

## River Bend 1

### 4Q/2004 Plant Inspection Findings

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## Initiating Events

**Significance:** G Dec 31, 2004

Identified By: NRC

Item Type: NCV NonCited Violation

### **Failure to revise a tagging boundary to support an emergent troubleshooting task resulted in a loss of protected division of offsite power and shutdown cooling**

The inspectors identified a green noncited violation of Technical Specification 5.4.1.a for failure to make a proper change to the tagging boundary around balance of plant Transformer RTX-XSR1F during Refueling Outage 12. This performance deficiency resulted in a trip signal, generated during troubleshooting the transformer sudden overpressure protection circuit, which caused the trip of switchyard Breakers OCB-20670 and OCB-20665. This resulted in the loss of offsite power to Division II engineered safety features Transformer RTX-XSR1D, causing a loss of shutdown cooling, a loss of alternate decay heat removal, containment isolations, and an automatic start of the Division II emergency diesel generator.

The inspectors determined that this human performance error was more than minor because it was associated with the initiating event cornerstone objective to limit the likelihood of those events that upset plant stability and challenge critical safety functions during shutdown operations. The inspectors evaluated the finding using IMC 0609, Appendix G, "Shutdown Operations Significance Determination Process," and determined that the loss of offsite power to Division II engineered safety features switchgear was of very low safety significance because there was no increased likelihood of a loss of reactor coolant system inventory, there was no loss of reactor water level instrumentation, there was no degradation of the licensee's ability to terminate a leak path or add water to the reactor when needed, nor was there any degradation of the licensee's ability to recover decay heat removal once it was lost. Because this human performance error was of very low safety significance (Green) and was documented in the licensee's corrective action program as CR-RBS-2003-03456, this violation is being treated as a noncited violation, consistent with Section VI.A of the NRC Enforcement Policy, NUREG-1600.

Inspection Report# : [2004005\(pdf\)](#)

**Significance:** G Dec 31, 2004

Identified By: Self Disclosing

Item Type: NCV NonCited Violation

### **Human performance error causes a loss of offsite power to Division I ESF Switchgear and start of the Division I emergency diesel generator during Refueling Outage 12**

The inspectors identified a self-revealing noncited violation of Technical Specification 5.4.1.a. that was of very low safety significance (Green). As a result, during preparation for Division I integrated emergency core cooling systems testing, a technician inadvertently made contact with the wrong terminal on an undervoltage relay which tripped the preferred offsite power feeder breaker for the Division I safety-related 4160 Vac switchgear and started the Division I emergency diesel generator.

The inspectors determined that the inadvertent contact of the wrong terminal on Division I was a performance deficiency and a human performance error. Also, ineffective and incomplete corrective actions for similar errors contributed to the performance deficiency. The finding was more than minor because it was associated with the initiating events cornerstone objective to limit the likelihood of events that upset plant stability and challenge critical safety functions, namely a partial loss of offsite power. The inspectors evaluated the finding using Inspection Manual Chapter 0609, Appendix G, "Shutdown Operations Significant Determination Process," Attachment 1, Checklist 7, "BWR Refueling Operations with RCS Level greater than 23 feet." The finding was of very low safety significance (Green) because it did not cause a loss of shutdown cooling and did not compromise the ac power guidelines that: (1) one qualified circuit of offsite power remain operable; (2) at least one emergency diesel generator remain operable; and (3) necessary portions of the ac electrical power distribution systems remain operable.

The inspectors determined that this human performance error with problem identification and resolution aspects was the result of a violation of Technical Specification 5.4.1.a. which states, in part, that procedures shall be implemented and maintained as recommended in NUREG 1.33, Revision 2, Appendix A. Section 9.e. refers to general procedures for the control of maintenance activities. The licensee failed to evaluate the applicability of error reduction techniques, such as "taping of adjacent leads/contact points," for the installation of jumpers during Division I integrated emergency core cooling system testing, Procedure STP-309-0603, in accordance with Procedure ADM-0023, "Conduct of Maintenance," Revision 17A, Section 8.5. In addition, the licensee failed to install banana jacks on terminals on the back of the undervoltage relay in the Division I safety-related 4160 Vac switchgear, which were jumpered during the performance of Procedure STP-309-0603, in accordance with Procedure EDS-EE-001, "Banana Jack Standard," Revision 3. Because the finding was of very low safety significance and was entered into the licensee's corrective action program as Condition Report CR-RBS-2004-3518, this violation is being treated as a noncited violation, consistent with Section VI.A of the NRC Enforcement Policy, NUREG-1600.

Inspection Report# : [2004005\(pdf\)](#)

**G****Significance:** Dec 31, 2004

Identified By: NRC

Item Type: FIN Finding

**Automatic reactor scram during main turbine control valve testing due to control system malfunction**

The inspectors identified a finding based on the licensee's failure to adequately identify the root cause of the April 21, 2001, turbine trip and reactor scram so as to prevent recurrence. This failure resulted in a subsequent turbine trip and reactor scram on September 22, 2003.

The inspectors determined that the failure by the licensee to adequately identify the root cause of the April 21, 2001, event and to take effective corrective actions to prevent electrostatic arcing from affecting the primary and backup speed probes, was a performance deficiency. The inspectors determined that this performance deficiency led directly to the recurrence of the event on September 22, 2003. The finding was more 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 those events that upset plant stability and challenge critical safety functions during shutdown as well as power operations. The inspectors reviewed the finding using Inspection Manual Chapter 0609, Appendix A, "Significance Determination of Reactor Inspection Findings for At-Power Situations." Based on the the Phase 1 screening of the finding, the inspectors determined that the finding was of very low safety significance because it did not affect loss of coolant accident initiators, did not contribute to increasing the likelihood of both an initiating event and affect mitigating equipment, and did not increase the likelihood of a fire or flood. This finding had problem identification and resolution crosscutting aspects regarding ineffective root cause determinations (evaluation). It was entered into the licensee's corrective action program as Condition Report CR-RBS-2003-3203.

Inspection Report# : [2004005\(pdf\)](#)**G****Significance:** Dec 31, 2004

Identified By: Self Disclosing

Item Type: FIN Finding

**Failure to identify and properly evaluate deficient conditions related to switchyard breakers**

The inspectors identified a self-revealing finding of very low safety significance concerning the licensee's failure to identify a deficient condition due to preconditioned speed testing of station switchyard breakers and properly evaluate three similar failures of station switchyard breakers. As a result, three switchyard breakers opened slowly on August 15, 2004, and a transmission line ground fault that should have been isolated from the station switchyard remained connected to the main transformer long enough to cause a main generator lockout and reactor scram. Additionally, because slow breaker opening deenergized the north 230 kV bus, isolation of a coincident transmission line fault resulted in a loss of power to half of the balance of plant loads and the Division II engineered safety features switchboard.

This problem identification and resolution finding was more than minor because it was associated with the initiating events cornerstone objective to limit those events that upset plant stability and challenge a critical safety function during power operations. The inspectors evaluated the finding using Inspection Manual Chapter 0609, Appendix A, "Significance Determination of Reactor Inspection Findings for At-Power Situations." Because the finding contributed to the likelihood of a reactor trip and the likelihood that mitigation equipment or functions would not be available, the finding required a Phase 2 analysis. The inspectors referred the results of the Phase 2 analysis to the regional senior reactor analyst for final determination of risk.

The senior reactor analyst performed a Phase 3 analysis of the event. The factors that contributed to the result of that analysis included: (1) the dominant sequence was a transient with a loss of power to a vital bus; (2) the consequences of the finding were bounded by a complete loss of offsite power; (3) the history of single slow switchyard breaker operation; (4) the design and layout of the station switchyard; and (4) the possibility of recovery from either a partial or complete loss of offsite power given the conditions that led to the events of August 15, 2004. The result was that the finding was of very low safety significance.

Inspection Report# : [2004005\(pdf\)](#)**G****Significance:** Oct 08, 2004

Identified By: Self Disclosing

Item Type: FIN Finding

**Failure to maintain circulating water cooling tower drift eliminators and to take timely corrective actions to address insulator arcing**

The inspectors documented a self-revealing finding for failure to adequately maintain the circulating water cooling tower drift eliminators which resulted in salt contamination of the insulators in the on-site transformer yard, and failure to take corrective actions when pre-established trigger points were reached regarding insulator arcing (corona). The resulting contamination and failure to clean the insulators caused ground faults on Reserve Station Service Line1 and main transformers, which resulted in the loss of the Division I off-site power and a reactor scram on October 1, 2004. This finding had crosscutting aspects related to problem identification and resolution in that corrective actions were not implemented in a timely manner to prevent a significant plant transient.

This finding is more 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 those events that upset plant stability and challenge critical safety functions during shutdown as well as power operations. A completed Phase 3 evaluation resulted in an incremental conditional core damage probability of 1.2E-7. Therefore, the significance of the finding was determined to be of very low safety significance.

Inspection Report# : [2004012\(pdf\)](#)

## Mitigating Systems

**Significance:** **G** Dec 31, 2004

Identified By: Self Disclosing

Item Type: NCV NonCited Violation

### **Wide range reactor water level indication did not respond, as expected by operators, following an unplanned reactor scram**

A self-revealing, noncited violation of 10 CFR 55.46(c) was identified regarding differences between the simulator's and the plant's wide-range reactor water level digital indications during an unplanned reactor scram. This unexpected level indication resulted in indecision on the part of the operators during postscram recovery actions on December 10, 2004.

This finding is more than minor since deficiencies in the operator training program could become a more significant safety concern if left uncorrected. Based on the results of the significance determination process using Inspection Manual Chapter 0609, Appendix I, "Operator Requalification Human Performance Significance Determination Process," this finding was determined to have very low safety significance, since it did not involve an exam or operating test but did involve a simulator fidelity issue which impacted operator actions during the response to an actual transient in the plant.

Inspection Report# : [2004005\(pdf\)](#)

**Significance:** **G** Dec 31, 2004

Identified By: Self Disclosing

Item Type: NCV NonCited Violation

### **Rainwater leaked from auxiliary building roof onto Division I auxiliary building 480 Vac ESF switchgear, causing loss of a safety-related auxiliary building area unit**

The inspectors identified a self-revealing noncited violation of 10 CFR Part 50 Appendix B, Criterion XVI, for the licensee's failure to take timely and effective corrective action to prevent recurrence of rainwater leakage from the auxiliary building roof onto auxiliary building 480 Vac safety-related Switchgear EJS-SWGR2A, causing a loss of auxiliary building area unit Cooler HVR-UC11A. Investigation into the source of water determined that rainwater was accumulating inside the auxiliary building fresh air intake structure on the roof and leaking through seals along the air inlet ductwork onto Switchgear EJS-SWGR2A. The inspectors determined that this was a repeat of a February 5, 2004, leak documented in River Bend Station Condition Report 2004-0346 and a problem identification and resolution Noncited Violation 05000458/2004002-02. This finding had crosscutting aspects related to ineffective corrective actions.

The inspectors determined that the licensee's failure to take timely and effective corrective action to stop rainwater leaks from the auxiliary building roof onto Switchgear EJS-SWG2A was a performance deficiency that caused the loss of Cooler HVR-UC11A. The finding was more than minor because, if left uncorrected, rainwater leaks from the auxiliary building roof could lead to the loss of other Division I safety-related equipment and motor control centers powered by Switchgear EJS-SWG2A. The inspectors reviewed the finding using Inspection Manual Chapter 0609, Appendix A, "Significance Determination of Reactor Inspection Findings for At-Power Situations." Based on the results of the Phase 1 screening of the finding, the inspectors determined that the finding was of very low safety significance because the short-term loss of unit Cooler HVR-UC11A did not cause an actual loss of safety function of any train of Technical Specification risk significant equipment and was not potentially risk significant due to a seismic, flooding, or severe weather initiating event. The inspectors determined that the failure to take timely and effective actions to prevent rainwater from leaking onto Switchgear EJS-SWGR2A was a violation of 10 CFR Part 50, Appendix B, Criterion XVI, "Corrective Action." Because this finding was of very low safety significance and was entered into the licensee's corrective action program as CR-RBS-2004-4218, this violation is being treated as a noncited violation, consistent with Section IV.A of the NRC Enforcement Policy, NUREG-1600.

Inspection Report# : [2004005\(pdf\)](#)

**Significance:** **G** Oct 08, 2004

Identified By: Self Disclosing

Item Type: NCV NonCited Violation

### **Failure to implement a required procedure for loss of main condenser vacuum/trip of circulating water pumps**

The inspectors identified a non-cited violation of Technical Specifications 5.4.1.a for the failure of the licensee to implement the Abnormal Operating Procedure AOP-0005, "Loss of Main Condenser Vacuum/Trip of Circulating Water Pump," following the loss of two of three operating circulating water pumps. Failure to implement this procedure contributed to the loss of condenser vacuum. This finding had cross-cutting aspects of human performance in that the operators did not implement the abnormal operating procedure as required. Additionally, this finding had cross-cutting aspects regarding problem identification and resolution in that a similar event had occurred over a month earlier, and no actions were taken to incorporate that operating experience into the operating procedures or process it through the corrective action program.

This finding is greater than minor because it is associated with human performance attribute of the mitigating system cornerstone and affects the cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. This finding actually led to the loss of main condenser vacuum and forced the operators to perform a reactor cool down through safety relief valves, reactor core isolation cooling and the suppression pool. This finding is of very low safety significance because it would only affect the plant during this particular situation of partial loss of offsite power and that all mitigating capability was maintained.

Inspection Report# : [2004012\(pdf\)](#)

**G****Significance:** Jun 30, 2004

Identified By: NRC

Item Type: NCV NonCited Violation

**Failure to maintain design control conditions of engineered safety features electrical switchgear**

The inspectors identified two examples of a noncited violation of 10 CFR Part 50, Appendix B, Criterion III, "Design Control," for the licensee's failure to maintain the original design configuration of engineered safety feature switchgear. The inspectors found all of the heat dissipation louvers on top of the load centers and the relay control cabinets for both Divisions I and II auxiliary building 480 Vac engineered safety features switchgear covered with tape. Previously, the licensee had identified cardboard covering the ventilation louvers on breaker cubicles in the Division I engineered safety features 4160 Vac switchgear in the control building.

The failure to maintain design control over Switchgear EJS-SWGR2A and -2B and ENS-SWGR1A was a performance deficiency. The violation was more than minor because it was associated with the mitigating systems cornerstone attribute for design control. It affects the mitigating system cornerstone objective to ensure the reliability of systems that respond to initiating events to prevent undesirable consequences. This noncited violation was evaluated using Manual Chapter 0609, Appendix A, "Significance Determination of Reactor Inspection Findings for At-Power Situations." During the Phase 1 analysis, the issue was determined to have very low safety significance because it did not: (1) represent a design or qualification deficiency, (2) represent an actual loss of safety function of a system or a single train of a system for greater than the Technical Specification allowed out-of-service time, (3) represent an actual loss of safety function of non-Technical Specification trains of equipment per 10 CFR 50.65 for more than 24 hours, and (4) screen as potentially risk significant due to a seismic, fire, flooding, or severe weather initiating event. Since this violation of 10 CFR Part 50, Appendix B, Criterion III, was of very low safety significance and was entered in the licensee's corrective action program as CR-RBS-2004-0512, -1389, -1855, and -1856, it is being treated as a noncited violation consistent with the NRC Enforcement Policy, NUREG-1600.

The inspectors also determined that on at least two occasions the licensee had the opportunity but failed to identify the tape covering the louvers on top of auxiliary building 480 Vac engineered safety features Switchgear EJS-SWGR2A. Therefore, the inspectors consider this finding to have problem identification and resolution aspects for failure to identify a condition adverse to quality. Also the inspectors determined that the design engineering evaluation of as-found conditions for Division I engineered safety features 4160 Vac ENS-SWGR1A for past reportability was actually an evaluation of Division I 480 Vac engineered safety features EJS-SWGR1A and therefore a human performance error.

Inspection Report# : [2004003\(pdf\)](#)**G****Significance:** Jun 30, 2004

Identified By: NRC

Item Type: NCV NonCited Violation

**Unacceptable preconditioning of Technical Specification diesel generator surveillance testing**

The inspectors identified a noncited violation of 10 CFR Part 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings," for the licensee's performance of unacceptable preconditioning of Technical Specification emergency diesel generator surveillance testing. The inspectors found three unacceptable preconditioning activities the licensee performed during the May and June 2004 emergency diesel generator monthly surveillance tests. The inspectors determined that this finding has problem identification and resolution aspects because the licensee identified some of these activities as unacceptable preconditioning in their evaluation of NRC Information Notice 97-16, "Preconditioning of Plant Structures, Systems, and Components Before ASME Code Inservice Testing or Technical Specification Surveillance Testing," dated June 9, 1997, yet failed to take actions to correct the test procedures.

The inspectors determined the unacceptable preconditioning of emergency diesel generator surveillance testing was a performance deficiency. The finding was more than minor because it was associated with the mitigating systems cornerstone attribute for procedure quality. The finding affected the cornerstone objective to maintain availability and reliability of systems that respond to events to prevent undesirable consequences. The inspectors reviewed the finding using Manual Chapter 0609, Appendix A, "Significance Determination of Reactor Inspection Findings for At-Power Situations." Based on the results of the Phase 1 screening of the finding, the inspectors determined that the finding was of very low safety significance (Green) because it was not a design or qualification deficiency, was not an actual loss of safety function for a system or train, and was not risk significant due to a seismic, fire, flooding, or severe weather initiating event. The inspectors determined that unacceptable preconditioning of Technical Specification diesel generator surveillance testing was a violation of 10 CFR Part 50, Appendix B, Criterion V. Because the violation was of very low safety significance and was entered into the licensee's corrective action program as CR-RBS-2004-1839 and -1858, it is being treated as a noncited violation, consistent with Section VI.A of the NRC Enforcement Policy, NUREG 1600.

The inspectors identified aspects related to problem identification and resolution. In their evaluation of NRC Information Notice 97-15, the licensee identified and evaluated some activities that precondition the emergency diesel generators during their prestart checks for surveillance testing, but failed to take appropriate actions to correct the procedures.

Inspection Report# : [2004003\(pdf\)](#)**G****Significance:** Mar 31, 2004

Identified By: Self Disclosing

Item Type: NCV NonCited Violation

**Failure to adequately address roof leaks in the auxiliary building resulted in electrical grounds on safety-related switchgear**

The licensee failed to adequately address leaks in the roof of the auxiliary building following several instances when roof leaks were identified and documented in the licensee's corrective action program. On February 5, 2004, rainwater inleakage through the auxiliary building roof resulted in an electrical ground on the control circuits of auxiliary building 480 Vac engineered safety features Switchgear EJS-SWG2A. The finding was of very low safety significance because, although it degraded one train of safety-related equipment, and could have degraded it again, it did not: increase the likelihood of a primary or secondary system loss of coolant accident initiator, contribute to both the likelihood of a reactor trip and the likelihood that mitigation equipment or functions would not be available, or increase the likelihood of a fire or internal/external flood.

The inspectors determined that the failure to correct the leaks in the auxiliary building was a violation of 10 CFR Part 50, Appendix B, Criterion XVI, "Corrective Action." Because this problem identification and resolution finding was of very low safety significance and was entered into the licensee's corrective action program as Condition Report CR-RBS-2004-01083, it is being treated as a noncited violation, consistent with Section VI.A of the NRC Enforcement Policy, NUREG-1600.

Inspection Report# : [2004002\(pdf\)](#)

G

**Significance:** Feb 13, 2004

Identified By: NRC

Item Type: NCV NonCited Violation

#### **Inadequate procedures for ventilation and smoke control associated with a fire**

The inspectors identified a noncited violation of License Condition 2.C(10) and by reference the fire protection program and Appendix R to 10 CFR 50, Section III.K.12.h. The noncited violation was identified related to fire response procedures and pre-fire strategies that did not contain adequate procedure steps for controlling the ventilation system alignment in order to both remove smoke and assure adequate cooling to remaining safe shutdown equipment. The team identified that the licensee did not account for fire dampers with heat-activated fusible links throughout the system, which could reasonably be expected to close when hot smoke was passed through the dampers. The licensee made a prompt change to FPP-0010, "Fire Fighting Procedure," to make operators aware of the condition as a compensatory measure. This issue was entered into the licensee's corrective action program under Condition Report 2004-000276.

This finding was greater than minor because it affected the Mitigating Systems Cornerstone objective of equipment reliability, in that loss of cooling or exposure to smoke and hot gases could cause failure of safe shutdown equipment that was supposed to remain unaffected by a particular fire. This finding screened as having very low safety significance because it affects a fire protection feature that was not a defense in depth element.

Inspection Report# : [2004007\(pdf\)](#)

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**Significance:** Feb 13, 2004

Identified By: Licensee

Item Type: FIN Finding

#### **Untimely corrective actions for degraded fire protection feature**

The licensee relied on compensatory measures for seven years instead of correcting a fire protection coating deficiency in three areas important to safe shutdown. In 1997, the licensee identified that the fire protective coatings on most structural steel beams in safety-related buildings did not meet the required thickness for a 3-hour fire rating. The deficient condition typically existed over one-fourth of each beam. While the majority of the deficiencies were repaired by building up the thickness, three fire areas remain degraded and had been subject to hourly fire watches since 1997. The team concluded that the planned corrective actions to restore the fire protection feature to its required condition for the remaining degraded areas were not timely.

This finding was greater than minor because it was similar to example 2.e in Appendix E of Manual Chapter 0609 and the finding is associated with degradation of a fire protection feature. This finding screened as having very low safety significance because the compensatory fire watches were in place as required and the remaining defense in depth elements remained unaffected.

Inspection Report# : [2004007\(pdf\)](#)

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## **Barrier Integrity**

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**Significance:** Dec 31, 2004

Identified By: NRC

Item Type: NCV NonCited Violation

#### **Failure to control special processes such as welding in accordance with qualified welding procedures**

The inspector identified a noncited violation of 10 CFR Part 50, Appendix B, Criterion IX, for failure to control special processes, such as welding, in accordance with qualified welding procedures as required. The finding was a human performance error for the failure to follow procedure. Criterion IX, Appendix B, of 10 CFR Part 50, "Control of Special Processes," requires in part that measures shall be established to assure that special processes, including welding, heat treating, and nondestructive testing are controlled and accomplished by qualified personnel using qualified procedures in accordance with applicable codes, standards, specifications, criteria, and other special requirements. Contrary to the above, welding personnel failed to verify interpass temperature during welding activities on feedwater inlet check Valve B21-

AOVF032, an ASME Class 1 valve, in accordance with qualified welding procedures.

This finding was determined to be more than minor, through Inspection Manual Chapter 0612, Appendix B, in that it affected the barrier integrity cornerstone attribute of human performance, could have represented a more significant issue if left uncorrected, and there was a reasonable likelihood that the valve would have been returned to service if the inspector had not intervened. Based on the results of a significance determination process Phase 1 analysis, this finding had very low safety significance because it did not result in the loss of a barrier integrity function and has been entered into the licensee's corrective action program as Condition Report CR-RBS-2004-03395. This violation is being treated as a noncited violation, consistent with Section VI.A of the NRC Enforcement Policy, NUREG-1600. Inspection Report# : [2004005\(pdf\)](#)

**Significance:**  Jun 30, 2004

Identified By: NRC

Item Type: NCV NonCited Violation

**Failure to identify a functional failure**

The NRC inspectors identified a noncited violation of 10 CFR 50.65(a)(2). On May 15, 2003, the licensee failed to set goals and monitor the performance of the secondary containment system as required by 10 CFR 50.65(a)(1). As required by 10 CFR 50.65(a)(2), the licensee must demonstrate effective control of a structure's condition through appropriate preventive maintenance to not require paragraph (a)(1) monitoring. The licensee had no justification for not requiring (a)(1) monitoring, after they failed to demonstrate effective control of the performance of the secondary containment system through appropriate preventive maintenance. The inspectors considered this violation to be noncited consistent with Section VI.A.1 of the NRC Enforcement Policy. The licensee entered this noncited violation into its corrective action program as Condition Report CR-RBS-2004-01706.

The inspectors determined this violation was more than minor because the failure to identify functional failures resulted in the system not being evaluated for 10 CFR 50.65(a)(1) status and had a credible impact on safety. The licensee performed engineering evaluations which concluded that, had a design basis accident occurred while the condition existed, the main control room, exclusion area boundary, and low population zone doses would have remained within the limits of 10CFR50.67. The inspectors determined the safety significance of this violation to be very low by the Reactor Safety Significance Determination Process. The inspectors answered the Phase 1 question regarding containment as yes because the inspectors determined that this finding represented a degradation of the radiological barrier only; therefore, in accordance with Manual Chapter 0609, Appendix A, Attachment 1, this finding is of very low safety significance.

Inspection Report# : [2004003\(pdf\)](#)

**Significance:**  Mar 31, 2004

Identified By: Self Disclosing

Item Type: NCV NonCited Violation

**Reactor operated in excess of licensed maximum power level due to incorrect feedwater flow calculations**

The licensee operated the reactor plant at power levels above the licensed maximum power level from February 1996 to May 2003 due to an error in feedwater flow rate used to calculate reactor core thermal power. It was found that the feedwater flow rate data was inaccurate by as much as 2.69 percent rated system flow and actual thermal power was as much as 2.7 percent higher than the calculated thermal power. The inspectors determined that this finding was a problem identification and resolution finding because the licensee missed several opportunities to identify and correct this overpower condition.

The finding was more than minor because if left uncorrected and a design basis accident occurred the resulting fuel damage could exceed analyzed values. The inspectors determined that the finding affected the reactor fuel cladding barrier, but was of very low safety significance because the reactor coolant system barrier was not effected. This self-revealing finding was a violation of operating license Condition 2.C.(1), "Maximum Power Level." Because the violation was of very low safety significance and was entered in the licensee's corrective action program as Condition Report CR-RBS-2003-02082, it is being treated as a noncited violation, consistent with Section VI.A of the NRC Enforcement Policy, NUREG-1600.

Inspection Report# : [2004002\(pdf\)](#)

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## Emergency Preparedness

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## Occupational Radiation Safety

**Significance:**  Dec 31, 2004

Identified By: Self Disclosing

Item Type: NCV NonCited Violation

**Failure to control a high radiation area in accordance with Technical Specification 5.7.3**

The inspector reviewed a self-revealing noncited violation of Technical Specification 5.7.3 because the licensee failed to control a high radiation area with dose rates greater than 1,000 millirems per hour. On October 31, 2004, during maintenance activities on valves located on the 82-foot level of the drywell, three workers' electronic alarming dosimeters unexpectedly alarmed when they were exposed to unanticipated radiation levels of approximately 1,700 millirems per hour. Subsequent radiation surveys at the source of radiation around Valve RCS-V-3009 identified 6,000 millirems per hour on contact and 2,000 millirems per hour at 30 centimeters. The area was not barricaded, conspicuously posted, and did not have a flashing light activated as a warning device. The licensee determined that the three workers received 84, 85, and 95 millirems, respectively. This finding was entered into the licensee's corrective action program.

This finding is more than minor because it is associated with the Occupational Radiation Safety attribute of exposure control and affected the cornerstone objective, in that not controlling locked high radiation areas could increase personal exposure. Using the Occupational Radiation Safety Significance Determination Process, the inspector determined that the finding was of very low safety significance (Green) because it did not involve: (1) as low as reasonably achievable planning and controls, (2) an overexposure, (3) a substantial potential for overexposure, or (4) an impaired ability to assess dose.

Inspection Report# : [2004005\(pdf\)](#)

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**Significance:** Mar 31, 2004

Identified By: NRC

Item Type: NCV NonCited Violation

**Failure to verify the correct configuration and adequacy of permanent shielding**

The inspectors identified a noncited violation of Technical Specification 5.4.1.a because the licensee failed to follow procedural requirements to verify the correct configuration and adequacy of permanent shielding. On March 25, 2004, the inspectors identified that permanent shielding on a low-pressure core spray flush line, in the crescent area of the 70-foot elevation of the auxiliary building, was not in the correct configuration and not adequate for the intended application.

The failure to verify the correct configuration of permanent shielding and ensure that it was adequate for the intended application was a performance deficiency. The finding was greater than minor because it was associated with the Occupational Radiation Safety cornerstone attribute of Program and Process and effected the cornerstone objective to ensure the adequate protection of a worker's health and safety from exposure to radiation. When processed through the Occupational Radiation Safety Significance Determination Process, the finding was determined to be of very low safety significance because the finding was not associated with as low as is reasonably achievable issues, there was no overexposure or substantial potential for overexposure, and the ability to assess dose was not compromised. The finding was entered into the licensee's corrective action program as Condition Report CR-RBS-2004-00924.

Inspection Report# : [2004002\(pdf\)](#)

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## Public Radiation Safety

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## Physical Protection

[Physical Protection](#) information not publicly available.

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## Miscellaneous

Last modified : March 09, 2005