



UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION IV
611 RYAN PLAZA DRIVE, SUITE 400
ARLINGTON, TEXAS 76011-4005

March 15, 2007

Joseph E. Venable
Site Vice President
Entergy Operations, Inc.
River Bend Station
5485 US Highway 61N
St. Francisville, LA 70775

SUBJECT: RIVER BEND STATION - NRC TRIENNIAL FIRE PROTECTION INSPECTION
REPORT 05000458/2007006

Dear Mr. Venable:

On January 29 through February 15, 2007, the U.S. Nuclear Regulatory Commission (NRC) completed an inspection at your River Bend Station. The enclosed report documents the inspection results which were discussed on February 15, 2007, with you and other members of your staff.

During this triennial fire protection inspection, the inspection team examined activities conducted under your license related to safety and compliance with the Commission's rules and regulations and the conditions of your license related to fire protection and post-fire safe shutdown. The inspection consisted of selected examination of procedures and records, observations of activities and installed plant systems, and interviews with personnel.

On the basis of the results of this inspection, no findings of significance were identified.

In accordance with 10 CFR 2.390 of the NRC's "Rules of Practice," a copy of this letter, its enclosure, and your response will be made 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 Web site at <http://www.nrc.gov/reading-rm/adams.html> (the Public Electronic Reading Room).

Sincerely,

/RA/

Linda Joy Smith, Chief
Engineering Branch 2
Division of Reactor Safety

Docket: 50-458
License: NPF-47

Entergy Operations, Inc.

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Enclosures:

Inspection Report 05000458/2007006

w/Attachment: Supplemental Information

cc w/enclosure:

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SUNSI Review Completed: Yes ADAMS: Yes No Initials: LJS
 Publicly Available Non-Publicly Available Sensitive Non-Sensitive

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ENCLOSURE

U.S. NUCLEAR REGULATORY COMMISSION
REGION IV

Docket: 50-458

License: NPF-47

Report No.: 05000458/2007006

Licensee: Entergy Operations, Inc.

Facility: River Bend Station

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

Dates: January 29 through February 15, 2007

Team Leader: J. M. Mateychick, Senior Reactor Inspector, Engineering Branch 2

Inspectors: H. Abuseini, Reactor Inspector, Engineering Branch 2
R. Mullikin, Consultant
K. Sullivan, Consultant - Brookhaven National Laboratory

Approved By: Linda Joy Smith, Chief
Engineering Branch 2
Division of Reactor Safety

SUMMARY OF FINDINGS

IR 05000458/2007006; 1/29/07 - 2/15/07; Entergy Operations, Inc.; River Bend Station; Fire Protection (Triennial)

The NRC conducted an inspection with a team of two regional inspectors and two contractors. The inspection identified no findings of significance. The significance of most findings is indicated by their color (Green, White, Yellow, Red) using MC 0609 "Significance Determination Process" (SDP). Findings for which the significance determination process does not apply may be Green or may be assigned a severity level after NRC management review. The NRC describes its program for overseeing the safe operation of commercial nuclear power reactors in NUREG-1649, "Reactor Oversight Process", Revision 3, dated July 2000.

A. NRC-Identified and Self Revealing Findings

No findings of significance were identified.

B. Licensee-Identified Violations

None

REPORT DETAILS

1 REACTOR SAFETY

1R05 Fire Protection

The purpose of this inspection was to review the River Bend Station's fire protection program for selected risk-significant fire areas. Emphasis was placed on verification of the post-fire safe shutdown capability. The inspection was performed in accordance with the NRC regulatory oversight process using a risk-informed approach for selecting the fire areas and attributes to be inspected. The team used the Individual Plant Examination of External Events for the River Bend Station (RBS) to choose risk-significant areas for detailed inspection and review. Inspection Procedure 71111.05T, "Fire Protection (Triennial)," requires selecting three to five fire areas for review. The three fire areas reviewed during this inspection were:

- Fire Area AB-1 (West side crescent area)
- Fire Area C-15 (Division I standby switchgear room)
- Fire Area ET-1 (B-tunnel east)

For each of these fire areas, the inspection focused on fire protection features, systems and equipment necessary to achieve and maintain safe shutdown conditions, and licensing basis commitments.

Documents reviewed by the team are listed in the attachment.

.1 Shutdown From Outside Main Control Room

a. Inspection Scope

The team reviewed the licensee's methodology for achieving and maintaining post-fire safe shutdown to ensure that at least one post-fire safe shutdown success path was available in the event of a fire. The principal sources of this information were the Final Safety Analysis Report, Section 9.5.1, "Fire Protection System"; Appendix 9A, "Fire Hazards Analysis"; Appendix 9B, "Fire Protection Program Comparison With Appendix R to 10CFR50" and Criterion Number 240.201A, "Post-Fire Safe Shutdown Analysis". The objectives of this evaluation were to:

- (a) Verify that the licensee's shutdown methodology has correctly identified the components and systems necessary to achieve and maintain a safe shutdown condition.
- (b) Confirm the adequacy of the systems selected for reactivity control, reactor coolant makeup, reactor heat removal, process monitoring and support system functions.
- (c) Verify that a safe shutdown can be achieved and maintained without off-site power.

The team focused on the following functions that must be available to achieve and maintain post-fire safe shutdown conditions:

- Reactivity control capable of achieving and maintaining cold shutdown reactivity conditions,
- Reactor coolant makeup capable of maintaining the reactor coolant inventory,
- Reactor heat removal capable of achieving and maintaining decay heat removal, and
- Supporting systems capable of providing all other services necessary to permit extended operation of equipment necessary to achieve and maintain hot shutdown conditions.

To assure the licensee had properly identified the components and systems necessary to achieve and maintain safe shutdown conditions for equipment in the fire areas selected for review, piping and instrumentation diagrams were reviewed and compared to the list of safe shutdown equipment documented in the licensee's post-fire safe shutdown analysis and referenced supporting calculations. In addition, plant drawings, operating procedures, operator lesson plans, and other relevant documents were reviewed to verify the flow paths and operational characteristics of systems relied on to accomplish required safe shutdown functions.

For each of the above functions, the team verified that the licensee's methodology had properly identified the primary and support systems needed to assure their success. The team verified that specific safe shutdown functions can be achieved and maintained with or without off-site power.

The licensee's safe shutdown analysis is based on assuring that a minimum set of systems and equipment, that are capable of performing each shutdown function would be available in the event of fire. The primary systems relied on to achieve and maintain hot-shutdown conditions included the reactor protection system, high pressure core spray, low pressure core spray, reactor core isolation cooling, main steam safety/relief valve, and the residual heat removal systems. These systems are considered the primary systems to the extent they directly satisfy the post-fire safe shutdown performance goals of reactor shutdown, over-pressure protection, maintenance of coolant inventory, and decay heat removal. Systems necessary to support the operation of the primary systems, such as ac and dc power, service water cooling (normal and standby) and instrumentation to monitor for proper operation of required systems were also identified by the licensee.

b. Findings

No findings of significance were identified.

.2 Protection of Safe Shutdown Capabilities

a. Inspection Scope

The team reviewed the piping and instrumentation diagrams, safe shutdown equipment list, safe shutdown design basis documents, and the post-fire safe shutdown analysis to verify whether the shutdown methodology had properly identified the components and systems necessary to achieve and maintain safe shutdown conditions for equipment in the fire areas selected for review. The team also reviewed and observed walkdowns of the procedures for achieving and maintaining safe shutdown in the event of a fire to verify that the safe shutdown analysis provisions were properly implemented. The team focused on the following functions that must be ensured to achieve and maintain post-fire safe shutdown conditions: (1) reactivity control capable of achieving and maintaining cold shutdown reactivity conditions, (2) reactor coolant system isolation for the preservation of inventory, (3) reactor heat removal capable of achieving and maintaining decay heat removal, (4) supporting systems capable of providing all other services necessary to permit extended operation of equipment necessary to achieving and maintaining cold shutdown conditions, and (5) process monitoring capable of providing direct readings to perform and control the above functions.

The team reviewed the separation of safe shutdown cables, equipment, and components within the same fire areas, and reviewed the methodology for meeting the requirements of 10 CFR 50.48, Appendix A to Branch Technical Position 9.5-1 and 10 CFR Part 50, Appendix R, Section III.G. Specifically, this was to determine whether at least one post-fire safe shutdown success path was free of fire damage in the event of a fire in the selected areas.

The overall approach of the licensee's evaluation for fire area compliance with Section III.G of Appendix R was to determine the fire-induced losses for a fire in each fire area and then assess the plant impact given those losses. The results of the analysis are documented in Appendix B, "Safe Shutdown Separation Analysis by Fire Area (Fire Area Compliance Assessment)" of Criterion 240.201A.

For each of the selected fire areas, the team reviewed licensee documentation to verify that at least one post-fire safe shutdown success path would remain free of fire damage. With the exception of the main control room, Division II equipment is relied on in the event of fire in each of the selected fire areas. On a sample basis, an evaluation was performed to verify that systems and equipment identified by the licensee as being required to achieve and maintain hot shutdown conditions would remain free of fire damage in the event of fire in the selected fire areas. Specifically, the team examined the adequacy of electrical independence, physical separation and fire protection features provided for cables and equipment needed to assure the operation of systems that would be relied on to achieve and maintain safe shutdown conditions in the event of fire. The inspection focused on systems and equipment necessary to achieve and maintain hot shutdown conditions. The evaluation included a review of cable routing data depicting the physical location (by fire area) of power and control cables associated with a selected sample of components.

For each component identified on the Safe Shutdown Equipment List (Appendix C of Criterion 240.201A), a Safe Shutdown Cable Analysis Worksheet was developed by the licensee. For each component, all cables associated with its operation were identified and their unique identifying cable numbers were entered into the worksheet. From this list of cables, all cables that could adversely affect the required post-fire position and/or function of the component were identified and designated as “Appendix R” cables on the worksheet. Completed worksheets were then entered into Appendix E, “Circuit Analysis for RBS 10 CFR 50 Appendix R Safe Shutdown Equipment List Components,” of the RBS Post-fire Safe Shutdown Analysis (Criterion 240.201A). The specific components selected for review are delineated in the Attachment.

On a sample basis, the team also reviewed the adequacy of electrical protective devices (e.g., circuit breakers, fuses, relays), coordination, and the adequacy of electrical protection provided for nonessential cables, which share a common enclosure (e.g., cable trays) with cables of equipment required to achieve and maintain safe shutdown conditions. The evaluation included a review of cable routing data depicting the location of power and control cables associated with selected components of the shutdown systems. Additionally, the team reviewed the protection of diagnostic instrumentation required for safe shutdown for fires in the selected areas.

b. Findings

No findings of significance were identified.

.3 Passive Fire Protection

a. Inspection Scope

For the selected fire areas, the team evaluated the adequacy of fire area barriers, penetration seals, fire doors, electrical raceway fire barriers, and fire rated electrical cables. The team observed the material condition and configuration of the installed barriers, seals, doors, and cables. The team compared the as-installed configurations to the approved construction details and supporting fire tests. In addition, the team reviewed licensee documentation, such as NRC safety evaluation reports, and deviations from NRC regulations and the National Fire Protection Association codes to verify that fire protection features met license commitments.

b. Findings

No findings of significance were identified.

.4 Active Fire Protection

a. Inspection Scope

For the selected fire areas, the team evaluated the adequacy of fire suppression and detection systems. The team observed the material condition and configuration of the installed fire detection and suppression systems. The team reviewed design documents

and supporting calculations. In addition, the team reviewed licensee basis documentation, such as NRC safety evaluation reports, and deviations from NRC regulations and the National Fire Protection Association codes to verify that fire suppression and detection systems met license commitments.

The team also observed an announced site fire brigade drill and the subsequent drill critique using the guidance in Inspection Procedure 71111.05AQ. Team members observed the fire brigade simulate fire fighting activities in plant Fire Area C-1 (Cable Chase 1) in response to an electrical fire in a vertical cable tray. The inspectors verified that the licensee staff identified deficiencies, openly discussed them in a self-critical manner at the drill debrief, and took appropriate corrective actions. Specific attributes evaluated were: (1) proper wearing of turnout gear and self-contained breathing apparatus; (2) proper use and layout of fire hoses; (3) employment of appropriate fire fighting techniques; (4) sufficient fire fighting equipment brought to the scene; (5) effectiveness of fire brigade leader communications, command, and control; (6) search for victims and propagation of the fire into other plant areas; (7) smoke removal operations; (8) utilization of pre-planned strategies; (9) adherence to the pre-planned drill scenario; and (10) drill objectives.

b. Findings

No findings of significance were identified.

.5 Protection From Damage From Fire Suppression Activities

a. Inspection Scope

For the sample areas, the team verified that redundant trains of systems required for hot shutdown were not subject to damage from fire suppression activities or from the rupture or inadvertent operation of fire suppression systems including the effects of flooding.

b. Findings

No findings of significance were identified.

.6 Alternative Shutdown Capability

a. Inspection Scope

The team reviewed the licensee's alternative shutdown methodology to determine if the licensee properly identified the components, systems, and instrumentation necessary to achieve and maintain safe shutdown conditions from the auxiliary shutdown panel and alternative shutdown locations. The team focused on the adequacy of the systems selected for reactivity control, reactor coolant makeup, reactor heat removal, process monitoring, and support system functions. The team verified that hot and cold shutdown from outside the control room could be achieved and maintained with offsite power available or not available.

The team ensured that required shutdown functions were adequately isolated from the main control room and capable of being controlled from the remote shutdown panel. As part of this review, the capability to transfer control from the main control room to the remote shutdown panel was reviewed to ensure that, once actuated, the isolation transfer scheme provided an adequate level of electrical isolation so that required shutdown functions would not be adversely affected as a result of fire damage in the main control room. The licensee has provided an alternate shutdown capability that is physically and electrically independent of the main control room with sufficient controls and indications to enable a safe shutdown of the plant from outside the main control room.

The team reviewed the operational implementation of the licensee's alternative shutdown methodology. Team members observed a walk-through of the control room evacuation procedures with licensee personnel. The team observed operators simulate performing the steps of Procedure AOP-0031, "Shutdown From Outside the Main Control Room," Revision 20B, which provided instructions for performing an alternative shutdown from the remote shutdown panel and for manipulating equipment in the plant. The team verified that the minimum number of available operators, exclusive of those required for the fire brigade, could reasonably be expected to perform the procedural actions within the applicable plant shutdown time requirements and that equipment labeling was consistent with the procedure. Also, the team verified that procedures, tools, dosimetry, keys, lighting, and communications equipment were available and adequate to support successfully performing the procedure as intended. The team also reviewed records for operator training conducted on this procedure.

b. Findings

No findings of significance were identified.

.7 Circuit Analyses

a. Inspection Scope

The team reviewed the licensee's post-fire safe shutdown analysis to verify that the licensee had identified both required and associated circuits that may impact safe shutdown. On a sample basis, the team verified that cables of equipment required to achieve and maintain hot-shutdown conditions in the event of fire in selected fire zones had been properly identified. In addition, the team verified that these cables had either been adequately protected from the potentially adverse effects of fire damage, mitigated with approved manual operator actions, or analyzed to show that fire-induced faults (e.g., hot shorts, open circuits, and shorts to ground) would not prevent safe shutdown. In order to accomplish this, the team reviewed electrical schematics and cable routing data for power and control cables associated with each of the selected components.

Since the licensee utilizes thermoset cables, the team reviewed the following cable failure modes for selected required and associated circuits:

- Spurious actuations due to any combination of conductors within a single multiconductor cable;
- A maximum of two cables considered where multiple individual cables may be damaged by the same fire;
- For cases involving direct current control circuits, the potential spurious operation due to failures of the control cables (even if the spurious operation requires two concurrent shorts of the proper polarity, e.g., plus-to-plus and minus-to-minus); and
- For cases involving decay heat removal system isolation valves at high-pressure/low-pressure interfaces, the vulnerability of three-phase power cables due to three-phase proper polarity hot shorts.

In addition, on a sample basis, the adequacy of circuit protective coordination for the safe shutdown 4KV and 480V systems and the 120VAC instrumentation bus was evaluated. Also, on a sample basis, a cable tray that contain both safe shutdown and non-safe shutdown cables was evaluated for proper circuit protection to ensure that cables are protected by a proper protective device in order to preclude common enclosure concerns.

b. Findings

No findings of significance were identified.

.8 Communications

a. Inspection Scope

The team reviewed the adequacy of the communication system to support plant personnel in the performance of alternative safe shutdown functions and fire brigade duties. The team verified that plant telephones, page systems, sound powered phones, and radios were available for use and maintained in working order. The team reviewed the electrical power supplies and cable routing for these systems to verify that either the telephones or the radios would remain functional following a fire.

b. Findings

No findings of significance were identified.

.9 Emergency Lighting

a. Inspection Scope

The team reviewed the emergency lighting system required to support plant personnel in the performance of alternative safe shutdown functions to verify it was adequate to support the performance of manual actions required to achieve and maintain hot shutdown conditions, and for illuminating access and egress routes to the areas where manual actions are required. The locations and positioning of emergency lights were observed during a walk-through of Procedure AOP-0031, Revision 20B, "Shutdown From Outside the Main Control Room," and during review of manual actions implemented for the fire areas other than the control room.

b. Findings

No findings of significance were identified.

.10 Cold Shutdown Repairs

a. Inspection Scope

The team reviewed licensee procedures to determine whether repairs were required to achieve cold shutdown. The only repair was for the use of electrical jumpers for temporary power and operation of the residual hear removal shutdown cooling inboard isolation valve in the event of a main control room fire with the loss of Division II 480V electrical power. The team verified that the procedures, equipment, and materials to accomplish repairs of components required for cold shutdowns are available and accessible.

b. Findings

No findings of significance were identified.

.11 Compensatory Measures

a. Inspection Scope

The team reviewed the licensee's program with respect to compensatory measures in place for out-of-service, degraded, or inoperable fire protection, and post-fire safe shutdown equipment, systems or features.

The team reviewed the Technical Requirements Manual sections applicable to active and passive fire protection equipment and Procedures RBNP-038, "Site Fire Protection Program," FPP-0070, "Duties of Fire Watch"; and FPP-0100, "Fire Protection System Impairment"; the current fire impairment log and a sample of fire impairments to determine whether the procedures adequately controlled compensatory measures for fire protection systems, equipment and features (e.g., detection and suppression systems and equipment, and passive fire barriers).

The team reviewed Procedure AOP-0096, "Risk Management Program Implementation and On-Line Maintenance Risk Assessment," to determine whether the procedure adequately controlled compensatory measures for out-of-service, degraded, or inoperable equipment that could affect post-fire safe shutdown equipment, systems or features.

b. Findings

No findings of significance were identified.

4. OTHER ACTIVITIES

4OA2 Problem Identification and Resolution

a. Inspection Scope

The team reviewed a sample of condition reports and problem evaluation requests to verify that the licensee was identifying fire protection-related issues at an appropriate threshold and entering those issues into the corrective action program. A listing of condition reports and problem evaluation requests reviewed is provided in the attachment to this report.

b. Findings

No findings of significance were identified.

4OA5 Other Activities

.1 (Closed) Unresolved Item 05000458/2004007-01, "Potential Impact of Automatic Actuations on Safe Shutdown Analysis Conclusions"

During the 2004 Triennial Fire Protection Inspection, the inspection team identified that the Safe Shutdown Analysis credited only manual operation of systems on the Safe Shutdown Equipment List, but procedures used to implement safe shutdown during a fire did not implement steps to block automatic operations that might have undesired impacts. The unresolved item was opened pending further review to determine whether automatic actuations that result from expected plant conditions during fire scenarios could have a significant negative impact on achieving and maintaining a safe shutdown condition.

During this inspection, the team reviewed the licensee's efforts to resolve the issue. The licensee had entered the issue into its corrective actions program as CR-RBS-2004-00455 and had performed Engineering Request ER-RB-2004-0140-000, "Evaluate the Impact on the Post-Fire Safe Shutdown Analysis if Automatic Functions are NOT Lost Due to A Fire" to document the results of evaluations performed by licensee personnel and contractors. The team determined that the engineering request did not provide sufficient technical details to justify a conclusion on this issue. The engineering request provided a detailed comparison of the licensee's circuit analysis to the guidance

in Regulatory Issue Summary 2004-03, "Risk-Informed Approach For Post-Fire Safe-Shutdown Circuit Inspections," Revision 1. The engineering request did not specifically address the unresolved item. The licensee has initiated Corrective Action Number 10 in CR-RBS-2004-00455 to perform the fire induced automatic actuation evaluation.

The team further reviewed the fire safe shutdown analysis, circuit selection, and circuit routing during this inspection. The team concluded that instrumentation and control circuits which only impact one division of equipment were addressed in the current analysis of required safe shutdown equipment. Review of control systems which could result in automatic actuations of both divisions of equipment noted that inputs from instruments in both divisions must exceed their trip setpoints to initiate automatic actuations. Fire damage to the instruments and/or cables could result in spurious input signals. Generally, these inputs are based on reactor pressure vessel level, reactor pressure vessel pressure, and drywell pressure. Due to the physical separation of the divisions in the plant, the control room was identified as the only fire area where a single fire could damage the inputs from both divisions.

For fires requiring evacuation of the control room, control of equipment required for safe shutdown is transferred to the remote shutdown panel (RSP) within ten minutes of the reactor trip. Should spurious actuations occur, the transfer isolates the control room circuits including automatic actuation signals and provides manual control of the equipment from the RSP. The team did not identify any scenarios where control of spuriously actuated equipment could not be reestablished from the RSP. No deficiencies in the ability to meet the requirements for post-fire safe shutdown were identified. This unresolved item is closed.

.2 (Discussed) Licensee Event Report 05000458/2006001-00: Unanalyzed Condition Regarding RCIC Availability in Post-Fire Safe Shutdown Scenario

On January 2, 2006, an engineering assessment of circuits required for post-fire safe shutdown identified a deficiency with the analysis for the case of a fire in the control room. For a fire requiring evacuation of the control room, safe shutdown would be accomplished from the remote shutdown panel. The reactor core isolation cooling (RCIC) system would be used to establish hot-shutdown conditions. Motor-Operated Valve E51-MOVF063, the RCIC inboard steam supply valve, is normally open and must remain open for the RCIC system to operate.

Control of this valve is isolated from the control room and transferred to the remote shutdown panel. If off-site power is lost and the diesel generators do not automatically start, the safe shutdown analysis assumed the RCIC system would operate to maintain reactor water level. The safe shutdown analysis provides for the manual starting of the Division 1 and 3 diesel generators. The licensee identified that Valve E51-MOVF063 is powered from Division 2 which is not assured to be available during a control room fire. Should the valve spuriously close due to fire induced circuit damage prior to isolation from the control room and Division 2 power is lost, RCIC system operation would not be possible. The valve is located in the drywell so local manual action to reopen the valve is not possible.

The licensee has established interim compensatory measures and is planning a plant modification to allow Division I power to be available for operation of Valve E51-MOVF063 from the remote shutdown panel. The inspectors noted the NRC's expectation that the corrective actions be completed at the first opportunity allowed by plant conditions which would be the next refueling outage. The licensee event report will remain open until the final corrective actions are completed.

4OA6 Management Meetings

Exit Meeting Summary

On February 15, 2007, the team leader presented the inspection results to Mr. J. Venable and other members of licensee management at the conclusion of the inspection

During this meeting, the team leader confirmed to the licensee's management that no materials considered to be proprietary had been examined during the inspection.

ATTACHMENT: SUPPLEMENTAL INFORMATION

KEY POINTS OF CONTACT

Licensee

L. Ballard, Manager, Quality Assurance
R. Barnes, Supervisor, Engineering
R. Beauchamp, Shift Manager, Operations
R. Biggs, Coordinator, Safety & Regulatory Affairs
E. Borazanci, Senior Engineer, Electrical Engineering
B. Ellis, Senior Engineer, Fire Protection
C. Forpahl, Manager, Corrective Action & Assessment
H. Goodman, Director, Engineering
K. Higginbotham, Assistant Operations Manager
K. Huffstatler, Technical Specialist IV, Licensing
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O. Miller, Manager, Training & Development
P. Russell, Manager, System Engineering
J. Venable, Vice President, Operations
D. Vinci, General Manager, Plant Operations

NRC

P. Alter, Senior Resident Inspector, Project Branch C
M. Miller, Resident Inspector, Project Branch C

ITEMS OPENED AND CLOSED

Opened

None

Opened and Closed

None

Closed

05000458/2004007-01	URI	Potential Impact of Automatic Actuations on Safe Shutdown Analysis Conclusions (Section 4OA5.1)
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Discussed

05000458/2006001-00	LER	Unanalyzed condition Regarding RCIC Availability in Post-Fire Safe Shutdown Scenario (Section 4OA5.2)
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LIST OF DOCUMENTS REVIEWED

The following documents were selected and reviewed by the team to accomplish the objectives and scope of the inspection.

COMPONENT SELECTION FOR CIRCUIT ANALYSIS

Component number	Description
1E12*FTN052B	RHR B Discharge Flow Transmitter
1B21*PTN068A	Reactor Vessel Pressure Transmitter
1B21*PTN068B	Reactor Vessel Pressure Transmitter
1B21*PTN068E	Reactor Vessel Pressure Transmitter
1B21*PTN068F	Reactor Vessel Pressure Transmitter
1E12*MOVF004B	RHR Pump B Suppression Pool Suction Valve
1E12*MOVF006B	RHR B Shutdown Cooling Suction
1E12*MOVF006A	RHR A Shutdown Cooling Suction
1E12*MOVF011B	RHR B Discharge to Suppression Pool
1E12*MOVF024B	RHR B Test Return/HX Discharge to Suppression Pool
1E12*MOVF042B	RHR B Injection Valve
1E12*MOVF064B	RHR B Min Flow Line Isolation Valve
1E12*VF082	RHR B/C Discharge Line Fill Pump Suction
1E12*PC003	RHR B/C Line Fill Pump
1SWP*P2B	Standby Service Water Pump
1SWP*MOV40B	Standby Service Water Pump 2b Discharge
1SWP*MOV505A	Standby Service Water Division I / Division II Crossover Valve
1SWP*MOV505B	Standby Service Water Division I / Division II Crossover Valve

CALCULATIONS

<u>Number</u>	<u>Title</u>	<u>Revision</u>
G13.18.3.6*07	Common Enclosure Associated Circuit Concerns	1
G13.18.12-27	10 CFR 50 Appendix R Manual Action Time Frame	1
E-200, ATT.3	4160VAC & 480VAC Protective Device Coordination	1
PB-106	Water supply Data for Specification 214.400 - Water Spray and Sprinkler Fire Protection Systems	2
7214.400-273-091B	Calculation Sys AS-12	B
7214.400-273-092B	Calculation Sys WS-20	B

CONDITION REPORTS (CRs)

CR-RBS-2004-00428	CR-RBS-2006-04434	CR-RBS-2007-00358*
CR-RBS-2004-00455	CR-RBS-2006-04467	CR-RBS-2007-00394*
CR-RBS-2006-00046	CR-RBS-2006-04661	CR-RBS-2007-00411*
CR-RBS-2006-00402	CR-RBS-2006-04657	CR-RBS-2007-00422*
CR-RBS-2006-04003	CR-RBS-2006-04702	CR-RBS-2007-00598*
CR-RBS-2006-04018		

*CR initiated due to inspection activities.

DRAWINGS

<u>Number</u>	<u>Title</u>	<u>Revision</u>
CE-001A	Appendix R Safe-Shutdown Analysis Emergency Lighting - Control Building El. 98' - 0"	3
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ER-RB-2004-0011-000	Revise the Post-Fire Safe Shutdown Analysis and Emergency Light Drawings to Add Lights	0
ER-RB-2004-0126-000	Return Inappropriately Removed Components to the Appendix R Safe Shutdown Equipment List (Keep Fill Pumps)	0
ER-RB-2004-0140-000	Evaluate the Impact on the Post-Fire Safe Shutdown Analysis if Automatic Functions are NOT Lost Due to A Fire	0
ER-RB-2004-0275-000	Summarize all RBS NFPA Code Deviations	0

FIRE IMPAIRMENTS

1-TS-06-0662

1-TS-06-0748

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1-TS-06-0803

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STP-250-4530	FPM-PNL2 Fire Detection Functional Test and Operability Tests for Zone SD4, SD5, SD6, SD15, SD16, SD17(A&B), SD18(A&B), SD19(A&B), SD20, SD50, SD61, SD79(A&B), SD80(A&B), SD162, and SD163	01
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STP-250-4538	FPM-PNL14 Fire Detection Functional Test and Operability Tests for Zone FPS14A, SD49, SD52, SD55, SD101, SD106, FD28 and FD33	01
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LO-RLO-2006-00001 CA-00031	Pre-NRC Fire Protection Triennial Self-Assessment	98/18/06
NUREG-0989	Safety Evaluation Report related to the operation of River Bend Station	May 1984
NUREG-0989 Supplement No. 3	Safety Evaluation Report related to the operation of River Bend Station	August 1985
QA-9-20005-RBS-1	Quality Assurance Audit of the Fire Protection Program	5/15/05
RBS Lesson Plan R-LPHLO-0537	AOP-0031, Shutdown From Outside the Main Control Room	0
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3232.423-292-005A	Vendor Manual for 6 Volt and 12 Volt Emergency Batteries	November 14, 1996
6240.201-795-007C	Thermo-Lag Assessment Report	2
	Training Attendance List for Course Number RSTG- LOR-40407, "Simulator Instructor Guide, Module 7 2004"	

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