

Beaver Valley 1

Initiating Events

Significance:  Dec 29, 2001

Identified By: NRC

Item Type: NCV NonCited Violation

HUMAN PERFORMANCE, COMMUNICATION, AND PROCEDURAL ADHERENCE DEFICIENCIES DURING SAFETY-RELATED MAINTENANCE

The inspectors identified a Non-Cited Violation of Technical Specification 6.8.1 for failure to properly perform maintenance which can affect the performance of safety-related equipment in accordance with written procedures or instructions. On several occasions, safety-related work activities were not properly controlled, resulting in unexpected control room alarms and indications. In one instance, Unit 1 operators responded by manually tripping the reactor, while the reactor was subcritical. In another instance, Unit 1 automatic reactor coolant system pressure control was disabled, and operators had to manually establish pressure control pending system restoration. Human performance deficiencies, such as poor communications between operators and technicians, were the cause of each event. In each case, the performance deficiency caused or increased the likelihood of an initiating event. The safety significance of this finding was very low (Green) because the performance deficiency did not cause any accident mitigation equipment or functions to be unavailable.

Inspection Report# : [2001010\(pdf\)](#)

Significance:  Dec 29, 2001

Identified By: NRC

Item Type: FIN Finding

FAILURE TO IDENTIFY AND PERFORM PREVENTIVE MAINTENANCE TASKS IN ACCORDANCE WITH MANUFACTURER RECOMMENDATIONS CAUSED UNIT 1 LOSS OF INSTRUMENT AIR AND TRIP

The inspectors determined that failure to identify and perform preventive maintenance tasks for instrument air dryer 1IA-D-1 in accordance with manufacturer recommendations was the root cause of the June 22, 2001, Unit 1 loss of instrument air (LOIA) and subsequent manual reactor trip. The LOIA increased the likelihood that mitigation equipment (specifically the power conversion system, auxiliary feedwater bleed path, and primary heat removal feed/bleed) would not be available. The LOIA and loss of component cooling water to the reactor coolant pumps also increased the potential for a reactor coolant system leak. The issue was determined to effect the initiating event and barrier integrity cornerstones. The safety significance of this finding was very low (Green) because the performance deficiency did not cause any accident mitigation equipment or functions to be unavailable.

Inspection Report# : [2001010\(pdf\)](#)

Significance:  Dec 29, 2001

Identified By: NRC

Item Type: FIN Finding

INADEQUATE WORK PLANNING AND HUMAN PERFORMANCE ERRORS CAUSE UNIT 1 LOSS OF INSTRUMENT AIR AND MANUAL REACTOR TRIP

The inspectors determined that inadequate work planning and maintenance technician performance errors caused a Unit 1 loss of instrument air (LOIA) and manual reactor trip on December 7, 2001. The equipment clearance, posted to completely de-energize the 'B' air compressor prior to beginning work failed to identify an energized contact which connected the 'A' and 'B' air compressors. Additionally, electricians used incorrect tools and failed to adequately perform safety checks to verify the 'B' air compressor circuitry was completely deenergized. The event review team also identified a latent vulnerability of the air system which had not been recognized following a similar reactor trip on

June 22, 2001. A modification to the air dryer system several years ago, increased air system usage beyond the capacity of the backup diesel powered air compressor. As a result, although operators started the diesel air compressor promptly on December 7, they were unable to recover instrument air pressure prior to the reactor trip. The LOIA increased the likelihood that mitigation equipment (specifically the power conversion system, auxiliary feedwater bleed path, and primary heat removal feed/bleed) would not be available. The issue was determined to effect the initiating event and barrier integrity cornerstones. The safety significance of this event was very low (Green) because the performance deficiency did not cause any accident mitigation equipment or functions to be unavailable.

Inspection Report# : [2001010\(pdf\)](#)



Significance: Nov 10, 2001

Identified By: NRC

Item Type: NCV NonCited Violation

FAILURE TO VERIFY PLANT CONFIGURATION CAUSES REACTOR VESSEL OVERFILL, INCREASED PLANT RISK, AND INCREASED RADIATION EXPOSURE

The inspectors identified a Non-Cited Violation of Technical Specification (TS) 6.8.1 for failure to follow a procedure to verify plant configuration before manipulating a valve which resulted in an unexpected discharge of borated water into the reactor. Control room operators did not adequately verify all potential flow paths prior to opening a valve (MOV-SI-863A), which resulted in approximately 600 gallons of borated water being discharged into the reactor vessel. As a result, the reactor plant remained in a higher risk configuration (reduced reactor coolant inventory and time to boil) for an additional 24 hours. Further, system restoration following this human performance error resulted in additional personnel radiation exposure (approximately 1.2 man-rem). This finding was of very low safety significance because all systems providing core cooling remained operable and reactor criticality was not challenged.

Inspection Report# : [2001009\(pdf\)](#)



Significance: May 13, 2000

Identified By: NRC

Item Type: FIN Finding

INADEQUATE MAINTENANCE ON AN AUXILIARY STEAM PRESSURE CONTROL VALVE.

Inadequate maintenance on an auxiliary steam pressure control valve resulted in failure of the valve and a subsequent Unit 1 manual reactor trip due to degraded condenser vacuum. The finding was determined to have very low safety significance because mitigating equipment was not affected by the event and condenser vacuum was restored shortly after the reactor trip.

Inspection Report# : [20000004\(pdf\)](#)

Mitigating Systems



Significance: Aug 29, 2002

Identified By: NRC

Item Type: NCV NonCited Violation

UNIT 2 SERVICE WATER VALVE PIT FLOOD PROTECTION BARRIER NOT MAINTAINED DURING DESIGN MODIFICATION

The inspectors identified a missing piping penetration flood seal between redundant Unit 2 service water valve pit compartments. The seal had been removed during an in-progress piping modification without the licensee implementing appropriate compensatory measures while Unit 2 was operating. During the time that the flood seal was removed a passive failure of service water piping in either service water valve pit would have flooded both compartments. The issue was considered to be of very low safety significance (Green) based on a Phase 3 evaluation of the SDP because in the event of a pipe rupture, the missing service water flood seal would not have resulted in an initiating event and the recirculation spray system, which would have been lost due to the flooding of both of the

compartments in the service water valve pit, would only have been needed if another initiating event occurred following the pipe rupture. In addition, the likelihood of a pipe rupture combined with an initiating event during the limited exposure period was very small. The issue was determined to be a non-cited violation (NCV) of 10 CFR 50, Appendix B, Criterion III, Design Control.

Inspection Report# : [2002011\(pdf\)](#)

Significance:  Aug 29, 2002

Identified By: NRC

Item Type: NCV NonCited Violation

RECIRCULATION SPRAY RADIATION MONITOR COOLER FLOWS NOT ACCOUNTED FOR IN SERVICE WATER HYDRAULIC CALCULATION

The inspectors identified that the Unit 2 service water system hydraulic model in calculation 10080-N-726 failed to include the service water branch flows to four recirculation spray (RS) radiation monitor sample coolers. This design deficiency was considered to be of very low safety significance (Green) based on service water piping flow measurements obtained during previous refueling outages in lines of similar size which indicated no impedance in service water flows. Phase 1 of the SDP screened this finding to (Green) because the failure to include the service water piping branch flows into the hydraulic model calculation would not have resulted in a loss of safety function. This design deficiency was determined to be a non-cited violation (NCV) of 10 CFR 50, Appendix B, Criterion III, Design Control.

Inspection Report# : [2002011\(pdf\)](#)

Significance:  Mar 30, 2002

Identified By: NRC

Item Type: FIN Finding

HUMAN PERFORMANCE ERRORS DURING EQUIPMENT CLEARANCE MADE BOTH UNIT 2 DIESEL GENERATORS INOPERABLE DURING REFUELING

The inspectors determined that human performance errors during preparation and posting of an equipment clearance on the 2-1EDG caused both Unit 2 EDGs to be inoperable for 4 days during refueling and reactor cavity draindown. Several human performance and process barriers broke down, leading to the 2-1 EDG inadvertently being made inoperable. Four separate people were involved with authorizing the wrong clearance tag, an operator posted the clearance tag without heeding caution postings for the safe shutdown train, and the 2-2 EDG clearance holder (job supervisor) walkdown failed to identify the error prior to beginning work. The inspectors also noted that this was the third equipment clearance error which increased plant risk during the last 6 months. Earlier examples included Unit 2 reactor vessel overfill during the refueling outage (9/01) and Unit 1 loss of instrument air reactor trip (12/01). The safety significance of this event was very low (Green) because alternate power supplies remained available and contingency procedures existed to reestablish containment and refill the reactor vessel upon a loss of power. Enforcement action remained under review pending issuance of the forthcoming licensee event report.

Inspection Report# : [2002002\(pdf\)](#)

Significance:  Nov 10, 2001

Identified By: NRC

Item Type: NCV NonCited Violation

FAILURE TO PRESCRIBE AND VERIFY AUXILIARY FEEDWATER PUMP TURBINE OIL LEVEL REQUIREMENTS IN PLANT PROCEDURES

The inspectors identified a Non-Cited Violation of 10 CFR 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings," for failure to adequately prescribe vendor specified Auxiliary Feedwater Pump turbine bearing oil level requirements in plant procedures. This condition could result in inadequate oil lubrication to the turbine bearing and an increase in plant risk due to eventual unavailability of the Auxiliary Feedwater Pump. This finding was of very low significance because the Auxiliary Feedwater Pump oil level was found to be at the appropriate level and the pump was not inoperable.

Inspection Report# : [2001009\(pdf\)](#)

Significance:  Sep 29, 2001

Identified By: NRC

Item Type: NCV NonCited Violation

INADEQUATE CORRECTIVE ACTION FOR MISPERFORMANCE OF SAFETY-RELATED PROCEDURES

The inspectors identified a Non-Cited Violation of 10 CFR 50 Appendix B, Criterion XVI "Corrective Action," for failure to implement effective corrective measures to preclude repeated misperformance of safety-related procedures including Unit 1 Operating Surveillance Test (OST)-36.2, "Diesel Generator No. 2 Monthly Test," Rev. 32. This problem reflected ineffective problem resolution and human performance deficiencies. Operator fatigue was a contributing factor to the degraded human performance. The finding was of very low safety significance because the emergency diesel generator procedure performance errors did not represent an actual loss of safety function.

Inspection Report# : [2001008\(pdf\)](#)

Significance:  Jul 27, 2001

Identified By: NRC

Item Type: NCV NonCited Violation

FAILURE TO EVALUATE TEST FAILURES ASSOCIATED WITH TWO MOLDED CASE CIRCUIT BREAKERS TO PREVENT RECURRENCE

A Non-Cited Violation of 10 CFR 50 Appendix B, Criterion XVI was identified for failure to assure the cause of safety related molded-case circuit breaker (MCCB) test failures was identified and corrective actions taken to preclude recurrence. Two safety-related MCCBs, which had been removed from service several years ago, failed during recent testing. However, the licensee did not initiate a condition report to assure the cause would be identified and appropriate corrective actions would be taken. The MCCB test failures are significant because many MCCBs in safety-related applications were installed during initial plant construction and have not been subject to a periodic testing program. The issue affects the mitigating systems cornerstone because the problem could affect the operability and availability of mitigating systems. However, because the two breakers that failed the test acceptance criteria had already been removed from safety-related applications and were currently spares, there was no actual loss of safety function. For the MCCBs that were in service, the licensee's evaluation determined them to be operable. Consequently the finding is considered to be of very low safety significance (Green). Because the finding is of very low safety significance and is being addressed with the licensee's corrective action process, this finding is being treated as a Non-Cited Violation, consistent with Section VI.A.1 of the NRC Enforcement Policy.

Inspection Report# : [2001011\(pdf\)](#)

Significance:  Jun 08, 2001

Identified By: NRC

Item Type: NCV NonCited Violation

INADEQUATE PROCEDURE FOR SAFE SHUTDOWN FROM OUTSIDE OF THE CONTROL ROOM COULD RESULT IN DAMAGE TO EMERGENCY DIESEL GENERATOR

The team identified a non-cited violation of 10 CFR 50, Appendix R for failure to have adequate procedures to assure safe shutdown capability. The team found that the procedure for shutdown from outside the control room did not provide adequate direction to promptly verify river water (RW) cooling to the protected emergency diesel generator (EDG). The delay in verifying RW cooling to the running EDG could result in damage to the EDG and a loss of all AC power. The safety significance of this finding was very low because the likelihood of a fire that would cause a loss of all RW and necessitate a shutdown from outside of the control room was small.

Inspection Report# : [2001005\(pdf\)](#)

Significance:  Mar 31, 2001

Identified By: NRC

Item Type: NCV NonCited Violation

FAILURE TO PROPERLY CONTROL COMBUSTIBLE MATERIALS IN ACCORDANCE WITH THE FIRE PROTECTION PROGRAM

The inspectors identified a Non-Cited Violation for failure to properly implement fire protection procedures for control of transient combustible materials including a drum of lube oil and oily rags. This finding was of very low safety significance because the detection and suppression fire systems in the areas were unaffected. Failure to control combustible materials was a Non-Cited Violation of Technical Specification 6.8.1, consistent with Section VI.A of the Enforcement Policy, issued on May 1, 2000.

Inspection Report# : [2001002\(pdf\)](#)

Significance: N/A Jan 27, 2001

Identified By: NRC

Item Type: FIN Finding

SUPPLEMENTAL INSPECTION TO ASSESS THE LICENSEE'S EVALUATION AND CORRECTIVE ACTIONS ASSOCIATED WITH THE FAILED RIVER WATER PUMPS ON FEBRUARY 8, 2000.

This supplemental inspection was performed by the NRC to assess the licensee's evaluation and corrective actions associated with the failed river water pumps on February 8, 2000. In NRC Inspection Report Nos. 05000334 and 05000412/2000-001 and 2000-002, the NRC identified apparent violations involving the licensee's failure to adequately review the suitability of a temporary modification to the Unit 1 river water pump seal water supply system and for design deficiencies and inadequate testing of the seal cooling water. On April 13, 2000, the NRC held a pre-decisional enforcement conference in the Region 1 office with the licensee to discuss the apparent violations. The NRC subsequently issued two Severity Level III Notices of Violations (NOV) in a letter dated May 3, 2000. The NRC received FirstEnergy Nuclear Operating Company's (FENOC's) reply to the NOV in a letter dated June 2, 2000, in which FENOC identified the causes and corrective actions taken in response to prevent recurrence. Although the failure to adequately review the suitability of a temporary modification to the Unit 1 river water pump seal water supply system and the design deficiencies and inadequate testing of the seal cooling water occurred before implementation of the NRC's new reactor oversight process (ROP), the NRC followed up this issue with a supplemental inspection under the new ROP. This supplemental inspection was in lieu of a regional initiative inspection that would have been conducted under the previous inspection oversight process. The supplemental inspection was performed in accordance with Inspection Procedure 95001. The licensee's evaluations of the suitability of a temporary modification to the Unit 1 river water pump seal water supply system and the design deficiencies and inadequate testing of the seal cooling water were adequate to identify the causes and appropriately broad in scope to determine the extent of the problems. The licensee's evaluations identified the primary root cause for the pump binding to be an adverse system interaction caused by the application of a temporary operating procedure to the filtered water system and the inadequate screen size of the original seal water supply system for pump starts. However, the licensee did not address whether changes to include consideration of adverse system interactions were warranted for the temporary modification and temporary operating procedure processes. Overall, the licensee adequately identified corrective actions to address each root cause.

Inspection Report# : [2001003\(pdf\)](#)



Significance: G Dec 15, 2000

Identified By: NRC

Item Type: NCV NonCited Violation

INADEQUATE EMERGENCY PROCEDURE GUIDANCE FOR BACKUP COOLING TO THE SPENT FUEL POOL

The inspection team identified a Non-Cited Violation for inadequate procedural guidance because no procedure was established detailing the steps for using fire protection water as an emergency backup cooling medium during a loss of normal cooling to the spent fuel pool cooling heat exchangers. In addition, the river water system design basis document stated that river water was used as an emergency backup supply for spent fuel pool cooling; however, a past design modification to this system had permanently removed the emergency backup supply connection. The finding was determined to be Green (of very low safety significance) using Phase 1 of the Significance Determination Process because the lack of procedural guidance for using fire protection water was not the only means of cooling the spent fuel pool heat exchangers. The licensee entered the finding into the correction action program. Failure to establish adequate procedural guidance was a Non-Cited Violation of Technical Specification 6.8.1, consistent with Section VI.A of the Enforcement Policy, issued May 1, 2000 (65 FR 25368).

Inspection Report# : [2000014\(pdf\)](#)

Significance:  Sep 15, 2000

Identified By: NRC

Item Type: NCV NonCited Violation

FAILURE TO IMPLEMENT TIMELY AND EFFECTIVE CORRECTIVE ACTIONS FOR DEGRADED COMPONENTS (RWST LEVEL TRANSMITTERS) WHICH HAD SAFETY SIGNIFICANCE.

A Non-cited Violation of 10 CFR 50, Appendix B, Criterion XVI, was identified associated with the failure to implement timely and effective corrective actions for degraded components which had safety significance. Specifically, FENOC had not determined the cause of three Unit 1 level transmitter failures that occurred after the transmitters were replaced in 1998. A Part 21 notification associated with the same model series transmitters had not been recognized or evaluated prior to the actual installation of the components, and an evaluation of extent of condition and potential generic failure modes had not been performed. The team determined that this represented inadequate corrective actions. The risk associated with the failure of the refueling water storage tank (RWST) level transmitters had been determined to be very low safety significance, based on the results of the phase 3 analyses.

Inspection Report# : [2000009\(pdf\)](#)

Significance:  Aug 12, 2000

Identified By: NRC

Item Type: FIN Finding

SAFETY RELATED EQUIPMENT WAS TAKEN OUT OF SERVICE FOR MAINTENANCE THAT DID NOT NEED TO BE PERFORMED, WHICH UNNECESSARILY INCREASED SAFETY SYSTEM UNAVAILABILITY.

Safety related equipment was taken out of service for maintenance that did not need to be performed, which unnecessarily increased safety system unavailability. Preventive maintenance was incorrectly scheduled for an emergency diesel generator (EDG) 2 years ahead of its periodic due date. Poor work coordination further extended the duration of the outage. On two occasions poor communications between operating crews resulted in safety related heat exchangers being unnecessarily disassembled to investigate increased differential pressure. No fouling was found. In both cases, the change in differential pressure was the direct result of configuration changes made by the operating crews. The finding was determined to have very low safety significance, because redundant mitigating equipment was available during the periods these components were out of service for maintenance. No violations of NRC requirements were identified.

Inspection Report# : [2000006\(pdf\)](#)

Significance:  Jul 01, 2000

Identified By: NRC

Item Type: FIN Finding

INADEQUATE MAINTENANCE RESULTED IN OUT-OF-SERVICE TIME FOR RISK SIGNIFICANT UNIT 1 "A" AUXILIARY RIVER WATER PUMP.

Inadequate maintenance resulted in additional out of service time for the risk significant Unit 1 "A" auxiliary river water pump. Additional performance deficiencies identified included untimely post maintenance testing and insufficient operator awareness of risk and configuration management. The finding was determined to have very low safety significance, because redundant mitigating equipment was available during the period that this pump was out of service for maintenance. No violations of NRC requirements were identified.

Inspection Report# : [2000005\(pdf\)](#)

Significance:  Jul 01, 2000

Identified By: NRC

Item Type: NCV NonCited Violation

INSTRUMENT MISCALIBRATION RESULTS IN INOPERABLE OVER TEMPERATURE DELTA TEMPERATURE INSTRUMENT CHANNEL AND VIOLATION OF TS 3.3.1.1

A human error during an instrument calibration resulted in an inoperable Over Temperature Delta Temperature reactor protection system channel, which exceeded the technical specification allowed out of service time. The finding was determined to have very low safety significance as the remaining channels were operable and were available to provide the necessary protective trip signals. Failure to place the inoperable channel's bistable in trip within 6 hours was a non-cited violation of technical specification 3.3.1.1, consistent with Section VI.A of the Enforcement Policy, issued on May 1, 2000.

Inspection Report# : [2000005\(pdf\)](#)

Significance: N/A Jun 30, 2000

Identified By: NRC

Item Type: FIN Finding

NRC SUPPLEMENTAL INSPECTION TO ASSESS LICENSEE EVALUATION AND CORRECTIVE ACTIONS TO UNIT 1 SERVICE WATER WATER HAMMER EVENT

This supplemental inspection was performed by the NRC to assess the licensee's evaluation of the Service Water System (SWS) vacuum break check valve 2SWS-488 failure to open and subsequent water hammer condition that occurred on November 9, 1999. On November 21, 1999 the licensee identified the water hammer had occurred after investigating the discovery of a deformed SWS metal expansion joint. In NRC inspection Nos. 50-334 & 50-412/1999-010 and 2000-001, the NRC identified an apparent violation involving the licensee's failure to promptly identify and correct conditions adverse to quality that resulted in the vacuum break check valve failure to open and a water hammer condition. On April 13, 2000, the NRC held a pre-decisional enforcement conference in the Region 1 office with the licensee to discuss the apparent violation. The NRC subsequently issued a Severity Level III Notice of Violation (NOV) in letter dated May 3, 2000. The NRC received FirstEnergy Nuclear Operating Company's (FENOC's) reply to the NOV in letter dated June 2, 2000, in which FENOC identified the causes and corrective actions taken in response to prevent recurrence. Although the failed vacuum break check valve and subsequent water hammer condition occurred before implementation of the NRC's new reactor oversight process (ROP), the NRC followed up this issue with a supplemental inspection under the new ROP. This supplemental inspection was in lieu of a regional initiative inspection that would have been conducted under the previous inspection oversight process. The supplemental inspection was performed in accordance with Inspection Procedure 95001. Cornerstone: Mitigating Systems - The licensee's evaluations of the failed vacuum break check valve (VBCV) were adequate to identify the causes and appropriately broad in scope to determine the extent of the problems. The licensee's evaluations identified the primary root cause to be less than adequate implementation of the preventive maintenance program. The licensee identified contributing root causes to be previous inadequate corrective actions to address VBCV deficiencies and personnel failure to understand the significance of previously identified VBCV deficiencies. The licensee adequately identified corrective actions to address each root cause. - The licensee has evaluations planned or in progress to measure the effectiveness of their corrective actions to prevent recurrence. The results of the licensee's periodic monitoring of a corrective action regarding preventive maintenance (PM) task deferrals beyond their limit date indicates that licensee corrective actions have been effective in ensuring preventive maintenance tasks are completed or evaluated before their limit date is reached. However, the results of the licensee's periodic monitoring of a corrective action regarding management approval of PM task deferrals entering their grace period (25% of interval) identified that approximately thirty-four of forty-four PM tasks in the grace period in June 2000 had not received the level of management approval required by the program.

Inspection Report# : [2000008\(pdf\)](#)

Barrier Integrity



Significance: G Sep 30, 2000

Identified By: NRC

Item Type: NCV NonCited Violation

OPERATORS FAILED TO IMPLEMENT TECHNICAL SPECIFICATION ACTIONS FOR AN INOPERABLE CONTAINMENT ISOLATION VALVE DURING PLANNED MAINTENANCE.

On August 28, 2000, planned periodic maintenance and testing were performed on a Unit 1 containment isolation valve

(MOV-RW-104A), during which time (30 hours) the valve was inoperable. Operators misinterpreted the required technical specification (TS) actions for an inoperable containment isolation valve and violated TS 3.6.3.1. Specifically, Unit 1 continued power operation in excess of 6 hours without isolating the affected containment penetration (penetration #79) by use of a deactivated closed automatic valve, a closed manual valve, or a blind flange. The issue was evaluated using the phase 1 SDP for the containment barrier cornerstone. The finding did not result in an actual open pathway in the physical integrity of the reactor containment and therefore had very low safety significance. Failure to maintain containment isolation operability or implement required compensatory actions was a non-cited violation of TS 3.6.3.1 consistent with Section VI.A of the Enforcement Policy, issued May 1, 2000 (65 FR 25368).
Inspection Report# : [2000010\(pdf\)](#)

Significance:  Aug 12, 2000

Identified By: Licensee

Item Type: NCV NonCited Violation

ORIGINAL DESIGN REQUIREMENTS OF THE SUPPLEMENTAL LEAK COLLECTION AND RELEASE SYSTEM AUXILIARY BUILDING VENTILATION WERE NOT INCORPORATED INTO PLANT DESIGN.

Original design requirements of the supplemental leak collection and release system (primary auxiliary building ventilation) were not incorporated into plant procedures. Specifically, the system is a manual system and emergency operating procedures did not have requirements to verify the ventilation fan was operating. The system provides two safety functions: 1) filter leakage from engineered safety feature equipment, and 2) provide cooling to safety related motors. The finding was determined to have very low safety significance. Engineers determined the loss of cooling to safety related motors would not affect the ability of these motors to function during the initial accident mitigation stages and operators would have sufficient time to correct the problem prior to equipment failure. Failure to incorporate design requirements into procedures was a non-cited violation of 10 CFR 50 Appendix B Criterion III, consistent with Section VI.A of the Enforcement Policy, issued on May 1, 2000.

Inspection Report# : [2000006\(pdf\)](#)

Emergency Preparedness

Significance:  Mar 15, 2002

Identified By: NRC

Item Type: VIO Violation

FAILURE TO ADEQUATELY TEST OR MAINTAIN THE SIRENS FOR PERSONAL HOME ALERTING DEVICES TO MEET THE ORIGINAL DESIGN BASIS OF THE ALERT NOTIFICATION SYSTEM.

The personal home alerting devices (PHADs), which are part of the alert and notification system (ANS), had not been adequately tested or maintained to ensure that the design function of alerting essentially 100 percent of the public could be met. This was a violation of 10 CFR 50.47(b)(5) for not ensuring adequate means to provide early notification to the public. This finding was of substantial safety significance because portions of the emergency planning zone would not be adequately covered by the ANS to alert the public of a radiological emergency at the Beaver Valley Power Station. After considering the information developed during the inspection and the information the licensee provided at the conference, the NRC concluded that the inspection finding is more appropriately characterized as White, an issue with low to moderate safety significance, which may require additional NRC inspections, as was issued by EA letter 02-041 dated June 24, 2002.

Inspection Report# : [2002003\(pdf\)](#)

Significance: N/A Mar 15, 2002

Identified By: NRC

Item Type: FIN Finding

INADEQUATE CORRECTIVE ACTION TO RESOLVE PERSONAL HOME ALERTING DEVICE MAINTENANCE AND TESTING DEFICIENCIES

The inspectors identified an issue related to the adequacy of corrective actions regarding the PHADs. In a 1998 audit,

the licensee had identified that there was no procedure to formalize PHAD maintenance and testing. In a subsequent audit, it was determined that the 1998 audit finding had been closed without addressing the issue. The licensee then developed a procedure to address the initial issue, however, the audit and corrective actions were narrowly focused on adequacy of documentation of PHAD testing but did not consider overall PHAD operability.

Inspection Report# : [2002003\(pdf\)](#)

Significance: N/A Mar 15, 2002

Identified By: NRC

Item Type: NCV NonCited Violation

DECREASED THE EFFECTIVENESS OF THE E-PLAN WITHOUT PRIOR NRC APPROVAL BY DESIGNATING THE PERSONAL HOME ALERTING DEVICE AS SUPPLEMENTAL

The licensee changed its emergency plan such that the personal home alerting devices were no longer considered a part of the siren notification system but were considered a supplemental part of the alert notification system. This change was determined to be a decrease in the effectiveness of the emergency plan. Decreases in the effectiveness of an emergency plan must receive NRC review and approval prior to implementation. The licensee entered this issue into its corrective action program (Condition Report 02-02195) and will change the emergency plan back to the original wording. The implementation of a change which decreased the effectiveness of the emergency plan is being treated as a non-cited violation consistent with Section VI.A of the Enforcement Policy, issued on May 1, 2000 (65 FR 25388).

Inspection Report# : [2002003\(pdf\)](#)

Significance:  Jun 29, 2000

Identified By: Licensee

Item Type: FIN Finding

EMERGENCY RESPONSE ORGANIZATION DID NOT SUCCESSFULLY IMPLEMENT RISK SIGNIFICANT PLANNING STANDARD 10 CFR 50/47(b)(9) FOR RADIOLOGICAL ASSESSMENT

During the June 27, 2000, exercise, the emergency response organization did not successfully implement risk significant planning standard 10 CFR 50.47(b)(9) for radiological assessment. That resulted in delaying the protective action recommendation upgrade when the simulated radiological release began. Specifically, dose assessment personnel were using data from an incorrect radiation monitor channel and incorrect units of measurement. A controller had to provide the dose assessment staff with the correct data. Dose assessment staff incorrectly used that data also, and controllers had to provide correct dose projections in order to preserve the scenario timeline. With the correct projections, the correct PAR upgrade was made. The licensee identified and addressed this issue during the June 29, 2000, critique and entered it into their corrective action program. This failure to implement a planning standard was during an exercise, not an actual event, and, therefore, it is not a violation of NRC requirements. Also, this issue was evaluated by the NRC using the Emergency SPD. It was determined to be a safety issue of very low significance because the licensee identified the failure during an exercise.

Inspection Report# : [2000007\(pdf\)](#)

Occupational Radiation Safety

Significance: N/A Nov 11, 2000

Identified By: Licensee

Item Type: NCV NonCited Violation

FAILURE TO ADHERE TO RADIATION WORK PERMIT PROCEDURES FOR HIGH RADIATION AREA; VIOLATION OF TECHNICAL SPECIFICATION 6.11

Technical Specification 6.12.1 requires that an entrance to a high radiation area (HRA) shall be controlled by requiring issuance of a Radiological Work Permit (RWP). Technical Specification 6.11 requires that procedures, including RWPs, shall be adhered to for all operations involving personnel radiation exposure. RWP 200-8033, "Transfer Canal Inspection," addressed work in a HRA and required that health physics (HP) technicians survey any object found in the transfer canal prior to handling by a worker. Contrary to the above, on September 27, 2000, a refueling worker picked up and handled a foreign object found on the floor of the transfer canal prior to being surveyed by HP. Reference

Condition Report 00-3302.

Inspection Report# : [2000011\(pdf\)](#)

Public Radiation Safety

Physical Protection

Miscellaneous

Significance: N/A Jul 27, 2001

Identified By: NRC

Item Type: FIN Finding

IDENTIFICATION AND RESOLUTION OF PROBLEMS (PROGRAM ASSESSMENT)

The licensee's performance in the area of problem identification and resolution was acceptable. The licensee was appropriately identifying problems and entering them into their corrective action process. Condition reports (CRs) received an adequate level of review, and when a root cause analysis was performed, the evaluations were generally thorough and adequate. Notwithstanding, the team identified that the licensee did not evaluate molded case circuit breaker test failures in sufficient detail to identify the causes of the problem and, therefore, did not provide for corrective actions to prevent recurrence. The team also identified an instance where an evaluation of a recirculation spray system flow sensing line refill interval was not technically well supported. The licensee's corrective actions were adequate to correct the identified problem and prevent recurrence. Current trends indicate a large increase in the backlog of open condition reports and corresponding corrective actions. This increase is primarily the result of the licensee's lowering of the threshold for initiating CRs.

Inspection Report# : [2001011\(pdf\)](#)

Significance: N/A Sep 15, 2000

Identified By: NRC

Item Type: FIN Finding

IMPLEMENTATION OF THE CORRECTIVE ACTION PROGRAM WAS ACCEPTABLE AT THE BEAVER VALLEY POWER STATION.

The team concluded that implementation of the corrective action program was acceptable at the Beaver Valley Station. In general, problems are identified and corrective actions implemented adequately for risk significant problems. The team identified a number of instances of ineffective and untimely implementation of corrective actions to properly resolve identified deficiencies. In addition, some root cause analyses were found to be narrowly focused. The team determined that FENOC's recently completed assessment of the corrective action program by the Quality Services section was thorough and critical. Based on interviews and review of issues contained in the Ombudsman program, individuals working at the Beaver Valley Station felt free to identify safety issues without fear of retaliation.

Inspection Report# : [2000009\(pdf\)](#)

Significance: N/A Aug 12, 2000

Identified By: NRC

Item Type: FIN Finding

CONDITION REPORTS WERE NOT INITIATED, CAUSES WERE INCORRECTLY OR INCOMPLETELY EVALUATED, OR INCORRECT PRIORITIES ASSIGNED TO RESOLVE PROBLEMS.

Cross-cutting Issues: Problem Identification and Resolution. On several occasions station personnel either did not initiate condition reports for conditions adverse to quality, incorrectly or incompletely evaluated the causes, or assigned incorrect priorities to resolve problems. Condition reports were not written for electro hydraulic control system post-

maintenance testing deficiencies and unnecessary emergency diesel generator unavailability until after being identified by the inspectors. Evaluation of nuclear instrument N42 miscalibration did not address double verification errors or questioning of unexpected equipment response. Evaluation of nuclear instrument N44 miscalibration mischaracterized the cause as drift and assigned no further action when further investigation was warranted. Additionally, a recent Independent Safety Evaluation Group assessment of NRC Performance Indicator Process implementation did not identify several readily apparent process or reporting errors, which were later identified by the NRC inspectors.

Inspection Report# : [2000006\(pdf\)](#)

Significance: N/A Jul 01, 2000

Identified By: NRC

Item Type: FIN Finding

PROBLEM ASSESSMENT DID NOT PROPERLY EVALUATE POTENTIAL RISK SIGNIFICANCE AND IMPLEMENT TIMELY EFFECTIVE CORRECTIVE ACTIONS

Cross-cutting Issues: Problem Identification and Resolution On two occasions, problem assessments did not properly evaluate potential risk significance and implement timely effective corrective actions. Although these deficiencies were not the root or contributing causes to the actual events, they represent adverse performance which limited the licensee's ability to identify and correct adverse safety conditions. Specifically, 1) station personnel did not recognize the potential risk significance of the degraded "A" auxiliary river water pump seal and did not correct the condition in a timely manner; and 2) the safety significance assessment for a reactor protection system (RPS) miscalibration event was also deficient, in that engineers incorrectly concluded that protective functions of the instrument channel were not affected. Additionally, corrective actions for the RPS miscalibration event did not preclude two repeat miscalibration occurrences.

Inspection Report# : [2000005\(pdf\)](#)

Last modified : December 02, 2002