

North Anna 2 4Q/2013 Plant Inspection Findings

Initiating Events

Significance: G Sep 30, 2013

Identified By: Self-Revealing

Item Type: FIN Finding

Failure to provide vendor oversight results in a manual reactor trip

A Green self revealing finding was identified for the failure to properly provide oversight over supplemental (vendor) personnel during the replacement of the Unit 2 turbine and exciter rotors during the spring of 2010 in accordance with Dominion procedure MA-AA-1001, "Supplemental Personnel," Revision 9.

The failure to properly provide oversight over supplemental (vendor) personnel in accordance with Dominion procedure MA-AA-1001, "Supplemental Personnel," section 3.8.1, during the spring 2010 replacement of the Unit 2 turbine and exciter rotors was a performance deficiency. The performance deficiency was more than minor because it adversely affected the Initiating Events cornerstone objective of reliability because the failure to properly conduct procedure MA-AA-1001 directly resulted in the upset of plant stability by tripping the unit and the challenge of critical plant safety functions. Using IMC 0609, Appendix A, The Significance Determination Process for Findings at Power, issued June 19, 2012, the finding screens to green because although a reactor trip occurred, the loss of mitigating equipment for transitioning the plant to a safe shutdown condition did not occur. There is no cross cutting aspect for this finding because the initial cause of the finding occurred more than 3 years ago following turbine and exciter rotor replacement. (Section 4OA2.2)

Inspection Report# : [2013004](#) (*pdf*)

Significance: G Sep 30, 2013

Identified By: Self-Revealing

Item Type: FIN Finding

Failure to establish and implement adequate preventative maintenance causes a reactor trip

A Green self-revealing finding was identified for failure to establish and implement adequate preventative maintenance for the mechanism operated cell (MOC) switches. Specifically the licensee failed to recognize and recommend proper maintenance for these components on the 'C' main feedwater pump motor circuit breakers.

The inspectors determined that the licensee's failure to establish and implement adequate preventive maintenance for MOC switches in accordance with industry guidance through EPRI, the vendor, ABB, and operating experience was a performance deficiency. The performance deficiency was more than minor because it was associated with the Initiating Events cornerstone attribute of equipment performance and adversely affected the associated cornerstone objective in that loss of conductivity across contacts 25 and 26 in the upper MOC switch for circuit breaker 2-EP-BKR-25C5 caused the spurious closure of the 'C' main feed pump discharge valve (2-FW-MOV-250C) and indirectly resulted in a manual reactor trip. Using Inspection Manual Chapter 0609, Attachment 4, Initial Characterization of Findings, issued June 19, 2012, the finding was determined to be of very low safety significance (Green) because it was a transient initiator, but did not contribute to both the likelihood of a reactor trip and the likelihood that mitigation equipment or functions would not be available. In addition, this finding involved the cross cutting area of human performance, the component of decision

making, and the aspect of systematic process for decision, H.1(a), because the licensee did not make risk-significant decisions using a systematic process for preventative maintenance activities when they failed to recognize and recommend proper maintenance for the MOC switches. (Section 4OA2.3)

Inspection Report# : [2013004](#) (pdf)

Significance:  Mar 28, 2013

Identified By: Self-Revealing

Item Type: FIN Finding

Failure to Implement Vendor Recommendations Causes an Automatic Reactor Trip

A self-revealing finding was identified for failure to establish and implement appropriate periodic preventive maintenance for replacement frequency of the C4 capacitor on the Speed Error Amplifier card B (1A08D) in accordance with VPAP-803, Preventive Maintenance Program. Consequently, the C4 capacitor failed due to age related degradation and caused an automatic reactor trip from 100 percent reactor power.

The licensee's failure to establish and implement appropriate periodic preventive maintenance for replacement frequency of the C4 was a performance deficiency. The finding was more than minor because it was associated with the Initiating Events cornerstone attribute of equipment performance and adversely affected the associated cornerstone in that a reactor trip occurred. The finding was determined to be of very low safety significance (Green) because it was a transient initiator, but did not contribute to both the likelihood of a reactor trip and the likelihood that mitigation equipment or functions would not be available. The finding did not have a cross-cutting aspect because the performance deficiency was not indicative of current plant performance.

Inspection Report# : [2013007](#) (pdf)

Mitigating Systems

Significance:  Mar 31, 2013

Identified By: NRC

Item Type: NCV NonCited Violation

Failure to Ensure Opposite Unit's Service Water Pumps Were Free of Fire Damage for a Postulated Fire in Either Unit's ESWGR

An NRC-identified non-cited violation was identified for the licensee's failure to meet the requirements of North Anna Power Station (NAPS) Renewed Operating License Conditions 2.D, and the approved Fire Protection Program for Units 1 and 2. Specifically, the licensee failed to ensure that fire damage to cables associated with the opposite unit's service water (SW) pumps, located in each unit's emergency switchgear (ESWGR) room, would not prevent operation of the unaffected unit's SW pumps as described in Section 4.4.3.5 of the NAPS Appendix R Report. Postulated fire scenarios were identified in which the SW pumps for both units could be compromised due to a single fire in either unit's ESWGR room. The licensee had previously entered this issue in the NAPS corrective action program as condition report 500152 to evaluate this SW pump control circuit vulnerability and had implemented hourly roving fire watches in each unit's ESWGR room.

Failure to perform an adequate safe shutdown (SSD) analysis as required by the NAPS FPP is a performance deficiency. This finding was determined to be more than minor because it was associated with the reactor safety mitigating systems cornerstone attribute of protection against external events (i.e. fire), and it affected the cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events to prevent

undesirable consequences. The finding had the potential to affect the ability to achieve post-fire SSD in the event of a fire in either unit's ESWGR. The finding was screened in accordance with NRC Inspection Manual Chapter (IMC) 0609, "Significance Determination Process (SDP)," dated June 2, 2011, Attachment 4, "Initial Characterization of Findings," dated June 19, 2012, which determined that an IMC 0609 Appendix F, "Fire Protection Significance Determination Process," dated February 28, 2005, review was required as the finding affected fire protection safe shutdown. The inspectors evaluated this finding using the guidance in IMC 0609, Appendix F.

The inspectors performed Phase 1 and Phase 2 SDP screening assessments using IMC 0609, Appendix F, Attachments 1 and 2, and were not able to screen out this issue in the SDP Phase 1 or Phase 2. A senior reactor analyst from the Region II office performed a Phase 3 SDP analysis to assess the significance of this finding. The analyst determined that this finding was of very low safety significance (i.e., Green) because the risk was mitigated by the availability of at least one SW pump and the fire growth scenarios were mitigated by the gaseous suppression system. The inspectors determined that there was no cross-cutting aspect associated with this finding because it was not reflective of current licensee performance. (Section 1R05.2)

Inspection Report# : [2013002](#) (*pdf*)

Barrier Integrity

Emergency Preparedness

Occupational Radiation Safety

Public Radiation Safety

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.

Miscellaneous

Last modified : February 24, 2014