



UNITED STATES  
NUCLEAR REGULATORY COMMISSION  
REGION II  
101 MARIETTA STREET, N.W.  
ATLANTA, GEORGIA 30323

Report No.: 50-416/92-07

Licensee: Entergy Operations, Inc.  
Jackson, MS 39205

Docket No.: 50-416

License No.: NPF-29

Facility Name: Grand Gulf Nuclear Station

Inspection Conducted: March 3 - 6, 1992

Inspector:

*L. L. Lawyer*

L. L. Lawyer, Section Chief  
Operator Licensing Section 1

*4/3/92*

Date Signed

Accompanying Personnel: B. L. Holbrook

Approved by:

*T. A. Peebles*

T. A. Peebles, Chief  
Operations Branch  
Division of Reactor Safety

*4/3/92*

Date Signed

### SUMMARY

#### Scope:

This was a routine unannounced inspection in the area of licensed operator training and follow-up of previously identified items. Its purpose was to evaluate the licensee's performance in implementing their licensed operator training program.

#### Results:

The inspectors found that the licensee had previously identified six areas that they deemed to be current problem areas (para 2.c). Although these areas did not coincide with those identified by the inspectors, their self identification was encouraging. In particular, the certification of additional instructors should have a very positive and prompt influence on the training program. One open item from a previous inspection was found to have been promptly and thoroughly acted upon by the licensee (para 2.i).

Violations (VIO) were identified in remedial training and in instructor certification (paragraphs 2.e, 2.f, and 2.g). Other weaknesses were identified in the Operations Training Evaluation Committee's performance of oral boards for license candidates and in the failure of periodic examinations to detect candidate weaknesses in a timely manner (paragraphs 2.b, 2.c, and 2.h).

## REPORT DETAILS

### 1. Persons Contacted

#### Licensee Employees

- \*B. D. Bryant, Supervisor, Operations Training
- J. Cobb, License Instructor
- \*W. T. Cottle, Vice President, Nuclear Operations
- \*J. Czaiku, Nuclear Specialist
- \*L. F. Daughtery, Supervisor, Plant Licensing
- G. Diana, License Instructor
- \*M. Dietrich, Director, Quality
- \*C. W. Ellsaesser, Superintendent, Operations
- \*W. M. Garner, Supervisor, Quality Programs
- T. Hilderbrandt, License Candidate
- \*B. G. Jones, Quality Programs
- S. R. Keesee, License Candidate
- D. A. Killingsworth, License Candidate
- M. A. Knighton, License Candidate
- \*M. J. Meisner, Director, NS & RA
- \*R. Ruffin, Licensing Specialist
- \*W. M. Shelly, Superintendent, Operations Training
- G. O. Smith, License Candidate
- \*K. Sullivan, Quality Programs
- F. J. Weaver, License Candidate
- \*M. J. Wright, Manager, Nuclear Training

Other licensee employees contacted included instructors, engineers, technicians, operators, and office personnel.

#### NRC Representatives

- \*J. L. Mathis, Senior Resident Inspector
- \*F. X. Talbot, Reactor Engineer

\*Attended Exit Interview

### 2. Review of Licensed Operator Training program (41701)

#### a. Interviews with candidates and instructors

The inspectors interviewed six license candidates that had just completed the license training program and two of the licensed program instructors. The interviewees were asked a series of pre-scripted questions to obtain their perception of the license training program. The response was generally good with the exception of in plant training. The inspectors determined that the candidates did not practice performing JPM's and the first time the

completing the recording  
want to take the time and they did not  
for all the lectures.

b. Operator Training Evaluation Committee (OTEC)

The inspectors reviewed the Licensed Operator Training Program Implementation Procedure, 14-S-02-6, Rev. 16. The purpose of this procedure was to provide information required to verify and document that licensed operator candidates had completed all of the required training as specified in the Licensed Operator Training and Qualification Program, Administrative Procedure 01-S-04-1. While the membership, function, meeting requirements, etc., of the OTEC were not procedurally defined, an indication of their historical role and intended purpose was contained in the implementation procedure cited above. Attachment 1, License Candidate Qualification Record, page 10 of procedure 01-S-04-1, stated:

"Operator Training Evaluation Committee (OTEC) Evaluation

The Operator Training Evaluation Committee has reviewed the (training management certification of candidates completion of the LO training program) and the information on the individual's NRC Forms 396 and 398 and found it acceptable. Based on a thorough oral examination of the individual, we recommend \_\_\_\_\_ to take the NRC licensed operator examinations."

The "thorough oral examination" that had previously been conducted by OTEC for each candidate, before OTEC recommendation to the General Manager, was waived in the case of the last Licensed Operator class of eight candidates. The chairman of OTEC stated that the reason was that the oral boards caused a great deal of stress on the candidates. In addition, the oral board had been developed for use when the NRC was giving walkthrough oral examinations and it was felt that the oral board was a preparation for that NRC examination. However, with the substitution of Job Performance Measures (JPMs) for the orals, the committee felt that the oral board was no longer a direct preparation for the NRC examination and therefore its negative impact was greater than its positive value. As a result, the OTEC, who has historically used oral examinations as a filtering tool prior to recommending to the General Manager that candidates are ready to sit for the NRC exam, failed to use that filtering tool on the most recent Initial Licensed Operator Group. Thus, one very valuable method of detecting

candidates were evaluated on JPM's was during the end-of-course audit examination. The candidates did not receive walkthrough training and were not evaluated on the administrative section of the examination. It was indicated that the candidates did not take seriously the feedback portion of the program. Most of the interviewees stated that they had not completed the forms required to provide program feedback. The reasons most often given for not completing the feedback forms were that they were tired and did not want to take the time and they did not remember specific comments for all the lectures.

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poorly qualified candidates was lost at a time when it was most needed. The failure of the facility to reliably screen candidates will be tracked by Inspector Followup Item (IFI) 50-416/92-07-01.

c. Detection and correction of candidate weaknesses

There were 19 RO, SRO and SRO certification candidates who entered the Licensed Operator Training Program in late 1990. These 19 candidates were tested periodically on segments of the training program as they progressed through the program; each candidate taking approximately 20 of these segment examinations. The pass rate on these examinations was quite acceptable; none of the 19 candidates failing more than two segment examinations. On December 17, 1991, which was about one month before the NRC examinations, the 19 candidates were given a comprehensive end-of-course written examination. Fourteen of the nineteen candidates failed this comprehensive examination. The 20 segment examinations were not prepared and reviewed in such a way as to assure their ability to detect the candidate weaknesses disclosed by the final comprehensive examination. No other weakness detection methods such as candidate interviews were utilized. In addition, no effective method was utilized to assure these examinations were consistent in their ability to discriminate when compared to previous Licensed Operator Training classes. In the absence of these controls, identification of poor performers and design of remediation was not possible. Failure of segment examinations to provide discrimination will be tracked by IFI 50-416/92-07-02.

d. Licensee self evaluation and problem identification

The inspectors met with the licensee's training management at which time the licensee identified the results of a self-evaluation they had conducted. The self-evaluation involved Quality Programs personnel as well as Training personnel. The self-evaluation identified the following potential problems and areas for improvement.

- 1) Study habit improvement program - a course to aid candidates in effective studying.
- 2) Comprehensive systems exams - to improve early detection of poor performers in systems knowledge and ability.
- 3) Selection of old examinations for review.
- 4) Administration of quizzes during simulator training time frame.
- 5) Placing six new instructors into instructor training to alleviate the need for contractor support.

- 6) Acquisition of software to assist with utilization of the examination bank.

The inspectors were encouraged to find that the licensee had taken steps to identify weaknesses in the training program and develop corrective measures.

e. SRO upgrade retake program

One SRO upgrade took the NRC SRO examination in July, 1991. This person's weaknesses were identified by the licensee and documented. The training program completed to correct deficiencies was entirely self study, final written examinations and simulator drill with no pre-planned and organized contact with training instructors. The simulator drills were those designed for the Licensed Operator Training class. The upgrade retake candidate was told these classes were available if the candidate chose to utilize them. No monitoring of the candidate's progress on a periodic basis was conducted. Written examination preparation was confined to self study and final examinations. This failure to provide adequate corrective action resulted in the candidate being poorly prepared; scoring 71 on the in-house final written examination on December 17, 1991. The failure to provide remediation for the SRO upgrade retake prior to NRC retesting is considered an example of violation (V10) 50-416/92-07-03.

f. Licensed Operator Training Program

The one SRO upgrade retake candidate together with the RO, SRO and SRO certification candidates were given a final in-house written examination on December 17, 1991. Fourteen of the nineteen candidates failed this final examination. A new examination was developed while the candidates were being examined on walkthroughs and simulator scenarios and on December 20, 1991, all who had failed were retested. Among the nineteen candidates taking the first final examination were nine who ultimately sat for the NRC examination. Of these nine RO and SRO license candidates, five were among the fourteen who failed the first examination and were retested without remediation on December 20, 1991. All license candidates passed this second examination. The average score of these five candidates on the first examination was 72.0 and without remediation was increased in the subsequent three days to an average of 85.8. The inspection team concluded, based on this and a review of the two facility examinations compared to the NRC examination, that the second facility examination was not discriminating. As a result of this failure to provide corrective action, poorly prepared candidates were allowed to sit for the NRC examination. This failure to provide remedial training is considered as an example of violation 50-416/92-07-03.

g. Instructor Qualification

The inspectors reviewed the training section procedure entitled Instructor Training, Qualification and Certification, 14-S-01-9, Rev. 12. The purpose of that procedure was, in part "...establishes the method of determining and verifying that individuals assigned responsibilities as Training Instructors meet the instructional capability and technical competence qualification criteria established for specific instructor positions. This procedure applies to SERI instructors and to contract employees on extended assignment to the Training Section as instructors."

Procedure , 14-S-01-9, specifies the method by which "individuals should be evaluated and certification recommendations made by their immediate supervisors". The specified method was by use of Attachment III of that procedure entitled Technical Competence Certification. Two of the three instructors who taught classroom subjects for the 1991 Licensed Operator class were contractors; one for a portion of the year and one for all of the class. Training management stated that Technical Competence Certification had not been performed for any contractors.

The same procedure discussed in the paragraph above required at 6.7.2.b that "instructional skills certification should be documented using Attachment IV". This was not performed for any contractors. This failure to perform Technical Competence and Instructional skills certification for contractor instructors as required by procedure is considered as violation 50-416/92-07-04.

h. Comparison of License Candidate Examinations

The training department conducts a comprehensive end-of-course examination to determine the individual's ability to operate the plant in a safe and competent manner. If the individual's performance is unsatisfactory on the comprehensive examination, a remedial training program may be given with subsequent re-examination. Satisfactory performance on this re-examination is required for candidate participation in an NRC license examination. Fourteen of the nineteen RO, SRO and SRO certification candidates who participated in the December 17, 1991, comprehensive end-of-course examination failed. The candidates were administered simulator and walkthrough examinations on December 18th and 19th and were re-examined without intervening remediation on a second comprehensive end-of-course examination on December 20, 1992. The failure to provide remediation for the candidates prior to the reexamination is considered as an example of violation 50-416/92-07-03.



The inspectors reviewed the first and second in-house comprehensive examinations using NUREG/BR-0122 "Examiners Handbook for Developing Operator Licensing Examinations" and NUREG-1021 "Operator Licensing Examiner Standards" as a guideline. The review focused on content validity and appropriateness of content to determine if the test items were relevant, reliable and at a level of difficulty necessary to assure accurate discrimination. The two examinations were also compared to the license examination prepared and administered by the NRC on January 27, 1992. The inspectors determined the in-house examination administered on December 17, 1991, which resulted in 14 of 19 candidate failures, was comparable to the NRC license examination administered on January 27, 1992, which resulted in four of nine candidate failures. The inspectors determined that the second in-house comprehensive examination administered on December 20, 1991, did not make a reliable and valid distinction at the minimum level of competency. The examination contained few questions that utilized higher order cognitive skills requiring analysis or synthesis. Many questions were basic, involving fundamental levels of knowledge/memory which required recall, recognition, or remembering generally well known facts. Additionally, some distractors were not plausible and some questions contained options which could be judged correct or incorrect without reading the stem of the question. The failure of the examination to properly discriminate led to poorly prepared candidates participating in the NRC license examination and resulted in an extremely high failure rate.

#### i. Followup on Previous Inspection Items

- 1) (Closed) IFI 50-416/91-301-01, Need for Improvement in Transmittal of Simulator Fidelity Information

This item involved the failure to provide available simulator fidelity information to simulator instructors. Grand Gulf Nuclear Station Simulator Certification dated March, 1991 has been placed in the simulator operator's booth and is accessible to all instructors. In addition, all simulator instructors and Licensed Operator candidates are currently receiving classroom instruction in simulator differences revealed by the simulator certification document. This corrective action was both prompt and adequate. This item is closed.

### 3. Exit Interview

The inspection scope and results were summarized on March 5, 1992, with those persons indicated in paragraph 1. The inspectors described the areas inspected and discussed in detail the inspection results listed below. Proprietary information is not contained in this report. Dissenting comments were not received from the licensee.

<u>Item #</u>	<u>Status</u>	<u>Description</u>
416/91-301-01	Closed	IFI - Need for Improvement in Transmittal of Simulator Fidelity Information
416/92-07-01	Open	IFI - Failure of the facility to Reliably Screen Candidates
416/92-07-02	Open	IFI - Failure of Segment Examinations to Provide Discrimination
416/92-07-03	Open	VIO - Failure to Provide Remediation for Candidates who Fail Examinations
416/92-07-04	Open	VIO - Failure to Perform Technical Competence and Instructional Skills Certification for Contractors