

## Beaver Valley 2 1Q/2015 Plant Inspection Findings

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### Initiating Events

**Significance:**  May 20, 2014

Identified By: Self-Revealing

Item Type: NCV Non-Cited Violation

#### **INADEQUATE PLANT STARTUP PROCEDURE LEADS TO MANUAL REACTOR TRIP**

A self-revealing NCV of 10 CFR 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings" was identified for FENOC's failure to have an adequate plant startup procedure. Specifically, 2OM-52.4A, "Raising Power from 5% to Full Load Operation," did not adequately address plant startup with one condensate pump in operation. This led to an inability to adequately control steam generator (SG) level when the second condensate pump was started which required the operators to trip the reactor. FENOC is in the process of implementing corrective actions to revise procedure 2OM-52.4A and to address the human performance errors associated with this event. Additionally, FENOC entered the issue into their corrective action program as condition report (CR) 2014-09256.

The finding is more than minor because it is associated with the procedure quality and human performance attributes of the Initiating Events cornerstone and affected the cornerstone objective of limiting the likelihood of events that upset plant stability and challenge critical safety functions during shutdown as well as power operations. Specifically, the inadequate procedure led to SG level fluctuations that could not be adequately controlled when the second condensate pump was started, and required the operators to trip the reactor. The inspectors determined that this finding is of very low safety significance (Green), because while it did result in a reactor trip, it did not cause a loss of mitigation equipment relied upon to transition the plant from the onset of a trip to a stable shutdown condition. The finding has a cross-cutting aspect in Human Performance, Challenge the Unknown, because FENOC operators did not stop when faced with uncertain conditions. Specifically, the adequacy of the procedure was not sufficiently questioned when the plant was not in the normal start up configuration of two running condensate pumps nor later when the condensate pump discharge header pressure low alarm occurred (H.11)

Inspection Report# : [2014004](#) (*pdf*)

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### Mitigating Systems

**Significance:**  Dec 04, 2014

Identified By: NRC

Item Type: NCV Non-Cited Violation

#### **Green NCV**

The Commission has decided that specific information related to findings and performance indicators pertaining to security will not be publicly available to ensure that security information is not provided to a possible adversary. Other than the fact that a finding or performance indicator is Green or Greater-than-Green, security related information will not be displayed on the public web page.

Inspection Report# : [2014007](#) (pdf)

**Significance:**  May 19, 2014

Identified By: NRC

Item Type: NCV Non-Cited Violation

### **FAILURE TO FOLLOW PROCEDURE RESULTS IN INOPERABLE SI ACCUMULATOR**

A self-revealing NCV of technical specification (TS) 5.4.1 was identified because the unit 2 ‘B’ safety injection (SI) accumulator was made inoperable when FENOC operators did not follow procedural requirements to align nitrogen to the accumulator. Specifically, the operators did not align the nitrogen header to the accumulator prior to opening the valve to repressurize the accumulator. The inspectors noted that this resulted in the accumulator pressure falling below the TS pressure limit which required FENOC to declare the accumulator inoperable. FENOC’s corrective actions included immediately realigning the system, restoring accumulator pressure and entering the issue into their corrective action program, CR 2014-09260.

The performance deficiency is more than minor because it is associated with the configuration control attribute of the mitigating systems cornerstone and adversely affected the cornerstone objective of ensuring the availability, reliability and capability of systems that respond to initiating events to prevent undesirable consequences. Specifically, FENOC did not have reasonable assurance that the nitrogen pressure in the ‘B’ SI accumulator was sufficient to ensure injection into the core during an accident due to the misalignment of the nitrogen header. This finding is of very low safety significance (Green) because the performance deficiency was not a design or qualification deficiency, did not involve an actual loss of safety function, did not represent actual loss of a safety function of a single train for greater than its technical specification allowed outage time, and did not screen as potentially risk-significant due to a seismic, flooding, or severe weather initiating event.

This finding has a cross-cutting aspect in the area of Human Performance, Avoid Complacency, because FENOC operators did not recognize the possibility of mistakes and did not implement appropriate error reduction tools while attempting to re-pressurize the ‘B’ SI accumulator. (H.12)

Inspection Report# : [2014003](#) (pdf)

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## **Barrier Integrity**

**Significance:**  Apr 17, 2014

Identified By: NRC

Item Type: NCV Non-Cited Violation

### **REMOVAL OF MISSILE BARRIER RENDERS CONTAINMENT INOPERABLE**

The inspectors identified a Green non-cited violation of TS limiting condition for operation (LCO) 3.6.1, “Containment.” Specifically, the inspectors determined that FENOC removed the missile barriers for the unit 1 and unit 2 containment equipment hatches while in a mode when containment was required to be operable. As a result FENOC did not have adequate tornado protection for containment and then did not take the actions directed by the LCO action statement when the LCO was not met. FENOC entered the issue into their corrective action program, CR 2014-11878, and placed the procedures to remove the missile barriers on administrative hold.

The performance deficiency is more than minor because it adversely affected the configuration control attribute of the Barrier Integrity Cornerstone objective to provide reasonable assurance that physical design barriers protect the public

from radionuclide releases caused by accidents or events. In accordance with IMC 0609 Appendix A, “The Significance Determination Process (SDP) for Findings At-Power,” Exhibit 3, “Barrier Integrity Screening Questions,” this finding screens to Green, very low safety significance.

This finding has a cross-cutting aspect in the area of conservative bias where individuals use decision making-practices that emphasize prudent choices over those that are simply allowable and that a proposed action is determined to be safe in order to proceed, rather than unsafe in order to stop. Specifically, FENOC did not adequately consider the containment operability implications of removing the missile barriers for the unit 1 and unit 2 containment equipment hatches while in a mode where containment is required to be operable. (H14)

Inspection Report# : [2014003](#) (*pdf*)

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## Emergency Preparedness

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## Occupational Radiation Safety

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## Public Radiation Safety

**Significance:**  Dec 31, 2014

Identified By: NRC

Item Type: NCV Non-Cited Violation

### **FAILURE TO PROPERLY SHIP CATEGORY 2 RADIOACTIVE MATERIAL**

The inspectors identified an NCV of 10 CFR 71.5, “Transportation of licensed material,” and 49 CFR 172, Subpart I, “Safety and Security Plans.” Specifically, FENOC personnel shipped a category 2 radioactive material of concern (RAM-QC) on public highways to a waste processor without adhering to a transportation security plan. FENOC’s corrective actions included revising procedure NOP-OP-5201, “Shipment of Radioactive Material – Waste,” to reflect the appropriate Department of Transportation requirements for shipment of Category 2 radioactive material. FENOC entered the issue into their corrective action program as CR 2014-17260.

The issue is more than minor because it is associated with the Program and Process attribute of the Public Radiation Safety cornerstone and adversely affected its objective to ensure the safe transport of radioactive material on public highways in accordance with regulations. The finding was determined to be of very low safety significance (Green) because FENOC had an issue involving transportation of radioactive material, but it did not involve: (1) a radiation limit that was exceeded; (2) a breach of package during transport; (3) a certificate of compliance issue; (4) a low level burial ground nonconformance; or (5) a failure to make notifications or provide emergency information. The inspectors determined that the finding did not have a cross-cutting aspect because the issue was not reflective of current plant performance. Specifically, FENOC implemented changes to the radioactive waste shipment procedure that addressed applicable requirements and implemented a formal process for reviewing pending regulatory changes for impacts to FENOC operations and support activities.

Inspection Report# : [2014005](#) (*pdf*)

**Significance:**  Nov 17, 2014

Identified By: NRC

Item Type: NCV Non-Cited Violation

### **FAILURE TO PROPERLY SHIP CATEGORY 2 RADIOACTIVE MATERIAL**

The inspectors identified an NCV of 10 CFR 71.5, "Transportation of licensed material," and 49 CFR 172, Subpart I, "Safety and Security Plans." Specifically, FENOC personnel shipped a category 2 radioactive material of concern (RAM-QC) on public highways to a waste processor without adhering to a transportation security plan. FENOC's corrective actions included revising procedure NOP-OP-5201, "Shipment of Radioactive Material – Waste," to reflect the appropriate Department of Transportation requirements for shipment of Category 2 radioactive material. FENOC entered the issue into their corrective action program as CR 2014-17260.

The issue is more than minor because it is associated with the Program and Process attribute of the Public Radiation Safety cornerstone and adversely affected its objective to ensure the safe transport of radioactive material on public highways in accordance with regulations. The finding was determined to be of very low safety significance (Green) because FENOC had an issue involving transportation of radioactive material, but it did not involve: (1) a radiation limit that was exceeded; (2) a breach of package during transport; (3) a certificate of compliance issue; (4) a low level burial ground nonconformance; or (5) a failure to make notifications or provide emergency information. The inspectors determined that the finding did not have a cross-cutting aspect because the issue was not reflective of current plant performance. Specifically, FENOC implemented changes to the radioactive waste shipment procedure that addressed applicable requirements and implemented a formal process for reviewing pending regulatory changes for impacts to FENOC operations and support activities.

Inspection Report# : [2014004](#) (*pdf*)

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## **Security**

Although the Security Cornerstone is included in the Reactor Oversight Process assessment program, the Commission has decided that specific information related to findings and performance indicators pertaining to the Security Cornerstone will not be publicly available to ensure that security information is not provided to a possible adversary. Other than the fact that a finding or performance indicator is Green or Greater-Than-Green, security related information will not be displayed on the public web page. Therefore, the [cover letters](#) to security inspection reports may be viewed.

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## **Miscellaneous**

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