, characterization of failed structures, systems, and components (SSCs), MR risk categorization of SSCs, SSC performance criteria or goals, and appropriateness of corrective actions. For selected systems, the inspectors observed maintenance rule steering committee (MRSC) meetings to determine whether system performance was properly dispositioned for MR category (a)(1) or (a)(2) performance monitoring.

- The inspectors reviewed the dual unit (a)(1) system for enertech nozzle check valves. The inspectors evaluated the root cause determination, the corrective actions taken, and the performance goals established. The system had been placed in MR category (a)(1) due to two check valve failures in the auxiliary feedwater system and the main steam system.

- The Unit 2 emergency diesel generator (EDG) system was placed in MR category (a)(1) in September 1999 due to voltage regulator performance issues. Several corrective actions including voltage regulator control relay replacements, development and implementation of preventive maintenance tasks, and continued performance monitoring were performed. The inspectors verified that the remaining corrective actions were properly tracked and scheduled within a

reasonable time frame. The MRSC determined the corrective actions were successful and EDG voltage regulator performance goals were met. In February 2001 the system was restored to MR category (a)(2) for performance monitoring.

- The Unit 2 compressed air system was placed in category (a)(1) in July 1998 due to low availability of the containment instrument air subsystem. Based on improved availability, the system engineer recommended that the system be restored to category (a)(2) performance monitoring status. The MRSC reviewed the status of corrective actions and future scheduled maintenance outages which could adversely impact system availability. The MRSC determined that the planned system unavailability necessary to implement the remaining corrective actions could exceed the existing system performance goals. The MRSC directed that the system remain in MR category (a)(1) for continued enhanced performance monitoring.

b. Issues and Findings

No findings of significance were identified.

1R13 Maintenance Risk Assessment and Emergent Work Control

a. Inspection Scope

The inspectors reviewed the scheduling and control of maintenance activities in order to evaluate the effect on plant risk. The inspectors reviewed the routine planned maintenance and emergent work for the following equipment removed from service:

- The 1-2 EDG was removed from service for various preventive and corrective maintenance activities on January 31 and February 1. The EDG outage was extended due to replacement part deficiencies and poor maintenance alignment of a replacement pump (condition report (CR) 01-0393 and CR 01-0394). The inspectors reviewed all open work orders on the system to evaluate the balancing of the availability and reliability of the EDG.

- On January 17, the condensate pumps unexpectedly began losing suction pressure when operators isolated the Unit 2 “D” main condenser waterbox for planned maintenance (CR 01-0211). Operators promptly restored the ‘D’ waterbox and condenser parameters stabilized. The ‘D’ waterbox isolation and maintenance activity (expansion joint replacement) was rescheduled for January 24. Main condenser air ejector troubleshooting, which could challenge condenser vacuum was also planned. On January 24, the Nuclear Shift Supervisor verified air ejector troubleshooting was complete and reduced reactor power to 90 percent prior to isolating the ‘D’ waterbox. These actions were appropriate to reduce the likelihood of a loss of condenser vacuum initiating event. Additional planned maintenance affecting the ‘C’ recirculation spray pump, the ‘A’ atmospheric steam dump, and the emergency power supply cross-tie from Unit 1 resulted in an elevated on-line maintenance risk profile. Preevolution briefings and communications were emphasized to maintain positive configuration control during this period.

b. Issues and Findings

No findings of significance were identified.

1R14 Personnel Performance During Non-routine Plant Evolutions

a. Inspection Scope

The inspectors reviewed operator performance during the following nonroutine plant evolution:

- On February 5, operators posted clearances on the high head safety injection inlet valve to the boron injection tank to perform a planned torque switch adjustment to the valve. The Unit 1 operations manager determined that this was an infrequently performed test or evolution and took addition administrative measures to adequately control the maintenance. The inspectors observed the preevolution briefing and the postevolution critique. In addition, the inspectors observed the maintenance and confirmed that operators were knowledgeable of their assignment and recognized the contingency actions to be taken in the event of a problem. Several minor deficiencies in the plan for the maintenance, the conduct of the briefing, and instructions to operators were noted by the inspectors, operators, and quality assurance personnel (CR 01-0473).

b. Issues and Findings

No findings of significance were identified.

1R15 Operability Evaluations

a. Inspection Scope

The inspectors reviewed operability evaluations in order to determine that proper operability justifications were performed for the following items.

- All Unit 1 bases for continued operation (BCO) were reviewed. The inspectors verified that the collective impact of the issues did not result in inoperable equipment or increase the probability of equipment failure.

b. Issues and Findings

No findings of significance were identified.

1R16 Operator Workarounds

a. Inspection Scope

The inspectors reviewed the cumulative effects of the Unit 1 operator workarounds. The specific areas reviewed were the effect on emergency operating procedure (EOP)

operator actions, and impact on possible initiating events and mitigating systems. Program and prioritization deficiencies were documented in CR 01-0149.

The inspectors also reviewed a specific operator workaround associated with additional operator actions needed to pump the primary drain transfer tank to the boron recovery system. The inspectors reviewed the workaround to determine whether any EOP operator actions were impacted.

b. Issues and Findings

No findings of significance were identified.

1R23 Temporary Plant Modifications

a. Inspection Scope

The inspectors reviewed the temporary modification associated with removal of the internal parts to seal water supply check valves for the Unit 1 river water (RW) pumps. The inspectors examined implementing documents to ensure the plant's design basis and operability of the RW system were maintained. Nuclear Power Division Administrative Procedure, "Temporary Modifications," Rev. 8 specified requirements for development and installation of temporary modifications. The inspectors also reviewed the design change package, "RW Pump Seal Water Supply Enhancements," that would eliminate the temporary modification.

b. Issues and Findings

No findings of significance were identified.

4. OTHER ACTIVITIES

4OA1 Performance Indicator Verification

Residual Heat Removal System Unavailability

a. Inspection Scope

The inspectors reviewed the Unit 1 and 2 performance indicators for the systems that provide post-accident recirculation and shutdown cooling. The specific systems reviewed included the Unit 1 low head safety injection, recirculation spray, residual heat removal systems and the Unit 2 recirculation spray and residual heat removal systems. Due to the plant specific design, Nuclear Energy Institute 99-02, Appendix D, "Plant Specific Design Issues," Rev. 0 was used to determine the scope of the data collected. The inspectors verified accuracy of the reported data through reviews of the last eight months of reported data, shift technical advisors' logs, and the December 2000 shift operator logs. In addition, the following procedures were reviewed to evaluate determination of availability.

- 2OST-11.1 "Low Head Safety Injection Pump [2SIS-P21A] Test," Rev. 16
- 2OST-11.7 "ECCS Flow Path and Valve Position Check - Train B," Rev. 11
- 2OST-11.10 "Boron Injection Flow Path Power-Operated Valve Exercise Mode 1-3," Rev. 9
- 2OST-13.5 "Recirculation Spray Pump [2RSS-P21C] Dry Test," Rev. 8
- 2OST-13.8 "Containment Depressurization System Position Verification Test-Train A," Rev. 4

b. Issues and Findings

No findings of significance were identified.

4OA3 Event Follow-up

(Closed) Licensee Event Report (LER) 05000412/2000-002-00: Failure to Verify Spent Fuel Pool Boron Concentration Prior to Fuel Movement

a. Inspection Scope

The inspectors reviewed the licensee event report and evaluated the safety significance of the event.

b. Issues and Findings

The inspectors determined that failure to verify spent fuel pool boron concentration prior to fuel movement was a violation of TS 4.9.14.2.a. Although this issue must be corrected, it constitutes a violation of minor significance that is not subject to

enforcement action in accordance with Section IV of the NRC Enforcement Policy. The issue was captured in the corrective action program (CR 00-3689).

4OA6 Management Meetings

Exit Meeting Summary

The inspectors presented the inspection results to Mr. Robert Saunders and members of licensee management following the conclusion of the inspection on February 20, 2001. The licensee acknowledged the findings presented.

The licensee did not indicate that any of the information presented at the exit meeting was proprietary.

LIST OF PERSONS CONTACTED

Licensee:

L. Myers	Senior Vice President, FENOC
L. W. Pearce	Plant General Manager
R. Fast	Director, Plant Maintenance
F. von Ahn	Director, Plant Engineering
R. Donnellon	Director, Projects and Scheduling
M. Pearson	Director, Plant Services
T. Cosgrove	Manager, Licensing

ITEMS OPENED, CLOSED AND DISCUSSED

Closed

05000412/2000-002-00	LER	Failure to Verify Spent Fuel Pool Boron Concentration Prior to Fuel Movement (Section 4OA3)

LIST OF ACRONYMS USED

BCO	Bases for Continued Operation
CR	Condition Report
EDG	Emergency Diesel Generator
EOP	Emergency Operating Procedure
LER	Licensee Event Report
MR	Maintenance Rule
MRSC	Maintenance Rule Steering Committee
NRC	Nuclear Regulatory Commission
RW	River Water
SSCs	Structures, Systems, and Components

ATTACHMENT 1

NRC's REVISED REACTOR OVERSIGHT PROCESS

The federal Nuclear Regulatory Commission (NRC) recently revamped its inspection, assessment, and enforcement programs for commercial nuclear power plants. The new process takes into account improvements in the performance of the nuclear industry over the past 25 years and improved approaches of inspecting and assessing safety performance at NRC licensed plants.

The new process monitors licensee performance in three broad areas (called strategic performance areas): reactor safety (avoiding accidents and reducing the consequences of accidents if they occur), radiation safety (protecting plant employees and the public during routine operations), and safeguards (protecting the plant against sabotage or other security threats). The process focuses on licensee performance within each of seven cornerstones of safety in the three areas:

Reactor Safety	Radiation Safety	Safeguards
● Initiating Events	● Occupational	● Physical Protection
● Mitigating Systems	● Public	
● Barrier Integrity		
● Emergency Preparedness		

To monitor these seven cornerstones of safety, the NRC uses two processes that generate information about the safety significance of plant operations: inspections and performance indicators. Inspection findings will be evaluated according to their potential significance for safety, using the Significance Determination Process, and assigned colors of GREEN, WHITE, YELLOW or RED. GREEN findings are indicative of issues that, while they may not be desirable, represent very low safety significance. WHITE findings indicate issues that are of low to moderate safety significance. YELLOW findings are issues that are of substantial safety significance. RED findings represent issues that are of high safety significance with a significant reduction in safety margin.

Performance indicator data will be compared to established criteria for measuring licensee performance in terms of potential safety. Based on prescribed thresholds, the indicators will be classified by color representing varying levels of performance and incremental degradation in safety: GREEN, WHITE, YELLOW, and RED. GREEN indicators represent performance at a level requiring no additional NRC oversight beyond the baseline inspections. WHITE corresponds to performance that may result in increased NRC oversight. YELLOW represents performance that minimally reduces safety margin and requires even more NRC oversight. And RED indicates performance that represents a significant reduction in safety margin but still provides adequate protection to public health and safety.

The assessment process integrates performance indicators and inspection so the agency can reach objective conclusions regarding overall plant performance. The agency will use an Action Matrix to determine in a systematic, predictable manner which regulatory actions should be taken based on a licensee's performance. The NRC's actions in response to the significance (as represented by the color) of issues will be the same for performance indicators as for inspection findings. As a licensee's safety performance degrades, the NRC will take more and increasingly significant action, which can include shutting down a plant, as described in the Action Matrix.

More information can be found at: http://www.nrc.gov/NRR/OVERSIGHT/index.html.