

ENCLOSURE

U.S. NUCLEAR REGULATORY COMMISSION  
REGION IV

Docket Nos.: 50-313; 50-368  
License Nos.: DPR-51; NPF-6  
Report No.: 50-313/99-11; 50-368/99-11  
Licensee: Entergy Operations, Inc.  
Facility: Arkansas Nuclear One, Units 1 and 2  
Location: Junction of Hwy. 64W and Hwy.333 South  
Russellville, Arkansas  
Dates: July 19 - 23,1999  
Inspectors: M. E. Murphy, Senior Reactor Engineer, Operations Branch  
T. O. McKernon, Senior Reactor Engineer, Operations Branch  
Approved By: J. L. Pellet, Chief, Operations Branch  
Division of Reactor Safety

ATTACHMENT: Supplemental Information

## EXECUTIVE SUMMARY

### Arkansas Nuclear One, Units 1 and 2 NRC Inspection Report 50-313/99-11; 50-368/99-11

During the inspection, the licensee's requalification program was assessed to determine whether the program incorporated appropriate requirements for both evaluating operator's mastery of training objectives and revising the program in accordance with 10 CFR Part 55. The licensed operator requalification program assessment included a review of training material, evaluation of the program's controls to assure a systems approach to training, observation of operating crew performance during requalification examinations and assessment of the examination administration. This included review of facility documents, observation of operating and staff crews during dynamic simulator scenarios and individual crew members during plant walkthroughs, and an assessment of the examination evaluators' effectiveness in conducting examinations on Unit 1.

#### Operations

- The operators performed very well and each crew and individual passed both the written and operating examinations (Section 04.1).
- The inspectors concluded that, overall, all portions of the examinations were well constructed, properly focused, and appropriately challenging (Section 05.1).
- The inspectors concluded that the evaluators performed well, post examination analysis and assessment were comprehensive and effective, and remediation was administered in accordance with the licensee's procedures (Section 05.2).
- The simulator and simulator staff appropriately supported the examinations and the simulator support staff was very efficient. No fidelity issues were identified (Section 05.3).
- The inspectors concluded that the operations training organization responded to the feedback in a timely manner and incorporated lessons learned into training lessons plans and simulator training (Section 05.4).
- Maintenance of operators' licenses was acceptable (Section 05.5).

## **Report Details**

### **Summary of Plant Status**

Both Units remained at full power during this inspection period. No major equipment problems or transients were experienced.

## **I. Operations**

### **O4 Operator Knowledge and Performance**

#### **O4.1 Operator Performance on Annual Regualification Examinations**

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

Regualification examinations were observed on Unit 1 only. One shift crew and one staff crew were administered the examinations. Each crew was composed of four licensed operators and one shift technical engineer and were evaluated with a written examination, two scenarios, and five job performance measurements over a 3-day period.

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

Both crew groups and each individual passed the operating and written examinations.

The operators on both crews exhibited good system knowledge, team work, and consistent communications practices. Oversight was good and crew performance above average. For example, the crews were quick to diagnose rupture steam generator conditions based upon changing plant parameters and prior to radiation monitors alarming.

##### **c. Conclusions**

The operators performed very well and each crew and individual passed both the written and operating examinations.

### **O5 Operator Training and Qualification**

#### **O5.1 Review of Facility Licensee's Regualification Examinations**

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

The inspectors reviewed the biennial regualification examinations, which consisted of the written and operating tests, to evaluate general quality, construction, and difficulty level. The inspectors also reviewed the methodology for developing the regualification examinations and discussed various aspects of examination development and security with members of the licensee's training staff.



b. Observations and Findings

The operating examinations consisted of job performance measures and dynamic simulator scenarios. The job performance measures tasks were operationally important and supported by the facility's job task analysis. Each job performance measure included initial conditions, initiating cues, references, performance standards, criteria for successful completion and identification of critical steps. The dynamic simulator scenarios contained realistic initial conditions, clearly stated objectives and related events. The scenarios had multiple instrument and component failures both preceding and following the major transient. The sequence and timing of the events were reasonable and allowed for the evaluators to gather sufficient information on individual and crew actions to arrive at an informed performance rating.

The inspectors noted that the written examinations tested at the appropriate level of comprehension and were linked to important learning objectives. The questions were operationally oriented and realistic. The requisite number of questions were taken from subjects not in the current training period. The written examinations were well structured and comprehensive.

c. Conclusions

The inspectors concluded that, overall, all portions of the examinations were well constructed, properly focused, and appropriately challenging.

O5.2 Requalification Examination Administration

a. Inspection Scope (71001)

The inspectors observed the administration of all aspects of the requalification examinations to determine the evaluators' abilities to administer an examination and assess adequate performance through measurable criteria. The inspectors also observed the plant simulator to support training and examination administration. Five licensed operator requalification training evaluators and one operations management evaluator were observed. They participated in one or more aspects of administering the examinations, including pre-examination briefings, observations of operator job performance measurement cuing, conduct of scenarios, and final evaluation documentation.

b. Observations and Findings

The licensee evaluators rated the examinees' competencies in accordance with NUREG-1021 by comparing actual performance during the scenarios against expected performance. The post-examination critiques by the evaluators were effective in identifying strengths and weaknesses of the individuals and crews and were consistent with the performance observed by the inspectors. The inspectors observed that the evaluators used a systematic approach in assessing the examinees' competencies. Evaluators were assigned duties such that they were not involved with training the crew being evaluated.

The evaluators were thorough in their assessments of examinee performance and their comments were of sufficient detail to assist in identifying future training improvements. There were no crew or individual failures of the scenarios during this biennial examination.

The inspectors observed the licensee evaluators and the requalification examinees during conduct of system-oriented job performance measures related to job tasks within the scope of their potential duties. This included nonlicensed equipment operator tasks outside the control room and the performance of some tasks in the control room simulator in the dynamic mode. Communications between the examinees and the evaluators were observed to be good. The inspectors noted that the facility evaluators thoroughly reviewed the results of the individual walkthroughs and that none of the examinees failed the job performance measure portion of the examination during this biennial examination.

The inspectors observed administration of the written examinations, both the classroom and static simulator forms. The guidelines of NUREG 1021 were followed in all aspects and the licensee adhered to their administrative requirements. A post-examination analysis and assessment were made by the licensee. Those areas of weakness identified resulted in the issue of Training Evaluation Action Requests. This is the licensee's feedback system to insure that corrective action has been taken for any training program improvements or procedural revisions.

Although no failures occurred during the week of this inspection, overall, the licensee had six biennial written examination failures, four reactor operators and two senior operators. One occurred in the trainer validation week, one in week three and two in each of weeks four and five. All operators who failed were immediately removed from licensed duties and remediation plans were developed and approved by both training and operations personnel. Remediation and retest for four operators had been successfully completed and they were returned to normal duties. One operator remained to be remediated and retested. One operator was remediated, retested, and failed his second attempt. At the conclusion of this inspection no licensee decision on a course of action had been made for this operator.

c. Conclusions

The inspectors concluded that the evaluators performed well, post examination analysis and assessment were comprehensive and effective, and remediation was administered in accordance with the licensee's procedures.

05.3 Simulation Facility Performance

a. Inspection Scope

The examiners observed simulator performance with regard to fidelity during the inspection.

b. Observations and Findings

No fidelity problems were noted and the simulator performance was adequate. The licensee's simulator support staff were very efficient and effectively supported the examination schedule.

c. Conclusions

The simulator and simulator staff appropriately supported the examinations and the simulator support staff was very efficient. No fidelity issues were identified.

O5.4 Review of Requalification Feedback Process

a. Inspection Scope (71001)

The inspectors verified the methods and effectiveness of the licensed operator requalification training program to ascertain whether assessments of operator performance were effectively incorporated into the requalification training.

b. Observations and Findings

The inspectors reviewed performance records, course critiques, and other documents to assess the nature and effectiveness of the feedback process as a means of revising the licensed operator requalification training program. These documents included training assessments/audits, training cycle evaluations, and end of course critiques. The more significant findings from these documents were factored into the training process through the training review group quarterly meetings. Minutes of these meetings were reviewed to verify that issues were tracked and responsibility for actions assigned.

c. Conclusions

The inspectors concluded that the operations training organization responded to the feedback in a timely manner and incorporated lessons learned into training lessons plans and simulator training.

O5.5 Review of Compliance to License Conditions

a. Inspection Scope (71001)

The inspectors reviewed a sample of training documents and licensed operators' records to verify whether licenses were being maintained in accordance with 10 CFR 55.53.



b. Observations and Findings

The inspectors observed that licenses were maintained adequately. Conditions, which affected operators' licensed duties, were promptly recorded and notifications made in a timely manner.

c. Conclusions

Maintenance of operators' licenses was acceptable.

**V. Management Meetings**

**X1 Exit Meeting Summary**

The inspectors presented the inspection results to members of the licensee management at the conclusion of the inspection on July 23, 1999. 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

C. Anderson, General Manager  
B. Bement, Unit 2 Plant Manager  
S. Cotton, Manager, Training and EP  
J. Giles, Supervisor, Operations Training  
L. McLerran, Supervisor, Operations Training  
T. Mitchell, Unit 2 Operations Manager  
D. Sealock, Supervisor, Simulator Training  
R. Walters, Unit 1 Operations Manager (Acting)  
C. Zimmerman, Unit 1 Plant Manager

##### NRC

R. Bywater, Senior Resident

#### INSPECTION PROCEDURES USED

71001 Licensed Operator Requalification Program Evaluation

#### DOCUMENTS REVIEWED

Training Desk Guide 4.1, "Coordination of a License Class" Revision 4  
Training Desk Guide 4.2, "Simulator Performance Evaluation" Revision 5  
Training Desk Guide 4.4, "Operations Continuing Training Guide"  
Training Desk Guide 5.2, "Training Dept. Mini-Assessments" Revision 0

##### Job Performance Measures:

ANO-1-JPM-RO-EFW01  
-SPDS1  
-EOP07  
-CRD02  
-ESAS1  
-CRD05  
-SW003  
-MVP02  
-ESAS2



ANO Training Assessment, May 30, 1997  
ANO Training Assessment, January 13, 1999  
1999 Biennial Requalification Examination Sample Plan  
Biennial Written Tests Nos. 3, 4, 5, and 6

Scenarios: ES-1-027  
ES-1-004  
ES-1-006  
ES-1-028