



**UNITED STATES  
NUCLEAR REGULATORY COMMISSION  
REGION IV  
611 RYAN PLAZA DRIVE, SUITE 400  
ARLINGTON, TEXAS 76011-8064**

January 11, 2000

Randal K. Edington, Vice President - Operations  
River Bend Station  
Entergy Operations, Inc.  
P.O. Box 220  
St. Francisville, Louisiana 70775

**SUBJECT: NRC INSPECTION REPORT NO. 50-458/99-17**

Dear Mr. Edington:

This refers to the inspection conducted on December 13-16, 1999, at the River Bend Station facility. The enclosed report presents the results of this inspection. Followup telephone conversations between your staff and the inspector were held on January 4 and 5, 2000, which led to a change in the characterization of one issue.

In accordance with 10 CFR 2.790 of the NRC's "Rules of Practice," a copy of this letter and its enclosure will be placed in the NRC Public Document Room (PDR).

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

Sincerely,

**/RA/**

Gail M. Good, Chief  
Plant Support Branch  
Division of Reactor Safety

Docket No.: 50-458  
License No.: NPF-47

Enclosure:  
NRC Inspection Report No.  
50-458/99-17

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c w/enclosure:

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E-Mail report to D. Lange (DJL)  
 E-Mail report to NRR Event Tracking System (IPAS)  
 E-Mail report to Document Control Desk (DOCDESK)  
 E-Mail report to E. Fox, NRR/DIPM (EFF)

E-Mail notification of report issuance to the RBS SRI and Site Secretary (TWP, PJS).

E-Mail notification of issuance of all documents to Nancy Holbrook (NBH).

bcc to DCD (IE35)

bcc distrib. by RIV:

Regional Administrator  
 DRP Director  
 DRS Director  
 Branch Chief (DRP/B)  
 Project Engineer (DRP/B)  
 Branch Chief (DRP/TSS)

River Bend Resident Inspector  
 RIV File  
 RITS Coordinator  
 SLO

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**ENCLOSURE**

U.S. NUCLEAR REGULATORY COMMISSION  
REGION IV

Docket No.: 50-458  
License No.: NPF-47  
Report No.: 50-458/99-17  
Licensee: Entergy Operations, Inc.  
Facility: River Bend Station  
Location: 5485 U.S. Highway 61  
St. Francisville, Louisiana  
Dates: December 13-16, 1999  
Inspector: William A. Maier, Senior Emergency Preparedness Inspector  
Approved By: Gail M. Good, Chief, Plant Support Branch  
Attachment: Supplemental Information

## EXECUTIVE SUMMARY

### River Bend Station NRC Inspection Report No. 50-458/99-17

A routine, announced inspection of the operational status of the licensee's emergency preparedness program was conducted. The inspection included the following areas: events, emergency facilities and equipment, emergency plan and implementing procedures, training, organization and management control, audits, effectiveness of licensee controls, and follow-up on open items. Emphasis was placed on changes that had occurred since the last routine emergency preparedness inspection.

#### Plant Support

- The onsite emergency response facilities were maintained as described in the emergency plan. Lockers contained the required contents, equipment calibrations were current, communication circuits between facilities were operational, and required inventories and communication tests were being performed. The licensee took appropriate actions to address inconsistent use of control dosimeters in emergency response lockers. Changes to offsite notification circuits improved the ability to contact the offsite response agencies (Section P2).
- Emergency response computer software verification and validation were not effective in detecting a programming error affecting the computer-assisted dose assessment computer in the technical support center. This error caused a minor degradation of the offsite notification capability. The licensee entered this issue into its corrective action system and corrected the problem during the inspection (Section P2).
- The licensee appropriately maintained its emergency plan and procedures by annual review and revision. The licensee properly reviewed proposed revisions to the emergency plan and procedures for impact on the plan's effectiveness. Copies of procedures at the emergency response facilities were current (Section P3).
- An improper sequence of steps in the licensee's notification procedure created the potential to delay offsite agency notifications of emergency declarations. The licensee initiated appropriate corrective actions to revise the procedure to address this issue (Section P3).
- Based on the performance of the control room crews and the interviews of senior emergency response managers, the emergency preparedness training program was effectively implemented. The control room crews performed well in the simulator walkthrough scenarios. Most of the risk significant tasks were performed correctly and in a timely manner. One minor instance of incorrect information in an offsite notification was noted. The licensee's evaluators appropriately recognized the problem and took prompt corrective action. Senior emergency response organization decision makers were knowledgeable of their general duties (Section P4).
- The licensee's practice of training all emergency preparedness staff to the same levels of expertise increased the staff's effectiveness and fungibility (Section P6).

- The annual Quality Assurance audits of the emergency preparedness program were effectively performed, and they met all NRC requirements. Based on the sampling of condition reports reviewed, the licensee's problem identification and resolution of emergency preparedness issues was effective (Section P7).

## Report Details

### IV. Plant Support

#### **P1 Conduct of Emergency Preparedness Activities**

##### a. Inspection Scope (93702)

There were no declared emergency events or related event reports since the last routine emergency preparedness inspection.

#### **P2 Status of Emergency Preparedness Facilities, Equipment, and Resources**

##### a. Inspection Scope (82701-03.02)

The inspector toured the main control room, technical support center, operations support center, and emergency operations facility to determine their operational readiness. The inspector checked these facilities for adequate supplies, operable communication circuits, and functional computer equipment. The inspector reviewed changes to offsite notification circuits and also reviewed test records for these circuits.

##### b. Observations and Findings

Lockers in the control room, technical support center, operations support center, and emergency operations facility contained emergency equipment, supplies, and instruments as listed in the emergency plan. A spot check of communication circuits in the technical support center and emergency operations facility revealed no failures. Copies of the emergency plan and implementing procedures at the onsite emergency response facilities were current. Calibrations of radiation monitoring instruments and dosimeters were current.

The inspector observed a demonstration in the technical support center of the computer-assisted dose assessment program's ability to communicate with the notification computer. This communication permitted automatic entry of current dose assessment parameters and protective action recommendations on notification forms, speeding the notification process.

The demonstration failed in that the dose assessment outputs would not transfer to the notification computer display. The licensee investigated the failure and discovered that it was due to a programming error on the computer-assisted dose assessment computer that had occurred in August 1999. The licensee checked the programming on all similar computers at the emergency response facilities and found no other programming errors. The licensee initiated Condition Report CR-RBS-1999-1976 to document the problem and evaluate it for further corrective actions.

The failure of the computer-assisted dose assessment program to communicate with the notification computer was a degradation of the notification system but not a loss of notification capability because the capability still existed for manual input of the dose

assessment outputs to the notification computer. The computers at all other locations from where offsite notifications could be made were fully capable of automatic input of dose assessment information.

The radiation protection locker in the technical support center contained 25 thermoluminescent dosimeters for issue to responders. There were no control dosimeters located in this locker, although there were control dosimeters located in lockers at the other emergency facilities inspected. Control dosimeters are kept in close proximity to issued dosimeters and are read concurrently with the issued dosimeters to subtract any background dose received.

The inspector questioned the inconsistent use of control dosimeters, since they were absent only from the technical support center locker. Licensee management stated that control dosimeters existed in the dosimetry issue office located in the vicinity of the technical support center. The licensee's position was that these nearby control dosimeters could be used in conjunction with the technical support center issued dosimeters. The licensee did not, however, have a basis for the acceptability of the dosimetry issue office control dosimeters. The licensee initiated Condition Report CR-RBS-1999-1987 to investigate whether it is necessary to permanently place control dosimeters in the technical support center locker.

In telephone conversations on January 4 and 5, 2000, the licensee informed the inspector that a technical justification for use of the control dosimeters located in the dosimetry office had been written, and a copy was provided to the inspector. Based on this justification, the licensee removed control dosimeters from the emergency response kits in the other onsite emergency response facilities, achieving consistency in the use of the dosimeters. The inspector agreed with the licensee's technical justification and considered the actions taken to be appropriate.

The licensee made a significant change to its offsite notification system since the last NRC inspection. The system was changed to rely on radio transmission as the method of making initial notifications of emergency events and of verifying receipt of those notifications. The system previously relied on telephone lines for making notifications. The computer system that controlled offsite notifications was also revised as was the computer-assisted dose assessment program that interfaced with the notification system. The licensee stated that this new system provided greater reliability and diversity of transmission, since it still relied on telephone lines as a backup notification method. The inspector verified that reliability had been increased by inspection of communication circuit test results from the 3-month period preceding the inspection. The licensee was consistently able to contact the offsite agencies by at least two independent methods.

Communication tests and equipment inventories were regularly performed more frequently than required by procedures. Where the offsite communication circuit procedure required monthly testing, the licensee tested these circuits weekly. Facility inventories were being tested monthly despite only a quarterly requirement to do so. Problems arising from these tests and inventories were immediately documented and corrective action was quickly and correctly performed.

c. Conclusions

The onsite emergency response facilities were maintained as described in the emergency plan. Lockers contained the required contents, equipment calibrations were current, communication circuits between facilities were operational, and required inventories and communication tests were being performed. The licensee took appropriate actions to address inconsistent use of control dosimeters in emergency response lockers. Changes to offsite notification circuits improved the ability to contact the offsite response agencies.

Emergency response computer software verification and validation were not effective in detecting a programming error affecting the computer-assisted dose assessment computer in the technical support center. This error caused a minor degradation of the offsite notification capability. The licensee entered this issue into its corrective action system and corrected the problem during the inspection.

The use of control thermoluminescent dosimeters in emergency response facility lockers was inconsistent between the technical support center and the other facilities. Actions taken to correct this condition were appropriate.

**P3 Emergency Preparedness Procedures and Documentation**

a. Inspection Scope (82701-03.01)

The inspector reviewed a sampling of licensee records to determine if the licensee was annually reviewing the emergency plan and implementing procedures for necessary revision. Also, the inspector reviewed a sample of the licensee's reviews of revisions made to the plan and implementing procedures to determine if the changes were made in accordance with NRC regulations. Finally, the inspector spot-checked procedures in place at the onsite emergency response facilities to determine if current, approved procedures were present.

b. Observations and Findings

The licensee annually reviewed the emergency plan and implementing procedures and identified needed revisions based on those reviews. The annual reviews were appropriately documented and retained in the licensee's files. Revisions to the plan and implementing procedures were properly reviewed for the impact on the plan's effectiveness. The most recently approved revisions of the emergency plan implementing procedures were located at the various emergency response facilities.

The inspector noted that the sequence of steps in the licensee's procedure for making offsite notifications potentially could result in an untimely notification. The inspector expressed concern that a communicator following the procedure in the sequence presented may be occupied notifying the NRC for an extended period prior to verifying the offsite agencies' receipt of the notification form. Since the initial receipt of the faxed form is only by printout, the licensee's call to verify receipt could be the offsite agencies' first indication that an emergency condition had been declared. The licensee also recognized this possibility and initiated emergency preparedness action tracking system

item No. 169 to revise the notification procedure steps to place the verification call to the offsite agencies before the NRC notification. The inspector considered this action to be appropriate.

c. Conclusions

The licensee appropriately maintained its emergency plan and procedures by annual review and revision. The licensee properly reviewed proposed revisions to the emergency plan and procedures for impact on the plan's effectiveness. Copies of procedures at the emergency response facilities were current.

An improper sequence of steps in the licensee's notification procedure created the potential to delay offsite agency notifications of emergency declarations. The licensee initiated appropriate corrective actions to revise the procedure to address this issue.

**P4 Staff Knowledge and Performance in Emergency Preparedness**

a. Inspection Scope (82701)

The inspector observed the performance of two control room crews as each responded to a dynamic walk through simulation of an emergency scenario on the control room simulator. The inspector evaluated the crews' abilities to classify events accurately, perform offsite notifications in a timely manner, assess the dose consequences of radiological releases, and make accurate and timely offsite protective action recommendations. The inspector also assessed the crews' and licensee evaluators' abilities to accurately critique performance.

The inspector interviewed two emergency directors and two recovery managers to determine their knowledge of duties and awareness of recent changes to the licensee's onsite emergency preparedness program.

b. Observations and Findings

The two crews performed most emergency tasks accurately and in a timely manner. The only exception was one offsite notification by the communicator on the first crew. This communicator's notification of the alert declaration was completed right at the 15-minute time limit and contained an erroneous declaration time. The unnecessary delay in this notification was caused by procedural problems associated with the notification procedure (see Section P3) and by the communicator's unfamiliarity with the computer-based notification system that had recently been revised.

The inspector concluded that the above problem was isolated, since the communicator was able to perform all other notifications correctly. The communicator for the second crew performed all notifications accurately and in a timely manner. Licensee emergency preparedness staff observed the above problem, identified it during the critique, and provided additional instruction to the communicator for the first crew. The critiques of the two crews were very detailed and included the crew's extensive self-critique.

The emergency directors and recovery managers were knowledgeable of the general duties and responsibilities of their emergency response positions. They were trained adequately, and they maintained qualification proficiency through classroom instruction and drill participation. All had participated in a drill within the calendar year.

c. Conclusions

Based on the performance of the control room crews and the interviews of senior emergency response managers, the emergency preparedness training program was effectively implemented. The control room crews performed well in the simulator walkthrough scenarios. Most of the risk significant tasks were performed correctly and in a timely manner. One minor instance of incorrect information in an offsite notification was noted. The licensee's evaluators appropriately recognized the problem and took prompt corrective action. Senior emergency response organization decision makers were knowledgeable of their general duties.

**P6 Emergency Preparedness Organization and Administration**

a. Inspection Scope (82701)

The inspector interviewed the emergency preparedness department manager and staff to determine the department's organizational structure and management control systems. Recent staffing changes and the division of responsibilities were discussed. Training and qualification records were reviewed to determine the emergency preparedness department staff's level of expertise.

b. Observations and Findings

The licensee divided the principal emergency preparedness functions (training instruction, facility maintenance, offsite agency liaison, and periodic testing responsibilities) equally among the six technical staff members. This practice minimized the impact of anyone staff member's absence. One staff member was absent from the site during the inspection due to a prolonged medical condition. That staff member's duties had been divided between the remaining staff, all of whom were qualified to perform these tasks.

The emergency preparedness department was minimally impacted by Entergy Operations' recent personnel reassessment. The only staff member lost from this reassessment was the department's administrative secretary. No technical staff reductions occurred since the last NRC inspection.

c. Conclusions

The licensee's practice of training all emergency preparedness staff to the same levels of expertise increased the staff's effectiveness and fungibility.

## **P7 Quality Assurance in Emergency Preparedness Activities**

### a. Inspection Scope (82701-03.05,03.06)

The inspector reviewed the River Bend Station Quality Assurance Department's two most recent annual audits of the onsite emergency preparedness program to determine compliance with NRC requirements. The inspector verified that audit results were made available to appropriate offsite authorities. The inspector also reviewed condition reports, resulting from these audits and other internal reviews, as well as the emergency preparedness department's action tracking system to determine the effectiveness of the licensee's corrective action system for emergency preparedness issues.

### b. Observations and Findings

The Quality Assurance Department annual audits were effectively performed and included assessments of the licensee's interface with State and local governments and of the licensee's drills, exercises, capabilities and procedures. The audits included performance-based observations and were appropriately intrusive. Condition reports were written to document the most significant negative observations of these audits. The team for one of the audits included technical experts from outside the Entergy Operations organization.

The inspector verified that the portions of the audits that dealt with the adequacy of the interface with offsite government agencies (parishes within the 10-mile emergency planning zone and the State of Louisiana) were made available to these agencies. This requirement was met via a discussion that took place during a regularly scheduled emergency planning management meeting between the licensee and the agencies.

The inspector reviewed 13 condition reports generated from the annual audits, drills, exercises, and the last NRC inspection. The licensee took prompt and effective corrective action to address the conditions described in these reports. All negative observations from the audits were entered in the emergency planning action tracking system. Corrective actions were timely and accurately focused on the documented problems. Problems were also evaluated for the extent of the condition. Corrective actions were not usually limited to addressing only the visible conditions.

### c. Conclusions

The annual quality assurance audits of the emergency preparedness program were effectively performed and met all NRC requirements. Based on the sampling of condition reports reviewed, the licensee's problem identification and resolution of emergency preparedness issues was effective.

## **P8 Miscellaneous Emergency Preparedness Issues**

- P8.1 (Closed) Inspection Follow-up Item 50-458/98014-01: Extension of charcoal respirator canister shelf life to indefinite The licensee removed all the charcoal filter canisters from the respirators in the emergency lockers and replaced them with particulate filters. Also, the licensee conveyed, in policy letter No. PL-140, Revision 2, dated September 30,

1999, its expectations for members of the emergency response organization to be qualified in several respiratory protection methods, including self-contained breathing apparatus. The use of self-contained breathing apparatus provides a respiratory protection factor significantly higher than that of the charcoal filter canisters.

- P8.2 (Closed) Inspection Follow-up Item 50-458/98014-03: Use of a different configuration face piece harness to perform fit testing from the type used in the plant The licensee replaced all the face pieces of the self-contained breathing apparatus in the plant with the same type of face piece used in the fit testing program; achieving consistency between the face piece used for fit testing and the face piece used for actual emergency response.

## **V. Management Meetings**

### **X1 Exit Meeting Summary**

The inspector presented the inspection results to members of licensee management at an exit meeting on December 16, 1999. The licensee acknowledged the findings presented. No proprietary information was identified.

The inspector conducted followup telephone conversations with the licensee on January 4 and 5, 2000, which led to a change in the characterization of one issue.

## ATTACHMENT

### **SUPPLEMENTAL INFORMATION**

#### PARTIAL LIST OF PERSONS CONTACTED

##### Licensee

R. Albert, Jr., Quality Specialist  
R. Azzarello, Manager, Training and Emergency Preparedness  
M. Bakarich, Manager, Emergency Preparedness  
D. Beauchamp, Supervisor, Quality  
J. Holmes, Manager, Technical Support  
J. Hurst, Senior Emergency Planner  
R. Jobe, Senior Emergency Planner  
M. Jones, Senior Operations Instructor  
R. King, Director, Nuclear Safety Assurance  
J. McGhee, Manager, Operations  
D. Mims, General Manager, Plant Operations  
D. Myers, Licensing Specialist  
S. Tisdale, Senior Emergency Planner  
N. Tison, Emergency Planner

##### NRC

T. Pruett, Senior Resident Inspector

##### Louisiana Department of Environmental Quality

S. Ghose, Coordinator, Radiological Emergency Planning and Response

##### Mississippi Emergency Management Agency

B. Chapman, Radiological Emergency Preparedness Section Chief

#### INSPECTION PROCEDURES USED

IP 82701: Operational Status of the Emergency Preparedness Program  
IP 92904: Follow-up - Plant Support

LIST OF ITEMS CLOSED

Closed

50-458/98014-01	IFI	Extension of charcoal respirator canister shelf life to indefinite (Section P8.1)
50-458/98014-03	IFI	Use of a different configuration face piece harness to perform fit testing from the type used in the plant (Section P8.2)

LIST OF DOCUMENTS REVIEWED

Emergency Plan and Implementing Procedures

River Bend Station Emergency Plan		Revision 20
EIP-2-002	Classification Actions	Revision 20
EIP-2-006	Notifications	Revision 26
EIP-2-007	Protective Action Recommendation Guidelines	Revision 17
EIP-2-012	Radiation Exposure Controls	Revision 13
EIP-2-103	Emergency Equipment Inventory	Revision 15
EPP-2-201	River Bend Station Emergency Preparedness Organization And Responsibilities	Revision 13
EPP-2-202	Emergency Response Organization	Revision 9
EPP-2-502	Emergency Communications Equipment Testing	Revision 17

Other Documents

RBNP-020	Initiation and Processing of Condition Reports	Revision 14
RBNP-089	River Bend Station Hurricane Readiness Procedure	Revision 1
Company Policy PL-140	Emergency Response Organization Respiratory Protection Guidelines	Revision 2
River Bend Station Y2K Integrated Contingency Plan		Revision 1
Emergency Preparedness Scenario 99-1214		
QA Audit Report 98-08-I-FEPL, 1998 RBS QA Audit of Emergency Preparedness		
QA Audit Report 99-07-I-FEPL, 1999 Quality Assurance Audit of the Emergency Preparedness Program		
Memorandum RPG-M-99-046, EOI Position on Control TLDs, dated December 20, 1999		

Condition Reports

CR-RBS-1998-0182  
CR-RBS-1998-1155  
CR-RBS-1998-1168  
CR-RBS-1998-1276  
CR-RBS-1999-0363  
CR-RBS-1999-1680  
CR-RBS-1999-1803  
CR-RBS-1999-1987

CR-RBS-1998-1054  
CR-RBS-1998-1167  
CR-RBS-1998-1204  
CR-RBS-1998-1277  
CR-RBS-1999-1238  
CR-RBS-1999-1714  
CR-RBS-1999-1976