



**UNITED STATES  
NUCLEAR REGULATORY COMMISSION  
REGION IV  
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November 14, 2005

Paul D. Hinnenkamp  
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St. Francisville, Louisiana 70775

**SUBJECT: RIVER BEND STATION - NRC INTEGRATED INSPECTION  
REPORT 05000458/2005004**

Dear Mr. Hinnenkamp:

On September 30, 2005, the U.S. Nuclear Regulatory Commission (NRC) completed an inspection at your River Bend Station. The enclosed integrated inspection report documents the inspection results, which were discussed on September 29, 2005, with you and other members of your staff.

The inspection examined activities conducted under your license as they relate to safety and compliance with the Commission's rules and regulations and with the conditions of your license. The inspectors reviewed selected procedures and records, observed activities, and interviewed personnel.

Based on the results of this inspection, the NRC identified three findings which were evaluated under the risk significance determination process as having very low safety significance (Green). The NRC also determined there were two violations associated with these findings. However, because these violations were of very low safety significance and were entered into the licensee's corrective action program, the NRC is treating these findings as noncited violations, consistent with Section VI.A.1 of the NRC's Enforcement Policy. These noncited violations are described in the subject inspection report. If you contest the violations or the significance of the violations, you should provide a response within 30 days of the date of this inspection report, with the basis for your denial, to the U.S. Nuclear Regulatory Commission, ATTN: Document Control Desk, Washington, DC 20555-0001, with copies to the Regional Administrator, U.S. Nuclear Regulatory Commission, Region IV, 611 Ryan Plaza Drive, Suite 400, Arlington, Texas 76011-4005; the Director, Office of Enforcement, U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001; and the NRC Resident Inspector at the River Bend Station facility.

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In accordance with 10 CFR 2.390 of the NRC's "Rules of Practice," a copy of this letter, its enclosure, and your response (if any) will be available electronically for public inspection in the NRC Public Document Room or from the Publicly Available Records (PARS) component of NRC's document system (ADAMS). ADAMS is accessible from the NRC Website at <http://www.nrc.gov/reading-rm/adams.html> (the Public Electronic Reading Room).

Should you have any questions concerning this inspection, we will be pleased to discuss them with you.

Sincerely,

**/RA/**

Kriss M. Kennedy, Chief  
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Docket: 50-458  
License: NPF-47

Enclosure:  
NRC Inspection Report 05000458/2005004  
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PJAlter	MOMiller	ATGody	CJPaulk	MPShannon
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**U.S. NUCLEAR REGULATORY COMMISSION**

REGION IV

Docket: 50-458

License: NPF-47

Report: 05000458/2005004

Licensee: Entergy Operations, Inc.

Facility: River Bend Station

Location: 5485 U.S. Highway 61  
St. Francisville, Louisiana

Dates: July 1 through September 30, 2005

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## SUMMARY OF FINDINGS

IR 05000458/2005004; 07/01/2005 - 09/30/2005; River Bend Station; Maintenance Risk Assessments and Emergent Work Evaluation, Operability Evaluations

The report covered a 3-month period of routine baseline inspections by resident inspectors and region based inspectors. Two Green noncited violations and one Green finding were identified. The significance of most findings is indicated by their color (Green, White, Yellow, or Red) using Inspection Manual Chapter 0609, "Significance Determination Process." Findings for which the significance determination process does not apply may be Green or be assigned a severity level after NRC management review. The NRC's program for overseeing the safe operation of commercial nuclear power reactors is described in NUREG-1649, "Reactor Oversight Process," Revision 3, dated July 2000.

### A. NRC-Identified and Self-Revealing Findings

#### Cornerstone: Mitigating Systems

- Green The inspectors identified a noncited violation of 10 CFR Part 50, Appendix B, Criterion XVI for failure to implement corrective actions in response to a 10 CFR Part 21 Report. The corrective actions involved performing vendor-recommended magnetic particle inspections of emergency diesel generator cylinder liners to look for cracks. During a records review in August 2005, the inspectors identified that in April 1999, two cylinder liners from the Division I emergency diesel generator were replaced but the required magnetic particle testing inspections were not performed.

This finding was more than minor because it affected the mitigating systems cornerstone objective of ensuring the capability of emergency power to respond to initiating events to prevent undesirable consequences. Since the finding did not represent an actual loss of safety function for either of the emergency diesel generators, the finding was determined to be of very low safety significance using Phase 1 of the Significant Determination Process. This finding had crosscutting aspects associated with problem identification and resolution. The licensee entered this finding into their corrective action program as CR-RBS-2005-03400. (Section 1R13)

- Green The inspectors identified a finding associated with the licensee's failure to perform adequate troubleshooting of a problem with the station blackout diesel generator that resulted in the diesel generator being out of service for 24 hours longer than necessary. Licensee personnel focused on the suspected cause, the engine starter, and did not perform comprehensive troubleshooting to identify the actual cause of the failure.

The finding was more than minor because it was associated with the mitigating system cornerstone attribute for equipment performance and the cornerstone objective to ensure the availability of a system that responds to initiating events to prevent undesirable consequences. During Phase 2 of the significance determination process for at power situations, the finding screened as having very low safety significance (Green), because the station blackout diesel generator was unavailable for less than three days and the other diesel generators were available. The finding had crosscutting

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aspects associated with problem identification and resolution based on the fact that licensee personnel failed to properly assess the starting system failure. This finding is entered in the licensee's corrective action program as CR-RBS- 2005-02897. (Section 1R13)

- Green A self-revealing noncited violation of Technical Specification 5.4.1.a. was identified for a failure to follow procedures. During motor-operated valve stroke time testing of Residual Heat Removal to Upper Pool Fuel Pool Cooling Assist Valve E12-MOVF037A, an operator failed to follow procedures by not completely closing Valve E12-F037A. As a result, when Residual Heat Removal System A was later operated in suppression pool cooling mode, approximately 5,000 gallons of suppression pool level was pumped to the containment upper pool. The licensee took immediate corrective action to identify and close all motor-operated throttle valves and issued a standing order to ensure all motor-operated throttle valves were completely closed when operated from the main control room.

The finding was more than minor because, if left uncorrected, the failure to completely close motor-operated throttle valves could become a more significant safety concern. Using the significance determination process, the inspectors determined that the finding was of very low safety significance (Green) because it was not a design or qualification issue and it did not represent an actual loss of safety function of either residual heat removal System A or the suppression pool. The inspectors determined that this finding had human performance and problem identification and resolution crosscutting aspects. The failure to completely close Valve E12-F037A was a human performance error caused by a lack of understanding of the operation of motor-operated throttle valves and inadequate guidance in the test procedure. The inspectors also determined that a similar event involving the same valve occurred during the last refueling outage, and the licensee failed to identify and correct the underlying cause of the performance deficiency. Because this failure to comply with TS 5.4.1.a. was of very low safety significance and was entered in the licensee's corrective action program as CR-RBS-2005-02772, the inspectors determined that it was a noncited violation in accordance with Section VI. A of the NRC Enforcement Policy. (Section 1R15)

D. Licensee-Identified Violations

Three violations of very low safety significance, which were identified by the licensee have been reviewed by the inspectors. Corrective actions taken or planned by the licensee have been entered into the licensee's corrective action program. These violations and corrective actions are listed in Section 4OA7 of this report.



## REPORT DETAILS

Summary of Plant Status: On July 1, 2005, the plant was shutdown to repair a reactor recirculation system flow control valve and a leaking instrument line in the drywell. The reactor was restarted and achieved criticality on July 2, 2005. The plant reached 100 percent power on July 5, 2005. On July 26, 2005, power was reduced to 74 percent to repair a reactor feed pump casing leak. The plant returned to 100 percent power on July 27, 2005. On August 29, 2005, power was reduced to 90 percent to control grid voltage in the aftermath of Hurricane Katrina. Power was further reduced to 70 percent on August 30, 2005, for the same reason. The plant was returned to 100 percent power on September 1, 2005. On September 2, 2005, power was reduced to 80 percent to make repairs to a reactor feed pump's seals. The plant returned to 100 percent power on September 4, 2005. The plant operated at 100 percent power for the remainder of the inspection report period with the exception of regularly scheduled power reductions for control rod pattern adjustments and turbine testing.

### 1. REACTOR SAFETY

Cornerstones: Initiating Events, Mitigating Systems, Barrier Integrity, Emergency Preparedness

#### 1R01 Adverse Weather Protection (71111.01)

##### a. Inspection Scope

The inspectors observed and reviewed the licensee's preparations for three hurricanes.

- Hurricane Dennis on July 8, 2005
- Hurricane Katrina on August 28 - September 2, 2005
- Hurricane Rita on September 23 - 24, 2005

Specifically, the inspectors verified that the licensee took actions in accordance with the station's adverse weather preparations procedures and maintained availability of essential systems and components as the hurricanes approached the site. The site did not experience hurricane strength winds during each of the three storms. The inspectors reviewed the corporate emergency Procedure ENS-EP-302, "Severe Weather Response," Revision 3 and abnormal operating Procedure (AOP) AOP-0029, "Severe Weather Operation," Revision 15 and 16, and interviewed personnel in the emergency preparedness and operations departments as part of this inspection.

##### e. Findings

No findings of significance were identified.

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1R04 Equipment Alignment (71111.04)

Partial Walkdowns

a. Inspection Scope

The inspectors performed three partial system walkdowns. On August 7, 2005, the inspectors walked down the high pressure core spray (HPCS) emergency diesel generator (EDG) while Division I EDG was out of service for governor modifications and engine overhaul. On August 8, 2005, the inspectors walked down the Division II EDG while the Division I EDG was out of service for governor modifications and engine overhaul. On September 13, 2005, the inspectors walked down the low pressure core spray system while the Division II residual heat removal (RHR) system was out of service for planned maintenance. In each case, the inspectors verified the correct valve and power alignments by comparing positions of valves, switches, and electrical power breakers to the system operating procedures (SOP) and piping and instrument drawings (PID) listed below.

- SOP-0052, "HPCS Diesel Generator," Revision 27
- SOP-0053, "Standby Diesel Generators and Auxiliaries," Revision 43
- SOP-0032, "Low Pressure Core Spray System," Revision 19
- PID -27-058, "Low Pressure Core Spray," Revision 21

b. Findings

No findings of significance were identified.

1R05 Fire Protection (71111.05)

a. Inspection Scope

The inspectors walked down accessible portions of seven areas of the plant described below to assess: (1) the licensee's control of transient combustible material and ignition sources; (2) fire detection and suppression capabilities; (3) manual firefighting equipment and capability; and (4) the condition of passive fire protection features, such as fire doors, and fire barrier penetration. The areas inspected were:

- Drywell, Elevation 95 foot, recirculation pump area, Fire Area RDW-1, on June 29, 2005
- Emergency Diesel Generator Building, Elevation 98 foot, Diesel Generator A Room, Fire Area DG-6/Z-1, on August 2, 2005
- Emergency Diesel Generator Building, Elevation 98 foot, Diesel Generator A Control Room, Fire Area DG-6/Z-1, on August 2, 2005

- Emergency Diesel Generator Building, Elevation 98 foot, Diesel Generator B Room, Fire Area DG-4/Z-1, on August 2, 2005
- Emergency Diesel Generator Building, Elevation 98 foot, Diesel Generator B Control Room, Fire Area DG-4/Z-1, on August 2, 2005
- Emergency Diesel Generator Building, Elevation 98 foot, Diesel Generator C Room, Fire Area DG-5/Z-1, on August 2, 2005
- Emergency Diesel Generator Building, Elevation 98 foot, Diesel Generator C Control Room, Fire Area DG-5/Z-1, on August 2, 2005

The inspectors reviewed the following documents during the fire protection inspections:

- Pre-Fire Plan/Strategy Book
- USAR Section 9A.2, "Fire Hazards Analysis," Revision 10
- River Bend Station postfire safe shutdown analysis
- RBNP-038, "Site Fire Protection Program," Revision 6A

b. Findings

No findings of significance were identified.

1R06 Flood Protection Measures (71111.06)

a. Inspection Scope

The inspectors conducted one periodic flooding assessment to verify that the licensee's flooding mitigation plans and equipment were consistent with design requirements and risk analysis assumptions. The inspectors conducted a walkdown of the drywell lower elevations on June 28, 2005. Specifically, the inspectors examined: (1) sealing surfaces of watertight doors, (2) sealing of penetrations in floors and walls, and (3) operable sump pumps and level alarm circuits. The inspectors reviewed the following documents as the bases for acceptability of the plant configuration.

- USAR Section 3.4.1, "Flood Protection"
- USAR Section 3.8, "Design of Category I Structures"

d. Findings

No findings of significance were identified.

1R11 Licensed Operator Requalification Program (71111.11)

a. Inspection Scope

On July 28, 2005, the inspectors observed the annual simulator examination of an operating crew, conducted as part of the operator requalification training program. This was done to assess licensed operator performance and the examination critique. Emphasis was placed on observing an annual examination of high risk, licensed operator actions, operator activities associated with the emergency plan, and lessons learned from industry and plant experiences. In addition, the inspectors compared simulator control panel configurations with the actual control room panels for consistency. The inspectors also observed a meeting in which the crew performance was evaluated and graded. The inspectors also observed the crew debrief of their performance in this scenario. The simulator examination scenario observed was RSMS-OPS-822, "Loss of All Feedwater/RCIC Failure/LOCA," Revision 0.

b. Findings

No findings of significance were identified.

1R12 Maintenance Effectiveness (71111.12)

a. Inspection Scope

The inspectors reviewed five system performance problems to assess the effectiveness of the licensee's maintenance efforts for structures, systems, or components (SSC) within the scope of the maintenance rule program. The inspectors verified licensee's maintenance effectiveness by (1) verifying the licensee's handling of SSC performance or condition problems, (2) verifying the licensee's handling of degraded SSC functional performance or condition, (3) evaluating the role of work practices and common cause problems, and (4) evaluating the licensee's handling of the SSC issues being reviewed under the requirements of the maintenance rule (10 CFR 50.65); 10 CFR Part 50, Appendix B; and Technical Specifications (TSs).

- CR-RBS-2005-02447, July 4, 2005, Division II isolation lights on H13-P622 flickering and Division II power line Conditioner, SCM-XRC14B1 malfunction
- CR-RBS-2005-2255, June 21, 2005, acoustic monitor supply breaker trip, reviewed on September 16, 2005
- CR-RBS-2005-2276, June 23, 2005, acoustic monitor supply breaker trip, reviewed on September 16, 2005
- CR-RBS-2005-2327, June 25, 2005, acoustic monitor supply breaker trip, reviewed on September 16, 2005

- CR-RBS-2005-2480, July 7, 2005, acoustic monitor supply breaker trip, reviewed on September 16, 2005

The following documents were reviewed as part of this inspection:

- NUMARC 93-01, Revision 2, Nuclear Energy Institute Industry Guideline for Monitoring the Effectiveness of Maintenance at Nuclear Power Plants
- Maintenance rule function list
- Maintenance rule performance criteria list
- 120 Vac systems maintenance rule performance evaluations

b. Findings

No findings of significance were identified.

1R13 Maintenance Risk Assessments and Emergent Work Control (71111.13)

.1 Risk Assessment and Management of Risk

a. Inspection Scope

The inspectors reviewed three maintenance activities to verify the performance of assessments of plant risk related to planned and emergent maintenance work activities. The inspectors verified: (1) the adequacy of the risk assessments and the accuracy and completeness of the information considered, (2) management of the resultant risk and implementation of work controls and risk management actions, and (3) effective control of emergent work, including prompt reassessment of resultant plant risk.

On a routine basis, the inspectors verified performance of risk assessments, in accordance with administrative procedure ADM-096, "Risk Management Program Implementation and On-Line Maintenance Risk Assessment," Revision 4, for planned maintenance activities and emergent work involving systems, structures and components (SSC) within the scope of the maintenance rule. Specific work activities evaluated included planned and emergent work for the weeks of:

- August 1, 2005, Division I EDG extended outage
- September 12, 2005, Division II RHR Outage

b. Findings

Introduction: The inspectors identified a noncited violation (NCV) of very low safety significance (Green) of 10 CFR Part 50, Appendix B, Criterion XVI, Corrective Action. As a result of inadequate problem identification and resolution, the licensee did not

implement appropriate corrective actions to perform vendor-recommended magnetic particle testing (MT) inspections of emergency diesel generator cylinder liners determined necessary to look for cracks. A cylinder liner inspection and replacement program was required because of a concern with their installation and service life. During a records review in August 2005, the inspectors identified that in April 1999, two of eight cylinder liners from the Division I emergency diesel generator were replaced as required, but the inspections were not performed. Cylinder liners selected for replacement and discovered with unacceptable cracks would have necessitated the inspection of all the remaining cylinder liners. Cylinder liners replaced in 2005 had not been inspected by the licensee until after identification of this issue. Those replaced liners subsequently had acceptable inspection results.

Description: In CR-RBS-1993-0460 (December 1993), the licensee documented an evaluation of the July 9, 1993, 10 CFR Part 21 report from Cooper Energy Services involving the licensee's EDGs. The Part 21 report documented that a previous recommendation to perform liquid penetrant testing (PT) inspections of EDG cylinder liners may not be sufficient for verification of the presence of a crack. Therefore, the Part 21 report recommended that owners of the affected EDGs perform MT inspections of the cylinder liners instead. A programmatic inspection campaign was recommended for engines with less than 3000 hours to inspect a 25-percent minimum sample of cylinder liners for cracking the next refueling outage. Any liner with a 360-degree indication was to be removed from service and consideration given for additional inspections. Replacement of all cylinder liners to one with a tighter fit configuration was recommended before the EDG accumulated 3000 hours of operation.

In CR-RBS-1993-0460, the licensee documented that MT inspections would be performed of the cylinder liners as they were removed from service and that all liners would be replaced prior to either EDG accumulating 2250 hours of operation. As of August 17, 2005, the Division I EDG had accumulated 2020.0 hours of operation and the Division II EDG had accumulated 1748.7 hours of operation. During the 1999 and 2000 EDG maintenance outages, two out of eight cylinder liners were replaced in the Division I and Division II EDG, respectively. During the 2005 EDG maintenance outages, three of the remaining cylinder liners were replaced in the Division I EDG and two of the remaining cylinder liners were replaced in the Division II EDG. Therefore, as of September 2005, three cylinder liners remain to be replaced in the Division I EDG and four cylinder liners remain to be replaced in the Division II EDG.

Replacement of EDG cylinder liners was one of the most time-consuming planned tasks for the 2005 EDG extended outages. For this reason, and because adverse inspection results would call into question operability of the EDGs, the inspectors asked for the results of all of the cylinder liner inspections. The licensee discovered that the Division II EDG cylinder liners removed in April 2005 had been discarded without performing the inspections and that the Division I EDG cylinder liners removed in August 2005 had not yet been inspected. The licensee stated that the cylinder liner MT inspection requirement had been inadvertently removed from the maintenance work plans for the EDG outages. The licensee found the two discarded Division II EDG liners and performed MT inspections on them and the three Division I EDG liners. Cracks were

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found on both of the Division II EDG liners and on one of the Division I EDG liners. The licensee documented the administrative issue for failing to perform the inspections in CR-RBS-2005-03064. The licensee documented its evaluation of the inspection findings in CR-RBS-2005-03066. The licensee concluded that although some of the cylinder liners had cracks, they did not exceed the vendor-identified acceptance criteria, nor did they invalidate the plan to replace all of the liners prior to accumulating 2250 hours of operation.

The inspectors reviewed the nondestructive examination reports that were performed for the 1999 and 2000 EDG outages (Report Nos. 99IR20184, 99IR20187, and 00IR20447). The inspectors noted that MT inspections were performed with no indications identified for the two Division II EDG cylinder liners inspected. However, for the two Division I EDG cylinder liners, only PT inspections were performed. Although no indications were found, PT inspections were documented as insufficient in CR-RBS-1993-0460. The licensee documented this inspector-identified issue in CR-RBS-2005-03400. The inspectors agreed that there was reasonable assurance of EDG operability because the affected liners had been replaced and three other liners were inspected in 2005 with no acceptance criteria failures.

Analysis. The deficiency associated with this finding was the failure to implement corrective actions to inspect for cracks in EDG cylinder liners that could result in EDG failure. This finding was greater than minor because it affected the mitigating systems cornerstone objective of ensuring the capability of emergency power system to respond to initiating events to prevent undesirable consequences. The failure to perform the required inspection prevented the opportunity to determine whether unacceptable cracks existed in the cylinder liners which could have resulted in engine failure. Since the finding did not represent an actual loss of safety function for either of the EDGs, the finding was determined to be of very low safety significance. This finding had cross-cutting aspects associated with problem identification and resolution.

Enforcement. 10 CFR Part 50, Appendix B, Criterion XVI, "Corrective Action," states, in part, that measures be established to assure that conditions adverse to quality are promptly identified and corrected. The licensee's failure to implement inspections it determined were necessary to identify cracked EDG cylinder liners was a violation of 10 CFR Part 50, Appendix B, Criterion XVI, "Corrective Action." Because the violation was of very low safety significance and has been entered into the licensee's corrective action program as CR-RBS-2005-03400, this violation is being treated as a noncited violation, consistent with Section VI.A of the Enforcement Policy (NCV 05000458/2005004-02, Inadequate Implementation of EDG Cylinder Liner Inspection Requirements).

.2 Emergent Work Control

a. Inspection Scope

During emergent work, the inspectors verified that the licensee took actions to minimize the probability of initiating events, maintained the functional capability of mitigating

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systems, and maintained barrier integrity. The inspectors also reviewed the emergent work activities to ensure the plant was not placed in an unacceptable configuration. The emergent work activity the inspectors followed was the start failure of the Station Blackout Diesel Generator (SBODG) on August 13, 2005.

b Findings

Introduction: The inspectors identified a finding of very low safety significance for failure to perform adequate troubleshooting of a problem with the SBODG on August 13, 2005. As a result, SBODG was out of service for 24 hours longer than necessary.

Description: On August 13, 2005, at 4:19 a.m., the SBODG failed to start during a scheduled maintenance test. The electricians present for the test did not perform any investigation into the problem at the time of the failure. A work planner and electrical maintenance supervisor were called in later that morning and worked exclusively on procuring a replacement starter, rather than performing an assessment of the problem with the starting circuit. When no replacement starter was found, further work was put off until August 15. Work Request 58593 indicated a possible problem with the starting system (popping noise, smell of electrical failure, and engine did not crank) and a problem with battery voltage ("Battery Charger Trouble" alarm). On the evening of August 13 a reactor operator found that the batteries were damaged.

On August 14, the planner and electrical maintenance supervisor came back to the plant, replaced the damaged batteries and returned the SBODG to service. The inspectors determined that had formal troubleshooting been performed by the licensee at the time of the failure, the SBODG could have been returned to service on August 13 rather than on August 14, at least 24 hours earlier.

Analysis: The inspectors determined that the failure to properly assess the starting system failure was more than minor because it was associated with the mitigating system cornerstone attribute for equipment performance and the cornerstone objective to ensure the availability of a system (SBODG) that responds to initiating events (Station Blackout) to prevent undesirable consequences. Using Manual Chapter 0609, Appendix A, "Determining the Significance of Reactor Inspection Findings for At-Power Situations," and the River Bend Plant Specific Risk-Informed Inspection Notebook, the finding screened as having very low safety significance (Green), because the SBODG was unavailable for only a short period of time and the other diesel generators were available. The dominant event sequence was a loss of off-site power with a failure of the Division I and II EDGs. This finding had cross-cutting aspects associated with problem identification and resolution. This finding was entered in the licensee's corrective action program as CR-RBS-2005-02897. FIN 05000458/2005004-02, Failure to Troubleshoot a Starting System Failure Caused Station Blackout Diesel Generator to Be Unavailable for 24 Hours Longer than Necessary

Enforcement: No violation of regulatory requirements was identified.



1R14 Operator Performance During Non-routine Plant Evolutions (71111.14)

c. Inspection Scope

The inspectors observed and reviewed operator performance during three non-routine plant evolutions.

.1 Plant Startup During Planned Outage 05-02

The inspectors reviewed the general operating Procedure GOP-0003, "Scram Recovery," as presented to Operations Safety Review Committee on June 26, 2005, for the shutdown leading to Planned Outage 05-02. The licensee shutdown the reactor to make a drywell entry to repair a recirculation system flow control valve and an instrument line leak. The inspectors reviewed the plan for the startup and the pre-job briefing given in the control room. The inspectors observed operations personnel performance during portions of a plant startup on June 30, 2005. The inspectors also reviewed the following procedures used by the operators during the evolution.

- C General Operating Procedure, GOP-001, "Plant Startup," Revision 46C
- C System Operating Procedure, SOP-009, "Reactor Feedwater System," Revision 32
- C System Operating Procedure, SOP-007, "Condensate System," Revision 26A
- C System Operating Procedure, SOP-0071, "Rod Control and Information System," Revision 14

.2 Plant Shutdown During Planned Outage 05-02

During the power ascension following completion of the planned outage, at approximately 10 percent power, control of a reactor recirculation flow control valve was lost and the licensee decided to shutdown and repair the valve operator.

The inspectors reviewed and observed personnel performance during the plant shutdown on July 1, 2005. The inspectors evaluated the initiating causes of the shutdown as documented in CR-RBS-2005-02450. In addition, the inspectors reviewed operator logs and plant computer data to verify that operators responded in accordance with plant procedures and training. The inspectors also reviewed the following procedures used by the operators, during the event.

- C GOP-002, "Power Decrease/Plant Shutdown," Revision 33
- C AOP-001, "Reactor Scram," Revision 20A

.3 Plant Startup Following Conclusion of Planned Outage 05-02

The inspectors reviewed operations personnel performance for portions of a plant startup conducted July 2-4, 2005. The inspectors interviewed station personnel and reviewed the control room logs. The inspectors also reviewed the following procedures that were used by the operators during the evolution.

- C General Operating Procedure, GOP-001, "Plant Startup," Revision 46C
- C System Operating Procedure, SOP-009, "Reactor Feedwater System," Revision 32
- C System Operating Procedure, SOP-007, "Condensate System," Revision 26A
- C System Operating Procedure, SOP-0071, "Rod Control and Information System," Revision 14

b. Findings

No findings of significance were identified.

1R15 Operability Evaluations (71111.15)

a. Inspection Scope

The inspectors reviewed nine operability determinations selected on the basis of risk insights. The selected samples are addressed in the CRs listed below. The inspectors assessed (1) the accuracy of the evaluations, (2) the use and control of compensatory measures if needed, and (3) compliance with TSs, Technical Requirements Manual, USAR, and other associated design-basis documents. The inspector's review included a verification that the operability determinations were made as specified by Procedure RBNP-078, "Operability Determinations," Revision 7. The operability evaluations reviewed were associated with:

- CR-RBS-2005-02649, Airflow from west auxiliary building floor drains caused a large area contamination event, reviewed July 24-31, 2005
- CR-RBS-2005-02727, Division I EDG jacket cooling water tubing fitting failure, reviewed on August 1, 2005
- CR-RBS-2005-02791, Low pressure core spray system pressurized during signature testing E21-MOVF012, system test return valve, reviewed on August 4, 2005
- CR-RBS-2005-02477, Division II Safety-Related 120 Vac Power Supply, SCM-XRC14B1, reviewed on August 11, 2005

- CR-RBS-2005-02255, Acoustic Monitor Power Supply Tripped, reviewed on August 11, 2005
- CR-RBS-2005-02276, Acoustic Monitor Power Supply Tripped, reviewed on August 11, 2005
- CR-RBS-2005-02327, Acoustic Monitor Power Supply Tripped, reviewed on August 11, 2005
- CR-RBS-2005-2480, Acoustic Monitor Power Supply Tripped, reviewed on August 11, 2005
- CR-RBS-2005-02772, Valve E12-MOVF037A, RHR to upper pool fuel pool cooling assist not fully closed, review completed on August 25, 2005

k. Findings

Introduction: A Green self-revealing NCV of TS 5.4.1.a. was identified for the failure of a control room operator to close RHR to Upper Pool Fuel Pool Cooling Assist Valve E12-MOVF037A during surveillance testing. As a result, approximately 5,000 gallons of water was pumped from the suppression pool to the containment upper pool when RHR System A was operated in suppression pool cooling mode.

Description: On July 29, 2005, during performance of surveillance test Procedure STP-204-6303, "Div I RHR Quarterly Valve Operability Test," Revision 16, Step 7.7.5 "Close and time E12-F037A," a control room operator did not fully close Valve E12-F037A. When interviewed, the operator stated that to perform the step, he took the control switch for Valve E12-F037A to the close position and started the stopwatch to time the valve stroke. When the red open indicating light went out, he stopped the stopwatch and let go of the control switch. Following inspection of motor-operated valve signature test data, it was determined that if the control switch was continuously held in the closed position, Valve E12-F037A would normally continue to close for approximately 1.5 seconds after the red open indicating light went out. As a result of the operator's actions in this case, Valve E12-F037A remained partially open.

On August 3, 2005, RHR System A was started in the suppression pool cooling mode of operation for maintenance purposes. After RHR System A had been running for 1 hour 20 minutes, the containment upper pool "RX BLDG STORAGE POOL LEVEL HIGH/LOW" alarm came in. Control room indication showed that the upper pool level had risen between 2 and 3 inches. After recognizing that operation of RHR System A was the only change that had been made to the plant and observing the lowering suppression pool level, an operator suggested that Valve E12-F037A be given a close signal from the main control room. When this was done, the valve's closed indicating light flickered and the transfer of water from the suppression pool to the containment upper pool was stopped. Based on the lowering of suppression pool level by 1 inch,

approximately 5,000 gallons of water was pumped to the containment upper pool. The operator's suggestion to give Valve E12-F037A a close signal came from his experiencing a similar event during the previous refueling outage which resulted in an unexplained rise in containment upper pool level.

After the event, licensee management directed that the following immediate corrective actions be taken: (1) operators were to determine what other motor-operated throttle valves were susceptible to being left partially open because their control switch was released when the red open indicating light went out; (2) each of these valves was then given a 5 second close signal; and (3) an operations standing order was issued to direct operators to hold all motor-operated throttle valve control switches in the close position for 5 seconds after the red open indicating light goes out (to ensure the valves were fully closed). Eight of 46 motor-operated throttle valves tested indicated that they might not have been completely closed. The inspectors evaluated the impact that these eight valves may have had on plant operations, and determined that there was none.

On November 10, 2004, during the last refueling outage a similar event occurred. Operators were in the process of filling and venting RHR System A to restore from system maintenance, when workers on the refuel floor observed that the containment upper pool level was rising. The control room crew had operators verify that the containment upper pool normal makeup valves were closed, but level continued to rise. Valve E12-F037A indicated full closed (red light out, green light on). But when operators gave the valve a close signal from the main control room the green closed light flickered indicating that the valve had not been fully closed. The rise in containment upper pool level stopped. This event was documented in CR-RBS-2004-03825. Later that day, the condition report review group closed the condition report to "Trend" stating that no additional actions were needed.

Analysis: The inspectors determined that the failure to completely close Valve E12-F037A on July 29, 2005, was a human performance error caused by a lack of understanding of the operation of motor-operated throttle valves and less than adequate guidance in STP-204-6303 and OSP-0042, "ASME Section XI Inservice Testing Implementation," Revision 8. The inspectors also determined that the November 10, 2004, event was a missed opportunity to correct the underlying cause of this issue. Therefore, this finding had human performance and problem identification and resolution crosscutting aspects. The finding was more than minor because if left uncorrected, the failure to completely close motor-operated throttle valves could become a more significant safety concern. In this case, if one of the operators had not experienced a similar event during the last refueling outage, the partially opened valve would not have been closed as quickly and suppression pool water level may have lowered below the minimum level assumed in the plant's safety analysis.

The inspectors reviewed the finding using Manual Chapter 0609 Appendix A, "Determining the Significance of Reactor Inspection Findings for At-Power Situations." During the Phase 1 analysis it was determined that the finding was of very low safety significance (Green) because it was not a design or qualification issue, it did not represent an actual loss of safety function of either RHR System A or the suppression

pool and it was not potentially risk significant due to seismic, flooding or severe weather initiating events. The inspectors determined that this event did not effect the safety function of RHR System A or the suppression pool because: (1) the flow rate (approximately 46 gpm) was small compared to low pressure coolant injection (LPCI) flow rate (5050 gpm); (2) Valve E12-F037A would have received a close signal from LPCI initiation logic (closing the valve before LPCI injection would occur); and (3) the loss of water from the suppression pool was within the normal operating level band. In addition, the inspectors evaluated the other motor-operated throttle valves in other safety related systems and determined that in each case either another normally closed isolation valve was in the same line or the throttle valve would get a closed signal by the system initiation logic.

Enforcement: Technical Specification 5.4.1 (a) requires written procedures to be implemented as recommended by Regulatory Guide 1.33, Revision 2, Appendix A, February 1978. Appendix A refers to emergency core cooling system tests. Surveillance Test Procedure 204-6303, "Div I RHR Quarterly Valve Operability Test," Revision 16, Step 7.7.5, "Close and time E12-F037A," required operators to perform valve manipulations in accordance with this procedure. Contrary to the above, on July 29, 2005, an operator failed to close Valve E12-F037A in accordance with Step 7.7.5 of STP-204-6303. Because this failure to comply with TS 5.4.1 (a) was of very low safety significance (Green) and was entered in the licensee's corrective action program as CR-RBS-2005-02772, the inspectors determined that it was a NCV in accordance with Section VI. A of the NRC Enforcement Policy: NCV 05000458/2005004-03, Failure to Completely Close a Residual Heat Removal System Valve Resulted in Pumping Suppression Pool Water to Containment Upper Pool.

1R16 Operator Work-Arounds (71111.16)

a. Inspection Scope

An operator workaround is defined as a degraded or non-conforming condition that complicates the operation of plant equipment and is compensated for by operator action. During the week of July 18, 2005 the inspectors reviewed the failure of control room Recorder E31-R605 which provides indications and alarms for auxiliary building area temperatures. These temperature alarms are used to alert operators to potential entry conditions for emergency operating Procedure, EOP-03, "Secondary Containment Control," Revision 11. The inspectors evaluated the effect the failure had on the reliability, availability, and potential for incorrectly operating any mitigating system and its effect on the operation of multiple mitigating systems. The inspectors also reviewed the operation contingency plan for reactor water cleanup pump Room A high temperature, dated July 19, 2005. This contingency plan was used until the cleanup pump room temperature detectors and Recorder E31-R605 were returned to operable status.

b. Findings

No findings of significance were identified.

1R17 Permanent Plant Modifications (71111.17B)

a. Inspection Scope

The procedure requires the review of a minimum of five permanent plant modifications. The inspectors reviewed 13 permanent plant modification packages and associated documentation, including safety evaluation screenings, safety evaluations, and calculations, to verify that they were performed in accordance with plant procedures. The inspectors also reviewed the procedures governing plant modifications. This was done to evaluate the effectiveness of the licensee's programs for implementing modifications to risk-significant SSCs. In addition, the inspectors verified that these programs provided adequate assurance that plant modifications did not adversely affect the design and licensing basis of the facility.

The inspectors interviewed the cognizant design and system engineers for the identified modifications as to their understanding of the modification packages.

The inspectors evaluated the effectiveness of the licensee's corrective action process to identify and correct problems concerning the performance of permanent plant modifications. In this effort, the inspectors reviewed four corrective action documents and the subsequent corrective actions pertaining to licensee-identified problems and errors in the performance of permanent plant modifications.

b. Issues and Findings

No findings of significance were identified.

1R19 Post Maintenance Testing (71111.19)

a. Inspection Scope

The inspectors reviewed six work orders (WO) to ensure that testing activities were adequate to verify system operability and functional capability. The inspectors: (1) identified the safety function(s) for each system by reviewing applicable licensing basis and/or design-basis documents; (2) reviewed each maintenance activity to identify which maintenance function(s) may have been affected; (3) reviewed each test procedure to verify that they adequately tested the safety function(s) that may have been affected by the maintenance activity; (4) reviewed that the acceptance criteria in the procedures were consistent with information in the applicable licensing basis and/or design-basis documents; and (5) identified that the procedure was properly reviewed and approved. The six WOs inspected are listed below:

- C WO 00029502 01, replacement of capacitors in SCM-XRC14B1, performed on October 25, 2004



- C WO51002463, Reactor core isolation cooling system slow roll startup following work on lube oil system, performed on July 26, 2005
- C WO 00069577 Division I EDG jacket cooling water tubing repair, performed on August 12, 2005
- C WO 00048908 02, repair outlet Valve EGA-V130, on Division II EDG air start Tank EGA-TK1D, performed on September 13, 2005
- C WO 00042464 02, repair drain Valve EGS-V132, on Division II EDG air start Tank EGA-TK1B, performed on September 13, 2005
- C WO 00066545 01, motor driven fire water Pump FPW-P2 operational test performed on September 19, 2005

b. Findings

No findings of significance were identified.

1R20 Refueling and Other Outage Activities (71111.20)

a. Inspection Scope

The inspectors reviewed the shutdown outage protection plan for Planned Outage 05-02 conducted from June 22, 2005, through July 4, 2005, to confirm that the licensee had appropriately considered risk, industry experience, and previous site-specific problems for this outage. During the outage, the inspectors observed/conducted the outage activities listed below:

- The inspectors conducted drywell closeout inspections on June 28 and 29, 2005.
- The inspectors observed and reviewed the outage progress and coordination in the outage control center.
- The inspectors observed and reviewed the main generator stator cooling system leak repairs.
- The inspectors reviewed the replacement of reactor recirculation Pump B seal.
- The inspectors reviewed the repair of recirculation flow control Valve A bearings and seals.
- The inspectors observed portions of the startup, heat-up, and pressurization activities for the mid-outage reactor startup to approximately 10 percent power.
- The inspectors verified reactor coolant system integrity by reviewing reactor coolant system leakage calculations.

- The inspectors observed the reactor shutdown following the mid-outage reactor startup.
- The inspectors monitored the startup activities for the reactor startup that concluded the outage.

b. Findings

No findings of significance were identified.

1R22 Surveillance Testing (71111.22)

a. Inspection Scope

The inspectors verified, by witnessing and reviewing test data, that five risk-significant system and component surveillance tests met TS, USAR, and procedure requirements. The inspectors verified that surveillance tests demonstrated that the systems were capable of performing their intended safety functions and provided operational readiness. The inspectors specifically evaluated: (1) surveillance tests for preconditioning; (2) acceptance criteria for clarity; (3) range, accuracy and current calibration of test equipment; and (4) that equipment was properly restored at the completion of the testing. The inspectors observed and reviewed the following surveillance tests and surveillance test procedures (STP):

- C STP-500-4201, "Control Rod Scram Accumulator Instrumentation (East) Channel Functional Test and Channel Calibration," Revision 9, performed on August 3, 2005
- C STP-302-1201, "ENS-SWG1A Loss of Voltage Channel Functional Test," Revision 11, performed on August 4, 2005
- C STP-302-1202, "ENS-SWG1A Degraded Voltage Channel Functional Test," Revision 9, performed on August 4, 2005
- C STP-302-1602, "ENS-SWG1A Degraded Voltage Channel Calibration and Logic System Functional Test," Revision 18, performed on November 12, 2004
- C STP-302-1600, "ENS-SWG1A Loss of Voltage Channel Calibration and Logic System Functional Test," Revision 16B, performed on November 12, 2004

b. Findings

No findings of significance were identified.



1R23 Temporary Plant Modifications (71111.23)

a. Inspection Scope

During the week of July 5, 2005, the inspectors reviewed temporary alteration TA 05-0015-00 that was installed to supply power to Division II 120 Vac safety-related distribution panel 1SCM-PNL01B from an alternate safety-related power source. Specifically the inspectors: (1) reviewed the temporary modification and its associated 10 CFR 50.59 screening against the systems design basis documentation, including the USAR and TSs; (2) verified that the installation of the temporary modification was consistent with the modification documents; and (3) reviewed the post-installation test results to confirm the actual impact of the temporary modification on the Division II 120 vac system had been adequately verified.

b. Findings

No findings of significance were identified.

Cornerstone: Emergency Preparedness

1EP4 Emergency Action Level and Emergency Plan Changes (71114.04)

a. Inspection Scope

The inspector performed an in-office review of Revision 28 to the River Bend Station Emergency Plan, submitted May 24, 2005. This revision:

- Added Letters of Agreements for the St. Francisville Volunteer Fire Department, West Feliciana Ambulance Service, Acadian Ambulance Service, and Emergency Medical Services
- Added site and design descriptions of the Dry Cask Storage Facility
- Added a description of shelter as part of a range of protective actions
- Relocated the Operations Support Center to an area near the Technical Support Center within the protected ventilation envelope

The revision was compared to its previous revision, to the criteria of NUREG-0654, "Criteria for Preparation and Evaluation of Radiological Emergency Response Plans and Preparedness in Support of Nuclear Power Plants," Revision 1, and to the requirements of 10 CFR 50.47(b) and 50.54(q) to determine if the licensee adequately implemented 10 CFR 50.54(q). The inspector completed one sample during this inspection.

b. Findings

No findings of significance were identified.

4. OTHER ACTIVITIES

4OA2 Identification and Resolution of Problems (71152)

Cross-References to PI&R Findings Documented Elsewhere

Section 1R13 of the report describes a failure by the licensee to properly assess the cause of the SBODG failure to start. The licensee failed to perform systematic troubleshooting of the starting system circuit.

Section 1R15 of the report describes the failure to completely close a motor-operated throttle valve. The inspector identified the licensee missed an opportunity to correct the underlying cause of this issue following a similar event in November 2004.

4OA4 Crosscutting Aspects of Findings

Cross-Reference to Human Performance Error Findings Documented Elsewhere

Section 1R115 documents a human performance error. This error can be attributed to a lack of understanding of motor-operated throttle valve operation and inadequate guidance provided in the stroke time testing procedures.

4OA6 Meetings, Including Exit

Exit Meetings

On July 29, 2005, the inspectors presented the permanent plant modifications inspection results to Mr. D. Vinci, General Manager, Plant Operations, and other members of his staff. The inspectors confirmed that proprietary information was neither provided nor examined during the inspection.

On September 29, 2005, the inspector conducted a telephonic exit meeting to present the emergency preparedness inspection results to Mr. J. Leavines, Manager, Emergency Planning, who acknowledged the findings. The inspector confirmed that proprietary information was neither provided nor examined during this inspection.

On September 29, 2005, the inspectors presented the integrated inspection results to Mr. Paul Hinnenkamp, Vice President Operations, and other members of licensee management. The inspectors asked the licensee whether any materials examined during the inspection should be considered proprietary. No proprietary information was identified.

#### 4OA7 Licensee-Identified Violations

The following findings of very low safety significance were identified by the licensee and are violations of NRC requirements which meet the criteria of Section VI of the NRC Enforcement Policy, for being dispositioned as NCVs.

- Technical Specification 5.1.2 requires that during any absence of the shift manager from the control room, while the unit was in MODE 1, 2, or 3, an individual with an active senior reactor operator license shall be designated to assume the control room command function. Contrary to this, on July 6, 2005, the control room supervisor did not meet proficiency requirements to stand watch and he had been the only senior reactor operator in the main control room for a 50 minute period of time. Procedure TPP-7-011, "Licensed Operator Requalification Training Program," Revision 14, Step 5.6.1 stated that a licensed individual shall actively perform the functions of a senior reactor operator on a minimum of five 12-hour shifts per calendar quarter to remain proficient and able to stand watch. The control room supervisor had stood five watches as required, but he was relieved after 9 hours during one of those watches.

Because the finding could not be evaluated using the Significance Determination Process, the issue was reviewed by regional management. The finding was determined to have very low safety significance because of the short duration, the individual involved had completed all other training requirements, had recently completed operations department high intensity training, had completed 95 percent of the required proficiency watches, and because the shift manager and the control room supervisor took appropriate corrective actions in a timely manner. Since this finding was of very low safety significance (Green) and entered in the licensee's corrective action program as CR-RBS-2005-02466, this finding was treated as an NCV in accordance with Section IV. A of the NRC Enforcement Manual.

- 10 CFR Part 50 Appendix B, Criterion XVI, requires that conditions adverse to quality are promptly identified and corrected. Contrary to this, on July 8, 2005, a fitting leak identified in the jacket cooling water return line for the governor oil cooler on Division I EDG, was not repaired until the fitting failed on July 31, 2005, during a pre-maintenance run of the EDG. Later analysis showed that with this leak, the jacket cooling water pump following an automatic start would lose suction pressure in 10 minutes after receipt of a low standpipe level alarm.

The finding was more than minor because it was associated with the mitigating system cornerstone attribute for equipment performance and the cornerstone objective to ensure the availability of a system (Division I EDG) that responds to initiating events (Loss of Offsite Power) to prevent undesirable consequences. During Phase 2 of the Significance Determination Process for at power situations the finding screened as Green because the EDG was not functional for less than thirty days. The dominant sequence for the finding was a loss of offsite power

with a failure to recover offsite power within 12 hours. Since this finding was of very low safety significance (Green) and was entered in the licensee's corrective action program as CR-RBS-2005-03165, this finding was treated as an NCV in accordance with Section IV. A of the NRC Enforcement Manual.

- Technical Specification 5.4.1.a. requires that procedures be established, implemented and maintained for activities recommended in Regulatory Guide 1.33, Appendix A. Appendix A, Section 1.c., lists "equipment control" as one of these activities. Contrary to this, on September 13, 2005, Division II EDG was removed from service by a tag-out of both diesel air start systems. However, work was only performed on the rear air start system. Work on the forward air start system was removed from the schedule during the week's work planning process. After this scheduling change was made, the tagging request or tagout was not amended for only the rear air start system. Only one air start system was required to maintain EDG availability and operability. As a result, the Division II EDG was unavailable for over 8 hours unnecessarily.

The finding was more than minor because it was associated with the mitigating system cornerstone attribute for equipment performance and the cornerstone objective to ensure the availability of a system (Division II EDG) that responds to initiating events (Loss of Offsite Power) to prevent undesirable consequences. Based on the Significance Determination Process Phase 1 screening, this finding was determined to have very low safety significance, since Division II EDG was out of service for a short period of time and Division I and III EDGs were available. Because this finding was of very low safety significance (Green) and entered in the licensee's corrective action program as CR-RBS-2005-03219, this finding was treated as an NCV in accordance with Section IV. A of the NRC Enforcement Manual.

ATTACHMENT: SUPPLEMENTAL INFORMATION

Enclosure

## SUPPLEMENTAL INFORMATION

### KEY POINTS OF CONTACT

#### Licensee Personnel

L. Ballard, Manager, Quality Programs  
D. Burnett, Superintendent, Chemistry  
C. Bush, Manager, Outage  
J. Clark, Assistant Operations Manager, Training  
T. Coleman, Manager, Planning and Scheduling/Outage  
C. Forpahl, Manager, Corrective Actions  
T. Gates, Manager, Equipment Reliability  
H. Goodman, Director, Engineering  
P. Hinnenkamp, Vice President, Operations  
B. Houston, Manager, Plant Maintenance  
G. Huston, Assistant Operations Manager, Shift  
A. James, Superintendent, Plant Security  
N. Johnson, Manager, Engineering Programs & Components  
R. King, Director, Nuclear Safety Assurance  
J. Leavines, Manager, Emergency Planning  
D. Lorfing, Manager, Licensing  
J. Maher, Superintendent, Reactor Engineering  
W. Mashburn, Manager, Design Engineering  
P. Russell, Manager, System Engineering  
C. Stafford, Manager, Operations  
W. Trudell, Manager, Training and Development  
D. Vinci, General Manager, Plant Operations

### LIST OF ITEMS OPENED, CLOSED, AND DISCUSSED

#### Opened and Closed

05000458/2005004-01	NCV	Failure to Implement Corrective Actions in Response to a 10 CFR Part 21 Report
05000458/2005004-02	FIN	Failure to Troubleshoot a Starting System Failure Caused Station Blackout Diesel Generator to Be Unavailable for 24 Hours Longer than Necessary
05000458/2005004-03	NCV	Failure to Completely Close a Residual Heat Removal System Valve Resulted in Pumping Suppression Pool Water to Containment Upper Pool

## LIST OF DOCUMENTS REVIEWED

The following documents were selected and reviewed by the inspectors to accomplish the objectives and scope of the inspection and to support any findings:

### **Section 1R13: Maintenance Risk Assessments and Emergent Work Evaluation (71111.13)**

Surveillance Test Procedure, STP-204-6303, Division I RHR Quarterly Valve Operability Test, performed on July 29, 2005

Operations Section Procedure, OSP-0042, ASME Section IX Inservice Testing Implementation, Revision 8

Elementary Diagram, ESK-06RHS11, 480 V Circuit Residual Heat Removal System, Revision 10

Standing Order Number 190, Electrically Operated Throttle Valve Operation, dated August 3, 2005

E12-MOVF037A As Left Motor Operator Signature Testing Data, dated November 4, 2004

Administrative Procedure, ADM-0096, Risk Management Program Implementation and On-line Maintenance Risk Assessment, Revision 4

System Operating Procedure, SOP-0053, Standby Diesel Generator and Auxiliaries (SYS#309), Revision 43

Abnormal Operating Procedure, AOP-0029, Severe Weather Operation, Revision 15

Abnormal Operating Procedure, AOP-0050, Station Blackout, Revision 18

Risk Assessment Results, Week of 07/31/05 Week 1, Division I Work Week

Division I DG Outage Contingency Plan

River Bend Station, Unit 1, Amendment No. 102 to Facility Operating License No. NPF-47

River Bend Station, Unit 1, Amendment No. 125 to Facility Operating License No. NPF-47

Nuclear Management Manual, ENS-DC-199, Off-site Power Supply Design Requirements, Revision 0

Nuclear Management Manual, ENS-DC-201, ENS Transmission Grid Monitoring

Surveillance Test Procedure, STP-309-0201, Division I Diesel Generator Operability Test, Revision 28

Calculation PRA-RB-01-002S06, RBS Initiating Events Analysis Work Package, Revision 0

Calculation PRA-RB-01-002S09, RBS Loss of Off-Site Power (LOSP) Work Package, Revision 0

Calculation PRA-RB-01-002S05, RBS Plant Specific Data Analysis, Revision 0

RBS License Amendment Request 93-013

Engineering Evaluation and Assistance Request EEAR-1992-R0021, Potential Defect in the Cylinder Liners of Cooper Standby Diesel Generator Systems, Revision 0

RBS Engineering Request ER-1999-0107, EDG Piston Pin Assembly and Cylinder Liner Part Number Changes, Revision 0

Condition Reports:

CR-RBS-1993-0460, CR-RBS-2005-02727, CR-RBS-2005-03064, CR-RBS-2005-03066, CR-RBS-2005-03165, CR-RBS-2005-03400

Nondestructive Examination Reports:

99IR20187, 99IR20184, 00IR20447

**Section 1R15: Operability Evaluations (71111.15)**

CR-RBS-2005-02447, July 4, 2005, Division II isolation lights on H13-P622 flickering and Division II power line Conditioner, SCM-XRC14B1 malfunction

CR-RBS-2005-2255, June 21, 2005, acoustic monitor supply breaker trip

CR-RBS-2005-2276, June 23, 2005, acoustic monitor supply breaker trip

CR-RBS-2005-2327, June 25, 2005, acoustic monitor supply breaker trip

CR-RBS-2005-2480, July 7, 2005, acoustic monitor supply breaker trip

WO 00069266 01, Set over voltage trip at a value greater than the maximum output voltage of SCM-XRC14B1, completed July 19, 2005

Work Request 00058593, SBODG failed to start/crank during manual start attempt, dated August 13, 2005

WO 00071483, SBODG failed to start/crank during manual start attempt, dated August 14, 2005

Abnormal operating Procedure, AOP-0042, "Loss of Instrument Bus," Revision 22

Alarm response Procedure, ARP-601-19, "P601-19 Alarm Response," Revision 22

Operator log entries on June 21, June 23, June 24, June 25, and August 13 -14 2005

Temporary alteration Number TA05-0015-00, utilize RPS-XRC10B1 to provide 120 Vac to SCM-PNL01B

System Operating Procedure, SOP-0054, Station Blackout Diesel Generator, Revision 4

**Section 1R17B: Permanent Plant Modifications (71111.17B)**

Calculations:

NUMBER	TITLE	REVISION
PM-222	Relief Valve Capacity - Required for SJAE Intercondensers	01
G13.18.2.3*320	EGA Rank Receiver Relief Valves and Discharge Piping Verification	0

Condition Reports:

CR-RBS-1998-0044, CR-RBS-1998-1472, CR-RBS-1999-1914, CR-RBS-2000-1359

Drawings:

NUMBER	TITLE	REVISION
D4R-200-016	Outline Dim. Dwg. Model 200 Diff. Press. Ind. With Reversed Ports	01
PID-03-01B	Engineering P&I Diagram System 109 Main Steam	21
PID 03-01C	System 109, Main Steam	26
PID-08-09B	System 309 Diesel Generator	13
PID-27-20B	Engineering P&I Diagram System 208 MSIV Positive Leakage Control	23



Engineering Requests:

NUMBER	TITLE/SUBJECT	REVISION
RBS ER-1997-0525	Engineering Evaluation to Accept Different Configuration of Barton Model 200A Differential Pressure Indicator	0
RBS ER-1998-0524	Replace Relief Valves EGA RV 5A, B, C, D, and EGA RV 6A, B, C, D	0
RBS ER-1998-0729	SRV Logic Rosemount Trip Unit Modification	0
RBS ER-1999-0045	Replace MSS-RV146; ARC-RV11A and 11B	0
RBS ER-1999-0536	Torque Switch Bypass Setting Changes	0
RBS ER-2001-0231	Removal of SVV Hi Desiccant DP Input to Alarm 1235, "SVV DRY 1A/1B HI DIFF PRES"	0
RBS ER-1998-0580	Revise Documentation to Reflect Effective Reduction in HPCS/RCIC CST Reserve Volume Due to Flow Induced Instrument Error	0
RBS ER-2000-0330	Install Relief Valves on the Return Lines of the Containment Unit Coolers, HVR-UC1A and HVR-UC1B	0
RBS ER-2001-0296	Replace RCIC Lube Oil Cooler Orifice Plate E51-ROD012	0
RBS ER-2004-0080	Replace 230KV Transformer Disconnect Switches for Preferred Station Service Transformers and Main Transformer	0
RBS ER-2004-0256	Replace Air Operated Valve Actuator Diaphragms with New EPDM/Nomex® Type	0
RBS ER-2004-0307	Replace O-Ring on Fisher AOV from Nitrite to Viton®	0
RBS ER-2004-0487	Replace MOV Actuator with Angled Actuator	0

Miscellaneous:

NUMBER	TITLE	REVISION/DATE
	Part 21 Rosemount Trip/Slave Units, Model 710DUOTS	December 11, 1998
247.457P-171	Addendum 1 and Memorandum of Purchase for Differential Pressure and Flow Switches, Page 3-4-11	March 7, 1980
MAI 304608	Repair or Replace Gauge per ER-97-0525	May 20, 1998
MAI 328777	Perform Torque Switch Bypass Setting Changes on Valve SWP-MOV74A per ER 99-0536/CR 98-1436	December 6, 2000
MAI 328778	Perform Torque Switch Bypass Setting Changes on Valve SWP-MOV74B per ER 99-0536/CR 98-1436	December 6, 2000
MAI 328779	Perform Torque Switch Bypass Setting Changes on Valve SWP-MOV506A per ER 99-0536/CR 98-1436	March 28, 2001
MAI 328781	Perform Torque Switch Bypass Setting Changes on Valve SWP-MOV506B per ER 99-0536/CR 98-1436	February 1, 2000
MR 86-1573	Increase setpoint of 1MSS-RV146	FCNs 0 through 4
NCIG-05	EPRI Guideline for Piping System Reconciliation	1
OTS 1.ILICS.003.OTS-003	Change Scale Range of Pressure Differential Indicators (PDI) to Reflect Range of Replacement Instrument	0A
SDDF 3242.414-000-046A	Rosemount Operations Manual for Trip/Calibration System Model 510DU	00
SDDF 3242.414-000-047A	Rosemount Operations Manual for Trip/Calibration System Model 510DU	00
SDDF 3242.414-000-048A	Rosemount Operations Manual for Trip/Calibration System Model 710DU	00

SDDF 3242.414-000-049A	Rosemount Operations Manual for Trip/Calibration System Model 710DU	00
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Procedures:

NUMBER	TITLE	REVISION
ENG-3-037	Engineering Request Process	2
STP-000-6801	Miscellaneous Check Valves Cold Shutdown Operability Test	3A

**Section 1R19: Postmaintenance Testing (71111.19)**

WO 00066545 01	CR-RBS-2004-02042	ER-RB-2004-0370-000
WO 51018151 01	CR-RBS-2004-02299	

**LIST OF ACRONYMS**

AOP	abnormal operating procedure
CFR	<i>Code of Federal Regulations</i>
CR-RBS	River Bend Station condition report
EDG	emergency diesel generator
FIN	finding
GOP	general operating procedure
LER	licensee event report
LOCA	loss of coolant accident
LPCI	low pressure coolant injection
MT	magnetic particle testing
NCV	noncited violation
NRC	U.S. Nuclear Regulatory Commission
PI	performance indicators
PID	pipng and instrument drawings
PT	penetrant testing
RCIC	reactor core isolation cooling
RCS	reactor coolant system
RHR	residual heat removal
SBODG	station blackout diesel generator
SOP	system operating procedures
SSC	structures, systems, or components
STP	surveillance test procedure
USAR	Updated Safety Analysis Report
WO	work order