

APPENDIX

U.S. NUCLEAR REGULATORY COMMISSION
REGION IV

Operator Licensing Examination Report No. 50-368/OL 92-01

Operating License No. NPF-6

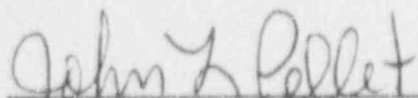
Licensee: Entergy Operations, Inc.
Route 3, Box 137G
Russellville, AR 72801

Examinations at: Arkansas Nuclear One, Unit 2 (ANO2)

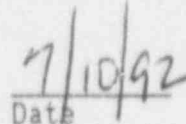
Examinations Conducted: June 3-10, 1992

Chief Examiner: Jack M. Keeton

Approved by:



J. L. Pellet, Chief
Operator Licensing Section
Division of Reactor Safety



Date

Summary

NRC Administered Regualification Examinations Conducted During the Weeks of June 1 and June 8, 1992 (Examination Report 50-368/OL 92-01)

NRC administered regualification examinations to 10 senior reactor operators (SRO) and 6 reactor operators (RO) licensed to operate ANO2. Nine SROs and 6 ROs passed the examination. The regualification training program was evaluated as satisfactory in accordance with NUREG-1021, "Operator Licensing Examiner Standards," Revision 6, Section 601.

Overall, operator performance and training effectiveness appeared to have improved since the previous regualification evaluation. Operator interactions during the dynamic simulator evaluations were synergistic, and usage of the emergency operating procedures was effective. NRC passed all crews on the dynamic simulator examinations. One senior operator failed the operating examination for failure to demonstrate correct usage of the ANO2 emergency plan to classify emergency events. NRC and facility evaluations were in agreement on all sections of the examinations.

NRC and facility evaluators identified generic weaknesses in two areas. Several operators were unable to correctly manipulate the feedwater control system. Also, some aspects of local emergency diesel operation were not well understood by the operators. We understand that these areas will be addressed in the next training cycle.

Facility developed examination material for the written and walkthroughs had improved since the previous requalification examination. The written examinations required only minor changes that were readily made by the training staff prior to the examinations. NRC encouraged the continuing efforts to keep examination material current with plant modifications and procedures revisions.

Simulator scenarios chosen for the NRC examination required modifications to provide the requisite number of individual simulator critical tasks (ISCTs). The scenarios were developed for training rather than evaluation. The differences were discussed at length with the simulator training staff.

On June 2, 1992, one senior reactor operator applicant was given a complete operating examination. The operator passed the examination and the appropriate license was issued.

DETAILS

1. PERSONS EXAMINED

	<u>RO</u>	<u>SRO</u>	<u>Total</u>
Licensee Requalification Examinations:	Pass - 6	9	15
	Fail - 0	1	1
Licensee Initial Examination:	Pass - 0	1	1
	Fail - 0	0	0

2. EXAMINERS

J. M. Keeton, Chief Examiner
M. C. Jones

3. EXAMINATION REPORT

Performance results for individual operators are not included in this report because examination reports are placed in the NRC Public Document Room as a matter of course. Individual performance results are not subject to public disclosure.

3.1 Requalification Examination Review and Preparation

Test items for the written, simulator, and walkthrough examinations were submitted to the NRC as prescribed by NUREG-1021, "Operator Licensing Examiner Standards," Section 601 (ES-601).

3.1.1 Written Examination

The Section A and B written examinations that were submitted to the NRC were considered acceptable for our examination with only minor modification to the test items. The examination bank has shown improvement since the previous requalification examination. Most of the questions discriminated at the proper level for determining operator understanding of systems, components, and procedures as related to safety of plant operation. All questions were multiple choice.

3.1.2 Job Performance Measures (JPMs)

Some of the JPMs selected for the examination required last minute changes because of procedure revisions. The facility staff was very responsive in identifying and making the necessary modifications. We understand that the JPM bank is to be continually upgraded to maintain currency.

3.1.3 Dynamic Simulator Scenarios

Simulator scenarios chosen for the NRC examination required modifications to the number and order of malfunctions. Otherwise, the requisite number of individual simulator critical tasks (ISCTs) would not have met the guidelines of NUREG-1021. Also, the sequence of the operator actions expected during the scenarios was ambiguous, and performance standards were not clearly identified. The scenarios were very detailed, but they were developed for training rather than evaluation. The differences were discussed at length with the simulator training staff.

The remaining scenarios in the simulator scenario bank exhibited the same deficiencies. They were not complex enough to meet the guidelines for NRC to use as written. They did not challenge the operators' ability to deal with compound situations that require prioritization. We understand that the scenario bank will be upgraded for future examinations.

3.2 Requalification Examination Administration

3.2.1 Written Examinations

Written examinations were administered to 16 licensed operators. All operators passed the written examinations. Facility grading was consistent with NRC grading.

3.2.2 Plant Walkthrough Examinations

Plant walkthrough examinations were administered in accordance with NUREG-1021, "Operator Licensing Examiner Standards," Section 603 (ES-603), Alternative B. All operators passed the walkthrough examination. Facility grading was consistent with NRC grading.

3.2.3 Dynamic Simulator Examinations

Dynamic simulator examinations were administered in accordance with NUREG-1021, "Operator Licensing Examiner Standards," Section 604 (ES-604), to 16 operators composing 4 crews. All crews were passed by the NRC and the facility.

NRC and facility evaluators failed one SRO for a mis-performed ISCT. The operator failed to demonstrate correct usage of the ANO2 emergency plan to classify emergency events.

3.2.4 Observed Operator Performance

3.2.4.1 Crew Communications

Communications effectiveness and formality was considered by NRC to be good with some variation among crews. The training staff did note some individual inconsistencies that will be addressed during the future training cycles.

3.2.4.2 Emergency Plan Implementation

Senior operators' emergency action level classification and initial emergency plan implementation was accurate and timely with one exception. One SRO did not demonstrate proper use of the emergency plan resulting in classification of events at a level lower than required.

3.2.4.3 Performance Strengths

During the dynamic simulator examinations, the operators demonstrated synergistic interactions that promoted timely mitigation of off-normal events. Usage of the recently revised and implemented emergency operating procedures was effective. Overall, operator performance and training effectiveness appears to have improved since the previous requalification evaluation.

3.2.5 Observed Facility Evaluator Performance

Facility evaluator performance in all phases of the examinations was satisfactory. They exhibited minor cuing problems typical of individuals whose normal job is training rather than evaluating. They were responsive and effective in correcting their evaluation techniques when pointed out by NRC examiners.

3.2.6 Examinee Stress

Facility evaluators appeared to be appropriately sensitive to examinee stress. Adjustments were made to the schedule and administrative process when it was apparent that examinee stress could be reduced.

3.3 Requalification Program Evaluation Criteria and Process

The evaluation of the facility requalification program was made using the guidance and criteria of NUREG-1021, ES-601, Revision 6. The areas that were evaluated included examination materials development, a comparison of NRC and facility grading, facility evaluator performance, crew performance, and individual operator performance. All areas were judged to be satisfactory.

3.4 Site Visit Summary

On June 2, 1992, an operating examination consisting of two dynamic simulator scenarios and a complete walkthrough examination was administered to one senior reactor operator applicant.

On June 11, 1992, the NRC held an exit meeting with members of the facility licensee staff. The following personnel were present at the exit:

NRC	Facility Licensee
J. Pellet	R. Fenech
J. Keeton	J. Swailes
S. Campbell	G. King
	D. Sealock
	M. Chisum
	C. Anderson

The facility representatives were told that the requalification program evaluation was satisfactory and that overall performance appeared to have improved since the previous requalification audit. NRC encouraged the facility to continue with the requalification material improvements that were described by the staff during the examination process.

Examples of requalification examination material and performance weaknesses were presented, but details were not discussed because they had been reviewed with the training staff during examination development, administration, and a pre-exit meeting. Examples of perceived strengths in operator performance were also cited.

3.5 Simulation Facility Fidelity Report

Simulator fidelity problems identified during preparation for the examination were corrected prior to the examination. Other fidelity problems encountered during administration of the examination are identified in the attached Simulator Facility Report. Some of the problems did impact evaluation and were communicated to the appropriate training staff individuals.

SIMULATION FACILITY REPORT

Licensee: Entergy Operations, Inc.

Docket No: 50-368

Operating Tests Administered at: AN02

Operating Tests Administered: Weeks of June 1 and June 8, 1992

This report does not constitute an audit or inspection and is not, without further verification and review, indicative of non-compliance with 10 CFR Part 55.45(b). These observations do not affect NRC certification or approval of the simulation facility other than to provide information which may be used in future evaluations. No licensee action is required in response to these observations.

During the conduct of the operating examinations identified above, the following items were observed:

- During scenario #027, all ESF systems actuated spuriously, complicating the event mitigation strategy.
- Model of LOCA with HPSI flow gives false indication of decreasing steam generator pressure with increasing RCS temperature.
- Simulator instructor had to provide PMC data that would normally be available to the operators.
- Filling SIT could not be accomplished in the simulator without exceeding Technical Specification pressure limits because of the model.

bcc w/enclosure:

bcc distrib. by RIV:

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RIV File	Resident Inspector
L. Miller, TTC	J. Keeton
DRS (J. L. Pellet)	L. Hurley
T. Alexion, NRR Project Manager (MS: 13-E-21)	
S. Peterson, NRR Prject Manager (MS: 11-D-23)	
Licensee & Debt Collection Branch, ATTN: Leah Tremper	
bcc to DMB (IE42)	
Chief Examiner	
Chief Examiner Reading File	

RIV:RE,OLS	C:OLS	D:DRS	D:DRP	
JKeeton/lh	JLPellet	SOCollins	ABBeach	
7/9/92	7/10/92	7/13/92	7/14/92	