

ENCLOSURE

U.S. NUCLEAR REGULATORY COMMISSION  
REGION IV

Docket No.: 50-458  
License No.: NPF-47  
Report No.: 50-458/97-12  
Licensee: Entergy Operations, Inc.  
Facility: River Bend Station  
Location: 5485 U.S. Highway 61  
St. Francisville, Louisiana  
Dates: December 3-12, 1997  
Inspector: Michael E. Murphy, Reactor Engineer (Examiner), Operations Branch  
Approved By: John L. Pellet, Chief, Operations Branch  
Division of Reactor Safety

ATTACHMENT: Supplemental Information

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## EXECUTIVE SUMMARY

River Bend Station  
NRC Inspection Report 50-458/97-12

This inspection included a review of the licensed operator requalification program following the guidelines in Inspection Procedure 71001, "Licensed Operator Requalification Program Evaluation." The inspection covered the period of December 3-12, 1997.

### Operations

- Crews observed practiced good, consistent communications and exhibited good teamwork during the dynamic simulator scenarios. Crews met all planned critical tasks and successfully passed the requalification examination. The licensee's remedial training program conformed to the administrative requirements and appeared to be effective (Section 04.1).
- The inspector concluded that the requalification examinations were well constructed and discriminated at the appropriate knowledge level. The licensee responded promptly and effectively to an identified examination security vulnerability (Section 05.1).
- Licensee evaluators were consistent and objective in their evaluations and their overall performance was considered a strength. Critiques effectively identified strengths and weaknesses. The extensive involvement of operations management was considered a strength (Section 05.2).
- The licensee was effective in developing and using feedback from employees and other sources and the feedback program was well administered (Section 05.3).

## Report Details

### Summary of Plant Status

The plant remained at 100 percent power during this inspection period. No major equipment problems or transients were experienced.

## I. Operations

### **04 Operator Knowledge and Performance**

#### **04.1 Operator Performance on Annual Requalification Examinations**

##### **a. Inspection Scope (71001)**

The inspector observed the performance of two shift crews during their annual requalification operating evaluations. One staff crew was observed during their retake examination scenario after completing remedial training required following a failure of their annual examination in a prior week. Each crew was composed of five licensed operators and a shift technical advisor.

##### **b. Observations and Findings**

The inspector observed the third and fourth week of the 1997 annual operating requalification examinations. Both shift crews passed all portions of their evaluations. The staff crew passed their retake examination with comments that required additional remedial training.

The additional remediation was prompted by the crew taking too long to decide that they could not place the turbine generator at less than 16,500 stator amps upon loss of isophase duct cooling. The delay appeared to be caused by a confusion in the interpretation of the alarm response procedure. After the required manual scram, the crew allowed key parameters to get outside the control bands by a significant margin on at least three occasions and incorrectly transitioned to level power control when plant conditions did not support this transition.

One of the shift crews also had a problem with interpretation of the alarm response procedure for the loss of isophase duct cooling. This crew assumed the responsibility to review and assess this procedure and revise as necessary to clarify the power reduction requirements, since the procedure appeared to provide two different directions on the time requirements to be met.

Overall the inspector observed good, consistent communication practices. There was also a notable improvement in teamwork and basic team performance over what was noted in the inspection conducted in September 1996. Individual performance was also more readily assessed by the evaluators because of the increased number of evaluators and the practice of crew position assignments by the lead evaluator.

c. Conclusions

Crews observed practiced good, consistent communications and exhibited good teamwork during the dynamic simulator scenarios. Crews met all planned critical tasks and successfully passed the requalification examination. The licensee's remedial training program conformed to the administrative requirements and appeared to be effective.

**O5 Operator Training and Qualification**

**O5.1 Review of Requalification Examinations**

a. Inspection Scope (71001)

The inspector performed a review of the annual requalification operating examinations, to evaluate general quality, construction, and difficulty level. The inspector also reviewed the methodology for developing the requalification examinations.

b. Observations and Findings

The operating examinations consisted of job performance measures and dynamic simulator scenarios. The scenarios followed the guidelines of NUREG-1021, "Operator Licensing Examiner Standards," Revision 7, Supplement 1, in complexity and quantitative event requirements. The scenarios were written with clearly identifiable objectives, critical tasks, expected operator actions, and competency standards for evaluation. The job performance measures were adequate in scope and depth and appropriately covered a range of topics required by the requalification training program and the regulations. The job performance measures also clearly identified critical steps in the job tasks.

During an interview with a licensee simulator technician, the inspector asked what security measures were in place for the "backtrack" feature on the simulator. This feature allows recall and playback of events most recently played out on the simulator for up to the last 60 minutes. After internal discussions the licensee

advised the inspector that there were no safeguards in place for this feature. The licensee immediately instituted a practice of continued play that would overwrite the most recent hour of events following an examination scenario or scenario validation and was working on a permanent corrective action for the security weakness. The licensee also advised the inspector that they had contacted other plants in the Entergy system and were informed that the security vulnerability also existed at these sites and similar protective measures were being implemented.

c. Conclusions

The inspector concluded that the requalification examinations were well constructed and discriminated at the appropriate knowledge level. The licensee responded promptly and effectively to an identified examination security vulnerability.

05.2 Requalification Examination Administration

a. Inspection Scope (71001)

The inspector observed the administration of the simulator scenarios and the job performance measures to determine the evaluators' abilities to administer an examination and assess licensed operator performance through measurable criteria. The inspectors also observed the plant simulator support of examination administration. Three licensed operator requalification training evaluators and one operations management evaluator were observed participating in one or more aspects of administering the examinations, including pre-examination briefings, observations of operator performance, individual and group evaluations, techniques for job performance measure cuing, and final evaluation documentation.

b. Observations and Findings

The licensee evaluators conducted the examinations professionally and thoroughly documented their observations for subsequent evaluation. Job performance measure cues were provided, as needed, with no inadvertent cuing observed.

During the requalification examinations observed, the operations superintendent participated as an evaluator. The operations management involvement provided a balance to the training department evaluators' assessments. The evaluators were knowledgeable, candid in their assessments, and effective in identifying strengths and weaknesses of the crews and individuals. A formal evaluation method was used that reviewed crew and individual critical tasks following the scenario observations and then competencies for the crew and individuals. The post-scenario evaluations were well organized and very well facilitated jointly by the lead evaluator

and the operations management representative. Operations management was involved in assessing training program content, as well as exam development and validation. The operations superintendent, as an active evaluator, was directly involved with assessing crew performance. The inspector noted that the operations superintendent also conducted the post examination evaluation critiques with the crews, thus providing immediate feedback of management expectations and standards.

The inspector observed that the performance of the simulator in supporting the examination process was good. No simulator modeling problems were experienced.

c. Conclusions

Licensee evaluators were consistent and objective in their evaluations and their overall performance was considered a strength. Critiques effectively identified strengths and weaknesses. The extensive involvement of operations management was considered a strength.

05.3 Review of Feedback Program

a. Inspection Scope (71001)

The inspectors reviewed the licensee's process for obtaining and incorporating employee as well as other sources of feedback in the training program. This review included plant operating history for the last year, various feedback documentation, and personnel interviews.

b. Observations and Findings

A review of the feedback program and personnel interviews indicated that various avenues were available to the employees to provide input related to written materials, simulator scenarios, job performance measures, procedures, and job tasks. Plant operating events, as well as, industry events were reviewed for possible feedback material by the licensee. A review of actual feedback documentation indicated that feedback comments were taken seriously. Training changes such as increasing class time, adding a subject area, changing a procedure, or improving instructor performance had been made as a result of feedback. Interviews with selected licensed operators indicated that the feedback program was thorough and effective in addressing concerns.

A review, by the inspectors, of the plant operating history for the last year identified one operator caused event that resulted in recommended operator training. The event was an inadvertent mode change during a refueling outage. This occurred while placing the alternate decay heat removal system in service for initial scheduled

acceptance testing. An increase in reactor coolant temperature beyond expectations exceeded Mode 4 limits. This event was documented in Condition Report 97-1390, and a root cause analysis report was generated along with a recommended corrective action plan which addressed operator training. The final corrective action plan had not been completed at the end of this inspection period.

c. Conclusions

The licensee was effective in developing and using feedback from employees and other sources and the feedback program was well administered.

**08 Miscellaneous operations issues (92901)**

- 08.1 (Closed) Followup Item 50-458/96024-01: the final corrective action plan for Condition Report 96-1245 will be reviewed in a future inspection.

The inspector reviewed the final corrective action plan and determined that it had been approved and issued and that all but one of the corrective actions had been completed on their due dates. The remaining action is due to be complete by December 31, 1997, and discussions with the individual responsible for closure disclosed that this completion date is expected to be met. There were no significant changes in the action items from the recommended corrective action plan.

- 08.2 (Closed) Followup Item 50-458/96024-02: the effectiveness of the corrective actions associated with Condition Report 96-1245 will be assessed in a future performance based inspection.

The inspector observed a marked improvement in the overall operations crew performance in the simulator, improved evaluation techniques from the training department evaluators and the operations management evaluator, and a higher level of respect for the training department in general from the operators. The overall effects of the combination of corrective actions implemented by the licensee appear to have been very effective in improving the results of the licensed operator requalification training program.

**V. Management Meetings**

**X1 Exit Meeting Summary**

The inspector presented the inspection results to members of the licensee management at the conclusion of the inspection on December 11, 1997. The licensee acknowledged the findings presented.

The licensee did not identify as proprietary any information or materials examined during the inspection.

ATTACHMENT

SUPPLEMENTAL INFORMATION

PARTIAL LIST OF PERSONS CONTACTED

Licensee

M. Branscum, Senior Operations Instructor, Training  
M. Cantrell, Senior Operations Instructor, Training  
M. Dietrich, Director, Quality Programs  
P. Felker, Instructor, Training  
H. Hollkamp, Quality Assurance Specialist  
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J. McGaha, Vice President, River Bend Site  
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W. O'Malley, Operations Manager  
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M. Wagner, Supervisor, Operations Training  
J. Waid, Director, Nuclear Training  
L. Woods, Supervisor, Operations Training

NRC

G. Replogle, Senior Resident Inspector

INSPECTION PROCEDURE USED

71001 Licensed Operator Requalification Program Evaluation

ITEMS CLOSED

Closed

50-458/96024-01 IFI Corrective Action Plan Review  
50-458/96024-02 IFI Assess Corrective Action Effectiveness