North Anna 1
2Q/2012 Plant Inspection Findings

Initiating Events

Significance: SL-IV Dec 31, 2011
Identified By: NRC
Item Type: NCV NonCited Violation
Adverse Changes to the Fire Protection Program Involving Inadequate Control of Transient Combustibles
The inspectors identified a Severity Level IV Non-cited Violation (NCV) of the North Anna Power Station, Unit 1 and Unit 2 Renewed Facility Operating Licenses, NPF-4 and NPF-7, Condition 2.D, Fire Protection Program (FPP) leading to inadequate controls of transient combustibles. The licensee initiated condition reports CR342754, "Failed to submit request for transient fire loading in U-2 safeguards," Cr 397441, "Appendix R fire wrap in Unit 2 Containment," and CR 396368, "Appendix R fie wrap in Unit 1 Containment."

The inspectors determined that the adverse changes to the FPP involving the control of transient combustibles was a violation involving traditional enforcement because it impacted the NRC's ability to perform its regulatory function. The finding was determined to be more than minor because the relaxation of transient combustible controls described in the revisions to VPAP-2401, constituted a change which adversely affected the ability to adequately control and evaluate transient combustibles would present potential fire scenarios involving significant, non-liquid transient combustibles that would adversely affect safety-related and safe shutdown components to achieve and maintain safe shutdown in the event of a fire. This violation is characterized at Severity Level (SL) IV in Supplement I of the NRC Enforcement Policy, in that actual fire did not occur, and the potential consequences were limited given that defense in depth was maintained with the existence of auto fire detection and suppression capability and the availability of fire response teams. Although the licensee failed to meet regulatory requirements that have more than minor safety or environmental significance, the inspectors were unable to confirm the introduction of excessive transient combustibles into the plant other than the problem identified on July 27, 2009, which was determined to have very low safety significance. This lack of information was due to the licensee FPP changes that did not require a permit for evaluation and documentation. Because the issue is in the licensee's corrective action program as CR382725, this violation is being treated as an NCV, consistent with the NRC Enforcement Policy. This violation was not screened for associated cross-cutting aspects because it dealt with traditional enforcement. (Section 4OA5.4)

Inspection Report# : 2011005 *(pdf)*

Significance: G Sep 30, 2011
Identified By: NRC
Item Type: FIN Finding
Failure to Take Adequate Corrective Action to Preclude a Fire in the Units 1 and 2 Control Room Complex
A self-revealing finding was identified for the failure to take adequate corrective action for degradation of annunciator card resistors in accordance with the standards as established by the licensee's corrective action program procedure which resulted in a fire in the respective annunciator cabinet located in the Units 1 and 2 control room complex. The licensee entered the problem into their corrective action program as condition report 412487.

The finding was more than minor because it could be reasonably viewed as a precursor to a significant event based on fire development leading to an evacuation of the control room. The finding was screened using phase 1 of the SDP and was determined to be a fire initiator contributor within the initiating events cornerstone and required a phase 3 fire SDP risk assessment in as it represented a fire within the main control room (MCR). A regional SRA performed an SDP phase 3 fire risk assessment for this finding in accordance with NRC Inspection Manual Chapter (IMC) 0609 Appendix F, NUREG/CR 6850 and NUREG/CR 6850 supplement 1. . The SDP phase 3 risk evaluation determined that the risk of the finding was an increase in core damage frequency of <1E-6/year, a Green finding of very low safety significance. The inspectors determined there were no cross-cutting aspects because the performance deficiency was not representative of current licensee performance. (Section 4OA5.4)

Inspection Report# : 2011004 *(pdf)*

Mitigating Systems

Significance: G May 04, 2012
Identified By: NRC
Item Type: FIN Finding
Failure to Provide Required Power for the Seismic Instrumentation Annunciators
An NRC-identified, Green, finding (FIN) was identified by the inspectors for the licensee's failure to provide continuous standby power and sufficient power for a minimum 25 minutes of system operation for seismic instruments as required by a licensee self-imposed standard documented in the licensee's Updated Final Safety Analysis Report (UFSAR) which resulted in required seismic alarms and indications not being received in the main control room. Specifically, the licensee failed to provide the required power for both a triaxial response-spectrum recorder capable of providing signals for immediate control room indication and for the control room annunciator for the seismic switch. The licensee entered this issue into their corrective action program as CR468442. Immediately following the August 23, 2011 seismic event the licensee completed a temporary modification to connect an uninterruptible power supply to the seismic monitoring panel. In addition, the licensee is executing a design change to upgrade the site seismic monitoring equipment.

The inspectors reviewed IMC 0612, Appendix B and determined that the performance deficiency was more than minor because it adversely impacted the Design Control attribute of the Mitigating Systems cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. The inspectors reviewed IMC0609, Attachment 4 and determined that the finding was of very low safety significance, Green, because it did not screen as potentially risk significant using the seismic screening criteria contained in Attachment 4. The cause of this finding did not involve a cross-cutting aspect as it is not indicative of current licensee performance. (Section 4OA3)
Inspection Report# : 2012002 *(pdf)*

Significance: W Dec 31, 2011
Identified By: NRC
Item Type: VIO Violation
Failure to Provide Adequate Guidance for Installation of 2H EDG Jacket Water Cooling Inlet Jumper
A self-revealing Apparent Violation of Technical Specifications 5.4.1.a was identified for the licensee's failure to establish and maintain emergency diesel generator (EDG) maintenance procedures as required by Regulatory Guide 1.33, Appendix A, Section 9, Procedures for Performing Maintenance. The licensee initiated condition report CR439091, "02-EE-EG-2H Emergency Diesel Generator manually secured," and subsequently completed root cause evaluation (RCE) 001062.

The inspectors determined that the failure to adequately establish and maintain procedure 0-MCM-0701-27 was a performance deficiency. The inspectors reviewed IMC 0609, Appendix B, and determined that the finding was more than minor because it adversely affected the procedure quality attribute of the Mitigating Systems Cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. Specifically the failure to establish and maintain EDG maintenance procedures led to the inability of the 2H EDG to perform its safety function. The inspectors reviewed IMC 0609, Attachment 4, and determined that since the finding represented an actual loss of safety function of a single train for greater than its Technical Specification allowed outage time, a phase 2 analysis was required. A phase 2 analysis was performed by a resident inspector and resulted in a potentially greater than green significance. Therefore, a phase 3 analysis is required to be performed by a regional SRA in accordance with the guidance of IMC 0609 Appendix A. The cause of this finding involved the cross-cutting area of problem identification and resolution, the component of operating experience, and the aspect of implementing operating experience, P.2(b), because the licensee failed to properly incorporate operating experience into station procedures. (Section 4OA5.3)

Choice Letter Inspection Report 05000338, 339/2012008 (ML12082A045) associated with Greater than Finding for both units was issued on 3/21. A Regulatory Conference was scheduled for 4/20.

Final SDP letter Inspection Report 05000338, 339/2012010 with White finding and Notice of Violation for both units was issued on May 10, 2012.
Inspection Report# : 2011005 *(pdf)*

Barrier Integrity

Significance: G Jun 30, 2012
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to identify PWSCC in the Unit 1 B SG hot leg safe-end weld
A self revealing non-cited violation (NCV) of the required augmented ISI examinations identified in 10 CFR 50.55a (g)(6)(ii)(F), Examination requirements for Class 1 piping and nozzle dissimilar metal butt welds, which implements ASME Code Case N-770-01, that covers alternative examination requirements and acceptance standards for Class 1 PWR Piping and Vessel Butt Welds Fabricated with Alloy 82 and 182 Filler Material was identified for the licensee's failure to identify unacceptable PWSCC indications in the Unit 1 B SG hot leg nozzle safe-end weld. These requirements require in-service examinations to be performed using qualified techniques and with qualified personnel capable to identify primary water stress corrosion cracking (PWSCC) indications. The licensee entered this issue into its corrective action program as condition report CR467649.

The inspectors determined that the failure to identify the PWSCC indications in the Unit 1 B steam generator (SG) hot leg safe-end weld was a self-revealing performance deficiency that was within the licensee's ability to foresee and correct. Using IMC 0612, the inspectors determined that this finding was of more than minor significance because the failure to identify the PWSCC could have resulted in the potential to allow degradation of the safe-end to proceed undetected. Unchecked PWSCC degradation could have resulted in more significant degradation of the safe-end weld with subsequent degradation of the primary system pressure boundary. The finding is associated with the design control attribute of the Barrier Integrity Cornerstone and affected the cornerstone objective of providing reasonable assurance that physical design barriers protect the public from radionuclide releases caused by accidents or events. Specifically, examinations of the SG safe-end welds provide assurance that the structural boundary of the reactor coolant system remains capable of performing its intended safety function. The inspectors used IMC 0609, "Significance Determination Process," Attachment 0609.04, "Initial Characterization of Findings," and determined that the finding was of low safety significance (Green) because it did not represent an actual failure of the safe-end pressure retaining
boundary. The inspectors identified a cross-cutting aspect in the Human Performance Work Practices cross cutting area, H.4 (c). Specifically, the licensee failed to conduct an adequate briefing with NDE technicians prior to the examination to ensure its successful execution. (Section 1R08)

Inspection Report# : 2012003 *(pdf)*

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

Significance: N/A Nov 29, 2011
Identified By: NRC
Item Type: FIN Finding
Startup Monitoring Inspection
The team concluded that your processes ensured that the plant licensing bases had not been degraded and the structures, systems, and components (SSC) of the North Anna Power Station could perform their safety functions following the earthquake event on August 23, 2011, and would support a return to safe power operation without undue risk to the health and safety of the public. The inspection team completed this verification through observation of control room activities and direct inspection of startup activities; including, mode changes, heatup, reactor startup, and power ascension from Mode 5 to rated thermal power. It also included direct inspection of surveillance testing, operability determinations, maintenance risk assessment, emergent work control, modifications, post-maintenance testing, review of corrective action program documents, partial system walkdowns of selected SSC's, including secondary systems, and other activities as applicable.
Inspection Report# : 2011013 *(pdf)*

Significance: N/A Nov 07, 2011
Identified By: NRC
Item Type: FIN Finding
Restart Readiness Inspection
The team concluded that your staff adequately inspected plant structures, systems and components (SSCs) to ensure that any damage from the August 23, 2011, seismic event was identified and, if found, would have been properly evaluated and corrected prior to initiating restart activities. As a result of the inspections performed by Dominion, industry and NRC personnel, no significant seismically-induced damage was identified which could affect the operability or functionality of plant SSCs. However, during the inspection, some examples of minor problems were identified, including: issues that had not been entered into the corrective action or work control programs as required; opportunities to enhance the root cause evaluations conducted following the seismic event; committed actions that were not being processed in accordance with program requirements; and areas which had not been inspected or evaluated before the Restart Readiness Inspection Team engaged your staff. One non-seismic issue associated with a penetration that was found to not be sealed as required is discussed in this report and will be dispositioned in the resident inspector's quarterly inspection report following further review by NRC staff.
Inspection Report# : 2011012 *(pdf)*

Significance: N/A Oct 03, 2011
Identified By: NRC
Item Type: FIN Finding
AIT
An Augmented Inspection Team (AIT) was dispatched to the site on August 30, 2011, to assess the facts and circumstances surrounding an earthquake event, dual unit trip, and loss of offsite

power that occurred on August 23, 2011. The AIT was established in accordance with NRC Management Directive 8.3, “NRC Incident Investigation Program,” and implemented using Inspection Procedure 93800, “Augmented Inspection Team.”

The inspection was conducted by a team of inspectors from the NRC’s Region II office, senior resident inspectors from North Anna and Construction Projects Branch 4, one Seismologist from the NRC Office of Nuclear Reactor Regulation (NRR), and two Structural Engineers from the NRC Office of New Reactors (NRO.) The team identified 7 issues that will require additional NRC inspection. These issues are tracked as unresolved items in this report
Inspection Report# : 2011011 *(pdf)*

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