

# North Anna 2

## 3Q/2009 Plant Inspection Findings

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### Initiating Events

**Significance:**  Mar 31, 2009

Identified By: NRC

Item Type: NCV NonCited Violation

#### **Failure to Accomplish Procedures Renders Both Trains of High Head Safety Injection System Inoperable**

Green. A Green NCV of 10 CFR 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings," was identified by the NRC for multiple examples of a failure to accomplish a procedure for activities affecting quality which simultaneously rendered both trains of high head safety injection (HHSI) inoperable. The licensee entered this issue into their corrective action program (CAP) as CR114725.

This finding had a credible impact on safety because both trains of the HHSI were rendered inoperable, and manual operator action was required to place at least one train in service. The inspectors determined the finding was more than minor because it impacted the mitigating systems cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences, and the related attribute of human performance which involved the failure to adequately accomplish procedures. The inspectors evaluated the finding using the SDP and determined that a Phase III evaluation was required. A regional Senior Reactor Analyst performed a Phase 3 evaluation under the SDP. The performance deficiency was determined to be of very low safety significance (Green). The evaluation was accomplished using the NRC's probabilistic risk assessment computer model of the plant with Emergency Diesel Generator 1J and the Boron Injection Tank's inlet motor operated valve 1867A set to always fail. The model was quantified, assuming the configuration lasted for nine hours. The dominant accident sequences were Losses of Offsite Power as the initiating event followed by the failure through various mechanisms of the 1H emergency diesel generator and the Alternate Alternating Current Diesel Generator. Also, neither the failed Emergency Diesel Generators nor offsite power was recovered prior to core damage. The key assumptions were that Unit 2 was constructed similar enough that the Unit 1 probabilistic risk assessment model could be used and the duration of the configuration was nine hours.

This finding involved the cross-cutting area of human performance, the component of decision-making and the aspect of safety-significant decisions using a systematic process, especially when faced with uncertain or unexpected plant conditions, to ensure safety is maintained, because the personnel performing quality related activities involving 2-SI-MOV-2867A failed to make adequate decisions affecting nuclear safety while performing procedures (H.1.a).

Inspection Report# : [2009002](#) (*pdf*)

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### Mitigating Systems

**Significance:**  Jun 30, 2009

Identified By: NRC

Item Type: NCV NonCited Violation

#### **Failure to Promptly Identify and Correct a Condition Adverse to Quality Involving Inadequate Tornado Missile Protection for the EDG Day Tank Vents**

A Green, non-cited violation of 10 CFR 50, Appendix B, Criterion XVI, "Corrective Action," was identified by the NRC for failure to promptly identify and correct a condition adverse to quality associated with inadequate tornado missile protection for the emergency diesel generator (EDG) fuel oil day tank vents on each train for Units 1 and 2. The licensee entered this problem into their corrective action program as condition report 335031.

The inspectors reviewed IMC 0612, Appendix B, and determined the finding was more than minor because it

impacted the mitigating systems cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences, and the related attribute of design control for the initial structure, system, component design. The inspectors evaluated the finding using the significance determination process and determined that the finding was of very low significance because the design deficiency did not result in the loss of functionality and the finding did not screen as potentially risk significant due to a severe weather initiating event. This finding involved the cross-cutting area of problem identification and resolution, the component of the corrective action program, and the aspect of thorough evaluation of problems such that resolutions address extent of condition, P.1(c), because the licensee failed to identify inadequate tornado missile protection for the EDG day tank vents during an extent of condition evaluation and review.

Inspection Report# : [2009003](#) (*pdf*)

**Significance:**  Dec 31, 2008

Identified By: NRC

Item Type: NCV NonCited Violation

### **Reactor Coolant Pump Motor Oil Collection System Installation and Design Problems**

The finding was more than minor because it impacted the mitigating systems cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences, and the related attribute of protection against external factors such as fire which could impact the operability of a reactor coolant pump (RCP). This finding had a credible impact on safety because the inadequate installation and fabrication of the oil collection system presented a degradation of a fire confinement component which has a fire prevention function of not allowing an oil leak to reach hot surfaces. The finding was of very low safety significance or Green because of the low degradation rating of the fire confinement category related to the reactor coolant pump (RCP) motor oil collection system, the extremely low frequency of RCP oil leaks and no actual RCP oil leaks during the past operating cycle, and other area fire protection defense-in-depth features such as automatic fire detection, manual suppression capability (fire brigade), and safe shutdown capability from the main control room. There was no cross-cutting aspect due to the legacy aspect relating to both examples.

Inspection Report# : [2008005](#) (*pdf*)

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## **Barrier Integrity**

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## **Emergency Preparedness**

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## **Occupational Radiation Safety**

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## **Public Radiation Safety**

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## **Physical Protection**

Although the NRC is actively overseeing the Security cornerstone, the Commission has decided that certain findings pertaining to security cornerstone will not be publicly available to ensure that potentially useful information is not provided to a possible adversary. Therefore, the [cover letters](#) to security inspection reports may be viewed.

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## Miscellaneous

**Significance:** N/A Feb 06, 2009

Identified By: NRC

Item Type: FIN Finding

### **North Anna PI&R Summary**

The team concluded that, in general, problems were identified, evaluated, prioritized, and corrected. The licensee was effective at identifying problems and entering them into the corrective action program (CAP) for resolution, as evidenced by the relatively few deficiencies identified by external organizations (including the NRC) that had not been previously identified by the licensee, during the review period. Generally, prioritization and evaluation of issues were adequate, formal root cause evaluations for significant problems were adequate, and corrective actions specified for problems were acceptable. However, the team identified examples where the priority of condition reports was lowered without a documented basis. Overall, corrective actions developed and implemented for issues were generally effective and implemented in a timely manner.

The team determined that overall, audits and self-assessments were adequate in identifying deficiencies and areas for improvement in the CAP, and appropriate corrective actions were developed to address the issues identified. Operating experience usage was found to be generally acceptable and integrated into the licensee's processes for performing and managing work, and plant operations. However, the team found examples where operating experience was not adequately utilized to prevent problems.

Based on discussions and interviews conducted with plant employees from various departments, the inspectors determined that personnel at the site felt free to raise safety concerns to management and use the CAP to resolve those concerns.

Inspection Report# : [2009006](#) (*pdf*)

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