July 27, 2001

EA 01-168

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 50-334/01-06, 50-412/01-06

Dear Mr. Myers:

On June 30, 2001, the NRC completed an inspection at your Beaver Valley Units 1 & 2. The enclosed report documents the inspection findings which were discussed on July 6, 2001, with you and 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, the inspectors identified two issues of very low safety significance (Green). These issues were determined to involve violations of NRC requirements. However, because of their very low safety significance and because the issues have been entered into your corrective actions program, the NRC is treating these issues as Non-Cited Violations, in accordance with Section VI.A.1 of the NRC's Enforcement Policy. If you deny these Non-Cited Violations, you should provide a response, with the basis for your denial, within 30 days of the date of this inspection report, to the Nuclear Regulatory Commission, ATTN: Document Control Desk, Washington DC 20555-0001, with copies to the Regional Administrator, Region I, and the Director, Office of Enforcement, United States Nuclear Regulatory Commission, Washington, DC 20555-0001, and the NRC Resident Inspector at the Beaver Valley facility.

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We appreciate your cooperation. Please contact me at 610 337-5146 if you have any questions regarding this letter.

Sincerely,

/RA/

John F. Rogge, Chief
Projects Branch No. 7
Division of Reactor Projects

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

Enclosure: Inspection Report 50-334/01-06; 50-412/01-06
Attachment: Supplemental Information

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REGION I

Docket Nos.	50-334, 50-412
License Nos.	DPR-66, NPF-73
Report Nos.	50-334/01-06, 50-412/01-06
Licensee:	FirstEnergy Nuclear Operating Company
Facility:	Beaver Valley Power Station, Units 1 and 2
Location:	Post Office Box 4 Shippingport, PA 15077
Dates:	May 13 - June 30, 2001
Inspectors:	D. Kern, Senior Resident Inspector G. Wertz, Resident Inspector J. Jang, Senior Health Physicist J. McFadden, Health Physicist
Approved by:	J. Rogge, Chief, Projects Branch 7 Division of Reactor Projects

SUMMARY OF FINDINGS

IR 05000334-01-06, IR 05000412-01-06, on 05/13 - 06/30/2001; FirstEnergy Nuclear Operating Company; Beaver Valley Power Station; Units 1 & 2. Maintenance Risk Assessment and Emergent Work Control, and Operability Evaluations.

The inspection was conducted by resident inspectors and two regional health physics inspectors. The inspection identified two Green findings, both of which were Non-Cited violations. The significance of most findings is indicated by their color (Green, White, Yellow, Red) using IMC 0609 "Significance Determination Process" (SDP). Findings for which the SDP does not apply are indicated by "No Color" or by the severity level of the applicable violation. The NRC's program for overseeing the safe operation of commercial nuclear power reactors is described at its Reactor Oversight Process website at http://www.nrc.gov/NRR/OVERSIGHT/index.html.

A. Inspector Identified Findings

Cornerstone: Mitigating Systems

- **Green** The inspectors identified a Non-Cited Violation of 10 CFR 50.65(a)(4), for failure to properly assess the associated change in plant risk, prior to removing the Spent Fuel Pool Cooling and Purification system from service. The resulting system configuration isolated the boric acid blender makeup capability to the refueling water storage tank.

  This finding was of very low safety significance because the additional time the system was out of service was small (8 hours).

- **Green** The inspectors identified a Non-Cited Violation of 10 CFR 50 Appendix B, Criterion XVI, for failure to implement appropriate corrective actions to address a degraded Unit 2 main steam isolation valve closure stoke time. This finding represented incomplete problem identification and resolution. Corrective action measures did not determine the cause of degraded main steam isolation valve (MSIV) closure stroke time sufficiently to preclude repetition and verify continued operability. Controls were not established to verify air actuator pressure would be maintained at a value necessary to support continued 2MSS-AOV-101C operability. Additionally, the root cause evaluation did not fully evaluate whether the longstanding failure to perform vendor recommended preventive maintenance would require reducing the air actuator pressure band, required to support MSIV operability.

  The finding was of very low safety significance because the degraded valve did not represent an actual loss of safety function at time of identification. Additionally, all other systems relied upon to mitigate a main steam line break remained operable.

B. Licensee Identified Violations

- No violations were identified.

Report Details

SUMMARY OF PLANT STATUS: Unit 1 began this inspection period at 100 percent power. On June 22, 2001, operators manually tripped the reactor due to a loss of reactor coolant pump motor cooling, which resulted from a loss of instrument air pressure (see Section 4OA3). Following repairs to the instrument air system, operators synchronized the unit to the off-site power grid on June 25. The unit achieved 100 percent power on June 26 and remained at full power through the end of the inspection period.

Unit 2 began this inspection period at 27 percent power, to support corrective maintenance on the 'B' reactor coolant loop flow transmitter. On May 13, the unit returned to full power. The unit briefly reduced power to 90 percent on May 20 and June 10 as requested by the load dispatcher. On June 30, operators reduced power to 95 percent to perform corrective maintenance to first point heater level control valve 2HDH-LCV103A2.

1. REACTOR SAFETY

Cornerstone: Initiating Events, Mitigating Systems, Barrier Integrity (REACTOR - R)

1R04 Equipment Alignment

.1 Unit 2 Service Water System

a. Inspection Scope

The inspectors performed a partial system walkdown of the Unit 2 service water (SW) system. The inspectors reviewed the system alignment to verify that it was aligned properly as described in Operating Manual (OM) Figure 30-1 and procedure 2OM-30.3.B.1, "Valve List 2SWS," Rev. 22. The SW system was selected based on its risk importance and because the 'A' SW pump was recently returned from service following overhaul of its motor. See Sections 1R19, Post Maintenance Testing, and 1R22, Surveillance Testing, for additional information on the 'A' SW pump.

b. Findings

No findings of significance were identified.

.2 Unit 1 Emergency Diesel Generator and 4 Kilovolt System

a. Inspection Scope

The inspectors performed a partial system walkdown of the Unit 1 Emergency Diesel Generator (EDG) and 4 Kilovolt (kV) system. The inspectors reviewed the system alignment to verify proper alignment as described in OM Figure Numbers 1OM-30-1, "River Water System," Rev. 18; 1OM-36-1, "EDG Air Start System," Rev. 5; 1OM-36-2, "EDG Fuel Oil," Rev. 8; 1OM-36-4, "EDG Water Cooling," Rev. 3; and procedure 1OM-36.3.C.5, "Power Supply and Control Switch List: No. 1 EDG," Rev. 8.

b. 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 1 control room (CR-1)
- Unit 1 cable spreading room (CS-1)
- Unit 1 normal switchgear room (NS-1)
- Unit 2 West Cable Vault (Fire Area CV-1)
- Unit 2 Rod Control & Cable Tunnel (Fire Area CV-3)

Specific fire protection conditions examined included control of transient combustibles, material condition of fire protection equipment, and the adequacy of any fire protection impairments and compensatory measures. Condition Report (CR) 01-2909 was initiated to correct minor discrepancies identified by the inspectors.

b. Findings

No findings of significance were identified.

1R06 Flood Protection Measures

a. Inspection Scope

The inspectors reviewed the Updated Final Safety Report, the Individual Plant Examination, and Individual Plant Examination of External Events to evaluate the design basis and risk significance for internal and external floods. The inspectors also reviewed the Technical Specifications (TS), Abnormal Operating Procedure 1/2 OM 53C.4A.75.2, “Acts of Nature - Flood,” Rev. 16, and operating logs to verify procedures and operator actions for coping with floods were appropriate. Based on associated risk significance the inspectors performed walkdowns of the Unit 1 intake structure pump cubicals ‘A’ and ‘D’ (flood areas IS-1 and IS-4). Additionally, a degraded ‘A’ river water pump seal elevated the potential for internal flooding in the ‘A’ intake structure pump cubical. During this walkdown the inspectors examined a sample of internal and external flood seals, inspected the material condition of potential sources of internal flooding, and verified various floor drains, sump pumps, and level alarm circuits were operable. The inspectors compared their inspection results with the most recently completed Beaver Valley Test (BVT), 1BVT-1.33.07, “Flood Seals Visual Inspection,” Rev. 1.

b. Findings

No findings of significance were identified.

1R11 Licensed Operator Requalification

a. Inspection Scope

The inspectors observed Unit 2 licensed operator requalification training at the control room simulator. The inspectors reviewed the operators' ability to correctly evaluate the simulator training scenario and implement the emergency plan. The inspectors observed the operators simulator drill performance and compared it to the criteria listed in simulator scenario "Licensed Operator Training, Unit 2 Simulator, Drill 17," Rev 10A. The inspectors observed supervisory oversight, command and control, communication practices, and crew assignments to ensure they were consistent with normal control room activities. The inspectors observed the response of the operators during the simulator drill transient and verified the fidelity of the simulator to the actual plant. The inspectors observed the effect training evaluators had in recognizing and correcting individual and operating crew mistakes including post-training remediation actions. The inspectors attended the post-drill critique in order to evaluate the effectiveness of problem identification.

b. 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. The inspectors verified that the issues were addressed as required by 10 Code of Federal Regulations (CFR) 50.65, "Requirements for Monitoring the Effectiveness of Maintenance at Nuclear Power Plants," and System and Performance Engineering Administrative Manual 3.2, "Maintenance Rule Program Administration," Rev. 3. 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.

- On June 5, 2001, the Unit 1 'B' station air compressor was removed from service for emergent maintenance by operators due to a worsening pre-existing air leak on a drain trap line. Operators had previously identified the air leak on April 13 and initiated work order (WO) 01-10220 for repair. The WO was assigned to the Fix-It-Now (FIN) maintenance department and was waiting on replacement parts. The inspectors reviewed the nature of the emergent work which resulted in an additional 40 hours of unavailability for the 'B' station air compressor. The inspectors reviewed the MR unavailability goals as described in the "Maintenance Rule System Basis Document, Compressed Air System, System 34," Rev. 7 and determined that the additional 40 hours of unavailability did not result in the compressed air system exceeding any MR performance goals.

- On July 5, 2000, Unit 1 tripped from 100 percent power due to a failure within the main turbine electro-hydraulic control (EHC) system. Preliminary analysis concluded that the apparent cause was failure of a solid state component on a Mixing Amplifier 3 card (see NRC Inspection Report Nos. 50-334(412)/00-06). Subsequent off-site failure analysis of the EHC circuitry determined that the Mixing Amplifier 3 card failure was not the cause of the trip. The root cause for this initiating event remained undetermined, and corrective actions were initiated to address numerous EHC system preventive maintenance deficiencies. The MRSC reevaluated EHC system performance, designated the system for category (a)(1) monitoring, and established a plant level performance goal to be monitored until 6 months following the next refueling outage.

- Nuclear Power Division Administrative Procedure (NPDAP) 8.30, "Maintenance Rule Program," Rev. 6 specifies the plant level performance criteria (PLPC) for determination that a MR system requires an evaluation in accordance with 10 CFR 50.65, paragraph (a)(1). One PLPC is whether an Emergency Preparedness Plan (EPP) entry (e.g., unusual event, alert, etc. classifications) has occurred as a result of ineffective maintenance. The inspectors reviewed the MR evaluation of the Unit 2 Chemistry Cold Laboratory fire unusual event of April 6, described in CR 01-2592 and, determined that the MR assessment was appropriate.

b. Findings

No findings of significance were identified.

1R13 Maintenance Risk Assessment and Emergent Work Control

.1 Unit 2 Spent Fuel Pool Purification System Maintenance

a. Inspection Scope

On May 29, the inspectors noted that the Unit 2 daily risk summary did not accurately reflect the plant risk associated with the removal of the Spent Fuel Pool (SFP) Cooling and Purification system from service for planned maintenance. The inspectors interviewed operators, the shift technical advisor, and probabilistic risk analysts in order to evaluate the risk assessment and management for the maintenance activity. This review was against criteria contained in NPDAP 7.12, "Non-outage Planning, Scheduling, and Risk Assessment," Rev. 11.

b. Findings

The inspectors determined that operators failed to comply with NPDAP 7.12, because the impact to plant safety was not evaluated before removing the SFP Cooling and Purification system from service for planned maintenance. The safety significance of this finding was very low (Green) because the additional time that the system was out of service was small (8 hours). However, failure to assess the increase in risk prior to removing the system from service constitutes a Non-Cited Violation of 10 CFR 50.65 (a)(4).

The SFP Cooling and Purification system was isolated at 8:47 p.m. on May 28 in preparation for maintenance personnel to perform repairs scheduled to begin the following day. Operators implemented the system clearance approximately 8 hours early in order to ensure an adequate boundary for dayshift maintenance personnel. The operators were unaware of the increase in plant risk associated with the clearance because the daily risk profile did not accurately reflect the SFP Cooling and Purification system maintenance configuration which isolated the boric acid blender makeup to the refueling water storage tank (RWST). The increase in risk placed the plant in the highest risk category as specified in the Weekly Maintenance Risk Summary Report. Operators indicated that they would not have implemented the clearance early had they known of the increase to plant risk.

This issue is more than minor because removal from service of the SFP Cooling and Purification system 8 hours early increased the core damage frequency (CDF), and thus represented an actual impact to plant safety. The reason for the increase in risk was due to the clearance boundary which removed the SFP Cooling and Purification system from service and isolated the boric acid blender makeup capability to refill the RWST following its depletion after a loss of coolant accident. The safety significance of this finding was low very (Green) because the additional time that the system was out of service was small (approximately 8 hours). The inspectors performed an independent calculation of the change in CDF and determined the risk increase due to the additional out of service time to be within the very low safety significance band (delta CDF <1E-6).

10 CFR 50.65 (a)(4) requires that before performing maintenance activities, licensee's shall assess and manage the increase in risk that may result from the proposed maintenance activities. Contrary to this requirement, operators failed to assess the risk prior to removing the SFP Cooling and Purification system from service on May 28. This resulted in an additional 8 hours of unnecessary unavailability of the RWST makeup capability function. This violation of 10 CFR 50.65 (a)(4) is being treated as an NCV consistent with Section VI.A of the NRC Enforcement Policy. This issue was entered into the corrective action program as CR 01-3151 **(EA-01-168)(NCV 05000412/2001-006-001).**

.2 Other Maintenance Risk Assessment and Emergent Work Control Items

a. Inspection Scope

The inspectors reviewed the scheduling and control of maintenance activities in order to evaluate the effect on plant risk. This review was against criteria contained in NPDAP 7.12, "Non-outage Planning, Scheduling, and Risk Assessment," Rev. 11. The inspectors reviewed the routine planned maintenance and emergent work for the following equipment removed from service:

- Unit 1 plant operators identified an increase in the reactor containment building (RCB) sump pumpout rate following plant restart on April 29. Chemistry sampling performed on the fluid determined that the leakage was most likely from secondary plant systems. A RCB entry was performed on May 29 by engineers who identified that the source of the leak was from the '1A' steam generator blowdown high pressure vent valve (BD-203). The condition was documented in CR 01-3156. On May 30, the leak was stopped by maintenance personnel who were able to adjust the valve and tighten the valve leakoff line

cap. The inspectors reviewed emergent work planning and risk potential associated with the activity.

- On June 3 at 1:00 p.m., a Unit 2 non-licensed nuclear operator reported to the control room that a wooden “dipstick,” being used to measure the amount of fuel in the ‘A’ EDG fuel oil storage tank, broke and an 8-foot section remained in the tank. The inspectors observed the recovery efforts due to the potential effect on the safety related EDG and verified the work activities were performed in accordance with NPDAP 7.12, “Non-Outage Planning, Scheduling, and Risk Management,” Rev.11. The inspectors reviewed troubleshooting activities performed to locate and retrieve the foreign material as described in WO 01-013532-000 and Request for Assistance CR 01-3399. The inspectors reviewed 1/2 OM-48.3.D, “Administrative Control of Valves and Equipment,” Rev. 2, after noting a minor procedure adherence discrepancy, which was subsequently documented in CR 01-3335. See Sections 1R14, Personnel Performance During Non-routine Plant Evolutions, and 1R15, Operability Evaluations for addition information on this issue.

- On June 23, 2001, Unit 1 operators identified excessive and degrading packing leakage from TV-1BD-101C2, a steam generator blowdown valve located inside containment. The valve has a safety function to close in response to a high energy line break. Corrective maintenance to consolidate packing using a higher torque value was unsuccessful and the leak rate increased. Station management decided to perform a leak injection repair. This repair activity had the potential to affect the valve stroke time and to challenge the main steam system pressure boundary. The repair was complicated somewhat by the need to wear anticontamination clothing and biopack breathing equipment inside the subatmospheric containment. The inspectors attended the preevolution brief and reviewed the work package to verify appropriate safety precautions such as injection port drill depth and injection pressure were clearly communicated. Mechanics and contractor personnel performed the leak injection repair using 1/2 CMP-75-Leak Repair-1M, “On-Line Leak Repair Planning Procedure,” Rev. 8, 1CMP-TV-1BD-101C2-Leak Repair-1M, “TV-1BD-101C2 Leak Repair,” Rev 0, and WO 01-014314-002.

b. Findings

No findings of significance were identified.

1R14 Personnel Performance During Non-routine Plant Evolutions

a. Inspection Scope

The inspectors reviewed human performance during the following nonroutine plant evolutions, to determine whether personnel performance caused unnecessary plant risk or challenges to reactor safety.

- On June 3 at 1:00 p.m., a non-licensed nuclear operator reported to the control room that a wooden “dipstick,” being used to measure the amount of fuel in the ‘A’ EDG fuel oil storage tank, broke and an 8-foot section remained in the tank. The inspectors reviewed this event after noting that the fuel oil storage tank

measurement was being verified by a non-routine method (i.e., the dipstick) because tank level instrument 2EGF-LIS201A had been out of service since March 4, 2001. The inspectors: 1) interviewed the nuclear operator responsible who performed the fuel oil measurement and the EDG system engineer; 2) reviewed drawings 2003.280-054-035 and 10080-2806.260-920-786-SH. 1-H; and, 3) reviewed procedure 2OST-55A.1, "Chemical and Fuel Oil Inventory, " Rev. 23, in order to assess the human performance attributes of this event. The inspectors determined that, although the foreign material that dropped into the fuel oil storage tank could have been prevented, no violations of regulatory requirements were identified. This event was documented in CR 01-3248.

- On June 5, a non-licensed nuclear operator reported an air leak on the 'B' station air compressor moisture trap drain line. Control room operators determined that further degradation of the leak could challenge plant operation, and therefore shut down the 'B' station air compressor and isolated the leak. The inspectors reviewed the operators' immediate actions, since failure of the station air system could result in initiation of a reactor trip. The inspectors confirmed that the operators performed a risk assessment for the isolation of the 'B' station air compressor. See Section 1R12 for additional maintenance rule information of this issue.

b. 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. In addition, where a component was determined to be inoperable, the inspectors verified the TS limiting condition for operation implications were properly addressed.

- In March 2001, Unit 2 main steam isolation valve, 2MSS-AOV-101C, failed to close within 5 seconds, as required by TS. Immediate action to reduce the air actuator pressure from 55 to 51 pounds per square inch gauge (psig) range, was effective at restoring valve operability. A root cause evaluation of valve degradation was initiated and compensatory measures to ensure interim valve operability were identified (CRs 01-1493 and 01-1523).

- On May 16, engineers resolved a previously identified concern documented in CR 01-2662 that the drain line piping downstream of the Unit 1 reactor coolant pumps' (RCP) seal injection filters may not be adequately sized for system pressure under all operating conditions. The inspectors reviewed the engineering analysis including the piping wall thickness calculations and determined that the piping had sufficient wall thickness for system pressure.

- During routine plant status walkdowns of the Unit 2 control room on May 16, the inspectors noticed a difference between the two RWST temperature indicators (2QSS-TI100A & B). The inspectors questioned the control room operators who

were aware that the indicators had been drifting slightly but the indicators were still within their required TS range. The inspectors reviewed the TS requirements for the RWST temperature, and the criteria delineated in completed calibration procedures 2LCP-13-T100A & B, "2QSS-TI100A(B) Refueling Water Storage Tank (2QSS*TK21) Temperature Calibration," Rev. 3, to ensure the instruments were operable.

- On May 24, engineers performed an evaluation of a post-maintenance test (PMT) failure of the Unit 1 'B' high head safety injection (HHSI) pump discharge check valve 1CH-23 due to excessive seat leakage. (See Section 1R19 for addition PMT information.) Engineering Memorandum (EM) 201231, "Engineering Evaluation for [1CH-23] Leakage," concluded that the amount of leakage was acceptable to support operability of the HHSI system. The inspectors reviewed EM 201231 and "Beaver Valley Unit 1 Emergency Core Cooling Systems Safeguards Flows Design Calculation," dated October 22, 1992, discussed the issue with test and design engineers, and determined that the leakage was within acceptable limits as specified by the EM.

- On June 3 at 1:00 p.m., a non-licensed Unit 2 nuclear operator reported to the control room that a wooden "dipstick," being used to measure the amount of fuel in the 'A' EDG fuel oil storage tank, broke and an 8-foot section remained in the tank. Control room operators determined that the foreign material in the EDG fuel oil storage tank did not render the EDG inoperable nor unavailable because of the physical configuration of the tank and filtering capability of the EDG. The inspectors reviewed the operability determination as specified in basis for continued operation (BCO) 2-01-003, "BCO for wood piece(s) of dipstick that fell into 2EGF*TK21A," Rev. 0 and Rev. 1. The inspectors also reviewed drawings 2003.280-054-035 and 10080-2806.260-920-786-SH. 1-H in order to validate the assumptions used in the BCO's.

b. Findings

The inspectors determined that corrective actions taken to address a degraded Unit 2 'C' main steam isolation valve (MSIV) closure stroke time were inadequate. Although immediate actions restored valve closure time to $\leq$5 seconds, causal assessment and interim actions were insufficient to verify continued valve operability. This finding was of very low safety significance (Green) and constitutes an NCV.

On March 18, 2001, 2MSS-AOV-101C failed to close within 5 seconds as required by TS 4.7.1.5. This was a repeat problem which had occurred five previous times on Unit 2 MSIVs. Technicians reduced actuator air pressure as an immediate corrective action to restore valve closure time to $\leq$5 seconds. The normal air actuator pressure band of 50-60 psig was reduced to 50-51 psig. Station management discussed the need to establish positive controls to verify actuator air pressure remained within the more restrictive band pending further causal assessment of the failure (CR 01-1523).

On April 17, 2001, the inspectors identified that no controls were established to verify air actuator pressure would be maintained at a value necessary to support continued 2MSS-AOV-101C operability. Air actuator pressure was 50.8 psig, but no operator log, standing order regarding control of the associated air regulator, or other control was established to periodically verify required pressure. The inspectors reviewed

surveillance test history for all three MSIVs, the root-cause evaluation for the 2MSS-AOV-101C failure, interviewed engineers, and performed in-plant inspections to assess valve operability. The inspectors noted historical air actuator pressure drift of approximately 0.2 psig per month between the periodic valve tests. 2MSS-AOV-101C was not due to be stroke tested until the Spring of 2002. The inspectors determined that typical air actuator pressure drift or operator action to restore air regulator pressure to the normal 55 psig value would likely make the valve inoperable. Additionally, the root cause evaluation did not fully evaluate whether failure to perform vendor recommended preventive maintenance (triennial replacement of various air manifold seals and rebuild of the air control panel every 5 years) was causing degraded stroke time. Additional trending information was available, but was not used by engineers. Consequently the root cause evaluation did not evaluate whether the air actuator pressure band, required to support valve operability, would be further reduced during this operating cycle due to age related degradation. The reportability assessment did not fully review past operability due to not performing the preventive maintenance. The Nuclear Shift Supervisor initiated daily operator logs for 2MSS-AOV-101C actuator air supply pressure and initiated (CR 01-2074) to address the inspectors' observations.

This finding had a credible impact on safety, in that normal air pressure regulator drift combined with the demonstrated degraded valve stroke time would likely have caused 2MSS-AOV-101C to become inoperable during this operating cycle, unknown to operators. Station accident analysis assumes that MSIV closure time will be $\leq$5.0 seconds, to ensure a main steam line break between the steam generator (SG) and the MSIV will not blow down more mass than contained in one SG. The issue was evaluated using the phase 1 SDP for the Mitigation Systems cornerstone. The inspectors determined the issue was of very low safety significance because the degraded valve did not represent an actual loss of safety function at time of identification (the inspectors identified the issue while air regulator pressure remained within the 50 to 51 psig band). Additionally, all other systems relied upon to mitigate a main steam line break remained operable.

10 CFR 50 Appendix B, Criterion XVI "Corrective Action," requires that for significant conditions adverse to quality, measures shall be taken to assure that the cause of the condition is determined and corrective action taken to preclude repetition. Contrary to the above, corrective action measures did not determine the cause of degraded MSIV closure stroke time sufficiently to preclude repetition and verify continued operability. Controls were not established to verify air actuator pressure would be maintained at a value necessary to support continued 2MSS-AOV-101C operability until implementation of permanent corrective actions. Further, the root cause evaluation did not fully evaluate whether the longstanding failure to perform vendor recommended preventive maintenance would require reducing the air actuator pressure band, required to support valve operability. This violation is being treated as a NCV consistent with Section VI.A of the NRC Enforcement Policy. This issue was entered into the corrective action program as CR 01-2074 **(NCV 05000412/2001-006-002).**

1R16 Operator Work-Arounds

a. Inspection Scope

The inspectors reviewed the cumulative effects of the Unit 1 operator workarounds. The workarounds were reviewed to identify any effect on emergency operating procedure (EOP) operator actions, and impact on possible initiating events and mitigating systems.

b. Findings

No findings of significance were identified.

1R19 Post-Maintenance Testing

a. Inspection Scope

The inspectors reviewed and/or observed several 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 procedures. The following PMTs were observed:

- On May 25, operators returned the Unit 1 'B' HHSI pump to service following planned maintenance. One of the items repaired was the B HHSI pump discharge check valve [1CH-23] which failed the PMT acceptance criteria as specified in WO 01-000486-001 due to excessive seat leakage (approximately 0.5 gallons per minute. The inspectors reviewed the corrective maintenance WO and PMT. Work Order 01-012888-000 was initiated for future repair of the valve and the unsatisfactory PMT was entered into the corrective action program as a maintenance rework item in CR 01-3098. See Section 1R15 for operability evaluation of the degraded condition.
- On June 11, the Unit 2 'A' SW pump failed the PMT acceptance criteria for head ratio (which is the as-found pump discharge head divided by required pump discharge head) as specified in 2OST-30.2, "Service Water Pump [2SWS*P21A]," Rev. 19. The testing was performed following motor refurbishment. A lift adjustment was made and the pump was successfully retested on June 17. The inspectors observed the testing, reviewed the lift adjustment criteria with maintenance and system engineers, and reviewed past lift adjustments performed on the service water pumps. CR 01-3593 was initiated to document the engineering determination that although the lift adjustment exceeded the manufacturer's original specification, the adjustment was acceptable.

- On June 20, operators successfully performed post-maintenance testing following planned maintenance on Unit 2 Residual Heat Release Valve 2SVS*HCV104 in accordance with 2OST-47.3B, "Containment Penetration and ASME Section XI Valve Test," Rev. 23.

- On June 24, operators successfully performed post-maintenance testing following leak sealant injection repair of a packing leak on Unit 1 steam generator blowdown automatic isolation valve, TV-BD-101C2. The inspectors interviewed mechanics who observed the valve testing and reviewed the stroke time data as delineated in Operational Surveillance Test (OST) 1OST-47.3, "Containment Isolation and American Society Mechanical Engineers (ASME), Section XI Test," Rev. 26.

b. Findings

No findings of significance were identified.

1R22 Surveillance Testing

a. Inspection Scope

The inspectors observed and reviewed the following OSTs and maintenance surveillance procedures (MSPs), concentrating on verification of the adequacy of the test to demonstrate the operability of the required system or component safety function.

- 2OST-36.2 "Emergency Diesel Generator [2EGS*EG2-2] Monthly Test," Attachment 'C,' "Barring the Emergency Diesel Generator," Rev. 31
- 2OST-36.7 "Offsite to Onsite Power Distribution System Breaker Alignment Verification," Rev. 6
- 2OST-30.2 "Service Water Pump [2SWS*P21A] Test, Rev. 19. See Section 1R19, Post Maintenance Testing for addition information on the 'A' Service Water pump.
- 2BVT-2.30.1 "Service Water Pump [2SWS*P21A] Head Capacity Curve," Rev. 8

b. Findings

No findings of significance were identified.

1R23 Temporary Plant Modifications

b. Inspection Scope

The inspectors reviewed temporary modifications (TMs) and associated implementing documents to verify the plant's design basis and effected system or component operability were maintained. NPDAP 7.4, "Temporary Modifications," Rev. 8, specified requirements for development and installation of TMs. The inspectors reviewed TMs associated with the following items:

- Unit 1 TMs for the cumulative impact on safety. In addition, the inspectors reviewed TM 01-01-004, "Installation of a Side Stream Filter, Between AC-23 and AC-263, to Reduce the Magnetite Concentration in the Chilled Water System," implemented as a result of high levels of particulate contamination in the chilled water system (CWS) as described in CR 00-3910 and CR 01-0676. The inspectors walked down the installed TM with the system engineer and verified proper installation in accordance with the TM specifications and drawing 8700-RM-429-1, Rev. 8. The inspectors reviewed the potential risk impact of the TM to overall plant operation and determined that it was very low.

- TM 01-00-011, "Leaking Solder Joints on Containment Instrument Air Line," installed an external clamp on inside containment instrument air line ACC-26-21B in order to eliminate air leakage through a defective solder joint. The inspectors reviewed the TM, installation WO 00-009291and drawing 8700-RM-

434-6 in order to assess the adequacy of the corrective measure and potential risk impact to plant operation. The inspectors determined that the plant risk due to the TM was very low and that WO 00-009291-003 to restore the joint to original condition was scheduled for implementation during the upcoming 14th refueling outage.

- FIN maintenance personnel repaired the 'B' station air compressor drain trap line leak by installation of a temporary seal. Following the repair, the inspectors discussed the work activity with the FIN supervisor who determined that a TM should have been used to document the temporary seal installation and repair. Engineers subsequently produced TM 01-01-010, "Station Air Compressor 1SA-C-1B High Pressure After Cooler Drain Line," which was reviewed by the inspectors. The FIN supervisor initiated CR 01-4021 to enhance the guidance for determining when a TM is required.

- TMs 01-01-009 (Unit 1) and 02-01-010 (Unit 2), "Defeat Chlorine Detectors 2HCV-AIT21A, B and, C Ability to Cause Control Room Emergency Bottled Air Pressure System Actuation and Alarm Notification on High Control Room Chlorine," were implemented in order to eliminate unnecessary maintenance on the control room chlorine detection system. The inspectors reviewed the TM implementation packages and affected solid state protection system logic drawings. The inspectors also walked down the modifications with the cognizant design engineer in order to verify the temporary jumpers and labels were installed as specified in the TMs.

c. Findings

No findings of significance were identified.

Emergency Preparedness (EP)

1EP6 Drill Evaluation

a. Inspection Scope

The inspectors observed a Unit 1 emergency event training evolution to evaluate emergency procedure implementation, event classification, event notification, and protective action recommendation development. The Operations Support Center, Radiological Operations Center, Technical Support Center, Emergency Operations Facility, were activated and participated in this drill. The event scenario involved multiple safety-related component failures and plant conditions warranting simulated alert and site area emergency event declarations. The licensee counted this training evolution for evaluation of Emergency Preparedness Drill/Exercise Performance (DEP) Indicators. The inspectors reviewed the drill critique report to determine whether the licensee critically evaluated drill performance to identify deficiencies and weaknesses. Additionally, the inspectors verified the DEP indicators were properly evaluated consistent with Nuclear Energy Institute (NEI) 99-02, "Regulatory Assessment Performance Indicator Guideline," Rev. 0. Additional documents used for this inspection activity included:

Beaver Valley Power Station 2001 Mini Drill Scenario
EOP E-0, "Reactor Trip or Safety Injection," Rev. 0
EOP E-2, "Faulted Steam Generator Isolation," Rev. 0
EOP E-3, "Steam Generator Tube Rupture," Rev. 1
Emergency Action Level (EAL) 1.2, "Reactor Coolant System Barrier," Rev. 6
EAL 1.3, "Containment Barrier," Rev. 6
EAL 5.3, "Aircraft/Projectile Crash," Rev. 6
Emergency Plan Implementing Procedure IP 1.1, "Notifications," Rev. 25
Emergency Preparedness -16, "NRC EPP Performance Indicator Instructions," Rev. 2

b. Findings

No findings of significance were identified.

2. RADIATION SAFETY

Cornerstone: Occupational Radiation Safety (OS)

2OS1 Access Control To Radiologically Significant Areas

a. Inspection Scope

The inspection included the following activities to determine the effectiveness of access control to radiologically significant areas.

The inspectors observed the radioactive material storage areas outside the radiologically controlled area (RCA) and within the protected area and toured various elevations of the auxiliary, fuel, radioactive waste, and decontamination buildings of both units. During these walk-downs, the inspectors observed and verified the appropriateness of the radiological safety controls in place for active radiation work

permits (RWPs). Also the inspectors reviewed the posting and labeling of radiation areas, contamination areas, radioactive material, reviewed the barricading of contaminated and high radiation areas, and reviewed the status of locked high radiation areas. The inspectors used a dose-rate survey meter to verify the adequacy of various area postings. The inspector also observed activities at the main RCA access control points to verify compliance with requirements for RCA entry and exit, wearing of record dosimetry, and issuance and use of alarming radiation dosimeters.

The inspection included a review of the following RWPs, procedures, records, and documents.

- RWP 201-2003, "Routine Mechanical Maintenance in a Low Radiation and Contaminated Area on Elevation 755 of Auxiliary Building in Unit 2"
- RWP 101-1052 RBC, "Entry in a High Radiation Area - Replace/Repair Nitrogen Valves on Elevation 767"
- RWP 201-2046 RBC, "Entry in a High Radiation Area - Inspect elevator/Lubricate Motor Bearings on Containment Air Recirculation Fans/Perform Annual Neutron Survey"
- Unit 2 Neutron Shield Survey Worksheet, Dated April 5, 2001
- Procedure RP 8.1, "Radiological Work Permit," Rev. 14
- Action Plan for the Assembly of RADOS Earpieces
- Self-Assessment Report No. BV-SA-01-23, "Effectiveness of Radiation Shift Technician Log"
- Quality Assessment Surveillance No. 2-RDP-02-01, "Radwaste, Oversight of the Loading and Sorting of Radwaste Material into Seavans at Unit 2"
- Quality Assessment Surveillance No. 2-RDP-03-01, "RadCon Practices, Tour of the Unit 1 Primary Auxiliary Building to Observe Radioactive Material Container Labeling"

The inspection reviewed seven CRs that addressed worker and/or radiation protection technician performance errors or radiological protection concerns (CRs 01-1994, 01-2182, 01-2193, 01-2196, 01-2205, 01-2359, and 01-2379), occurring between March 1, 2001 and June 8, 2001. The review included an evaluation of the associated cause evaluations and corrective actions.

The review was against criteria contained in 10 CFR 20.1201 (Occupational dose limits for adults), 20.1204 (Determination of internal exposure), 20.1208 (Dose equivalent to an embryo/fetus), Subpart F (Surveys and monitoring), 20.1601 (Control of access to high radiation areas), Subpart H (Respiratory protection and controls to restrict internal exposures in restricted areas), and 20.1902 (Posting requirements) and against the site TS 6.12 (High Radiation Area) and site procedures (identified above in this section).

b. Findings

No findings of significance were identified.

2OS2 As Low As Reasonably Achievable (ALARA) Planning and Control

a. Inspection Scope

The inspection included the following activities to determine the effectiveness of ALARA planning and control.

The inspectors reviewed the following procedures, records, and documents.

- Procedure RP 8.1, "Radiological Work Permit," Rev. 14
- Procedure RP 8.5, "ALARA Review Program," Rev. 4
- Comparison of actual versus estimated collective exposure thru May 2001 for Unit 1and 2
- Daily exposure tracking summary thru April 30, 2001 for the first maintenance outage in 2001 (1MO1)
- Unit 1 reactor coolant system sum of long-lived activity graph - April 20 to April 24, 2001
- Special announcement - 1MO1 dose rate update dated April 26, 2001
- Minutes for Nuclear ALARA Review Committee Meetings Nos. 01-01, -02, and -03 on March 22, April 12, and April 17, 2001, respectively
- Minutes for ALARA Committee meetings Nos. 01-04, -05, -06, -07, and -08 on April 18, 23, 24, 25, and 26, 2001, respectively
- Agenda for ALARA Committee meeting No. 01-10 on June 14, 2001
- Exposure reduction initiative using PRC-01 media
- Beaver Valley Power Station 2001 ALARA Initiatives
- Quality Assessment Surveillance No. 2-RDP-01-01, "Radwaste, Verification of the Dewatering Completion of HIC Serial No. 498042169"
- CRs 01-2203, 01-2194, 01-2377, and 01-2952

The inspectors noted that the ALARA committee increased their level of oversight and involvement in collective dose management when an unplanned crud burst and resultant increase in containment dose rates occurred after the start of the first maintenance outage in 2001 (1MO1).

The review was against criteria contained in 10 CFR 20.1101 (Radiation protection programs) and 20.1701(Use of process or other engineering controls) and in site procedures (identified above in this section).

b. Findings

No findings of significance were identified.

Cornerstone: Public Radiation Safety (PS)

2PS1 Gaseous and Liquid Effluents

a. Inspection Scope

The inspectors reviewed the following documents to evaluate the effectiveness of the licensee's radioactive gaseous and liquid effluent control programs. The requirements of the radioactive effluent controls are specified in the TS Offsite Dose Calculation Manual (ODCM).

- the 1999 and 2000 Radiological Annual Effluent Release Reports, including projected public radiation dose assessments;
- most recent ODCM (Revision 15, August 29, 2000);
- technical justifications for ODCM and changes made;
- analytical results for charcoal cartridge, particulate filter, and noble gas samples;
- implementation of the compensatory sampling and analysis program when the effluent radiation monitoring system (RMS) is out of service;
- calibration records for laboratory measurements equipment (gamma and liquid scintillation counters);
- implementation of measurement laboratory quality control program, including interlaboratory comparisons;
- CR Numbers related to the availability of gamma detectors (CRs 01-2828, 01-2717, 01-2828, and 01-2844);
- "Gamma Spectroscopy Restoration Plan", Chemistry Section, May 23, 2001;
- selected 2001 radioactive liquid and gaseous release permits;
- associated effluent control procedures;
- self-assessment (BV-SA-00-16, Methodology Used for Tritium Sampling and Effluent Activity Determination dated July 31, 2000);
- CRs and resolutions (CRs 00-0383, 00-0669, 001682, 00-2453, 00-2454, 00-2455, 00-2590, 00-3410, 00-4026, 00-4089, 01-0371, 01-1790, and 01-2187) ;
- the 1999 Nuclear Quality Assurance audit (BV-C-99-12, November 17, 1999) for the ODCM implementations;
- most recent surveillance testing results (visual inspection, delta P, in-place testings for High Efficiency Particulate Air [HEPA] and charcoal filters, air capacity test, and laboratory test for iodine collection efficiency) for the following air treatment systems:
- Control Room Emergency Habitability System (common system); and Units 1 and 2 Supplemental Leak Collection and Release Systems.
- most recent Channel Calibration results for the radioactive liquid effluent radiation monitoring system (RMS) and its flow measurement devices listed in Section C, Tables 4.3-12 and 4.3-13 of the ODCM for both units:

  Unit 1 RMS and Flow Rate Measurement Devices:

  - RM-LW-104 Liquid Waste Effluent Monitor (performed on 1/13/00)
  - RM-LW-116 Liquid Waste Contaminated Drain Monitor (6/29/00)
  - RM-DA-100 Auxiliary Feed Pump Bay Drain Monitor (5/3/00)
  - RM-RW-100 Component Cooling-Recirculation Spray Heat Exchangers River Water Monitor (11/2/00)

- RM-GW-108 A&B Gaseous Waste/Process Vent System Noble Gas/Particulate Monitors (5/4/00 and 8/9/00)
- RM-VS-101 A&B Auxiliary Building Ventilation System Noble Gas/Particulate Monitors (11/29/00 and 6/29/00)
- RM-VS-107 A&B Reactor Building/Supplementary Leak Collection and Release System Noble Gas/Particulate Monitors (1/8/01 and 2/7/00)
- FR-LW-103 Liquid Radwaste Effluent Lines (2/21/01)
- FR-LW-104 Liquid Radwaste Effluent Lines (7/16/00)
- FT-CW-101 Cooling Tower Blowdown Line (5/9/01)
- FT-CW-101-1 Cooling Tower Blowdown Line (3/11/01)
- FR-GW-108 Gaseous Waste/Process Vent System (2/12/01)
- FR-VS-101 Auxiliary Building Ventilation System (3/13/01)
- FR-VS-112 Reactor Building/Supplementary Leak Collection and Release system (2/27/01)

Unit 2 RMS and Flow Rate Measurement Devices:

- 2SGC-RQ100 Liquid Waste Process Effluent Monitor (4/24/00)
- 2SWS-RQ101 Service Water Monitor (5/16/00)
- 2SWS-RQ102 Service Water Monitor (5/11/00)
- 2HVS-RQ101 A&B Ventilation System Noble Gas/Particulate Monitors (5/1/00 and 5/1/00)
- 2HVS-RQ109 A&B Elevated Release Noble Gas/Particulate Monitors (6/22/00 and 9/27/00)
- 2RMQ-RQ301 A&B Decontamination Building Vent Noble Gas/Particulate Monitors (5/31/00 and 5/31/00)
- 2RMQ-RQ303 A&B Waste Gas Storage Vault Noble Gas/Particulate Monitors (11/28/00 and 11/28/00)
- 2HVL-RQ112 A&B Condensate Polishing Building Vent Noble Gas/Particulate Monitors (1/25/01 and 1/26/01)
- 2HVR-RQ104 A&B Containment Purge Exhaust Monitors (9/28/00)
- 2RMR-RQ303 A&B Gaseous Activity RCS Leakage Detection Noble Gas/Particulate Monitors (1/11/01 and 1/11/01)
- 2SGC-FS100 Liquid Radwaste Effluent (11/16/00)
- 2CWS-FT101 Cooling Tower Blowdown Line (1/18/01)

The inspectors also toured and observed the following activities to evaluate the effectiveness of the licensee's radioactive gaseous and liquid effluent control programs.

- walk-down for determining the availability of radioactive liquid/gaseous effluent RMS and for determining the equipment material condition;
- walk-down for determining operability of air cleaning systems and for determining the equipment material condition;
- observed charcoal/particulate filter sampling technique; and
- observed radioactive liquid effluent sampling technique and sample preparation for gamma spectrometry measurements.

b. Findings

No findings of significance were identified.

4. OTHER ACTIVITIES (OA)

4OA1 Performance Indicator Verification

.1 Unplanned Scrams and Scrams with Loss of Normal Heat Sink

a. Inspection Scope

The inspectors reviewed the performance indicators for unplanned scrams per 7000 critical hours and scrams with loss of normal heat removal for Unit 1 and Unit 2. The inspectors verified the accuracy of the reported data through reviews of Licensee Event Reports (LERs) and plant operational logs. The inspectors reviewed the data from the time of the last review which was performed approximately one year ago (NRC Inspection Report 05000334/2000-005; 05000412/2000-005).

b. Findings

No findings of significance were identified.

.2 RETS/ODCM Radiological Effluent Occurrences

a. Inspection Scope

The inspector reviewed the following documents to ensure the licensee met all requirements of the performance indicator from the third quarter 2000 to the first quarter 2001:

- monthly projected dose assessment results due to radioactive liquid and gaseous effluent releases;
- quarterly projected dose assessment results due to radioactive liquid and gaseous effluent releases; and
- associated projected dose calculation methodology.

b. Findings

No findings of significance were identified.

4OA2 Identification and Resolution of Problems

The inspectors identified inadequate assessment and resolution of degraded Unit 2 MSIV closure stroke time as described in Section 1R15.

4OA3 Event Follow-up

.1 Unit 1 Manual Reactor Trip Due to Loss of Instrument Air Pressure

a. Inspection Scope

On June 22, 2001, at 9:31 a.m., Unit 1 control room operators manually tripped the reactor from 100 percent power and secured all three RCPs due to a loss of RCP motor cooling (CR 01-3785). Six minutes earlier a failed instrument air valve (IA-288), associated with the number 1 instrument air dryer, caused the station instrument air header to lose pressure. Operators were unable to isolate the leak, prior to the 'B' and 'C' RCP motor cooling outlet valve (TV-CC-105D2) shutting due to loss of air actuator pressure. The inspectors responded to the control room to evaluate plant equipment and mitigating system response to the trip, operator actions including communications and use of correct EOPs, and plant stabilization to a safe shutdown condition. The inspectors observed operator actions, reviewed various instruments and sequence of events recorders, and conducted interviews to verify safe plant conditions. The inspectors also verified the reactor trip was properly reported in accordance with 10 CFR 50.72. Immediately following plant stabilization, the inspectors reviewed the event's risk significance with licensee risk analysts and the NRC regional senior risk analyst. This event was characterized as a reactor trip, with the instrument air system and 'A' river water pump inoperable. The inspectors determined that the conditional core damage probability was very low (approximately 3.8E-6) and following discussion with regional management concluded that no additional NRC reactive response was necessary.

The inspectors attended the Unit 1 Readiness for Restart Assessment Meeting and monitored various equipment repair activities to determine whether station personnel properly evaluated plant readiness for safe restart in accordance with NPDAP 5.11, "Post-Trip Review," Rev. 4. The Event Review Team concluded that the apparent cause of the reactor trip was the end of life failure of an internal spring within IA-288. Contributing causes, including an incorrect nut installed within IA-288 and failure of the standby instrument air compressor to start, remained under evaluation at the close of the inspection period. The inspectors determined that adequate measures were implemented to preclude repetitive challenges to safety related equipment upon restart, as required by NPDAP 5.11.

b. Findings

No findings of significance were identified.

.2 (Closed) Licensee Event Report 05000334/2000-006-01: Reactor/Turbine Trip Due to Turbine Electro-Hydraulic Loss of Control Power.

This event was discussed in NRC Inspection Report Nos. 50-334(412)/00-06. The LER revised the root cause to be indeterminate, based on subsequent laboratory failure analysis testing on the suspect failed component. The inspectors reviewed CRs 00-2272 and 00-3062 and verified appropriate corrective actions, including further troubleshooting were specified. No new issues were revealed by the LER. This LER was closed during an onsite review.

.3 (Closed) Licensee Event Report 05000412/2000–003: Reactor Coolant System Leak Initiates Plant Shutdown and Declaration of an Unusual Event.

This event was discussed in NRC Inspection Report Nos. 50-334(412)/00-12. No new issues were revealed by the LER. This LER was closed during an onsite review.

4OA5 Other

.1 Review of Industry Experience Evaluation

Institute of Nuclear Power Operations (INPO) personnel conducted a Beaver Valley Units 1&2 plant evaluation during the period August 14-25, 2000. The final evaluation report was issued in April 2001. The inspectors reviewed the INPO plant evaluation report, determined that the observations and findings were consistent with documented NRC findings, and determined that no additional follow-up inspection associated with the plant evaluation was warranted.

.2 Administrative Review to Previous United States Nuclear Regulatory Commission Inspection Report Closed Item

Nuclear Regulatory Commission Inspection Report 05000334/2001-002; 05000412/2001-002 listed an incorrect number for a closed licensee event report (LER). The incorrect LER listed was 05000412/2001-01. The correct LER number is 05000412/2000-01 and is listed in list of closed items at the end of this report.

4OA6 Management Meetings

Exit Meeting Summary

The inspectors presented the inspection results to Mr. Robert Saunders, Mr. Lew Myers, and other members of licensee management following the conclusion of the inspection on July 7, 2001. The licensee acknowledged the findings presented.

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

ATTACHMENT

SUPPLEMENTAL INFORMATION

a. Key Points of Contact

C. Brooks	Plant Services Director, Acting
T. Cosgrove	Manager, Licensing
G. Davie	Training Manager
R. Donnellon	Director, Projects and Scheduling
R. Fast	Director, Plant Maintenance
R. Freund	Supervisor, Unit 2 Radiological Operations
D. Girdwood	Supervisor, Unit 1 Radiological Operations
T. Kuhar	Training Supervisor
J. Lebda	Supervisor, Radiological Engineering and Health
L. Myers	Senior Vice President, FENOC
M. Pearson	Director, Plant Services
P. Schwartz	Operations Training Superintendent
J. Sipp	Manager, Health Physics
F. von Ahn	Director, Plant Engineering
L. W. Pearce	Plant General Manager

b. List of Items Opened, Closed and Discussed

Opened/Closed

05000412/2001-006-001	NCV	On-Line Maintenance Risk Impact Not Evaluated Prior to Spent Fuel Pool Purification System Maintenance (Section 1R13.1)
05000412/2001-006-002	NCV	Incomplete Evaluation and Resolution of Degraded Main Steam Isolation Valve Closure Stroke Time (Section 1R15)

Opened

05000412/2001-001	LER	Automatic Reactor Trip Due to Loss of Condensate Pump (Section 4OA5.2)

Closed

05000334/2000-006-01	LER	Reactor/Turbine Trip Due to Turbine Electro-hydraulic Loss of Control Power (Section 4OA3.2)
05000412/2000-003	LER	Reactor Coolant System Leak Initiates Plant Shutdown and Declaration of Unusual Event (Section 4OA3.3)
05000412/2000-001	LER	ESF Actuation of Feedwater Isolation While Shutting the Plant Down for Refueling (Section 4OA5.2)

c. List of Acronyms

ALARA	As Low As Reasonably Achievable
ASME	American Society Mechanical Engineers
BCO	Basis for Continued Operation
BVT	Beaver Valley Test
CDF	Core Damage Frequency
CFR	Code of Federal Regulations
CR	Condition Report
CWS	Chilled Water System
DEP	Drill/Exercise Performance
EAL	Emergency Action Level
EDG	Emergency Diesel Generator
EHC	Electro-hydraulic Control
EM	Engineering Memorandum
EOP	Emergency Operating Procedure
EPP	Emergency Preparedness Plan
FIN	Fix-it-Now
HEPA	High Efficiency Particulate Air (filter)
HHSI	High Head Safety Injection
INPO	Institute of Nuclear Power Operations
kV	Kilovolt
LER	Licensee Event Report
MR	Maintenance Rule
MRSC	Maintenance Rule Steering Committee
MSIV	Main Steam Isolation Valve
MSP	Maintenance Surveillance Procedure
NCV	Non-Cited Violation
NEI	Nuclear Energy Institute
NPDAP	Nuclear Power Division Administrative Procedure
NRC	Nuclear Regulatory Commission
ODCM	Offsite Dose Calculation Manual
OM	Operating Manual
OST	Operational Surveillance Test
PLPC	Plant Level Performance Criteria
PMT	Post-Maintenance Test
psig	pounds per square inch gauge
QA	Quality Assurance
QC	Quality Control
RCA	Radiologically Controlled Area
RCB	Reactor Containment Building
RCP	Reactor Coolant Pump
RMS	Radiation Monitoring System
RWP	Radiation Work Permit
RWST	Refueling Water Storage Tank
SDP	Significance Determination Process
SFP	Spent Fuel Pool
SG	Steam Generator
SSC	Systems, Structures, and Components
SW	Service Water
TM	Temporary Modification

TS	Technical Specifications
WO	Work Order