

# Byron 2

## 4Q/2009 Plant Inspection Findings

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### Initiating Events

**Significance:**  Sep 30, 2009

Identified By: NRC

Item Type: NCV NonCited Violation

#### **INADEQUATE EVALUATION OF SEISMIC RESTRAINT ON THE FHB CRANE TROLLEY**

A finding of very low safety-significance and associated Non-Cited Violation (NCV) of 10 CFR Part 50, Appendix B, Criterion III, "Design Control," was identified by the inspectors for failure to perform an adequate evaluation of seismic restraint on the Fuel Handling Building (FHB) crane trolley. Specifically, for evaluation of the seismic restraint in their single failure proof trolley analysis, the licensee failed to use adequate seismic acceleration values and failed to evaluate the connections for resulting reaction forces. Subsequent review found that the restraint was inadequate. The licensee documented the condition in Issue Report (IR) 934467 and initiated actions for calculation revision and installation of a field modification.

The inspectors determined that the failure to perform an adequate analysis for the seismic restraint and its connections for seismic loads was contrary to American Society of Mechanical Engineers (ASME) NOG-1-2004, requirements and was a performance deficiency. The FHB crane is designed to Seismic Category I requirements and the licensee used compliance with ASME NOG-1-2004, as the design basis for their upgrade to a single failure proof crane. The finding was more than minor because it was associated with the Initiating Events cornerstone attribute of Equipment Performance, Refueling/Fuel Handling equipment, and affected the cornerstone objective to limit the likelihood of those events that upset plant stability and challenge critical safety functions during shutdown as well as power operations. The inspectors evaluated the finding using Inspection Manual Chapter 0609.04, "Phase 1 - Initial Screening and Characterization of Findings," and based on a "No" answer to all the questions in the Initiating Events column of Table 4a, determined the finding to be of very low safety-significance (Green). This finding has a cross-cutting aspect in the area of Human Performance, Work Practices because the licensee did not provide adequate oversight of work activities, including contractors, such that nuclear safety is supported. H.4(c)

Inspection Report# : [2009004](#) (*pdf*)

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### Mitigating Systems

**Significance:**  Dec 31, 2009

Identified By: NRC

Item Type: NCV NonCited Violation

#### **FAILURE TO COMPLY WITH 10 CFR PART 26.203(b)(2)**

The inspectors identified a finding of very low safety significance and the associated NCV of 10 CFR Part 26.203(b)(2), "Procedures," for the licensee's failure to adhere to work hour rule procedures. Specifically, a licensed reactor operator who was working an outage work hour schedule on Unit 1 was assigned as the online unit, Unit 2, Assist Operator without meeting the online work hour requirements. Subsequently, the licensee clarified the requirements for scheduling personnel and entered this issue into their corrective action (CAP) program as Issue Report (IR) 882727.

The finding was more than minor because the finding could lead to a more significant safety concern. The finding is of very low safety significance because there were additional operators in the control room that satisfied the work hours requirements and the operators were required to perform peer check before any control room equipment manipulation were taken. This finding has a cross-cutting aspect in the area of Human Performance, Resources Component (H.2(b)), because there were insufficient qualified personnel to maintain work hours within the working hours guidelines.

Inspection Report# : [2009005](#) (*pdf*)

**Significance:**  Sep 30, 2009

Identified By: NRC

Item Type: NCV NonCited Violation

**DIESEL OIL STORAGE VENTS DO NOT SEISMICALLY QUALIFIED OR TORNADO RESISTANT**

A finding of very low safety significance and associated NCV of 10 CFR 50, Appendix A, Criterion 2, "Design basis for protection against natural phenomena," and Criterion 4, "Environmental and natural effects design bases," was identified by the inspectors for the failure to seismically support and protect from tornado generated missiles the DG fuel oil storage tank vent lines. Specifically, the licensee installed the vent lines as non-safety related and as such they were not seismically supported nor protected from tornado generated missiles. In response to the issue, the licensee performed an operability determination and concluded that the DGs remained operable.

This performance deficiency was more than minor because it was associated with the Mitigating Systems Cornerstone attribute of equipment performance and adversely affected the cornerstone objective of ensuring availability of the DG to respond to initiating events to prevent undesirable consequences. This finding was of very low safety significance (Green) because the inspectors determined that the finding was a design deficiency confirmed not to result in loss of operability or functionality and the finding screened as Green using the Significance Determination Process Phase 1 screening worksheet. The inspectors did not identify a cross cutting aspect associated with this finding because the performance deficiency occurred over 30 years ago and was not current.

Inspection Report# : [2009004](#) (pdf)

**Significance:**  Mar 31, 2009

Identified By: NRC

Item Type: NCV NonCited Violation

**FAILURE TO PERFORM AN ADEQUATE RISK ASSESSMENT THAT ACCOUNTED FOR ALL RISK SIGNIFICANT STRUCTURES, SYSTEMS AND COMPONENTS THAT WERE UNAVAILABLE PRIOR TO MAINTENANCE ACTIVITIES.**

A finding of very low safety significance and associated NCV of 10 CFR 50.65(a)(4) was identified by the inspectors for the licensee's failure to perform a risk assessment that accounted for the inability of the Unit 1 Essential Service Water suction valve 1SX001A to close before performing maintenance. The finding was more than minor because it was similar to NRC IMC 0612, Appendix E, "Examples of Minor Issues," Example 7e, in that the elevated overall plant risk, when correctly assessed, would have required additional risk management actions. This finding had the potential to become a more significant event if the suction valve was required to mitigate flooding in the auxiliary building.

The finding was determined to be of very low safety significance since the Incremental Core Damage Frequency (ICDP) was calculated to be  $9.44E-7$  given that the condition existed for 14 days. The primary cause of this finding was related to the cross-cutting area of Human Performance for Resources (H.2(c)) because Valve 1SX001A was not added to the Paragon risk assessment computer program to allow the user to make effective risk assessments. The licensee entered this issue into their correction action program as IR 889131 and performed a risk assessment for the condition.

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

**Significance:**  Mar 27, 2009

Identified By: NRC

Item Type: NCV NonCited Violation

**Failure to Maintain/Extend the Qualification Basis for Molded-Case Circuit Breakers (MCCBs) Used in Safety Related Applications Greater than 20 Years.**

Green. A finding of very low safety significance (Green) and associated NCV of 10 CFR Part 50, Appendix B, Criterion III, "Design Control," was identified by the inspectors for the failure to maintain the qualification bases for safety-related equipment. Specifically, the licensee failed to maintain/extend the qualified life of the Westinghouse molded case circuit breakers (MCCBs) after the manufacturer's qualifications ended at 20 years as required by 10 CFR Part 50, Appendix A and B. As a result, the licensee issued a condition report and performed an engineering evaluation, which supported continuing qualification of the MCCBs and an operability evaluation, which found the MCCBs operable.

The inspectors determined that the finding was more than minor because not maintaining qualified components in safety-related systems structures and components (SSCs) could lead to the inability to respond to design basis events. The finding screened as of very low safety significance because the finding was a design or qualification deficiency confirmed not to result in loss of operability or functionality. The inspectors identified a cross-cutting aspect associated with this finding in the area of problem identification and resolution because the licensee did not effectively incorporate pertinent manufacturer's operating experience into maintaining the qualification of the MCCBs. (P.2.(b))

Inspection Report# : [2009007](#) (pdf)

**Significance:**  Mar 27, 2009

Identified By: NRC

Item Type: NCV NonCited Violation

**Inadequate Analysis of Molded-Case Circuit Breaker Test Data.**

•Green. A finding of very low safety significance (Green) and associated NCV of 10 CFR Part 50, Appendix B, Criterion XVI, "Corrective Actions," was identified by the inspectors for the failure to identify, and take corrective action to address adverse mold case circuit breaker (MCCBs) test results. Specifically, the licensee failed to recognize an excessive test failure rate, assess the impact on the installed MCCBs, promptly replace all failed MCCBs, and evaluate the past and current operability of the attached loads. As a result, the licensee issued a condition report and an operability evaluation, which found the MCCBs operable.

The inspectors determined that the finding was more than minor because not ensuring the function and operability of all required MCCBs supplying safety-related SSCs could lead to the inability to respond to design basis events. The finding screened as very low safety significance because it would not result in the total loss of a safety function. Specifically, the licensee evaluation showed that there was no loss of breaker coordination. The inspectors identified a cross-cutting aspect associated with this finding in the area of human performance, decision making because the licensee did not use conservative assumptions in decision-making. (H1.b)

Inspection Report# : [2009007](#) (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

**Significance:**  Dec 31, 2009

Identified By: NRC

Item Type: NCV NonCited Violation

**FAILURE TO COMPLY WITH 10 CFR PART 20 APPENDIX G**

The inspectors identified a finding of very low safety significance and the associated NCV of 10 CFR Part 20, Appendix G, Section III.A.3. Specifically, the licensee did not establish a Quality Assurance Program sufficiently to

assure conformance with 10 CFR 61.55, in that, the program was not adequate to identify incorrect waste stream data was used to determine the concentrations of radionuclides, and ultimately ensure waste was properly classified, in accordance with 10 CFR 61.55. The licensee entered the deficiency into its CAP (IR 950082) and re-evaluated these shipments using the appropriate waste stream radionuclide distribution and correctly determined that the waste classification remained Class C.

The failure to establish an adequate 10 CFR Part 61 Quality Assurance Program, to assure conformance with 10 CFR 61.55, is a performance deficiency that was reasonably within the licensee's ability to foresee and correct, which should have been prevented. The finding is more than minor because, if left uncorrected the performance deficiency could have the potential to lead to a more significant safety concern. This finding was determined to be of very low safety-significance because no radiation limits were exceeded, there was no breach of packaging, there was no package certificate of compliance finding, there was no low level burial ground non-conformance, and no failure to make notifications or provide emergency information. The cause of this finding was related to the cross-cutting area of Human Performance, Resources (H.2(b)) due to inadequate training and insufficient qualified personnel.  
Inspection Report# : [2009005](#) (*pdf*)

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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 Sep 01, 2009

Identified By: NRC

Item Type: FIN Finding

### PI&R Summary

The inspectors concluded that the licensee's corrective action program (CAP) in general was effective in identifying, evaluating and correcting issues at the site. The licensee had a low threshold for identifying issues and entering them into the CAP. Overall, the issues were properly prioritized and evaluated based on plant risk and uncertainty.

Corrective actions, when specified, were generally implemented in a timely manner, commensurate with their safety consequences. The use of operating experience was found to be effective and was integrated into daily activities. In addition, the licensee's self-assessments, audits and effectiveness reviews were thorough and effective in identifying site performance deficiencies, programmatic concerns and improvement opportunities. On the basis of the interviews conducted, site personnel were free to raise safety concerns through the established processes.

Inspection Report# : [2009008](#) (*pdf*)

Last modified : March 01, 2010