

U. S. NUCLEAR REGULATORY COMMISSION
REGION 1

LIMERICK GENERATING STATION REQUALIFICATION PROGRAM EVALUATION

Combined Report Nos.: 50-352/92-04 (OL) and 50-353/92-10 (OL)

Facility Docket Nos.: 50-352 and 50-353

Facility License Nos.: NPF-39 and NPF-62

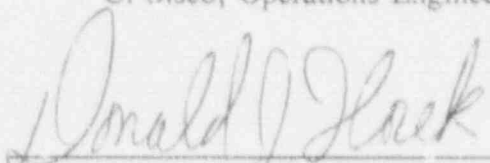
Licensee: Philadelphia Electric Company
P. O. Box 195
Wayne, PA 19087-0195

Facility: Limerick Generating Station Units 1 and 2

Examination Dates: January 21-24, 1992
February 10-14, 1992

Examiners: D. Florek, Sr. Operations Engineer
C. Sisco, Operations Engineer

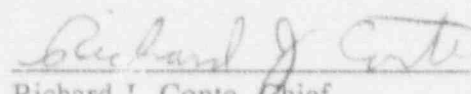
Chief Examiner:



Todd Fish, Sr. Operations Engineer
BWR Section, Operations Branch
Division of Reactor Safety


Date

Approved by:



Richard J. Conte, Chief
BWR Section, Operations Branch
Division of Reactor Safety


Date

LIMERICK 1992 REQUALIFICATION PROGRAM EVALUATION/EXAMINATION SUMMARY

Written and operating examinations were administered to six reactor operators (ROs) and six senior reactor operators (SROs). These operators were divided into four crews: three operating and one staff crew. The examinations were graded concurrently by the NRC and the facility training staff. As graded by the NRC, all four crews performed satisfactorily on the simulator portion of the exam and all twelve operators passed all portions of the examination. The facility failed one SRO on the simulator part of his exam due to a more conservative grading criteria. He was removed from licensed duties.

The licensed operator training program at Limerick continues to be satisfactory. The operators' performance was strong. It appears that past weaknesses have been addressed and corrected. In particular, the NRC examination team noted a marked improvement from prior requalification evaluations in the area of crew communications.

The material submitted for use in developing the examination did not always meet the guidelines of the Examiner Standards. For example, Job Performance Measures did not always have specific performance standards, the written examinations did not always meet the expected length, the dynamic scenarios had misidentified critical tasks, and the training department's submitted sample plan lacked the contents requested by the Standards. Section 3 has the details. However, the facility representatives were receptive to the NRC team's comments and fully cooperated with the team to ensure that an acceptable examination was administered.

DETAILS

1.0 Introduction

The NRC administered requalification examinations to 12 licensed operators (6 ROs and 6 SROs). These operators made up four crews; three operating and one staff. The examiners used the process and criteria described in NUREG-1021, "Operator Licensing Examiner Standard," Rev. 6

The contents of the examination as administered are summarized in Attachment 1. An exit meeting was held at the facility on February 14, 1992. Those in attendance are listed in Attachment 2. Exam results and findings were discussed.

2.0 Summary of Examination Results

2.1 Individual Examination Results

The following is a summary of the NRC and facility results:

NRC GRADING

	RO Pass/Fail	SRO Pass/Fail	TOTAL Pass/Fail
Written	6/0	6/0	12/0
Simulator	6/0	6/0	12/0
Walk-through	6/0	6/0	12/0
Overall	6/0	6/0	12/0

FACILITY GRADING

	RO Pass/Fail	SRO Pass/Fail	TOTAL Pass/Fail
Written	6/0	6/0	12/0
Simulator	6/0	5/1*	11/1
Walk-through	6/0	6/0	12/0
Overall	6/0	5/1	11/1

*Facility grading was more conservative than that of NRC staff.

2.2 Facility Generic Strengths and Weaknesses Based on Individual Performance

A summary of strengths and weaknesses noted by the NRC as a result of preparation and administration of the examinations is discussed below. This information is being provided to aid the licensee in improving the requalification program.

2.2.1 Strengths

- Operators demonstrated proficiency with control board operations.

- Operators readily recognized entry conditions for Transient Response Implementing Procedures (TRIPs) and implemented them well.

- Emergency classifications were made correctly.

- Crew communications were strong and much improved since the last evaluation.

2.2.2 Weaknesses

Overall, no weaknesses were noted in the area of operator performance.

2.3 Program Strengths and Weaknesses

No particular programmatic strengths or weaknesses were identified. Comments were made in the area of examination material quality (section 3.2).

3.0 Requalification Program Evaluation Results

3.1 Examiner Standards Evaluation Criteria

The facility's program for licensed operator requalification training was rated as SATISFACTORY in accordance with the criteria established in ES-601, paragraphs C.2.b.(1)(a-c) and C.2.b.(2)(a-f).

C.2.b(1)(a). The facility grading must be as conservative as NRC grading on at least 90 percent of the pass/fail decisions for each section of the exam. This standard is no longer being used in program evaluations although it was met for this examination.

C.2.b(1)(b). At least 75 percent of all operators pass the examination, not including individuals who participate in the simulator examination only. The pass rate was 100 percent.

C.2.b(1)(c). No more than one-third of the crews evaluated fail the simulator exam. There were no crew failures.

C.2.b(2). If three or more of the following apply, then the program is unsatisfactory. However, one or more could result in an unsatisfactory program.

- (a) Facility evaluators do not concur with NRC evaluators on all unsatisfactory crew evaluations. There were no unsatisfactory crew evaluations.
- (b) Facility failed to train and evaluate operators in all positions permitted by their license. No problem was found in this area.
- (c) More than one facility evaluator is unsatisfactory. There were no unsatisfactory evaluators.

- (d) There is a lack of administrative controls to preclude licensed operators with "inactive" licenses from performing licensed duties. No problem was identified in this area.
- (e) There is a lack of quality control on the examination bank in that significant changes were made to more than 10 percent of questions on the written examination. No changes were made to the final written examination.
- (f) Facility failure rate is excessive relative to NRC failure rate. The facility failed one SRO in the simulator examination for not meeting their expectations even though no individual critical tasks were missed. The facility assessment was appropriate.

3.2 Examination Material

The operators' performance on the examination was strong. However, the NRC team made the following observations concerning whether the examination material met the guidance of the Examiner Standards (ES).

Scenarios

ES-604 describes critical tasks as tasks which, if omitted or performed incorrectly, result in adverse consequence(s) which significantly alter the mitigation strategy to the detriment of plant or public safety. The facility misidentified tasks which did not meet this intent. For example, establishing suppression pool cooling at 95°F in the pool had been identified as being critical in a scenario where the temperature would probably never have exceeded 105°F had cooling never been established.

Also, ES-604 sets a target of 50 minutes for average scenario length. However, most scenarios ran for about 25 minutes with none lasting more than 45 minutes.

JPM Standards

During the course of the examination development, the examiners noted that some of the JPM performance standards were not sufficiently specific. The examiner standards indicate the performance standards shall be specific in that exact control and indication nomenclature and criteria (switch position, meter reading) are specified, even if these criteria are not specified in the procedure step. As a result of examiners' comments during the examination preparation activities, the facility training representatives provided the additional detail to most of the JPMs. In one case, the standard of the JPM for a critical step was not sufficiently objectively specified which resulted in several discussions between the NRC and facility examination team to assess whether the JPM critical step was satisfactorily performed.

Written Examination

The facility's initial proposed written examination was assessed to not meet the ES for length of the examination. The classroom examination should be designed to be completed in 90 minutes with 30 minutes left for review of the examination and each static simulator examination to be completed in 45 minutes with 15 minutes for review. As a result, the NRC staff added additional questions to each portion of the written examination. Two questions were added to the first week's SRO examination and to both weeks' RO classroom examinations, one question to the second week's SRO classroom examination, and two questions to each of the four static examinations administered.

In addition, the NRC staff monitored the time to complete the classroom examination by sampling operators' performance on individual questions in a non-interfering manner and by assessing the status of completion at the 90 minute time. At the 90 minute time, the examinees had either completed the examination and begun their review, or had 1 - 2 questions left to answer. This indicated that it had been appropriate to add the additional questions. Based on the times noted for individual questions, the NRC staff concluded that the time allocated for an individual question in the facility examination bank was generously specified in that most questions were answered in less time than indicated in the time allocated.

The examiners noted that the static simulator specific questions related too much to the operator determining what had happened rather than using the static simulator setup to help answer system specific questions. As a result, the facility members of the examination team developed a few new static simulator questions. The questions developed were consistent with the guidance provided in the examiner standards.

Sample Plan

The corporate notification letter requests that the facility submit an examination test outline/sample plan and identifies the content of the test outline/sample plan. The facility initially did not provide a sample plan meeting the content as specified in the ES. The initial plan contained only the requalification topics and the percentage of the requalification cycle devoted to each topic. It did not include the information related to the test outline as described in ES-601 Attachment 2, Section 2, Requalification Test Outline. As a result, the facility provided additional information which satisfied the needs of the NRC examination team for this examination.

3.3 Conclusions

The facility's requalification program continues to be satisfactory. Past weaknesses appear to have been addressed and corrected. Of particular note was the improvement made from prior evaluations in the area of crew communications. Improved operator performance notwithstanding, examination materials did not always meet the guidelines of the ES. However, the facility representatives were receptive to the comments of the NRC staff and fully cooperated with them to develop an acceptable examination.

4.0 Exit Meeting

An exit meeting was conducted on February 14, 1992. Personnel attending are listed in Attachment 2. The NRC presented results of the examinations and discussed examination related findings.

- Attachment 1 - Examination Test Items
- Attachment 2 - Persons Contacted
- Attachment 3 - Simulation Facility Report

Attachment 1REQUALIFICATION EXAMINATION TEST ITEMSWritten Examination - Part A

Week of January 20, 1992: SSE-36 with 12 questions @ 1 pt. each
 SSE-47 with 12 questions @ 1 pt. each

Week of February 10, 1992: SSE-9 with 12 questions @ 1 pt. each
 SSE-39 with 12 questions @ 1 pt. each

Written Examination - Part B

Week of January 20, 1992 Week of February 10, 1992

<u>QNUM/QVAL</u>	<u>SRQ</u>	<u>RO</u>	<u>SRQ</u>	<u>RO</u>
1	715	715	599	592
2	478	478	936	608
3	464	464	590	615
4	521	399	519	519
5	560	592	887	637
6	778	427	755	755
7	427	888	632	632
8	433	433	731	1415
9	734	552	692	731
10	448	734	469	810
11	864	448	491	469
12	723	861	355	916
13	802	723	814	336
14	1437	864	697	355
15	567	626	530	723
16	741	802	786	908
17	812	436	869	337
18	746	812	746	656
19	786	530	333	697
20	823	928	934	333
21	868	823	834	928
22	1438	1438	NA	334

Job Performance MeasuresWeek of January 20, 1992

- 8 - Perform a remote manual start of D/G
- 108 - Place "C" RFP in service
- 22 - Reset 62% RR runback
- 43 - Supply RECW to DW coolers
- 46 - Manually initiate control room isolation
- 120 - Secure RCIC w/initiation signal present
- 76 - Manually reposition scoop tube
- 90 - MSIV/PCIG 3xLo level bypass (MSIVs open)
- 102 - Vent scram air header
- 115 - Alternate DC control power to DIV I DC

Week of February 10, 1992

- 11 - Manually start RCIC
- 23 - Initiate DW spray
- 41 - Restore DW cooling
- 47 - RHRSW injection into vessel
- 50 - Alternate cooling of RECW HX's
- 109 - Maximize CRD flow
- 64 - Deenergization of scram solenoids
- 75 - Bypass control rod from RMCS
- 89 - MSIV 3xLo level bypass (MSIVs closed)
- 106 - Remove "A" RPS/UPS static inverter from service

Scenarios

- Week of January 20, 1992: SES-35, SES-36
- Week of February 10, 1992: SES-13, SES-14, SES-32

Attachment 2PERSONS CONTACTED

<u>Philadelphia Electric Company</u>	<u>Notes</u>
J. Doering, Plant Manager	1
J. Armstrong, Assistant Superintendent, Operations	1,2
J. Kantner, Supervisor, Operations Training	1,2
R. Monaco, Lead Instructor, Operator Training	1,2
W. Tracey, Instructor, Operator Training	2
R. Ruffe, Instructor, Operator Training	2
J. Monaghan, Shift Manager	2
J. Phillabaum, Regulatory	1
<u>Nuclear Regulatory Commission</u>	
C. Sisco, Operations Engineer	1,2
T. Fish, Sr. Operations Engineer	1,2
D. Florek, Sr. Operations Engineer	1,2
B. Wetzel, LOLB, NRR	1

Notes

- 1) Attended exit meeting
- 2) Exam development team

Attachment 3SIMULATION FACILITY REPORT

Facility Licensee: Philadelphia Electric Company, Limerick Generating Station

Facility Docket No.: 50-352 and 50-353

Requalification Examination Administered: January 21-24, 1992 and February 12-14, 1992

This form is to be used only to report observations. These observations do not constitute audit or inspection findings and are not, without further verification and review, indicative of non-compliance with 10 CFR 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 simulator portion of the operating tests, the following items were observed:

ITEM	DESCRIPTION
------	-------------

	No observations noted. However, the simulator was inoperative for several days late in the on-site preparation week due to an electrical fault. The down time, which briefly delayed concluding the preparatory activities, had no effect on the scheduled start time of the actual examinations.
--	---