UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION IV
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ARLINGTON, TEXAS 76011-8064

November 15, 2000

Charles M. Dugger, Vice President
Operations - Waterford 3
Entergy Operations, Inc.
17265 River Road
Killona, Louisiana 70066-0751

SUBJECT: WATERFORD STEAM ELECTRIC STATION, UNIT 3, INITIAL EXAMINATION REPORT NO. 50-382/00-301

Dear Mr. Dugger:

On October 12, 2000, the NRC completed initial examinations at the Waterford Steam Electric Station, Unit 3, facility. The enclosed report presents the results of this examination, which were discussed on October 13, 2000, with Mr. Jay O'Hern, Manager of Training and Emergency Planning, and Mr. Robert Fletcher, Operations Training Supervisor, of your facility.

The examination included the evaluation of six applicants for senior operator licenses. We determined that all applicants satisfied the requirements of 10 CFR Part 55, and the appropriate licenses have been issued.

In accordance with 10 CFR 2.790 of the NRC's "Rules of Practice," a copy of this letter and its enclosure will be 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/NRC/ADAMS/index.html (the Public Electronic Reading Room).

Sincerely,

John L. Pellet, Chief
Operations Branch
Division of Reactor Safety

Docket No.: 50-382
License No.: NPF-38

Enclosure:
NRC Inspection Report No.
50-382/00-301

cc w/enclosure:
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ENCLOSURE

U.S. NUCLEAR REGULATORY COMMISSION
REGION IV

Docket No.:	50-382
License No.:	NPF-38
Report No.:	50-382/00-301
Licensee:	Entergy Operations, Inc.
Facility:	Waterford Steam Electric Station, Unit 3
Location:	Hwy. 18 Killona, Louisiana
Dates:	October 10-12, 2000
Inspectors:	Paul C. Gage, Chief Examiner, Operations Branch Stephen L. McCrory, Senior Operations Engineer, Operations Branch Michael E. Murphy, Senior Operations Engineer, Operations Branch
Approved By:	John L. Pellet, Chief, Operations Branch Division of Reactor Safety

ATTACHMENTS:

Attachment 1:	Supplemental Information
Attachment 2:	Licensee Examination Comments
Attachment 3:	NRC's Revised Oversight Process

SUMMARY OF FINDINGS

IR 05000382-00-301, on 10/06-12/2000, Entergy Operations, Inc., Waterford Steam Electric Station, Unit 3, initial examination of applicants for operator licenses.

An NRC examination team evaluated the competency of six applicants for senior operator licenses at the Waterford Steam Electric Station, Unit 3, facility. The facility developed the written and operating examinations using NUREG-1021, "Operator Licensing Examination Standards for Power Reactors," Revision 8, Supplement 1. The written examinations were administered to all applicants on October 6, 2000, by facility proctors in accordance with instructions provided by the chief examiner. The NRC examiners administered the operating tests on October 10 to 12, 2000.

Cross-cutting Issues: Human Performance

- No findings were identified.

Report Details

4. OTHER ACTIVITIES

4OA4 Initial License Examinations

.1 Operator Knowledge and Performance

a. Inspection Scope

On October 6, 2000, the licensee proctored the administration of the written examination to all six applicants. The licensee staff graded the written examinations, analyzed the results, and presented their analysis to the NRC on October 16, 2000.

The NRC examination team administered the various portions of the operating examination to the six applicants on October 10-12, 2000. The two applicants for instant senior operator licenses participated in three dynamic simulator scenarios, a control room and facilities walkthrough test consisting of ten system tasks, and an administrative test consisting of five administrative tasks. The four applicants that were upgrading from a reactor operator license to a senior operator license each participated in three dynamic simulator scenarios, a control room and facilities walkthrough test consisting of five system tasks, and an administrative test consisting of five administrative tasks.

b. Findings

All applicants passed all parts of the examinations. The applicants demonstrated good 3-way communications, alarm response, and peer checking. For the written examinations, the average score was 88.6 and ranged from 80.8 to 96. The text of the examination questions may be accessed in the ADAMS system under Accession ML003768987.

The licensee conducted a performance analysis for the written examinations with emphasis on six questions missed by half or more of the applicable applicants. The licensee concluded that four of the questions were valid and that there were no commonalities in the knowledge deficiencies. The licensee recommended that two questions should be modified to accept additional answers or deleted from the written examination. The chief examiner reviewed the technical basis for the proposed changes and concurred with the licensee's technical issues. The chief examiner reviewed the licensee's analysis and applicant performance and found the conclusions to be technically valid. The final resolution included modification of Question 55 to accept two possible answers, as requested by the licensee, and deletion of Question 56. Although the licensee had requested accepting two answers for Question 56 because either could occur based on the actual system design, NRC deleted this question based on the uncertainty of the system response.

No findings were identified.

.2 Initial Licensing Examination Development

The licensee developed the written and operating examinations in accordance with NUREG-1021, Revision 8, Supplement 1, using facility training and operations staff on the security agreement.

.2.1 Examination Outline and Examination Package

a. Inspection Scope

The facility licensee submitted the operating examination outlines on June 12, 2000. The chief examiner reviewed the submittal against the requirements of NUREG-1021, Revision 8, Supplement 1, and provided comments to the licensee. The facility licensee submitted the draft operating examination package on August 24, 2000. The chief examiner reviewed the draft submittal against the requirements of NUREG-1021, Revision 8, Supplement 1, and provided comments to the licensee on the operating examination on August 30, 2000. The chief examiner conducted an onsite validation of the operating examinations and provided further comments during the period of September 25-28, 2000. The licensee satisfactorily completed comment resolution on October 2, 2000. The licensee submitted letter W3F1-2000-0146 on October 17, 2000, which contained the operator examination comments. Questions 55 and 56, which were referenced in the licensee's letter, are included as Attachment 2 of this report.

b. Findings

Region IV approved the initial examination outline and advised the licensee to proceed with the operating examination development.

The examiners determined that the written and operating examinations initially submitted by the licensee were within the range of acceptability expected for a proposed examination.

No findings were identified.

.3 Simulation Facility Performance

a. Inspection Scope

The examiners observed simulator performance with regard to plant fidelity during the examination validation and administration.

b. Findings

No findings were identified.

.4 Examination Security

a. Scope

The examiners reviewed examination security both during the onsite preparation week and examination administration week for compliance with NUREG-1021 requirements. Plans for simulator security and applicant control were reviewed.

b. Observations and Findings

One examination security issue was identified prior to the administration of the written examination. A licensee representative on the NRC examination security agreement with knowledge of the examination signed off five signatures in an applicants' qualification card with respect to completion of training. This action was prohibited by NUREG-1021 and the security agreement. The specific details for this issue were documented in licensee Condition Report CR-WF3-2000-1103. Immediate licensee followup confirmed that only minimal potential for communicating examination content existed, which would have the possible impact of compromising the scheduled NRC examination. The short-term corrective actions were discussed with the chief examiner and NRC regional management, and conservatively included the replacement of one question on the written examination and one operating test job performance measure, for the overlapping material covered with the applicant. As stated, in part, in 10 CFR 55.49, the integrity of an examination is considered compromised if any activity, regardless of intent would have affected equitable and consistent administration of the examination. The examiners determined that this issue had minor significance and was documented herein as required by NUREG-1021, "Operator Licensing Examination Standards for Power Reactors," Revision 8, Section ES 501, paragraph E.3.a.

No findings were identified.

40A5 Management Meetings

.1 Exit Meeting Summary

The chief examiner presented the examination results to Mr. J. O'Hern, Manager of Training and Emergency Planning, and Mr. Robert Fletcher, Operations Training Supervisor at the conclusion of the examination on October 13, 2000. The licensee acknowledged the findings presented.

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

ATTACHMENT 1

SUPPLEMENTAL INFORMATION

PARTIAL LIST OF PERSONS CONTACTED

Licensee

J. O'Hern, Manager of Training and Emergency Planning
Robert Fletcher, Operations Training Supervisor

NRC

J. Pellet, Chief, Operations Branch, Division of Reactor Safety

ADAMS DOCUMENTS REFERENCED

Accession No.:

ML003768987	Final Reference Exam

ATTACHMENT 2

LICENSEE COMMENTS ON QUESTIONS 55 AND 56

QUESTION 55

Condensate Pump C Trip/Trouble annunciator is locked in and the pump continues to run. Which of the following is the cause of this annunciator?

A. Seal water flow < 1 gpm due to a seal water PCV failure

B. The 86A1HR relay actuated due a A1 bus undervoltage

C. The 50N ground relay actuated due to a motor ground

D. One of three 50/51 overcurrent relays has picked up

ANSWER

C

COMMENTS

Supply CWD sht. 1376 to examinees

Reference	CWD-1376

Waterford 3 recommends accepting two answers on this question - Answer 'C,' which is the original correct answer per the Key, and also, Answer 'A' for the following reason: This question required the use of Controlled Wiring Diagrams (CWDs) to determine the cause of an annunciator, and we failed to provide the student with 1 additional CWD (CWD #1377) to correctly determine the answer. 5 of 6 students missed this question.

The question was designed to test the students ability to, with the use of CWDs, determine the conditions which would cause a Control Room 'Trip/Trouble' annunciator to come in on a Secondary (BOP) System pump. The students are expected to be able to use the CWDs for such a question, and they would also be expected to know the conditions which would cause this pump to trip. The student, however, would not be expected to know from memory all conditions which would cause the 'Trouble' portion of the 'Trip/Trouble' alarm to annunciate, which is what the initial correct answer, the 50N relay, drives.

The 5 students who missed this question all selected answer 'A.' The two distractors that were not selected by any student are eliminated by use of the supplied CWD. The additional CWD would provide the necessary information to be able to eliminate the 3rd distractor. We feel that 6 of 6 students demonstrated the ability to use a CWD to diagnose an alarm condition by eliminating those items which could not have brought the alarm in, and feel that if the students had been supplied with the additional CWD, a strong possibility exists that all 6 students would have answered this question correctly. Therefore, Waterford 3 recommends accepting answers 'A' and 'C' for this question based on demonstrated ability by all 6 students.

Question will be revised to supply student with proper reference material prior to placing this question in the General W3 Question Bank.

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QUESTION 56

The output of the master controller for FWCS 1 became erratic and was taken to manual with an output of 60%. The level setpoint remains at 68% NR. Subsequently, a reactor trip occurs. Assuming no operator action occurs, what would be the response of the FW system?

A. Level in SG 1 rises to the level setpoint, RTO clears, FW components go to program condition for 50$ master controller output.

B. Level in SG 1 rises to HLO setpoint of 81% NR; SUFRV 1 cycles between the HLO and RTO position around the HLO setpoint.

C. Level in SG 1 rises, RTO does not clear, and MFIV 1 goes closed when SG 1 level reaches 96% WR.

D. RTO is disabled, level rises rapidly in SG 1, and MFIV 1 goes closed when SG 1 level reaches 96% WR.

ANSWER

B

COMMENTS

Reference SD - Feedwater Control (FWC)

Waterford 3 recommends accepting two answers on this question - Answer 'B,' which is the original correct answer per the Key, and also, Answer 'C' for the following reasons:

When writing this question, we solicited and took input from the System Engineer concerning the Feed Water Control System (FWCS) under the conditions we established. We took his input and used it as the initial correct answer 'B.' Upon reviewing the test, 4 out of 6 students missed this question, with 3 of those four selecting answer 'C.'

After reviewing answer 'C,' we have come to the conclusion that it is a viable answer. Utilizing Plant Data Book curve 2.4.3, Steam Generator Level Correlation, we determined the High Level Override (HLO) that occurs at 81% Narrow Range occurs only 3% lower than the 96% Wide Range Level at which the Feed Isolate Signal occurs, which drives the #1 Main Feed Isolation Valve (MFIV) closed. With the slow response of the pneumatic Startup Feed Reg Valve (SUFRV) to close at HLO, in addition to the expected swell of the cooler water coming in, it is a reasonable assumption that the S/G level may swell to Feed Isolate level and drive the #1 MFIV closed, which makes answer 'C' correct in this case.

The difference between the 'B' choice and the 'C' choice is only whether or not the level will go to the HLO level and stop and cycle, OR that it will continue to rise and isolate feed to #1 S/G by closing #1 MFIV. We believe that if the students take into consideration the two additional factors, 'C' becomes a correct response.

This question will be revised prior to addition to the General Question Bank.

ATTACHMENT 3

NRC'S REVISED REACTOR OVERSIGHT PROCESS

The federal Nuclear Regulatory Commission (NRC) revamped its inspection, assessment, and enforcement programs for commercial nuclear power plants. The new process takes into account improvements in the performance of the nuclear industry over the past 25 years and improved approaches of inspecting safety performance at NRC licensed plants.

The new process monitors licensee performance in three broad areas (called strategic performance areas): reactor safety (avoiding accidents and reducing the consequences of accidents if they occur), radiation safety (protecting plant employees and the public during routine operations), and safeguards (protecting the plant against sabotage or other security threats). The process focuses on licensee performance within each of seven cornerstones of safety in the three areas:

Reactor Safety	**Radiation Safety**	**Safeguards**
•Initiating Events	•Occupational	•Physical Protection
•Mitigating Systems	•Public	
•Barrier Integrity		
•Emergency Preparedness		

To monitor these seven cornerstones of safety, the NRC used two processes that generate information about the safety significance of plant operations: inspections and performance indicators. Inspection findings will be evaluated according to their potential significance for safety, using the Significance Determination Process, and assigned colors of GREEN, WHITE, YELLOW or RED. GREEN findings are indicative of issues that, while they may not be desirable, represent very low safety significance. WHITE findings indicate issues that are of low to moderate safety significance. YELLOW findings are issues that are of substantial safety significance. RED findings represent issues that are of high safety significance with a significant reduction in safety margin.

Performance indicator data will be compared to established criteria for measuring licensee performance in terms of potential safety. Based on prescribed thresholds, the indicators will be classified by color representing varying levels of performance and incremental degradation in safety: GREEN, WHITE, YELLOW, and RED. GREEN indicators represent performance at a level requiring no additional NRC oversight beyond the baseline inspections. WHITE corresponds to performance that may result in increased NRC oversight. YELLOW represents performance that minimally reduces safety margin and requires even more NRC oversight. And RED indicates performance that represents a significant reduction in safety margin but still provides adequate protection to public health and safety.

The assessment process integrates performance indicators and inspection so the agency can reach objective conclusions regarding overall plant performance. The agency will use an Action Matrix to determine in a systematic, predictable manner which regulatory actions should be taken based on a licensee's performance. The NRC's actions in response to the significance (as represented by the color) of issues will be the same for performance indicators as for inspection findings. As a licensee's safety performance degrades, the NRC will take more and increasingly significant action, which can include shutting down a plan, as described in the Action Matrix.

More information can be found at: http://www.nrc.gov/NRR/OVERSIGHT/index.html.