Beaver Valley 2

Initiating Events

Mitigating Systems

Significance: G Dec 28, 2002
Identified By: NRC
Item Type: NCV NonCited Violation
UNTIMELY AND INCOMPLETE CORRECTIVE ACTIONS REGARDING INADEQUATE CONTROL ROOM STAFFING
The inspectors determined that corrective actions for having no senior reactor operator (SRO) present in the Unit 2 control room during Mode 1 (at power) operation, were untimely and incomplete. Senior reactor operator presence is required to oversee operation of safety related structures, systems, and components, and to act as Emergency Director during emergency events. Station management initially incorrectly concluded that the November 21, 2002, occurrence was isolated and did not implement measures to verify all licensed operators understood the regulatory requirements of 10 CFR 50.54(m)(2)(iii) for control room staffing. Nuclear Regulatory Commission inspectors independently determined that additional licensed operators were also unaware of the regulatory requirements for control room staffing and corrective action program requirements to address such an issue. This finding was not suitable for NRC Significance Determination Process evaluation, but has been reviewed by NRC management and is determined to be a Green finding of very low significance. Absence of SRO oversight during licensed control room activities increases the likelihood of human performance errors, which in turn increase the likelihood of and initiating event and reduce the availability of mitigating systems. Knowledge of SRO control room staffing requirements is important to ensure appropriate oversight of licensed control room activities. No further control room staffing deficiencies occurred during the 3-day period of untimely and incomplete corrective actions. This finding was a violation of 10 CFR 50, Appendix B, Criterion XVI "Corrective Action."
Inspection Report# : 2002007*(pdf)*

Significance: G Sep 28, 2002
Identified By: NRC
Item Type: NCV NonCited Violation
POOR MAINTENANCE (HUMAN PERFORMANCE) CAUSES EXCESSIVE CORROSION AND 'B' RECIRCULATION SPRAY HEAT EXCHANGER DEGRADATION
The inspectors identified a Non-Cited Violation of Technical Specification 6.8.1 for failure to perform maintenance on the safety-related ‘B' recirculation spray (RS) heat exchanger (HX) in accordance with written procedures or instructions. Maintenance personnel human performance was deficient in that 'B' RS HX endbell closure bolts were not properly tightened in accordance with work instructions. This led to excessive corrosion, which subsequently degraded service water flow and performance capability of the ‘B' RS HX. The finding was of very low significance because the degraded ‘B' RS train did not represent an actual loss of safety function for actual plant conditions which existed during the period of concern.
Inspection Report# : 2002006*(pdf)*

Significance: G Sep 28, 2002
Identified By: NRC
Item Type: NCV NonCited Violation
HUMAN ERROR WHEN CONNECTING TEST EQUIPMENT FOR SURVEILLANCE TEST MAKES 2-2 EMERGENCY DIESEL GENERATOR INOPERABLE
The inspectors identified a Non-Cited Violation of 10CFR 50, Appendix ‘B', Criterion XI, "Test Control," for failure to properly use test equipment during the performance of a surveillance test on safety-related equipment. An operator incorrectly connected test equipment to safety injection relay K604B, located in the 2-2 emergency diesel generator (EDG) output breaker cubicle. This human error caused an electrical arc and potentially damaged the terminal block and relays. Improper use of test equipment resulted in the 2-2 EDG being declared inoperable for approximately 36 hours for associated corrective maintenance. The finding was of very low significance because the 2-1 EDG remained operable during the relay replacement and the 2-2 EDG was returned to an operable condition within the 72-hour Technical Specification allowed outage time.
Inspection Report# : 2002006*(pdf)*

Significance: G Sep 20, 2002
Identified By: NRC
Item Type: NCV NonCited Violation
DESIGN CONTROL - FAILURE TO PROPERLY IMPLEMENT AND TEST A PLANT MODIFICATION
The licensee failed to use drawings that reflected the as-installed piping elevations while implementing a design change to install a high point vent in the recirculation spray/low head safety injection to HHSI cross-over piping. As a result, the vent was installed at an elevation that was not the high point. The modification package also failed to adequately test the installed vent and, therefore, did not identify the ineffective venting configuration. This issue was considered to be of very low safety significance (Green) based on a Phase 1 evaluation of the At-Power Reactor Safety Significance Determination Process (SDP) because the design deficiency did not result in a loss of safety system function. The finding was determined to be a non-cited violation (NCV) of 10 CFR Part 50, Appendix B, Criterion III, Design Control.
Inspection Report# : 2002012*(pdf)*

Significance: G Sep 20, 2002
Identified By: NRC
Item Type: NCV NonCited Violation
DESIGN CONTROL - FAILURE TO ESTABLISH SUITABLE ACCEPTANCE LIMITS FOR GAS VOID
The licensee failed to assure that appropriate quality standards were specified for the high head safety injection (HHSI) system. Engineers assumed an upper limit of 30% void fraction in their 1997 design calculation for gas entrained fluid entering the suction of the HHSI charging pumps, and this limit was based on the point at which gas entrained in liquid transitions from homogeneous to slug flow. However, this limit was non-conservative and exceeded the pump service vendor limits. This issue was considered to be of very low significance (Green) based on a Phase 1 evaluation of the At-Power Reactor Safety Significance Determination Process (SDP) because the gas void found in the piping would not have resulted in a void fraction at the pump suction exceeding the limits recommended by the pump service vendor. Therefore, there was not a loss of the safety system function. The finding was determined to be a non-cited violation (NCV) of 10 CFR Part 50, Appendix B, Criterion III, Design Control.
Inspection Report# : 2002012*(pdf)*

Significance: G 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: G 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: G Jun 29, 2002

Identified By: NRC
Item Type: NCV NonCited Violation
FAILURE TO PROMPTLY CORRECT A CONDITION ADVERSE TO QUALITY ON THE UNIT 2 TURBINE DRIVE AUXILIARY FEEDWATER PUMP
The inspectors identified a Non-Cited Violation of 10 CFR 50, Appendix B, Criterion XVI, "Corrective Action," for failure to promptly correct a condition adverse to quality on the Unit 2 turbine driven auxiliary feedwater (TD AFW) pump. In October 2001, inspectors determined that a Unit 1 TD AFW pump critical operational parameter (turbine bearing oil reservoir level) was not properly controlled. 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. The condition was applicable to both Unit 1 and Unit 2. Corrective actions were relatively simple and were promptly implemented for Unit 1. The inspectors identified that Unit 2 corrective actions performed to date were inaccurate and the remaining corrective actions were not scheduled for completion until December 2002. This finding was of very low significance because the Auxiliary feedwater pump oil level was found to be adequate and the pump was not inoperable.
Inspection Report# : 2002005*(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)*

Barrier Integrity

Emergency Preparedness

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: W 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)*

Occupational Radiation Safety

Public Radiation Safety

Physical Protection

Miscellaneous

Last modified : March 25, 2003