

Beaver Valley 1 4Q/2005 Plant Inspection Findings

Initiating Events

Significance:  Sep 30, 2005

Identified By: Self-Revealing

Item Type: NCV NonCited Violation

OVERPOWER EVENT CAUSED BY INADVERTENT OPENING OF A FEEDWATER HEATER BYPASS VALVE

The inspectors identified a self-revealing non-cited violation (NCV) of License Condition 2.C.1, because reactor power exceeded the licensed maximum power level of 2689 (100 percent) megawatts thermal. The transient was caused by an inadequate procedure that resulted in the unexpected opening of a feedwater train bypass valve, and an overpower excursion to approximately 105 percent power for four minutes.

This finding is more than minor because it affected an attribute and the objective of the initiating events cornerstone in that it caused a transient that upset plant stability and therefore could be viewed as a precursor to a significant event. Without operator action, this inadvertent valve opening could have resulted in a reactor trip. This finding is of very low safety significance since although it did contribute to the likelihood of a reactor trip, it did not contribute to the likelihood of unavailable mitigating system components. FENOC initiated a root cause investigation, identified deficiencies in the procedure and work order, and have identified actions in the corrective action program to prevent this event from recurring. A contributing cause to this finding is related to the resources subcategory of the human performance cross-cutting area because the resources aspect includes items that support performance such as complete and accurate procedures.

Inspection Report# : [2005007\(pdf\)](#)

Mitigating Systems

Significance:  Sep 01, 2005

Identified By: NRC

Item Type: NCV NonCited Violation

Unannounced Fire Drills Not Conducted in Accordance with Requirements

The team identified a non-cited violation of BVPS Units 1 and 2, Facility Operating Licenses for improper planning and scheduling of unannounced fire brigade drills. For several years, the unannounced drills were in the weekly planning schedule; therefore, the fire brigade knew when the drill was going to be conducted. The finding was associated with the cross-cutting area of problem identification and resolution because the condition existed for several years, BVPS did not identify the deficient condition, and corrective actions to this deficiency were untimely.

The finding was more than minor because it affected the Mitigating System cornerstone and the reliability and capability of the fire brigade's ability to respond to a fire. The failure to conduct proper unannounced drills for several years resulted in BVPS not being able to fulfill the purpose of unannounced drills, which is to determine the fire fighting readiness of the plant fire brigade, brigade leader, and fire protection systems and equipment. NRC management reviewed this finding and determined it to be of very low safety significance (Green) based on no significant identified weaknesses with fire brigade performance during announced drills. The finding was associated with the cross cutting area of problem identification and resolution in that BVPS failed to identify the problem for several years.

Inspection Report# : [2005005\(pdf\)](#)

Significance:  Jun 30, 2005

Identified By: Self-Revealing

Item Type: NCV NonCited Violation

INADEQUATE PROCEDURE RESULTS IN INCORRECT LEAD TIME CONSTANT IN THE OVER TEMPERATURE DELTA TEMPERATURE REACTOR TRIP FUNCTION

A self-revealing, non-cited violation of the Unit 1 Technical Specification (TS) Limiting Condition for Operation (LCO) 3.3.1.1 was identified, in that an inoperable channel of the Over-Temperature Delta-Temperature (OTDT) Circuit was not placed in the tripped condition within six hours. Specifically, inadequate procedural steps within maintenance procedures resulted in the lead and lag switches of a circuit card in the OTDT channel of the Reactor Protection System (RPS) being left in the "OFF" position for several days following maintenance.

This finding is greater than minor because it affected an attribute and objective of the Mitigating Systems Cornerstone, in that it reduced the reliability of a RPS component and thus reactivity control was degraded. Specifically, the lead and lag switches being left in the "OFF" position caused the loop 1 channel OTDT setpoint to be less responsive than required by TS. The finding is of very low safety significance because the

affected channel of OTDT was still capable of causing a reactor trip and other trips were available to provide a backup to this safety function. [A contributing cause to this finding is related to the resources subcategory of the human performance cross-cutting area because the resources aspect includes items that support performance such as complete and accurate procedures.]

Inspection Report# : [2005006\(pdf\)](#)

G

Significance: Mar 31, 2005

Identified By: Self-Revealing

Item Type: NCV NonCited Violation

INEFFECTIVE PROCEDURAL CONTROLS CAUSED A MECHANICAL SEAL FAILURE ON THE UNIT 1 "A" RIVER WATER PUMP

A self-revealing, non-cited violation of 10 CFR 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings," was identified, which involved maintenance procedures used for installation of mechanical seals that were not implemented correctly and did not contain appropriate quantitative acceptance criteria (e.g., torque values). This resulted in subsequent seal failure and shaft damage to the "A" river water pump. The failure was caused by incorrect bolting material installed on the mechanical seal package, contrary to approved instructions and drawings, and incorrect torque values that were specified in the work instructions.

This finding is greater than minor because it affected an attribute and objective of the Mitigating Systems Cornerstone, in that it reduced the availability and reliability of a safety-related river water pump. Specifically, the seal failure and shaft damage resulted in the unplanned unavailability of the river water pump until repairs were completed. Further, from a reliability perspective, the degraded seal increased the likelihood of failure when the pump would be required to perform its safety function during design basis events, as evidenced by its ultimate failure when the pump was placed in service in March 2005. The finding is of very low safety significance since the river water pump was out of service for less than its technical specification allowed outage time. A contributing cause to this finding is related to the corrective action subcategory of the problem identification and resolution cross-cutting area, because seal leakage was not appropriately evaluated for a period of nine months until the pump was secured due to the seal failure.

Inspection Report# : [2005002\(pdf\)](#)

Barrier Integrity

Emergency Preparedness

Occupational Radiation Safety

Public Radiation Safety

Physical Protection

[Physical Protection](#) information not publicly available.

Miscellaneous

Significance: N/A Sep 01, 2005

Identified By: NRC

Item Type: FIN Finding

Problem Identification and Resolution Inspection -Team Summary

Overall, the team determined that the corrective action program at Beaver Valley Power Station (BVPS) was generally effective in the

identification, evaluation, and resolution of problems. The team determined that BVPS typically identified problems and placed them in the corrective action program, but noted some deficiencies in the identification of issues as evidenced by several NRC-identified NCVs during the previous two years. The team also identified deficiencies in the identification and resolution of trends in the corrective action program for repeat maintenance and human performance issues. The team noted that BVPS was effective in conducting root cause and apparent cause evaluations. Therefore, BVPS effectively resolved problems categorized as more significant. However, the majority of items were classified at other significance levels, including some of the non-cited violations. In these cases, the team identified inconsistent evaluation and resolution including one of the two non-cited violations identified during this inspection. The team did not identify any safety conscious work environment issues.

Inspection Report# : [2005005\(pdf\)](#)

Last modified : March 03, 2006