



UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION IV
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ARLINGTON, TEXAS 76011-4005

November 1, 2007

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Site Vice President
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5485 US Highway 61N
St. Francisville, LA 70775

SUBJECT: RIVER BEND STATION - NRC INTEGRATED INSPECTION
REPORT 05000458/2007004

Dear Mr. Venable:

On September 29, 2007, the U.S. Nuclear Regulatory Commission (NRC) completed an inspection at your River Bend Station. The enclosed integrated inspection report documents the inspection findings, which were discussed on October 4, 2007, with E. Olson 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.

This report documents two NRC-identified findings of very low safety significance (Green). These findings were determined to involve violations of NRC requirements. Additionally, two licensee-identified violations which were determined to be of very low safety significance are listed in this report. However, because of the very low safety significance and because they are entered into your corrective action program, the NRC is treating these findings as noncited violations (NCVs) consistent with Section VI.A.1 of the NRC Enforcement Policy. If you contest any NCV in this report, you should provide a response within 30 days of the date of this inspection report, with the basis for your denial, to the 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, United States Nuclear Regulatory Commission, Washington, DC 20555-0001; and the NRC Resident Inspector at River Bend Station.

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/

Michael C. Hay, Chief
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Division of Reactor Projects

Docket: 50-458
License: NPF-47

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NRC Inspection Report 05000458/2007004
w/Attachment: Supplemental Information

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SUNSI Review Completed: MCH ADAMS: Yes No Initials: MCH
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RIV:SRI:DRP/C	RI:DRP/C	SPE:DRP/C	C:DRS/EB1	C:DRS/PSB
GFLarkin	MOMiller	WCWalker	WBJones	MPShannon
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11/01/07	11/01/07	11/01/07	10/29/07	10/30/07
C:DRS/EB2	C:DRS/OB	C:DRP/C		
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U.S. NUCLEAR REGULATORY COMMISSION

REGION IV

Docket: 50-458

License: NPF-47

Report: 05000458/2007004

Licensee: Entergy Operations, Inc.

Facility: River Bend Station

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

Dates: July 1 through September 29, 2007

Inspectors: G. Larkin, Senior Resident Inspector, Project Branch C
M. Miller, Resident Inspector, Project Branch C
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SUMMARY OF FINDINGS

IR 05000458/2007004; 07/01/2007 - 09/29/2007; River Bend Station; Maintenance Risk Assessments and Emergent Work Control; Identification and Resolution of Problems

The report covered a 3-month period of routine baseline inspections by resident inspectors and an announced baseline inspection by a regional emergency planning inspector. Two Green noncited violations were identified. The significance of most findings is indicated by their color (Green, White, Yellow, 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. An NRC identified noncited violation of 10 CFR 50.65 (a)(4) was identified for the failure to assess and manage the increase in risk that may result from proposed maintenance activities on the control building chilled water system. This issue was entered into the licensee's corrective action program as Condition Report CR-RBS-2007-03059.

Using NRC Manual Chapter 0612, Appendix B, Section 3, Item 5(h), the finding is more than minor because the licensee's risk assessment had errors and incorrect assumptions that changed the outcome of the assessment. Using Manual Chapter 0609, "Significance Determination Process," Appendix K, "Maintenance Risk Assessment and Risk Management Significance Determination Process," the finding is determined to have very low safety significance (Green) because the incremental core damage probability deficit for the affected time periods is less than 1.0E-6 (Section 1R13).

Cornerstone: Occupational Radiation Safety

- Green. An NRC-identified noncited violation of 10 CFR 20.1501(a) was identified involving multiple failures to perform radiological surveys to evaluate radiological hazards following control room alarms of the Containment Atmosphere Radiation monitor particulate channel. This issue was entered into the licensee's corrective action program as Condition Report CR-RBS-2007-04415.

This finding is more than minor because it is associated with the Occupational Radiation Safety Cornerstone attribute of program and process, and affects the cornerstone objective to ensure the adequate protection of a worker's health and safety from exposure to radiation because it could have resulted in workers being exposed to higher radiation levels. When processed through the Occupational Radiation Safety Significance Determination Process, the finding is determined to be of very low safety significance because it is not as low as is reasonably achievable finding, there was

no overexposure or substantial potential for an overexposure, and the ability to assess dose was not compromised. The finding has a crosscutting aspect in the area of human performance, specifically the work control component, because the licensee failed to appropriately coordinate work activities by incorporating actions to address the impact of the work on different job activities and the need for work groups to communicate, coordinate, and cooperate with each other during activities in which interdepartmental coordination is necessary to assure plant and human performance (H.3(b)) (Section 40A2).

B. Licensee-Identified Violations

Two 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 40A7 of this report.

REPORT DETAILS

Summary of Plant Status: The plant began the inspection period at 100 percent power and remained at 100 percent power until September 27, 2007, except to down power to approximately 80 percent power for scheduled control rod pattern adjustments on July 20, August 10, August 17, September 7, and September 21, 2007. On September 27, 2007, the plant experienced an automatic reactor trip from 100 percent power while performing a Division I half scram surveillance test due to a faulted Reactor Protection System, Division II, scram solenoid valve electrical circuit. The plant remained shutdown for the remainder of the inspection period.

1. REACTOR SAFETY

Cornerstones: Initiating Events, Mitigating Systems, Barrier Integrity

1R01 Adverse Weather Protection

a. Inspection Scope

Readiness For Impending Adverse Weather Conditions

On August 13, 2007, the inspectors completed a review of the licensee's readiness for impending adverse weather involving extreme hot weather for the Division I, II, and III emergency diesel generators. The inspectors: (1) reviewed plant procedures, the Updated Safety Analysis Report (USAR), and Technical Specifications (TS) to ensure that operator actions defined in adverse weather procedures maintained the readiness of essential systems; (2) walked down portions of the system listed below to ensure that adverse weather protection features were sufficient to support operability, including the ability to perform safe shutdown functions; (3) reviewed maintenance records to determine that applicable surveillance requirements were current before the anticipated extreme hot weather developed; and (4) reviewed plant modifications, procedure revisions, and operator work arounds to determine if recent facility changes challenged plant operation.

- August 13, 2007, emergency diesel generators

Documents reviewed by the inspectors included:

- Modification Request MR 86-1389, diesel generator exhaust fans
- Preventive maintenance optimization computer records
- August 13, 2007, control room logs
- Environmental Design Criteria for Zone DG-098-2, diesel generator control room, reviewed on August 14, 2007

The inspectors completed one inspection sample.

b. Findings

No findings of significance were identified.

1R04 Equipment Alignment

1. Partial System Walkdowns

a. Inspection Scope

The inspectors: (1) walked down portions of the two risk important systems listed below and reviewed plant procedures and documents to verify that critical portions of the selected systems were correctly aligned; and (2) compared deficiencies identified during the walk down to the licensee's USAR and Corrective Action Program (CAP) to ensure problems were being identified and corrected.

- July 16, 2007, Division I control room air conditioning system
- July 19, 2007, Division I standby diesel generator

Documents reviewed by the inspectors included:

- System Operating Procedure SOP-0053, "Standby Diesel Generator and Auxiliaries," Revision 305
- System Operating Procedure SOP-0066, "Control Building HVAC Chilled Water System," Revision 303
- Operations Section Procedure OSP-0017, "Normal Control Board Lineups for Safety Related Systems," Revision 301

The inspectors completed two inspection samples.

b. Findings

No findings of significance were identified.

2. Complete System Walkdown

a. Inspection Scope

The inspectors: (1) reviewed plant procedures, drawings, the USAR, and TS to determine the correct system alignment; (2) reviewed outstanding design issues, operator workarounds, and USAR documents to determine if open issues affected the functionality of the Division I Standby Service Water system; and (3) verified that the licensee was identifying and resolving equipment alignment problems.

- Division I standby service water system

Documents reviewed by the inspectors included:

- USAR Section 9.2.7, "Standby Service Water System"
- TS Section 3.7.1, "Standby Service Water (SSW) System and Ultimate Heat Sink (UHS)"

The inspectors completed one inspection sample.

b. Findings

No findings of significance were identified.

1R05 Fire Protection

a. Inspection Scope

.1 Quarterly Inspection

The inspectors walked down the six plant areas listed below to assess the material condition of active and passive fire protection features and their operational lineup and readiness. The inspectors: (1) verified that transient combustibles and hot work activities were controlled in accordance with plant procedures; (2) observed the condition of fire detection devices to verify they remained functional; (3) verified that fire extinguishers and hose stations were provided at their designated locations and that they were in a satisfactory condition; (4) verified that passive fire protection features (electrical raceway barriers, fire doors, fire dampers, steel fire proofing, penetration seals, and oil collection systems) were in a satisfactory material condition; (5) verified that adequate compensatory measures were established for degraded or inoperable fire protection features and that the compensatory measures were commensurate with the significance of the deficiency; and (6) reviewed the CAP to determine if the licensee identified and corrected fire protection problems.

- July 11, 2007, Auxiliary Building, 171-foot level, containment air lock area, Fire Area AB-15/Z-5,
- July 11, 2007, Auxiliary Building, 141-foot level, standby gas treatment system filter A room, Fire Area AB-14 and Fire Area AB-15/Z-4
- July 11, 2007, Auxiliary Building, 95-foot level, shield building access area, Fire Area AB-15/Z-2
- July 11, 2007, Auxiliary Building, 70-foot level, HPCS pump room, Fire Area AB-2/Z-1 and LPCS pump room, Fire Area AB-6/Z-1

Documents reviewed by the inspectors included:

- Pre-Fire Plan/Strategy Book
- USAR Section 9A.2, "Fire Hazards Analysis"
- CR-RBS-2004-00455
- CR-RBS-2007-01329

The inspectors completed four inspection samples.

.2 Annual Inspection

On August 13, 2007, the inspectors observed the fire brigade's response to a fire in the Training Center to evaluate the readiness of licensee personnel to prevent and fight fires, including the following aspects: (1) the number of personnel assigned to the fire brigade, (2) use of protective clothing, (3) use of breathing apparatuses, (4) use of fire procedures and declarations of emergency action levels, (5) command of the fire brigade, (6) implementation of pre-fire strategies and briefs, (7) access routes to the fire and the timeliness of the fire brigade response, (8) establishment of communications, (9) effectiveness of radio communications, (10) placement and use of fire hoses, (11) entry into the fire area, (12) use of fire fighting equipment, (13) searches for fire victims and fire propagation, (14) smoke removal, (15) use of pre-fire plans, and (16) restoration from the fire. The inspectors also inspected the licensee's contingency plans for emergency coordination and backup power to the Emergency Operating Facility during the fire in the Training Center, which is attached to the Emergency Operating Facility building.

The inspectors completed one inspection sample.

b. Findings

No findings of significance were identified.

1R06 Flood Protection Measures

a. Inspection Scope

.1 Annual External Flooding

The inspectors: (1) reviewed the USAR, the flooding analysis, and plant procedures to assess seasonal susceptibilities involving external flooding; (2) reviewed the USAR and CAP to determine if the licensee identified and corrected flooding problems; and (3) walked down the area listed below to verify the adequacy of: (a) equipment seals located below the floodline, (b) floor and wall penetration seals, (c) watertight door seals, (d) common drain lines and sumps, and (e) sump pumps, level alarms, and control circuits.

- Week of August 11, 2007, control building

The inspectors completed one inspection sample.

.2 Semi-annual Internal Flooding

The inspectors: (1) reviewed the USAR, the flooding analysis, and plant procedures to assess seasonal susceptibilities involving internal flooding; (2) reviewed the USAR and CAP to determine if the licensee identified and corrected flooding problems; and (3) walked down the area listed below to verify the adequacy of: (a) equipment seals located below the floodline, (b) floor and wall penetration seals, (c) watertight door seals, (d) common drain lines and sumps, and (e) sump pumps, level alarms, and control circuits. The specific area inspected, during the week of August 11, 2007, was the control building.

- Week of August 11, 2007, control building

The inspectors completed one inspection sample.

b. Findings

No findings of significance were identified.

1R07 Heat Sink Performance

a. Inspection Scope

The inspectors reviewed licensee programs, verified performance against industry standards, and reviewed critical operating parameters and maintenance records for the Auxiliary Building Unit Coolers HVR-UC11A and HVR-UC11B. The inspectors verified that: (1) performance tests were satisfactorily conducted for heat exchangers/heat sinks and reviewed for problems or errors; (2) the licensee properly utilized biofouling controls; (3) the licensee's heat exchanger inspections adequately assessed the state of cleanliness of their tubes; and (4) the heat exchanger was correctly categorized under the Maintenance Rule. Documents reviewed by the inspectors are listed in the attachment.

The inspectors completed one inspection sample.

b. Findings

No findings of significance were identified.

1R11 Licensed Operator Regualification Program

a. Inspection Scope

On July 17, 2007, the inspectors observed operator team testing of senior reactor operators and reactor operators to identify deficiencies and discrepancies in the training, to assess operator performance, and to assess the evaluator's critique. The training scenario involved a loss of offsite power during a hurricane, with some leakage from the

reactor coolant system to the drywell, followed by loss of all emergency diesel generators. Documents reviewed by the inspectors included:

- Simulator Scenario, RDRL-EP-0702, Revision 2

The inspectors completed one inspection sample.

b. Findings

No findings of significance were identified.

1R12 Maintenance Effectiveness

a. Inspection Scope

The inspectors reviewed the Maintenance Rule scoped system listed below that has displayed performance problems to: (1) verify the appropriate handling of structures, systems, and components (SSC) performance or condition problems; (2) verify the appropriate handling of degraded SSC functional performance; (3) evaluate the role of work practices and common cause problems; and (4) evaluate the handling of SSC issues reviewed under the requirements of the Maintenance Rule, 10 CFR Part 50 Appendix B, and the Technical Specifications.

- 125 VDC electrical distribution

Documents reviewed by the inspectors included:

- NUMARC 93-01, Nuclear Energy Institute Industry Guideline for Monitoring the Effectiveness of Maintenance at Nuclear Power Plants, Revision 2
- Maintenance rule function list
- Maintenance rule performance criteria list
- 125 VDC electrical distribution maintenance rule performance evaluations
- E143, "Standby Battery ENB-BAT01A Duty Cycle, Current Profile and Size Verification"

The inspectors completed one inspection sample.

b. Findings

No findings of significance were identified.

1R13 Maintenance Risk Assessments and Emergent Work Control

a. Inspection Scope

.1 Risk Assessment and Management of Risk

The inspectors reviewed the two assessment activities listed below to verify: (1) performance of risk assessments when required by 10 CFR 50.65 (a)(4) and administrative Procedure ADM-096, "Risk Management Program Implementation and On-Line Maintenance Risk Assessment," Revision 04B, prior to changes in plant configuration for maintenance activities and plant operations; (2) the accuracy, adequacy, and completeness of the information considered in the risk assessment; (3) that the licensee recognizes, and/or enters as applicable, the appropriate licensee-established risk category according to the risk assessment results and licensee procedures; and (4) the licensee identified and corrected problems related to maintenance risk assessments.

- Week of July 9, 2007, dry fuel cask loading
- Week of July 9, 2007, Control Building HVAC chillers feed and bleed

Documents reviewed by the inspectors included:

- Daily plant status sheets for the week of July 9, 2007
- Procedure DFS-0002, "Dry Fuel Cask Loading"
- Procedure AOP-0060, "Loss of Control Building Ventilation"
- USAR Section 6.4, "Habitability Systems," and Section 9.2.10, "Control Building Chilled Water System"
- Calculation G13.18.12.3*161, "Standby Switchgear Room Temperatures following Loss of Offsite Power and Loss of HVAC"
- Calculation G13.18.12.3*72-0, "Standby Switchgear Room Temperatures Following Loss of Offsite Power and Loss of HVAC"

The inspectors completed two inspection samples.

b. Findings

Introduction. A Green noncited violation of 10 CFR 50.65 (a)(4) was identified for the failure to assess and manage the increase in risk that may result from proposed maintenance activities on the control building chilled water system.

Description. On July 12, 2007, the licensee removed Division I HVK (control building chillers) from service to conduct a feed-and-bleed operation on the Division I chilled water system to maintain system pH. The inspectors noted that the on-line risk monitor (Equipment Out of Service (EOOS)) showed no change in risk when Division I HVK was

removed from service. The inspectors questioned the accuracy of that risk assessment because the HVK system provides cooling for the rooms containing safety-related standby switchgear ENS-SWG1A (Division I) and ENS-SWG1B (Division II).

The inspectors interviewed engineering personnel and found that the licensee had disconnected HVK from EOOS in 1996 based on the results of Calculation G13.18.12.3*161, "Standby Switchgear Room Temperatures Following Loss of Offsite Power and Loss of HVAC." This calculation was conducted to determine whether the peak temperatures that would be experienced by ENS-SWG1A and ENS-SWG1B during a complete loss of HVK would exceed the switchgear capabilities. The finding from this calculation was that the peak room temperature would be 149°F and that ENS-SWG1A and ENS-SWG1B could withstand 167°F on a continuous basis. The licensee concluded that the peak room temperature would not exceed a temperature that would result in equipment failure and therefore, disconnected HVK from the re-quantification algorithm in EOOS. This prevented EOOS from calculating the increase in risk before performing maintenance on the control building chilled water system.

The inspectors reviewed Modifications ER-00-0550 and ER-00-0551, which added 20 KVA inverters to Division I and to Division II safety-related switchgear rooms in 2000. The inspectors determined that Calculation G13.18.12.3*161 had not been updated to assess the effects of these modifications, specifically the additional heat load contributed by the inverters to a revised peak switchgear room temperature. The licensee confirmed the inspectors' determination that Calculation G13.18.12.3*161 had not been updated when the 20 KVA inverters were installed and entered this into their CAP as CR-RBS-2007-03059. The inspectors concluded that the peak temperature calculated in G13.18.12.3*161 was no longer correct and that the actual peak temperature would be higher than the calculated 149°F.

Because Calculation G13.18.12.3*161 also stated that ENS-SWG1A and ENS-SWG1B could withstand 167°F on a continuous basis, the inspectors reviewed the vendor manual for inverters and the electronic undervoltage relays mounted on ENS-SWG1A and ENS-SWG1B. The inspectors found that the vendor manual specified 158°F as the maximum operating temperature for these relays and 122°F for the inverters. The inspectors determined that this was below the value of the 167°F continuous rating specified in Calculation G13.18.12.3*161. The inspectors questioned engineering personnel and they did not provide an explanation for the difference. The inspectors concluded that this could cause the assumed capability of the switchgear to withstand 167°F on a continuous basis to be non-conservative.

Analysis. Using NRC Manual Chapter 0612, Appendix B, Section 3, Item 5(h), the finding is more than minor because the licensee's risk assessment had errors and incorrect assumptions that changed the outcome of the associated risk assessment and is associated with the Mitigating Systems cornerstone. Using Manual Chapter 0609, "Significance Determination Process," Appendix K, "Maintenance Risk Assessment and Risk Management Significance Determination Process," the finding is determined to have very low safety significance (Green) because the incremental core damage probability deficit for the affected time periods is less than 1.0E-6.

Enforcement. 10 CFR 50.65 (a)(4), "Requirements for Monitoring the Effectiveness of Maintenance at Nuclear Power Plants," requires, in part, that before performing maintenance activities the licensee shall assess and manage the increase in risk that may result from the proposed maintenance activities. Contrary to the above, the licensee failed to adequately assess the increase in risk before performing maintenance on the control building chilled water system on February 27, 2006, November, 3, 2006, November 12, 2006, and July 12, 2007. Because the finding was of very low safety significance and has been entered into the licensee's CAP as condition Report CR-RBS-2007-03059, this violation is being treated as an NCV consistent with Section VI.A.1 of the NRC Enforcement Policy: NCV 05000458/2007004-01, "Inadequate Risk Assessment for Removing Control Building Chilled Water System from Service."

1R15 Operability Evaluations

a. Inspection Scope

The inspectors: (1) reviewed plant status documents such as operator shift logs, emergent work documentation, deferred modifications, and standing orders to determine if an operability evaluation was warranted for degraded components; (2) referred to the USAR and design basis documents to review the technical adequacy of licensee operability evaluations; (3) evaluated compensatory measures associated with operability evaluations; (4) determined degraded component impact on any TS; (5) used the Significance Determination Process to evaluate the risk significance of degraded or inoperable equipment; and (6) verified that the licensee has identified and implemented appropriate corrective actions associated with degraded components. The licensee operability evaluations were documented in the following condition reports (CR):

- CR-RBS-2007-02979, control building Chiller B freon leak, reviewed on August 14, 2007
- CR-RBS-2007-02872, containment airlock, reviewed on August 16, 2007
- CR-RBS-2007-03217, fire protection water storage Tank B, reviewed on August 23, 2007
- CR-RBS-2007-03036, control building Chiller D trip on high oil temperature, reviewed on August 28, 2007
- CR-RBS-2007-03766, Division I emergency diesel generator jacket water leak, reviewed on September 13, 2007

Documents reviewed by the inspectors included: Nuclear Management Manual Procedure EN-OP-104, Operability Determinations, Revision 2.

The inspectors completed five inspection samples.

b. Findings

No findings of significance were identified.

1R19 Postmaintenance Testing

a. Inspection Scope

The inspectors selected the five postmaintenance test activities listed below of risk significant systems or components. For each item, the inspectors: (1) reviewed the applicable licensing basis and/or design-basis documents to determine the safety functions; (2) evaluated the safety functions that may have been affected by the maintenance activity; and (3) reviewed the test procedure to ensure it adequately tested the safety function that may have been affected. The inspectors either witnessed or reviewed test data to verify that acceptance criteria were met, plant impacts were evaluated, test equipment was calibrated, procedures were followed, jumpers were properly controlled, the test data results were complete and accurate, the test equipment was removed, the system was properly re-aligned, and deficiencies during testing were documented. The inspectors also reviewed the CAP to determine if the licensee identified and corrected problems related to postmaintenance testing. The postmaintenance testing was part of the following work orders (WO):

- WO116383, control building Chiller A, reviewed on July 18, 2007
- WO116058, Division I emergency diesel generator jacket water leak, reviewed on August 19, 2007
- WO112215, drywell door and hatch interlock failure, reviewed on August 19, 2007
- WO119558, Division II emergency diesel generator paint on fuel metering valve, reviewed on September 20, 2007
- WO035358, weld repair on control building Chiller (HVK-C) pipe union, reviewed on August 27, 2007

The inspectors completed five inspection samples.

b. Findings

No findings of significance were identified.

1R22 Surveillance Testing

a. Inspection Scope

The inspectors reviewed the USAR, procedure requirements, and Technical Specifications to ensure that the six Surveillance Test Procedures (STP) listed below demonstrated that the SSC's tested were capable of performing their intended safety functions. The inspectors either witnessed or reviewed test data to verify that the following significant surveillance test attributes were adequate: (1) preconditioning; (2) evaluation of testing impact on the plant; (3) acceptance criteria; (4) test equipment; (5) procedures; (6) jumper/lifted lead controls; (7) test data; (8) testing frequency and method demonstrated TS operability; (9) test equipment removal; (10) restoration of plant systems; (11) fulfillment of ASME Code requirements; (12) updating of performance indicator (PI) data; (13) engineering evaluations, root causes, and bases for returning tested SSC's not meeting the test acceptance criteria were correct; (14) reference setting data; and (15) annunciators and alarms setpoints. The inspectors also verified that the licensee identified and implemented any needed corrective actions associated with the surveillance testing.

- STP-203-6305, "HPCS Quarterly Pump and Valve Operability Test," Revision 18, performed on May 14, 2007 (inservice test surveillance)
- STP-205-6301, "LPCS Quarterly Pump and Valve Operability Test," Revision 15, performed on July 4, 2007 (inservice test surveillance)
- STP-106-3805, "Condensate makeup Penetration KJB-Z134 Valve Leak Rate Test," Revision 7, performed on August 3, 2007 (LLRT)
- STP-203-4202, "ECCS/HPCS-Condensate Storage Tank Level-Low Channel Calibration and Logic System Functional Test (E22-N654G and E22-N054G)," Revision 11, performed on August 8, 2007
- STP-051-4268, "ECCS-Drywell Pressure-High Channel Calibration and Logic System Functional Test (B21-N094F; B21-N694F)," Revision 11, performed on August 14, 2007
- STP-051-4517, "Main Steam Line Isolation-Main Steam Line Pressure-Low Channel Functional Test (B21-N676D)," Revision 7, performed on August 15, 2007

The inspectors completed six inspection samples.

b. Findings

No findings of significance were identified.

Cornerstone: Emergency Preparedness

1EP4 Emergency Action Level and Emergency Plan Changes

a. Inspection Scope

The inspector performed an in-office review of Revision 31 to the River Bend Station Emergency Plan, implemented March 2007. This revision changed the audit frequency of the emergency planning function from 12 months to 24 months in accordance with 10 CFR 50.54(t)(2), updated titles of offsite agencies, and made editorial and reference changes associated with implementation of the NEI 99-01, Revision 4, emergency action level scheme.

The revision was compared to the 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, to NEI 99-01, "Methodology for Development of Emergency Action Levels," Revision 4, and to the standards in 10 CFR 50.47(b) to determine if the revision was adequately conducted following the requirements of 10 CFR 50.54(q). This review was not documented in a Safety Evaluation Report and did not constitute approval of licensee changes; therefore, these revisions are subject to future inspection.

The inspector completed one inspection sample.

b. Findings

No findings of significance were identified.

1EP6 Drill Evaluation

a. Inspection Scope

- .1 For the two below listed drills and simulator-based training evolutions contributing to Drill/Exercise Performance and Emergency Response Organization PIs, the inspectors:
- (1) observed the training evolution to identify any weaknesses and deficiencies in classification, notification, and Protective Action Requirements development activities;
 - (2) reviewed the identified weaknesses and deficiencies against licensee-identified findings to determine whether the licensee is properly identifying failures; and
 - (3) determined whether licensee performance was in accordance with the guidance of the Nuclear Energy Institute 99-02, "Voluntary Submission of Performance Indicator Data," Revision 2, acceptance criteria.

- July 17, 2007, RDRL-EP-0702, Revision 2
- September 11, 2007, Team B Site Drill - The drill involved an alert called from uncontrolled flooding in the low pressure core spray room, followed by an anticipated transient without scram (site area emergency), and finally a general emergency was declared after reactor pressure exceeded the suppression pool heat capacity temperature limits.

Documents reviewed by the inspectors included:

EIP-2-001, "Classification of Emergencies," Revision 16

EIP-2-006, "Notifications," Revision 33

EIP-2-007, "Protective Action Guidelines Recommendations," Revision 21

The inspectors completed two inspection samples.

b. Findings

No findings of significance were identified.

4. OTHER ACTIVITIES

4OA1 Performance Indicator (PI) Verification

a. Inspection Scope

Cornerstone: Barrier Integrity

The inspectors sampled licensee submittals for the two PIs listed below for the period January 1 to December 31, 2006. The definitions and guidance of Nuclear Energy Institute 99-02, "Regulatory Assessment Indicator Guideline," Revision 2, were used to verify the licensee's basis for reporting each data element in order to verify the accuracy of PI data reported during the assessment period. The inspectors: (1) reviewed reactor coolant system (RCS) chemistry sample analyses for dose equivalent Iodine-131 and compared the results to the TS limit; (2) observed a chemistry technician obtain and analyze an RCS sample; (3) reviewed operating logs and surveillance results for measurements of RCS identified leakage; and (4) observed a surveillance test that determined RCS identified leakage.

- Reactor Coolant System Specific Activity
- Reactor Coolant System Leakage

The inspectors completed two inspection samples.

4OA2 Identification and Resolution of Problems

a. Inspection Scope

.1 Routine Review of Identification and Resolution of Problems

The inspectors performed a daily screening of items entered into the licensee's CAP. This assessment was accomplished by reviewing condition reports and attending corrective action review and work control meetings. The inspectors: (1) verified that equipment, human performance, and program issues were being identified by the licensee at an appropriate threshold and that the issues were entered into the corrective action program; (2) verified that corrective actions were commensurate with the

significance of the issue; and (3) identified conditions that might warrant additional follow-up through other baseline inspection procedures.

b. Findings

No findings of significance were identified.

.2 Semiannual Trend Review

a. Inspection Scope

On September 24, 2007, the inspectors completed the semiannual review of Entergy's identified trends for evidence that other significant safety issues may exist. The inspectors' review focused on repetitive equipment issues, but also considered the results of screening the CAP, self-assessment reports, control room logs, quality assurance audits, and department self-assessments to determine if additional adverse trends existed. The inspectors compared and contrasted their results with the results contained in Entergy's latest quarterly trend reports. For those areas where trends were documented in the CAP, the inspectors verified that Entergy had corrective actions planned or in place to address the trend. The inspectors also evaluated the corrective actions against Entergy's procedural requirements of Procedure LI-102, "Corrective Action Program." The inspectors' review nominally considered the 6-month period of January through June 2007.

The inspectors completed one inspection sample.

b. Findings

Introduction. A Green noncited violation of 10 CFR 20.1501(a) was identified involving failure to perform radiological surveys to evaluate radiological hazards following alarm of the Containment Atmosphere Radiation monitor particulate channel.

Description. On August 9, 2007, the containment atmosphere radiation monitor's (RMS-RE-111) particulate channel alarmed in the control room. The containment atmosphere radiation monitor aids in detecting reactor coolant pressure boundary leakage in accordance with Regulatory Guide 1.45, "Reactor Coolant Pressure Boundary Leakage Collection System," and maintaining workers' exposure as low as reasonably achievable. The control room alarm response procedure ARP-808-83, "P808 Alarm Response," required the control room operators to determine if there was a primary coolant leak in containment, sample the reactor coolant and suppression pool, as necessary, to determine the extent/source of airborne activity, and to sample the containment atmosphere to determine the extent and source of airborne activity.

The inspectors reviewed the control room logs and discovered twenty three RMS-RE-111 alarms in the past two years. Entergy was able to find only seven surveys that corresponded to the twenty three alarms. The control room log entries did not indicate if Operations contacted Radiation Protection (RP) and Chemistry concerning the alarms or whether Chemistry and RP were requested to take a survey or samples. RP log entries indicate that when notified to take samples, samples were taken; but if

not specifically directed to sample, a sample may or may not have been taken depending on the existing plant conditions. RP and Chemistry did not use ARP-808-83 to respond to radiation monitor alarms. The ARP was only used by Operations and therefore, RP and Chemistry would not necessarily know what samples to take or that a sample was needed without additional direction.

Some control room log entries documented that “all appropriate ARP actions” were completed. Interviews with operations personnel indicate that this entry means that all actions that operations could do or determined to be needed were completed. The interviews indicated that there were occasions where the cause of the alarm was thought to be known by the crew. Therefore, the crew decided that some actions were not needed. However, the inspector noted that the procedure did not allow for these decisions. The inspector determined that Entergy had failed to follow the alarm response procedure because they had failed to survey in order to determine the extent and source of airborne activity following an alarm condition.

Analysis. The failure to perform an adequate radiation survey is a performance deficiency. Without a survey providing objective evidence of which radionuclides were present, the licensee could not perform an accurate evaluation of the radiological hazards. This finding is more than minor because it is associated with the occupational radiation safety cornerstone attribute of program and process, and affects the cornerstone objective to ensure the adequate protection of a worker’s health and safety from exposure to radiation because the workers could be exposed to higher radiation levels unknowingly. When processed through the occupational radiation safety significance determination process, the finding is determined to be of very low safety significance because it is not an as low as is reasonably achievable finding. There was no overexposure or substantial potential for an overexposure, and the ability to assess dose was not compromised. The finding has a crosscutting aspect in the area of human performance, specifically the work control component, because the licensee failed to appropriately coordinate work activities by incorporating actions to address the impact of the work on different job activities and the need for work groups to communicate, coordinate, and cooperate with each other during activities in which interdepartmental coordination is necessary to assure plant and human performance (H.3(b)).

Enforcement. 10 CFR 20.1501(a) requires, in part, that each licensee make or cause to be made surveys that may be necessary for the licensee to comply with the regulations in 10 CFR Part 20, and that are reasonable under the circumstances to evaluate the extent of radiation levels and the potential radiological hazards that could be present. Contrary to the requirement of 10 CFR20.1501A, the inspector determined that the licensee’s multiple failures to survey were not reasonable under the circumstances to evaluate the extent of radiation levels and the potential radiological hazards that could be present. Because the failure to perform a radiation survey resulted in an occurrence of very low safety significance, it has been entered into the licensee’s CAP as Condition Report CR-RBS-2007-04415, this violation is being treated as an NCV consistent with Section VI.A of the NRC Enforcement Policy: NCV 05000458/2007004-02, “Failure to Survey Following Containment Atmosphere Radiation Monitor Particulate Channel Alarms.”

.3 Annual Sample Review

In addition to the routine review, the inspectors selected the issue listed below for a more in-depth review. The inspectors considered the following during the review of the licensee's actions: (1) complete and accurate identification of the problem in a timely manner; (2) evaluation and disposition of operability/reportability issues; (3) consideration of extent of condition, generic implications, common cause, and previous occurrences; (4) classification and prioritization of the resolution of the problem; (5) identification of root and contributing causes of the problem; (6) identification of corrective actions; and (7) completion of corrective actions in a timely manner.

- July 12, 2007, total loss of control building air conditioning

Documents reviewed by the inspectors included:

- CR-RBS-2007-030360, control building Chiller D tripped on high bearing oil temperature on July 12, 2007
- CR-RBS-2007-03321, online risk monitor requantification after removal of control building chillers output is no change in risk on July 25, 2007
- SDC-309, "Diesel Generator Building Ventilation System Design Criteria," Revision 3
- SOP-0066, "Control Building HVAC Chilled Water System," Revisions 303 and 304
- Calculation G13.18.12.3*161, "Standby Switchgear Room Temperatures following Loss of Offsite Power and Loss of HVAC," Revision 0

The inspectors completed one inspection sample.

b. Findings

No findings of significance were identified.

4OA6 Meetings, Including Exit

Exit Meetings

On July 24, 2007, the inspector presented the inspection results to Mr. J. Leavines, Manager, Emergency Planning, who acknowledged the findings. The inspector confirmed that proprietary information was not provided or examined during the inspection.

On October 4, 2007, the inspectors presented the integrated baseline inspection results to Mr. E. Olson, General Manager, Plant Operations, and other members of licensee management. The inspectors confirmed that proprietary information was not provided

or examined during the inspection.

40A7 Licensee-Identified Violations

The following findings of very low safety significance (Green) 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.

- 10 CFR Part 50.47(b)(2) states, ". . . adequate staffing to provide initial facility accident response in key functional areas is maintained at all times. . . ." 10 CFR Part 50.47(b)(15) states, "Radiological emergency response training is provided to those who may be called on to assist in an emergency." Contrary to the above, one chemistry technician whose emergency response organization qualifications had expired stood 11 watches as the required on-shift dose assessor between January 15 and August 5, 2006. Although the licensee's on-shift staffing process allowed more than two shifts during a 30-day period to go below emergency plan requirements, this performance deficiency has been evaluated as being of low safety significance (Green) because the finding was not a functional failure of planning standard 50.47(b)(2), in that, the technician was present and may have been capable of performing the required emergency plan function; and other trained licensee personnel not usually assigned dose assessment responsibilities were present and could have assisted if necessary. This issue was identified in the licensee's CAP as CRs 2006-03264 and 2007-02023.
- Technical Specification paragraph 5.4.1.a requires that written procedures are established, implemented, and maintained covering the activities specified in Regulatory Guide 1.33, Revision 2, Appendix A, dated February 1978. Regulatory Guide 1.33, Appendix A, Section 9, requires procedures for performing maintenance activities. Contrary to this, maintenance technicians failed to implement Maintenance Procedure MSP-0027, "Protective Coatings (Paint)," that required establishing appropriate painting controls. As a result, paint was deposited on the Division II emergency diesel generator (EDG) fuel injector pump metering rods. The paint affected EDG operability as the EDG Division II was unable to reach rated motor speed and generator frequency within 10 seconds as required by Surveillance Requirement 3.8.1.7. This finding is of very low safety significance because it did not represent a design or qualification deficiency, loss of safety function for a single train for greater than its TS allowed outage time, and was not risk-significant due to external event initiators. This issue was identified in the licensee's CAP as CR-RBS-2007-03609.

ATTACHMENT: SUPPLEMENTAL INFORMATION

SUPPLEMENTAL INFORMATION

KEY POINTS OF CONTACT

Licensee Personnel

M. Chase, Manager, Training and Development
J. Clark, Assistant Operations Manager - Training
C. Forpahl, Manager, Engineering Programs & Components
B. Heath, Superintendent, Chemistry
K. Higginbotham, Assistant Operations Manager - Shift
B. Houston, Manager, Radiation Protection
A. James, Superintendent, Plant Security
J. Leavines, Manager, Emergency Preparedness
J. Loque, Manager, Plant Maintenance
D. Lorfing, Manager, Licensing
J. Maher, Acting Superintendent, Reactor Engineering
W. Mashburn, Manager, Design Engineering
B. Matherne, Manager, Planning and Scheduling/Outage
R. McAdams, Manager, System Engineering
J. Miller, Manager, Operations
E. Olson, General Manager - Plant Operations
E. Roan, Manager, Outage
J. Roberts, Director, Nuclear Safety Assurance
P. Russell, Manager, Corrective Action Program
T. Tankersley, Manager, Quality Programs
J. Venable, Site Senior Vice President
D. Wiles, Director, Engineering

LIST OF ITEMS OPENED, CLOSED, AND DISCUSSED

Opened and Closed

05000458/2007004-01	NCV	Inadequate Risk Assessment for Removing Control Building Chilled Water System from Service
05000458/2007004-02	NCV	Failure to Survey Following Containment Atmosphere Radiation Monitor Particulate Channel Alarms

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 1R07: Heat Sink Performance

Work Orders:

WO 51043128
WO 51045897

Condition Reports:

CR-RBS-1999-0137
CR-RBS-2005-02387

Miscellaneous Documents:

NUMBER	TITLE/SUBJECT	REVISION
Specification Number 215.252	Containment Unit Coolers and Auxiliary Building Unit Coolers	12/30/74
Specification Number 215.253	Auxiliary Building Unit Cooler Replacement Cooling Coils	3
G13.18.2.1*061	Auxiliary Building Design Basis Heat Loads and Unit Cooler Sizing Verification	8/6/2001

Section 4OA2: Identification and Resolution of Problems

Procedure:

NUMBER	TITLE	REVISIONS
ARP P803-83	Alarm Response	10A

CRs:

CR-RBS-2007-03427	CR-RBS-2007-03517
CR-RBS-2007-03484	CR-RBS-2007-03635

Miscellaneous Documents:

NUMBER	TITLE/SUBJECT	REVISION
16138-11-PR(c)-631-2	Calculation of Setpoints and Conversion Factors for Drywell Atmosphere Monitor (1RMS*RE112 Particulate Channel Based on Measured Data	2
ESK-13RMS18	Instrument Drawing DRMS RM-80 Data Base Limits RMS-RE112	0

Radiological Surveys:

BP-8-Nov-05	BP-12-Feb-06	BP-07-Aug-06
BP-24-Nov-05	BP-03-Apr-06	BP-19-Apr-07
BP-08-Dec-05	BP-20-Apr-06	BP-20-Apr-07
BP-23-Dec-05	BP-23-Apr-06	BP-11-June-07
2005-001	BP-10Jun-06	2007-1001-1
BP-29-Dec-05	BP-20-Jul-06	BP-01-Jun-07
BP-11-Feb-06	BP-01-Aug-06	BP-12-Aug-07

LIST OF ACRONYMS

CAP	corrective action program
CFR	<i>Code of Federal Regulations</i>
CR	condition report
CR-RBS	condition report River Bend Station
EDG	emergency diesel generator
EOOS	Equipment Out of Service
NCV	noncited violation
NRC	U.S. Nuclear Regulatory Commission
PI	Performance Indicators
RCS	reactor coolant system
SSC	structures, systems, and components
STP	surveillance test procedure
TS	Technical Specifications
USAR	updated safety analysis report
WO	work order