Brunswick 2
3Q/2009 Plant Inspection Findings

Initiating Events

Significance: Sep 30, 2009
Identified By: Self-Revealing
Item Type: NCV NonCited Violation
Failure to Follow Plant Procedure Caused Loss of E2 Bus
A self-revealing Green non-cited violation of Technical Specification (TS) 5.4.1, Procedures, was identified when the licensee failed to follow procedure 0PICCNV023, Calibration of Westinghouse & Scientific Columbus Teleductors. During the performance of the calibration, procedural steps were not performed correctly and the E2 electrical bus was inadvertently deenergized, requiring the emergency diesel generator #2 to auto-start and reenergize the bus. Emergency diesel generator #2 auto-started and the E2 bus transferred from off-site power. After the event, the licensee halted the maintenance on the E2 bus instruments and restored off-site power to the E2 bus. The event was entered into the licensee's corrective action program as NCR #344300. The finding was determined to be more than minor because the finding was associated with the Initiating Events Cornerstone attribute of configuration control and affected the cornerstone objective to limit the likelihood of those events that upset plant stability and challenge critical safety functions during power operations.

The finding affected configuration control because correct test switch alignment was not maintained. The finding also affected the cornerstone objective because loss of the E2 bus represented an upset to plant stability. The inspectors determined the finding could be evaluated using the SDP in accordance with IMC 0609, "Significance Determination Process," Attachment 0609.04, "Phase 1 - Initial Screening and Characterization of findings," Table 4a for the Initiating Events Cornerstone. The finding was determined to be of very low safety significance (Green) because the finding was a transient initiator that 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 has a cross-cutting aspect in the Human Performance cross cutting area, Work Practices component, because the licensee failed to implement adequate error prevention techniques while performing plant procedure 0PIC-CNV023, Calibration of Westinghouse & Scientific Columbus Teleductors. Specifically, technicians did not utilize adequate error prevention techniques to prevent them from operating the wrong test switch when calibrating instrument 1-E2-AG6-VTR (H.4(a))
Inspection Report# : 2009004 *(pdf)*

Significance: Jun 30, 2009
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to Follow Plant Procedures During Performance of a Reactor Pressure Vessel Hydrostatic Test
A self-revealing Green NCV of Technical Specification (TS) 5.4.1.a, Administrative Control (Procedures), was identified when the licensee failed to follow plant procedure OPT-80.1, Reactor Pressure Vessel (RPV) ASME Section XI Pressure Test during Unit 2 RPV hydrostatic testing on April 7, 2009. The licensee installed hoses rated for 250 psig although the procedure required hoses rated at 1150 psig. Specifically, when RPV pressure was raised to approximately 1000 psig, the improper hose installed at core spray check valve 2-E21-F006B disconnected from its coupling, causing the RPV to rapidly depressurize to approximately 875 psig and allowing water from the RPV to leak out of the connection into the drywell. The licensee discovered the leak and broken hose connection, isolated the leak, and initiated AR329675 to address this issue.

The finding was determined to be more than minor because the finding was associated with the Initiating Events cornerstone attribute of human performance and affected the cornerstone objective of limiting the likelihood of those events that upset plant stability and challenge critical safety functions during shutdown as well as power operations. The inspectors determined that the finding should be evaluated in accordance with Attachment 1 of IMC 0609, Appendix G, "Shutdown Operations SDP." The inspectors used Checklist 8 contained in Attachment 1 and

determined that the finding did require a phase 2 or phase 3 because the licensee did not meet the appropriate safety function guidelines for inventory control. Specifically, the finding increases the likelihood of a loss of RCS inventory. The regional Senior Reactor Analyst (SRA) determined, after a teleconference with the headquarters SRA with responsibility for Shutdown findings, that the event did not rise to a level that would require a detailed analysis be performed. The event did not meet the threshold for a loss of control as defined by Appendix G. Additional margin was provided by the high elevation of the leak relative to the top of active fuel, and the suction head requirement of the residual heat removal (RHR) system, the small size of the opening in the primary, the low decay heat, and the defense in depth available at the time of the event. Based on this, the finding was determined to be of very low safety significance (Green). The finding has a cross-cutting aspect in the Work Practices component of the Human Performance cross cutting area, because the licensee failed to follow plant procedure 0PT-80.1, Reactor Pressure Vessel (RPV) ASME Section XI Pressure Test during Unit 2 RPV hydrostatic testing.
Inspection Report# : 2009003 *(pdf)*

Significance: Mar 31, 2009
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to Perform a 10 CFR 50.59 Evaluation for a Plant Modification
The inspectors identified a severity level IV NCV of 10 CFR 50.59, “Changes, Tests, and Experiments” for failing to perform a written safety evaluation prior to implementing a change to the facility as described in the Updated Final Safety Analysis Report (UFSAR), when the Unit 1 and Unit 2 reactor building instrument air standby compressors were permanently abandoned. The licensee entered the issue into their corrective action program and performed a written safety evaluation of the condition.
The inspectors determined that, until identified by NRC inspectors, the licensee had not performed a 10 CFR 50.59 safety evaluation for the abandonment of the instrument air standby compressors, and this is a performance deficiency. Because this is a violation of 10 CFR 50.59, it is considered to be a violation which potentially impedes or impacts the regulatory process. Therefore, such violations are dispositioned using the traditional enforcement process instead of the Significance Determination Process. This finding was determined to be more than minor because their was a reasonable likelihood that the change requiring a 10 CFR 50.59 safety evaluation would require Commission review and approval prior to implementation in accordance with 10 CFR 50.59(c)(2). This likelihood is based on the increased likelihood of loss of reactor building instrument air, reactor scram, and closure of the outboard MSIVs, which is an occurrence of a malfunction of a structure, system, or component (SSC) that is analyzed in the UFSAR. To determine the significance of the violation, the inspectors completed a significance determination review using IMC 0609, Appendix A, Significance Determination of Reactor Inspection Findings for At Power Situations. The finding impacted the initiating events cornerstone. Because the finding does not contribute to both the likelihood of a reactor trip and the likelihood that mitigation equipment or functions will not be available, this finding has very low safety significance. The cause of the finding is not related to a cross-cutting aspect because the performance deficiency is not indicative of current licensee performance.

Inspection Report# : 2009002 *(pdf)*

Significance: Mar 31, 2009
Identified By: NRC
Item Type: NCV NonCited Violation
Unauthorized Maintenance Results in Loss of Shutdown Cooling
A self-revealing Green NCV of TS 5.4.1, Procedures, was identified when the licensee changed the position of 2-E11-F009, the shutdown cooling (SDC) inboard suction throttle valve, without following a procedure. On March 26, Unit 2 was in Mode 5 in a refueling outage with the reactor refueling cavity flooded and fuel pool gates removed. Decay heat removal was being provided by protected systems, RHR loop B and supplemental spent fuel pool cooling. ADM-NGGC-0104, Work Management Process, states the maintenance that has an impact on system operation must be performed according to written instructions. Contrary to this requirement, a maintenance technician working without written instructions, operated the 2-E11-F009 valve locally in the drywell in the close direction, tripping the only operating RHR pump due to an electrical interlock. The licensee restored the RHR system to operation and entered the issue into their corrective action program.

The operation of 2-E11-F009, the shutdown cooling (SDC) inboard suction throttle valve, during a maintenance activity was identified as a performance deficiency. The finding is more than minor because it affects the human performance attribute of the Initiating Events cornerstone and the objective of limiting the likelihood of those events that upset plant stability and challenge critical safety functions during shutdown as well as power operations. The inspectors evaluated this finding using Attachment 1 of IMC 0609, Appendix G, "Shutdown Operations Significance Determination Process." This finding is of very low safety significance because the finding did not represent a loss of control and did not require quantitative assessment per Checklist 7 of Attachment 1 to IMC 0609, Appendix G. Specifically, the reactor time-to-boil during this event was approximately 36 hours and RHR was restored in 17 minutes. Additionally, during the time that RHR was secured, the supplemental spent fuel pool cooling system provided sufficient decay heat removal. The finding has a cross-cutting aspect of human error prevention, as described in the Work Practices component of the Human Performance cross-cutting area because maintenance supervision and the maintenance technician failed to follow the station's policy for work on protected train equipment and use the human error prevention tools associated with the protected train concept. (H.4.(a)).

Inspection Report# : 2009002 *(pdf)*

Significance: Dec 31, 2008
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to Follow Plant Procedures for Assembly of Safety Relief Valves
A self-revealing Green NCV of Technical Specification (TS) 5.4.1, Procedures, was identified when the licensee failed to correctly reassemble the pilot valve for the Unit 2 Safety Relief Valve (SRV) H. The plant procedure for assembly of the pilot valve, 0CM-VSR-509, Main Steam Relief Valves Target Rock Model 7567 Air Operators and Pilot Assembly, Disassembly, Inspection, and Reassembly, used in 2006 for the Unit 2 SRV H pilot valve specifies that, during assembly, the pilot spring should be placed inside of the pilot valve spring follower. Contrary to this requirement, the pilot valve was assembled with the pilot spring on the ledge of the pilot valve spring follower. The incorrectly assembled pilot valve was installed in Unit 2 in March, 2007 on SRV 'H'. On November 9, 2008, the spring slipped off the ledge of the spring follower, reducing the SRV set point pressure, and causing the SRV to lift at normal operating pressure. The licensee replaced the failed SRV and initiated a root cause analysis to determine the primary and contributing cause of this event.

The failure to assemble the SRV pilot per procedure was identified as a performance deficiency. The performance deficiency was more than minor because it is associated with the equipment performance attribute of the Initiating Events cornerstone, and it affected the cornerstone objective of limiting the likelihood of those events that upset plant stability and challenge critical safety functions during shutdown as well as power operations. The finding was determined to be of very low safety significance because the finding does not contribute to both the likelihood of a reactor trip and the likelihood that mitigation equipment or functions will not be available. The finding has a cross-cutting aspect of procedural compliance, as described in the Work Practices component of the Human Performance cross-cutting area because the licensee failed to follow the procedure as written (H.4(b)).

Inspection Report# : 2008005 *(pdf)*

Mitigating Systems

Significance: Sep 30, 2009
Identified By: Self-Revealing
Item Type: NCV NonCited Violation
Inadequate Annunciator Response Procedure for HPCI Vacuum Tank High Level
A self-revealing Green non-cited violation of TS 5.4.1, Procedures, was identified for an inadequate annunciator response procedure to respond to a high level in the high pressure coolant injection (HPCI) vacuum tank when the barometric condensate pump is not operating. As a result, on January 27, 2009, the Unit 2
HPCI vacuum tank was not drained prior to the HPCI turbine exhaust drain pot filling to the point that operators could not ensure that water was not in the HPCI turbine casing. Without this assurance, the Unit 2 HPCI system was rendered inoperable because starting the HPCI pump with water in the casing could result in damage to the turbine. To

correct this condition, operators later identified another valve, valve E-41-F5003, that was used to successfully lower water level in the HPCI exhaust line to below the HPCI exhaust line drain pot. Water level was above the exhaust line drain pot high level alarm, and therefore potentially in the HPCI turbine casing, for approximately two hours. Maintenance personnel later corrected the malfunction for the barometric condensate pump and restored the system to normal. This finding was entered into the licensee's corrective action program as NCR #316695. The finding was determined to be more than minor because it is associated with procedure quality attribute of the Mitigating Systems Cornerstone. It also adversely affected the cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. Specifically, the incorrect HPCI annunciator response procedure led to an unplanned period of unavailability of the Unit 2 HPCI pump. Using NRC Inspection Manual Chapter 0609, Appendix A, "Determining the Significance of Reactor Inspection Findings for At-Power Situations," the inspectors determined that the finding required a phase two evaluation because the finding represents a loss of system safety function. Using the significance determination phase two pre-solved worksheet, loss of HPCI function for less than three days, the increase in core damage frequency was determined to be less than 1E-6. Therefore, the finding is of very low safety significance (Green). The finding affects the cross-cutting area of human performance, resources component, complete and accurate documentation aspect because the licensee did not incorporate adequate guidance for draining the HPCI vacuum tank when the HPCI pump is in standby and the barometric condensate pump is unavailable in plant procedures (H.2(c)).
Inspection Report# : 2009004 *(pdf)*

Significance: G Sep 30, 2009
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to Establish Adequate Installation Instructions for Emergency Diesel Generator Service Water Expansion Joint Control Units
The inspectors identified a Green non-cited violation of 10 CFR Part 50, Appendix B, Criterion III, "Design Control," for the failure to specify an appropriate quality standard for the installation of the control units on the emergency diesel generator jacket water heat exchanger inlet and outlet expansion joints. As a result, threaded fasteners on emergency diesel generators #1 and #4 loosened, creating a potential vulnerability to expansion joint failure. The licensee tightened the control unit bolts on all the emergency diesel generator service water expansion joints and initiated an engineering change to prevent the fasteners from loosening. This finding was entered into the licensee's corrective action program as NCR #346113.

The finding was determined to be more than minor because the finding, if left uncorrected, would have the potential to lead to a more significant safety concern. Specifically, over time, the hex nuts on the expansion joint control units could loosen to the point of expansion joint failure, leading to a loss of service water to the emergency diesel generators and failure of the emergency diesel generators. The inspectors evaluated the finding in accordance with IMC 0609, "Significance Determination Process," Attachment 0609.04, "Phase 1 - Initial Screening and Characterization of findings," Table 4a for the Mitigating Systems Cornerstone. The finding was determined to be of very low safety significance (Green) because the finding was a design or qualification deficiency confirmed not to result in loss of operability or functionality. This finding has no cross-cutting aspect because the design deficiency occurred in 2005 and is not indicative of current licensee performance.
Inspection Report# : 2009004 *(pdf)*

Significance: G Sep 30, 2009
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to Include Risk Significant Maintenance in the Site Risk Profile
The inspectors identified a Green non-cited violation of 10 CFR Part 50.65 (a)(4), when the licensee removed the severe accident mitigation guideline (SAMG) diesel generators from service without considering the change in the online plant risk. Online plant risk is modeled and communicated to licensee plant personnel via the equipment out of service (EOOS) profile. The change in online risk was not reflected in the EOOS profile when the SAMG diesel generators were out of service from July 6, 2009 to July 8, 2009. Once the deficiency was identified on July 8, 2009, the EOOS profile was updated by the licensee and reflected the SAMG diesel out of service condition. This finding

was entered into the licensee’s corrective action program as NCR #351002.

The finding was determined to be more than minor because the finding related to maintenance risk assessment and risk management issues. Specifically, the licensee’s risk assessment failed to consider risk significant structures, systems, or components that were unavailable during maintenance. The inspectors evaluated the finding in accordance with IMC 0609, “Significance Determination Process,” Attachment 0609.04, “Phase 1 - Initial Screening and Characterization of findings,” Table 3a for the Mitigating Systems Cornerstone. The finding was determined to degrade the licensee’s assessment and management of risk associated with performing maintenance activities under all plant operation or shutdown conditions. In accordance with Baseline Inspection Procedure (IP) 71111.13, “Maintenance Risk Assessment and Emergent Work Control,” and IMC 0609, Appendix K, "Maintenance Risk Assessment and Risk Management Significance Determination Process," the finding was determined to be a maintenance risk assessment issue. Flowchart 1, "Assessment of Risk Deficit," requires the inspectors to determine the risk deficit associated with this issue. The finding was determined to be of very low safety significance because the incremental core damage probability deficit was less than 1 x 10E-6. The regional senior reactor analyst reviewed the information and confirmed that the system was a maintenance rule safety significant system. This finding has a cross-cutting aspect in the area of human performance, work control component, because the licensee did not plan and coordinate work activities consistent with nuclear safety. Specifically, the licensee failed to include risk significant maintenance in the EOOS profile when the SAMG diesel generators were out of service from July 6, 2009 until July 8, 2009 (H.3(a))
Inspection Report# : 2009004 *(pdf)*

Significance: G Sep 30, 2009
Identified By: NRC
Item Type: NCV NonCited Violation
Capability of Emergency Diesel Generator Ventilation System to Meet Design and Licensing Requirements
The inspectors identified a Green non-cited violation (NCV) of 10 CFR 50, Appendix B, Criterion III, Design Control, for failure to translate a key analytical assumption related to operation of the emergency diesel building back draft and check dampers into specifications and ultimately into the installed hardware. This issue was entered into the licensee’s corrective action program as NCR 00259088 with actions to evaluate the ability of the EDGs actual installed equipment to satisfy the intended safety function during and following the design basis tornado event. Compensatory measures were established to eliminate the concern pending the licensee’s determination of the systems capability to mitigate the effects of a tornado event.

This finding was determined to be more than minor because the finding was associated with the Mitigating Systems Cornerstone attribute of Design Control, i.e. initial design. It impacted the cornerstone objective of ensuring the availability, reliability, and capability of the emergency diesel building ventilation to protect the EDG building structure during a design basis tornado event. Due to the deficiencies between the installed hardware and the assumptions in the calculation, the calculation did not ensure the capability of emergency diesel building ventilation system to perform the safety function. This was determined to be a failure to ensure the availability, reliability, and capability of a safety system that responds to an initiating event to prevent undesirable consequences. The licensee subsequently determined from analysis through modeling and testing that the emergency diesel building ventilation system could perform the safety function during a design basis tornado event with the existing hardware installed. The NRC reviewed this analysis and the results that determined that the existing condition did not result in the loss of the system safety function. The inspectors assessed the finding using the SDP in accordance with IMC 0609, “Significance Determination Process,” Attachment 0609.04, “Phase 1 - Initial Screening and Characterization of findings,” Table 4a for the Mitigating Systems Cornerstone. The finding was determined to be of very low safety significance (Green) because there was not an actual loss of safety system function based upon the inspector’s verification of the Progress Energy analysis of the emergency diesel building ventilation system. The cause of the finding is not related to a cross-cutting aspect because the occurrence was greater than three years ago and is not indicative of current licensee performance.
Inspection Report# : 2009004 *(pdf)*

Significance: W Jun 17, 2009
Identified By: NRC
Item Type: VIO Violation

Inability to Operate the EDGs Locally as Required by the Safe Shutdown Analysis Report
A violation of 10 CFR 50, Appendix B, Criterion III, Design Control, was identified for failure to correctly translate the design basis into EC 66274 to replace control relays on all four EDGs. Specifically, termination points for linking control power to the EDG lockout relay reset circuitry were incorrectly designated in the EC. This resulted in the wiring for control relays being installed such that the EDGs could not be operated locally as required by the Safe Shutdown Analysis Report. Upon discovery, the licensee initiated Action Request (AR) 292232 and re-wired and tested each affected EDG. The local control function was restored to all EDGs on August 21, 2008.

The failure to correctly translate the design basis into EC66274 is a performance deficiency. This finding is more than minor because it is associated with the reactor safety mitigating system cornerstone attribute of protection against external events, i.e., fire. It also affects the cornerstone objective of ensuring the availability of systems that respond to events in that the EDGs could not be operated locally as required by the Safe Shutdown Analysis Report. This finding was assessed using the applicable SDP, which resulted in a calculated core damage frequency (CDF) risk increase over the base case between 1E-5 and 1E-6 per year. The dominant accident sequences involved are initiated by a fire situated such as to cause both a loss of offsite power (LOOP) and a forced main control room evacuation. For these dominant accident sequences, the performance deficiency will result in a station blackout (SBO) to either or both units. The exposure period for this condition was one year. As a result, the finding was preliminarily determined to be of low to moderate safety significance (White). The cause of the finding is considered to have a cross-cutting aspect related to accurate design documentation [H.2(c)], as described in the resources component of the human performance cross-cutting area.

Inspection Report# : 2009010 *(pdf)*
Inspection Report# : 2009009 *(pdf)*

Significance: G Mar 31, 2009
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to Follow Procedures During Reactor Head Disassembly
A self-revealing Green NCV of TS 5.4.1, Procedures, was identified when reactor head piping was disconnected prior to swapping shutdown range reactor water level transmitters resulting in inaccurate water level indication. The plant procedure for disconnection of the reactor head piping, 0SMP-RPV501, Reactor Vessel Disassembly, used in conjunction with 0GP-06, Cold Shutdown to Refueling, specifies that prior to removal of head piping, the Shutdown Range Reactor Water level Transmitters shall be swapped from level transmitters, B21-LT-NO27A and B21-LT-NO27B, to level transmitters, B21-LT-7468A and B21-LT-7468B. Contrary to this requirement, the common reference leg to the level indicators was disconnected prior to swapping transmitters which resulted in loss of accurate indication of current reactor vessel water level. The licensee reinstalled the disconnected piping and entered the issue into their corrective action program.

The disconnection of the reference leg flange of the reactor vessel head piping prior to realignment of level instrumentation as required per procedure was identified as a performance deficiency. The performance deficiency was more than minor because it is associated with the configuration control attribute of the Mitigating Systems cornerstone, 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 level indication inaccuracy degraded the plant operators' ability to control the reactor vessel water level in the prescribed procedural band and would inhibit their ability to diagnose and prevent a Loss of RHR scenario. In accordance with NRC Inspection Manual Chapter (IMC) 0609, Appendix G, "Shutdown Operations Significance Determination Process," Attachment 1, Checklist 8, the inspectors conducted a Phase 1 SDP screening and determined the finding to require a Phase 2 analysis. The Phase 2 analysis determined the finding to be of very low safety significance (Green) because adequate mitigation capability was maintained. The cause of this finding was directly related to the work activity coordination cross-cutting aspect in the work control component of the Human Performance cross-cutting area because the plant operators and maintenance personnel failed to effectively communicate and coordinate the activities associated with the vessel head disassembly (H.3.(b)).

Inspection Report# : 2009002 *(pdf)*

Significance: Dec 31, 2008
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to Take Prompt Corrective Actions for Low Oil Level in the 2B RHRSW Booster Pump
The inspectors identified a Green NCV of 10 CFR 50, Appendix B, Criterion
XVI, “Corrective Action” for failure to assure that a condition adverse to quality was promptly corrected, which resulted in the licensee declaring the 2B residual heat removal service water (RHRSW) booster pump inoperable while responding to the Unit 2 reactor scram on November 9, 2008. The licensee added oil to the bearing, restored the RHRSW to operable and entered the issue into the Corrective Action Program (CAP).

The deficiency associated with this event is not promptly investigating and correcting the low oil level in the 2B RHRSW booster pump bearing.

The finding is more than minor because it affects the Mitigating Systems Cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences (i.e. core damage). It is also associated with the cornerstone attribute of equipment availability and reliability. Since the finding affects both core damage frequency (CDF) and suppression pool cooling, an evaluation using NRC Inspection Manual Chapter (IMC) 0609, Appendix H, “Containment Integrity Significance Determination Process” was performed. Appendix H table 4.1 lists suppression pool cooling as a contributor to late containment failure, but not large, early release frequency (LERF). Therefore the change in CDF associated with the finding was used to characterize its significance. Using the NRC, pre-solved phase two significance determination process worksheets, the change in core damage frequency was found to be less than 1E-6, therefore this finding is of very low safety significance (Green). The cause of the finding is related to the cross-cutting aspect of thoroughly evaluating problems as described in the Corrective Action Program component of the Problem Identification and Correction cross-cutting area, since the low oil level was identified, but a thorough investigation of the problem was not promptly performed. (P.1(c))

Inspection Report# : 2008005 *(pdf)*

Significance: Dec 31, 2008
Identified By: NRC
Item Type: NCV NonCited Violation
Inadvertent Rack Out of the 2A Core Spray Pump Circuit Breaker
A self-revealing Green NCV of TS 5.4.1, “Procedures,” was identified for failure to comply with clearance order 180845 and 2OP-50, Plant Electric System Operating Procedure, Section 8.1, Racking Out a 4 KV Breaker.” Specifically, the 2A Core Spray pump breaker was inadvertently racked out instead of the Emergency Diesel Generator #3 output breaker. The licensee racked the 2A core spray breaker back into place and entered the issue into the CAP.

The failure to comply with clearance order 180845 and 2OP-50, Plant Electric System Operating Procedure, Section 8.1, Racking Out a 4 KV breaker was identified as a performance deficiency. The performance deficiency was more than minor because it impacted the equipment performance attribute of the Mitigating Systems Cornerstone objective to maintain the availability and reliability of systems that respond to initiating events to prevent undesirable consequences. The finding was determined to be of very low safety significance because the finding was not a design or qualification deficiency, did not represent a loss of system safety function, did not represent an actual loss of safety function of a single train for greater than its TS allowed outage time, did not represent an actual loss of safety function of one or more non-TS trains of equipment designated as risk-significant per 10 CFR 50.65 for greater than 24 hrs, and did not screen as potentially risk significant due to a seismic, flooding, or severe weather initiating event. The finding has a cross-cutting aspect of human error prevention, as described in the Work Practices component of the Human Performance cross-cutting area because the licensee inadvertently racked out the wrong breaker. H.4(a)
Inspection Report# : 2008005 *(pdf)*

Significance: Dec 31, 2008
Identified By: NRC

Item Type: NCV NonCited Violation
Failure to Correctly Perform Biennial Written Examination for a Licensed Operator
The inspectors identified a non-cited violation of 10 CFR Part 55.59(a)(2) for failure to correctly evaluate and grade a written examination during the biennial requalification examination for licensed operators. The licensee operations training staff incorrectly allowed two correct answers for a question, where the answers were diametrically opposed (opposite one another) which is prohibited by the examination guideline NUREG-1021.
This finding is more than minor because if left uncorrected, it could become a more significant safety concern in that licensed operators would not be adequately tested to ensure an acceptable knowledge level for performing licensed duties. Using the Licensed Operator Requalification Significance Determination Process, this finding was determined to be of very low safety significance (Green) because the individual that failed was a part of a crew that passed their biennial examinations and no issues resulted during the actual watch standing of this crew. All other operators involved were able to perform assigned licensed duties. The finding was a result of the licensee not in compliance with the requirements of TAP-403, “Conduct of Examinations,” and TAP-411, “Continuing Training Annual/Biennial Exam Development, Administration and Security.” The finding was related to the cross-cutting aspect of procedural compliance of the work control component of the cross-cutting area of Human Performance (H.4(b)) because the examination developers did not comply with procedure requirements to ensure examination integrity was maintained. The licensee has initiated a root cause analysis to determine the primary and contributing causes of this event.

Inspection Report# : 2008005 *(pdf)*

Barrier Integrity

Significance: G Mar 31, 2009
Identified By: NRC
Item Type: NCV NonCited Violation
Inadequate Maintenance Procedure for the Control Room Air Conditioning and Emergency Ventilation Instrument Air System
A self-revealing Green NCV of Technical Specification (TS) 5.4.1, Procedures, was identified for inadequate maintenance procedures for the control room air conditioning and emergency ventilation system instrument air dryer. As a result, on January 21, 2009, the control room air conditioning and emergency ventilation instrument air system lost air pressure, rendering the control room air conditioning (AC) system and the control room emergency ventilation (CREV) system inoperable. The licensee entered the issue into their corrective action program and changed maintenance and operating procedures to prevent recurrence.

The failure to implement adequate maintenance procedures for the control room air conditioning and emergency ventilation instrument air system is a performance deficiency. This performance deficiency is more than minor because it is associated with structure, system, and component (SSC), and barrier performance attribute of the Barrier Integrity Cornerstone. It also adversely affected the cornerstone objective of maintaining a radiological barrier for the control room. The finding was determined to be of very low safety significance because it only affected the radiological barrier function of the control room, and does not represent a degradation of the smoke or toxic atmosphere barrier function of the control room. The finding affects the cross-cutting area of human performance, resources component, complete and accurate documentation aspect because the licensee did not incorporate adequate guidance for maintaining the control room AC and CREV instrument air dryer in their maintenance procedures. (H.2.(c))
Inspection Report# : 2009002 *(pdf)*

Emergency Preparedness

Occupational Radiation Safety

Public Radiation Safety

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.

Miscellaneous

Significance: N/A May 08, 2009
Identified By: NRC
Item Type: FIN Finding
Brunswick PI&R Summary
The inspection team concluded that, in general, problems were adequately identified, prioritized, and evaluated; and effective corrective actions were implemented. Site management was actively involved in the corrective action program (CAP) and focused appropriate attention on significant plant issues. The team found that employees were encouraged by management to initiate ARs to address plant issues.

The licensee was effective at identifying problems and entering them into the CAP for resolution, as evidenced by the relatively few deficiencies identified by the NRC that had not been previously identified by the licensee during the review period. The threshold for initiating action requests (ARs) was appropriately low, as evidenced by the type of problems identified and large number of ARs entered annually into the CAP. Action requests normally provided complete and accurate characterization of the problem. However, the team identified two minor equipment issues during system walkdowns involving selected risk-significant safety-related systems, which were not already entered into the CAP.

Generally, prioritization and evaluation of issues were adequate consistent with the licensee’s CAP guidance. Formal root cause evaluations for significant problems were adequate, and corrective actions specified for problems did address the cause of the problems. The age and extensions for completing evaluations were closely monitored by plant management, both for high priority nuclear condition reports (NCRs), as well as for adverse conditions of less significant priority. Also, the technical adequacy and depth of evaluations (e.g., root cause investigations) were typically adequate. However, the team identified a minor issue associated with the problem evaluation of a risk significant system, which could have resulted in unresolved issues with incomplete corrective actions.

Corrective actions were generally effective, timely, and commensurate with the safety significance of the issues. However, the team identified two minor issues associated with inadequate and untimely corrective actions that allowed potential unresolved conditions adverse to quality to remain uncorrected involving degraded equipment performance. This example of inadequate corrective actions did not represent a significant safety concern but reflected a lack of attention to detail in the implementation of corrective actions and preventive maintenance activities.

The operating experience program was effective in screening operating experience for applicability to the plant, entering items determined to be applicable into the CAP, and taking adequate corrective actions to address the issues. External and internal operating experience was adequately utilized and considered as part of formal root cause evaluations for supporting the development of lessons learned and corrective actions for CAP issues. However, the team identified an example where a Significant Adverse Condition Investigation report did not evaluate the applicable operating experience as directed by the licensee’s investigation procedure.

The licensee’s audits and self-assessments were critical and effective in identifying issues and entering them into the corrective action program. These audits and assessments identified issues similar to those identified by the NRC with respect to the effectiveness of the CAP.

Based on general discussions with licensee employees during the inspection, targeted interviews with plant personnel, and reviews of selected employee concerns records, the inspectors determined that personnel at the site felt free to raise safety concerns to management and use the CAP as well as the employee concerns program to resolve those concerns.

Inspection Report# : 2009006 *(pdf)*

Last modified : December 10, 2009