

River Bend 1

3Q/2008 Plant Inspection Findings

Initiating Events

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Significance: Jun 28, 2008

Identified By: NRC

Item Type: NCV NonCited Violation

Inadequate Risk Assessment While Troubleshooting Results in Unanticipated Reactor Power Oscillations

The inspectors identified a noncited violation of 10 CFR 50.65(a)(4) when operators failed to perform an adequate risk assessment associated with a reactor start-up while performing troubleshooting, and during maintenance activities on the main turbine electro hydraulic control system. This resulted in unanticipated oscillations in reactor power and pressure. The licensee entered this issue into their corrective action program as Condition Report RBS-2008-4284.

Using NRC Manual Chapter 0612, Appendix E, Section 3, Item 7(e), this finding is more than minor because Entergy's risk assessment had errors and incorrect assumptions that put the plant in a higher risk category. The risk assessment also failed to consider emergent maintenance activities that could increase the likelihood of initiating events. Using Manual Chapter 0609, "Significance Determination Process," Appendix K, "Maintenance Risk Assessment and Risk Management Significance Determination Process," the finding is determined to have very low safety significance (Green) because the incremental core damage probability deficit for the affected time period is less than 1.0E-6. This finding has a crosscutting aspect in the area of human performance component of decision making because the licensee did not use conservative assumptions in decision making and adopt a requirement to demonstrate the proposed action is safe in order to proceed rather than a requirement to demonstrate that it is unsafe in order to disapprove the action [H.1(b)].

Inspection Report# : [2008003](#) (*pdf*)

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Significance: Mar 29, 2008

Identified By: NRC

Item Type: NCV NonCited Violation

Internal Operating Experience Not Used to Prevent Recurrence of Reactor Recirculation FCV Runbacks

The inspectors identified a noncited violation of Technical Specification 5.4.1.a for an inadequate procedure for securing a reactor feedwater pump. Specifically, the licensee failed to incorporate internal operating experience into the procedure. As a result, a reactor recirculation flow control valve runback resulting from a known reactor vessel water level loop tolerance issue recurred, resulting in an unplanned power reduction. This issue was entered into the licensee's corrective action program as Condition Report RBS-2007-4749.

The finding is more than minor since it affects the human performance area of the initiating events cornerstone and affects the cornerstone objective to limit the likelihood of those events that upset plant stability and challenge critical safety functions. Using the NRC Manual Chapter 0609, "Significance Determination Process," Phase 1 worksheet, the finding has very low safety significance since it did not contribute to both the likelihood of a reactor scram and the likelihood that mitigating equipment would not have been available.

Inspection Report# : [2008002](#) (*pdf*)

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Significance: Mar 29, 2008

Identified By: Self-Revealing

Item Type: FIN Finding

Condensate Demineralizer Tank Liner Failure

A self-revealing finding was identified for the failure to properly repair condensate Demineralizer 1E tank liner prior to returning it to service. As a result, failure of the liner resulted in approximately 20,000 gallons of radiological contaminated condensate being spilled from the manway flange. Operations lowered reactor power from 90 percent to 82 percent to conserve condensate system inventory. This issue was entered into the licensee's corrective action program as Condition Report RBS-2007-5440.

The finding is greater than minor because it was associated with the equipment performance attribute of the initiating events cornerstone and affected the cornerstone objective to limit the likelihood of events that upset plant stability and challenge critical safety functions during shutdown and power operations. Using the NRC Manual Chapter 0609, "Significance Determination Process," Phase 1 worksheet, the finding was considered to be a transient initiator contributor which contributed to both the likelihood of a reactor trip and the likelihood that mitigation equipment or functions would not be available and, therefore, screened to Phase 2. Using the Phase 2 worksheets, the inspectors assumed that successful recovery of the condensate system from the leak was highly likely and determined the finding to be of very low safety significance. This finding has crosscutting aspects associated with human performance in the area of resources in that a complete, accurate, and up-to-date work package was not available to assure nuclear safety [H.2(c)].

Inspection Report# : [2008002](#) (*pdf*)

G**Significance:** Dec 31, 2007

Identified By: Self-Revealing

Item Type: NCV NonCited Violation

RPS Terminal Board Loose Connection Results in a Reactor Scram

A self-revealing noncited violation of 10 CFR Part 50 Appendix B, Criterion V was identified involving the failure to adequately torque reactor protection system electrical terminal board connections during initial construction. This failure resulted in a loose terminal connection causing thermal degradation that subsequently resulted in an automatic reactor scram during average power range monitor surveillance testing. The licensee entered this issue into their corrective action program as Condition Report CR-RBS-2007-04264.

The finding was more than minor because it was associated with the initiating events cornerstone attribute of equipment performance and affected the associated cornerstone objective to limit the likelihood of those events that upset plant stability and challenge critical safety functions during power operations. Using Manual Chapter 0609, "Significance Determination Process," Phase 1 Worksheet, the finding was determined to have very low safety significance (Green) because the finding did not contribute to both the likelihood of a reactor trip and that mitigating equipment or functions would not be available following a reactor trip.

Inspection Report# : [2007005](#) (*pdf*)**G****Significance:** Dec 31, 2007

Identified By: Self-Revealing

Item Type: NCV NonCited Violation

Inadequate Preventive Maintenance Strategy Results in a Breaker's Failure to Promptly Open Due to Hardened Grease Results in a Complicated Reactor Scram

A self-revealing Green noncited violation of 10 CFR 50.65(A)(3) was identified for failure to incorporate internal and external operating experience into preventive maintenance activities to prevent industry known electrical circuit breaker deficiencies. Specifically, inadequate breaker maintenance, leading to grease hardening degradation, resulted in inadequate electrical fault protection on November 7, 2007. The failure to adequately isolate the electrical fault resulted in a complicated reactor scram involving the loss of the main condenser and reactor feedwater. The licensee entered this into their corrective action program as CR-RBS-2007-04922.

The finding was more than minor because it was associated with the initiating events cornerstone attribute of equipment performance and affected the associated cornerstone objective to limit the likelihood of those events that upset plant stability and challenge critical safety functions during power operations. The inspectors evaluated the finding using Manual Chapter 0609, Appendix A, "Significance Determination of Reactor Inspection Findings for At-Power Situations." The finding required a Phase 2 analysis because the finding contributed to the likelihood of a reactor trip and the likelihood that mitigation equipment or functions would not be available. A senior reactor analyst estimated the risk of the subject finding using the Risk-Informed Inspection Notebook for River Bend Station, Unit 1, Revision 2.1a. The analyst determined the finding was of very low safety significance.

This finding has a crosscutting aspect in the area of Problem Identification and Resolution, Corrective Action Program, because the licensee did not take appropriate corrective actions to address safety issues and adverse trends in a timely manner, commensurate with their safety significance and complexity.

Inspection Report# : [2007005](#) (*pdf*)**G****Significance:** Dec 31, 2007

Identified By: Self-Revealing

Item Type: FIN Finding

Inadequate Preventative Maintenance Results in a Plant Down Power

A self-revealing finding was identified for failure to perform adequate preventive maintenance for control panels associated with providing make up water to the circulating water system. Adequate preventative maintenance was not performed on this system, resulting in failure, based on an inappropriate run to failure classification of this equipment. The failure of this system resulted in a significant unplanned reduction in reactor power to 20 percent. The licensee entered this issue into their corrective action program as Condition Report CR-RBS-2007-04447.

The finding was more than minor because it was associated with the initiating events cornerstone attribute of equipment performance and affected the associated cornerstone objective to limit the likelihood of those events that upset plant stability and challenge critical safety functions during power operations. Using Manual Chapter 0609, "Significance Determination Process," Phase 1 Worksheet, the finding has very low safety significance (Green) since the finding did not contribute to both the likelihood of a reactor trip and that mitigating equipment or functions would not be available following a reactor trip.

Inspection Report# : [2007005](#) (*pdf*)



Significance: Aug 26, 2008

Identified By: NRC

Item Type: NCV NonCited Violation

Eight Examples of a Failure to Meet 10 CFR Part 50, Appendix B, "Design Control"

The team identified a finding of very low safety significance involving a noncited violation of 10 CFR Part 50, Appendix B, Criterion III, "Design Control," with eight examples.

- Example 1: Non-conservative inputs and assumptions used without adequate technical justification to evaluate the minimum terminal voltage and actuator output torque for safety-related motor operated valves. After identification, the licensee entered the issue into the corrective action program as Condition Report CR-RBS-2008-03339.
- Example 2: Failure to perform a conservative analysis to ensure that Technical Specification Setpoints were adequate. After identification, the licensee entered the issue into the corrective action program as Condition Report CR-RBS-2008-03911.
- Example 3: Non-conservative inputs and methodologies used in calculating control circuit voltages to safety-related 480V motor operated valves motor-operated valve and motors that would be required to operate for mitigation of design bases events. After identification, the licensee entered the issue into the corrective action program as Condition Report CR-RBS-2008-03858.
- Example 4: Failure to evaluate E12-MOV-F042A, residual heat removal injection valve, and E12-MOV-F064A, residual heat removal minimum flow valve, to verify adequate voltage would be available to operate the associated 120VAC control circuit devices. After identification, the licensee entered the issue into the corrective action program as Condition Report CR-RBS-2008-03641
- Example 5: Inadequate design basis documentation for hydrogen concentration control in the Division I and II Battery Rooms in the control building. After identification, the licensee entered the issue into the corrective action program as Condition Reports CR-RBS-2008-02566 and CR-RBS-2008-03403.
- Example 6: Failure to ensure design basis information for safety related 125VDC batteries was controlled and correctly translated into procedures and instructions. After identification, the licensee entered the issue into the corrective action program as Condition Report CR-RBS-2008-03659.
- Example 7: Failure to maintain adequate design basis calculations for ultimate heat sink loading. After identification, the licensee entered the issue into the corrective action program as Condition Report CR-RBS-2008-3712.
- Example 8: Failure to account for the technical specification allowed emergency diesel generator frequency variation in the diesel loading calculation. After identification, the licensee entered the issue into the corrective action program as Condition Report CR-RBS-2008-03556.

The examples associated with this finding were more than minor per Manual Chapter 612, Appendix E, Appendix E, "Examples of Minor Issues," Example 3j, in that each example resulted in a condition where there was reasonable doubt on the operability of a system or component. The finding was associated with the design control attribute of the Mitigating Systems Cornerstone and affected the cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. Traditional enforcement does not apply because the issue did not have any actual safety consequences or potential for impacting the NRC's regulatory function, and was not the result of any willful violation of NRC requirements. In accordance with Inspection Manual Chapter 0609, Attachment 4, "Phase 1 – Initial Screening and Characterization of Findings," a Phase 1 screening was performed and determined each example was of very low safety significance (Green) because it was a design or qualification deficiency confirmed not to result in a loss of operability or functionality.

Inspection Report# : [2008006](#) (*pdf*)



Significance: Aug 26, 2008

Identified By: NRC

Item Type: NCV NonCited Violation

Failure to Recalculate Suppression Pool Peak Temperature Rseponse

The team identified a finding of very low safety significance involving a noncited violation of 10 CFR Part 50, Appendix B, Criterion III, "Design Control," in that, design control measures for verifying the adequacy of design were not implemented. Specifically, the licensee did not recalculate suppression pool peak temperature response when a more severe single failure condition was identified. In response, the licensee entered this issue in the corrective action program as Condition Report CR-RBS-2008-03661 and determined that suppression pool peak temperature response was acceptable.

The finding was more than minor because it was associated with the design control attribute of the Mitigating Systems Cornerstone and affected the cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. Traditional enforcement does not apply because the issue did not have any actual safety consequences or potential for impacting the NRC's regulatory function, and was not the result of any willful violation of NRC requirements. In accordance with Inspection Manual Chapter 0609, Attachment 4, "Phase 1 – Initial Screening and Characterization of Findings," a Phase 1 screening was performed and determined the finding was of very low safety significance (Green) because it was a design or qualification deficiency confirmed not to result in a loss of operability or functionality of the suppression pool. The finding had a cross-cutting aspect in the area of

problem identification and resolution because the licensee initiated a corrective action program action to re-evaluate long-term suppression pool peak temperature performance but closed the action without its completion [P.1 (d)].

Inspection Report# : [2008006](#) (*pdf*)

Significance:  Aug 26, 2008

Identified By: NRC

Item Type: NCV NonCited Violation

Inadequate Testing Programs for 4-kV Circuit Breakers, Class 1E Molded Case Circuit Breakers, and the Emergency Diesel Generators

The team identified a finding of very low safety significance involving a noncited violation of 10 CFR Part 50, Appendix B, Criterion XI, "Test Control," with three examples. Specifically, the team identified that the licensee failed to develop and implement adequate testing programs for 4-kV circuit breakers, Class 1E molded-case circuit breakers, and the emergency diesel generators that met design or vendor requirements and recommendations. In response, the licensee entered these examples in the corrective action program as Condition Reports CR RBS-2008-04379, CR-RBS-2008-3634, CR-RBS-2008-3676 and CR-RBS-2008-3701 and determined there was no loss of safety function for the affected components.

The examples associated with this finding were more than minor because they were associated with the equipment control attribute of the Mitigating Systems Cornerstone and affected the cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. Traditional enforcement does not apply because the issue did not have any actual safety consequences or potential for impacting the NRC's regulatory function, and was not the result of any willful violation of NRC requirements. In accordance with Inspection Manual Chapter 0609, Attachment 4, "Phase 1 – Initial Screening and Characterization of Findings," a Phase 1 screening was performed and determined each example was of very low safety significance (Green) because it 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 Technical Specification allowed outage time, did not represent an actual loss of one or more risk-significant non-Technical Specification trains of equipment for greater than 24 hours, and did not screen as potentially risk-significant due to seismic, flooding, or severe weather.

Inspection Report# : [2008006](#) (*pdf*)

Significance:  Aug 26, 2008

Identified By: NRC

Item Type: NCV NonCited Violation

Inadequate Implementation of Temporary Installation Procedure

The team identified a finding of very low safety significance involving a noncited violation of 10 CFR Part 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings," for five examples of failure to follow the requirements of ADM-0073 "Temporary Installation Guidelines" during the installation of modifications to the plant. Specifically, four modifications were installed in the plant that did not meet the criteria of a temporary installation and one was not removed when no longer needed, as required by the procedure. After identification, the licensee entered the issue into the corrective action program as CR-RBS-2008-3410.

Although the team considered each of the above examples minor in significance, the team determined that this finding, which was associated with design control attribute of the Mitigating Systems cornerstone, was more than minor per Manual Chapter 612, Appendix E, "Examples of Minor Issues," Example 4a. The finding involved multiple examples of failure to follow licensee procedural requirements and if left uncorrected it could result in design modifications to the plant that were not properly evaluated, controlled, documented and installed. Traditional enforcement does not apply because the issue did not have any actual safety consequences or potential for impacting the NRC's regulatory function, and was not the result of any willful violation of NRC requirements. In accordance with Inspection Manual Chapter 0609, Attachment 4, "Phase 1 – Initial Screening and Characterization of Findings," a Phase 1 screening was performed and determined the finding was of very low safety significance (Green) because the condition 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 Technical Specification allowed outage time, did not represent an actual loss of one or more risk-significant non-Technical Specification trains of equipment for greater than 24 hours, and did not screen as potentially risk-significant due to seismic, flooding, or severe weather. The finding had a crosscutting aspect associated with resources in the human performance area because the licensee failed to ensure that personnel, equipment, procedures, and other resources were available and adequate to assure nuclear safety. Specifically, those necessary for maintaining long term plant safety by maintenance of design margins, minimization of long-standing equipment issues, minimizing preventative maintenance deferrals, and ensuring maintenance and engineering backlogs which were low enough to support safety [H.2 (a)].

Inspection Report# : [2008006](#) (*pdf*)

Significance:  Aug 26, 2008

Identified By: NRC

Item Type: NCV NonCited Violation

Inadequate Implementation of Operability Determination Procedure

The team identified a finding of very low safety significance involving a noncited violation of 10 CFR Part 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings," for the failure to follow procedures to evaluate conditions adverse to quality for impacts on the

operability of safety-related equipment. Specifically, the licensee did not assess the impact on operability of previous steam leaks and motor-stall events on the corrosion of magnesium-rotors in safety-related motor-operated valves. The licensee entered this issue into the corrective action program as Condition Reports CR-RBS-2008-3713 and CR-RBS-2008-3766.

The finding was more than minor because it is associated with the equipment performance attribute of the Mitigating Systems cornerstone objective of ensuring the availability, reliability, and capability of safety-related motor-operated valves to respond to initiating events to prevent undesirable consequences. Traditional enforcement does not apply because the issue did not have any actual safety consequences or potential for impacting the NRC's regulatory function, and was not the result of any willful violation of NRC requirements. In accordance with Inspection Manual Chapter 0609, Attachment 4, "Phase 1 – Initial Screening and Characterization of Findings," a Phase 1 screening was performed and determined the finding was of very low safety significance (Green) because the condition 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 Technical Specification allowed outage time, did not represent an actual loss of one or more risk-significant non-Technical Specification trains of equipment for greater than 24 hours, and did not screen as potentially risk-significant due to seismic, flooding, or severe weather. The cause of the finding had crosscutting aspects associated with the corrective action program in the problem identification and resolution area because the licensee did not thoroughly evaluate the problems with magnesium-rotor corrosion including the extent of the condition and operability impact [P.1(c)].

Inspection Report# : [2008006](#) (*pdf*)

Significance:  Jun 28, 2008

Identified By: NRC

Item Type: NCV NonCited Violation

Inadequate Risk Assessment for Removing Control Building Chilled Water System from Service

The inspectors identified a noncited violation of 10 CFR 50.65(a)(4) when operators failed to perform an adequate risk assessment while the Division 1 control building chilled water and control building air conditioning systems were unavailable. Specifically, the inspectors identified that licensee personnel nonconservatively evaluated the on-line risk as Green instead of Yellow. This resulted in an unrecognized increase in the level of risk as determined by Entergy's probabilistic safety analysis evaluation. The licensee entered this issue into their corrective action program as Condition Report RBS-2008-2687.

Using NRC Manual Chapter 0612, Appendix E, Section 3, Item 7(e), the finding is more than minor because the licensee's risk assessment had errors and incorrect assumptions that put the plant in a higher risk category. Using Manual Chapter 0609, "Significance Determination Process," Appendix K, "Maintenance Risk Assessment and Risk Management Significance Determination Process," the finding is determined to have very low safety significance (Green) because the incremental core damage probability deficit for the affected period is less than 1.0E-6. This finding has a crosscutting aspect in the area of problem identification and resolution component of operating experience because Entergy did not systematically communicate to affected internal stakeholders in a timely manner relevant internal operating experience [P.2 (a)].

Inspection Report# : [2008003](#) (*pdf*)

Significance:  Mar 29, 2008

Identified By: NRC

Item Type: NCV NonCited Violation

Improper Design Control for Evaluating Emergency Diesel Generator Turbocharger Combustion Air Pipe Stresses

The inspectors identified a noncited violation of Title 10 CFR Part 50, Appendix B, Criterion III, "Design Control," for failure to incorporate accurate design information into a calculation to determine emergency diesel generator turbocharger discharge combustion air pipe stresses. This resulted in pipe failure. Specifically, a calculation assumed nonconservative pipe wall thicknesses and process air temperatures, treated pipe end points as rigid anchors and failed to use stress intensification factors. This resulted in low calculated pipe stresses. With appropriately calculated pipe stress values, Entergy personnel could reasonably have been expected to adequately modify the combustion air piping to preclude subsequent failures. This issue was entered into the licensee's corrective action program as Condition Report RBS-2008-2869.

This issue was determined to be more than minor because it affected the mitigating systems cornerstone objective and was similar to Manual Chapter 0612, Appendix E, Example 3.j because the errors were considered more than a minor calculation error in that the deficiency failed to identify the high pipe wall stresses that significantly reduced the overall allowable material strength margin. Later pipe and weld flaws developed at the intercooler adapter and turbocharger end connections that rendered the emergency diesel generator Division 2 inoperable. Using the Manual Chapter 0609, "Significance Determination Process," Phase 1 worksheet, the inspectors determined that the issue was of very low safety significance (Green) because it did not screen as risk significant due to a seismic, flooding, or severe weather initiating event. Inspection Report# : [2008002](#) (*pdf*)

Barrier Integrity

Significance:  Aug 26, 2008
Identified By: NRC

Item Type: NCV NonCited Violation

Inadequate/Untimely Corrective Action for Failure of Magnesium-Rotor Motor-Operated Valves

The team identified a finding of very low safety significance involving a noncited violation of 10 CFR Part 50 Appendix B, Criterion XVI, "Corrective Action," for failure to promptly identify magnesium-rotor motor-operated valve degradation. Specifically, the licensee did not identify magnesium-rotor degradation in May 2007 after failure of Valve B21-MOV-FO65A, "Reactor Inlet Heater 'A' Outboard Motor Operated Isolation Valve," until after failure of Valve B21-MOV-FO98C, "Main Steam Shutoff Valve," in September 2007. The licensee entered this issue into the corrective action program as Condition Reports CR-RBS-2008-3713 and CR-RBS-2008-3766.

This finding was more than minor because Valve B21-MOV-FO98C was associated with the Barrier Integrity Cornerstone and affected the cornerstone objective of providing reasonable assurance that the physical design barriers (fuel cladding, reactor coolant system, and containment) protect the public from radionuclide releases caused by accidents or events. Traditional enforcement does not apply because the issue did not have any actual safety consequences or potential for impacting the NRC's regulatory function, and was not the result of any willful violation of NRC requirements. Inspection Manual chapter 0609 Appendix H, "Containment Integrity Significance Determination Process," Table 4.1, indicated that the Main Steam Shutoff Valves do not impact large early release frequency. Based on the results of the Appendix H analysis, the finding was determined to have very low safety significance. This finding had cross-cutting aspects associated with decision-making in the human performance area in that the licensee did not use conservative assumptions in decision-making regarding the likelihood of magnesium-rotor degradation in motor-operated valves [H.1 (b)].

Inspection Report# : [2008006](#) (*pdf*)

Significance:  Mar 29, 2008

Identified By: Self-Revealing

Item Type: NCV NonCited Violation

Failure to Follow Reactor Startup Procedure Results in Six Control Rod Withdrawal Errors

A self-revealing noncited violation of Technical Specification 5.4.1.a occurred when River Bend Station reactor operators failed to comply with General Operating Procedure GOP 000-1, "Plant Start Up." Specifically operators withdrew six control rods two notches past the target out notch position specified in Reactivity Control Plan RCP-15-03. No fuel damage resulted from these errors. This issue was entered into the licensee's corrective action program as Condition Report RBS-2008-2174.

This finding was more than minor because the finding affected the barrier integrity cornerstone attributes of configuration control and human performance and adversely impacts the cornerstone's objective to provide reasonable assurance that physical design barriers (fuel cladding) protect the public from radio nuclide releases caused by accidents or events. The inspectors completed a Phase 1 significance determination using Manual Chapter 0609 Appendix A, Significance Determination Process Phase 1 screening worksheet, and determined the finding to be of very low safety significance (Green) because the performance issue only degraded the fuel cladding barrier. This finding had crosscutting aspects associated with human performance in the area of work practices in that the reactor operators failed to use self-check and peer-check during control rod reactivity manipulations (H.4.a).

Inspection Report# : [2008002](#) (*pdf*)

Emergency Preparedness

Occupational Radiation Safety

Significance:  Jun 28, 2008

Identified By: NRC

Item Type: NCV NonCited Violation

Failure to Follow a Radiation Protection Procedure

The inspector reviewed a self-revealing noncited violation of Technical Specification 5.4.1 which resulted from workers failing to follow a radiation protection procedure. On January 13, 2008, three workers attempted to exit the radiologically controlled area and alarmed the personnel contamination monitors. The workers were removing tubes from the Water Box B. The licensee determined radiation protection staff did not follow the radiation work permit planning procedure to use representative radiological surveys for the work performed. The radiation work permit planning did not include previous water box internal and other related surveys which would correspond to the removal of the water box tubes. The licensee's investigation found that the contamination levels on the tubes were as high as 150,000 disintegrations per minute per 100 cm². The licensee revised the radiation work permit to include the actual working conditions and appropriate personnel protective equipment.

Workers failing to follow a radiation protection procedure is a performance deficiency. The finding is greater than minor because, if left uncorrected, the deficiency would become a more radiologically significant safety concern resulting in additional workers' unplanned,

unintended dose as work continued to be performed under an inadequate radiation work permit. Since this issue involved workers' unplanned and unintended dose, the Occupational Radiation Safety Significance Determination Process was used to determine the safety significance. The inspector determined the finding had very low safety significance because: (1) it was not an ALARA finding, (2) there was no overexposure, (3) there was no substantial potential for an overexposure, and (4) the ability to assess dose was not compromised. Additionally, the finding had a crosscutting aspect in the area of human performance, work control, because the radiation protection staff did not plan work activities consistent with radiological safety by incorporating risk insights and job site conditions of the actual work to be performed during the radiation work permit planning [H.3(a)].
Inspection Report# : [2008003](#) (*pdf*)

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Significance: Dec 31, 2007

Identified By: Self-Revealing

Item Type: NCV NonCited Violation

Failure to Evaluate the Magnitude and Extent of Radiological Hazards Results in Personnel Contaminations

A self-revealing noncited violation of 10 CFR 20.1501(a) was identified for failure to evaluate the magnitude and extent of radiological hazards associated with performing inspections of equipment in the containment building after a reactor trip on May 4, 2007. This failure resulted in six personnel contaminations and uptakes. Followup surveys identified contamination levels of 60 mRad/smear beta/gamma and up to 1300 dpm alpha. Air sample results determined a derived air concentration value of 44 for noble gas. The licensee has placed this event in the radiation protection continuing training program and entered it into their corrective action program as Condition Report CR-RBS-2007-1822.

This finding was greater than minor because it was associated with the occupational radiation safety cornerstone attribute of program and process and affected the cornerstone objective in that the failure to evaluate the magnitude and extent of radiological hazards could cause unintentional dose to radiation workers. This finding was evaluated using the Occupational Radiation Safety Significance Determination Process and determined to be of very low safety significance (Green) because it did not involve: (1) ALARA planning and controls, (2) an overexposure, (3) a substantial potential for overexposure, or (4) an impaired ability to assess dose. This finding had a crosscutting aspect in the area of human performance related to the component of work control because the licensee did not communicate, coordinate, and cooperate with each other during activities in which interdepartmental coordination is necessary to assure plant and human performance.
Inspection Report# : [2007005](#) (*pdf*)

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Significance: Dec 31, 2007

Identified By: Self-Revealing

Item Type: NCV NonCited Violation

Failure to Follow Radiation Work Permit and Radiation Worker Expectations

A self-revealing noncited violation of Technical Specification 5.4.1 was identified for failure to follow radiation work permit instructions resulting in a worker entering a posted high radiation area without authorization. On April 20, 2007, an individual received an electronic alarming dosimeter dose rate alarm after entering a posted high radiation area. The individual was signed on to a radiation work permit that did not allow entry into a high radiation area. This violation was entered into licensee's corrective action program as Condition Report CR-RBS-2007-1584.

This finding was greater than minor because it was associated with the occupational radiation safety cornerstone attribute of human performance and affected the cornerstone objective in that the failure to follow radiation work permit requirements could cause unintentional dose. This finding was evaluated using the Occupational Radiation Safety Significance Determination Process and determined to be of very low safety significance (Green) because it did not involve: (1) ALARA planning and controls, (2) an overexposure, (3) a substantial potential for overexposure, or (4) an impaired ability to assess dose. This finding had a crosscutting aspect in the area of human performance related to the component of work practices because the individual involved did not use proper self-checking and entered an area he was not authorized to enter.
Inspection Report# : [2007005](#) (*pdf*)

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Significance: Dec 31, 2007

Identified By: NRC

Item Type: NCV NonCited Violation

Failure to Post a Radiation Area

An NRC-identified noncited violation of 10 CFR 20.1902(a) was identified for failure to conspicuously post a radiation area. Specifically, the inspector identified an entrance to a radiation area on the 90-foot elevation of the radwaste building that was accessible by a permanently installed ladder from the 65-foot elevation, which was not conspicuously posted as a radiation area. General area dose rates in the area were as high as 7 mrem/hour. This violation was entered into the licensee's corrective action program as Condition Report CR-RBS-2007-4954.

This finding was greater than minor because it was associated with the occupational radiation safety cornerstone attribute of program and process and affected the cornerstone objective in that the failure to post radiation areas could cause unintentional dose to radiation workers. This finding was evaluated using the Occupational Radiation Safety Significance Determination Process and determined to be of very low safety significance (Green) because it did not involve: (1) ALARA planning and controls, (2) an overexposure, (3) a substantial potential for overexposure, or (4) an impaired ability to assess dose. This finding had a crosscutting aspect in the area of human performance related to the component of work practices because radiation protection personnel did not adhere to management expectations regarding procedural

compliance and following station procedures.
Inspection Report# : [2007005](#) (*pdf*)

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

Last modified : November 26, 2008