

Indian Point 3
Nuclear Power Plant
PO Box 215
Buchanan, New York 13511
914 733 8200



August 14, 1990
IP3-90-054
SJB-90-104

Docket # 50-286
Licensed # DPR-64

Mr. Robert M. Gallo
Chief Operations Branch
Division of Reactor Safety
U.S. Nuclear Regulatory Commission
Region I
475 Allendale Road
King of Prussia, PA 19406

Dear Mr. Gallo:

Attached for your consideration is the IP-3 Regualification Self-Evaluation Report for the July 16 exam. If you have any questions, please contact Mr. Richard Tansky, Training Superintendent at 914-736-8901.

Sincerely,

A handwritten signature in cursive script, appearing to read 'J. E. Russell', written over a horizontal line.

Joseph E. Russell
Resident Manager
Indian Point 3 Nuclear Power Plant

JER/SJB/ljd

Attachment

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IP3 REQUALIFICATION SELF-EVALUATION REPORT

The following is the Self-Evaluation Report for the NRC administered License Operator Requalification Exam conducted the week of July 16, 1990.

This report is divided into three (3) sections. Section I is a brief summary of the exam. Section II describes the exam process and results for the simulator, walkthrough, and written portions of the exam. Section III describes the items that were identified during the three portions of the exam as needing improvement and/or resolution.

Section I - Summary

Section II - Description of Exam Process and Results

- A. Simulator Exam
- B. Walkthrough Exam
- C. Written Exam

Section III - Items Needing Improvement/Resolutions

- A. Simulator
- B. Walkthrough
- C. Written Exam
- D. Simulator Fidelity

Section I

Summary

The Indian Point 3 facility License Operator Regualification Program evaluation conducted during the week of July 16, 1990, demonstrated that the program meets the criteria of ES-601 Rev. 5. The items identified as needing improvement will be addressed and will result in continued improvement in license operator knowledge level and performance. The frank and open discussions between the NRC examination team and the NYPA examination team resulted in a better understanding of the NRC policy on prudent operator action when in the Emergency Operating Procedures Network. This will improve the operator's ability to minimize the consequences resulting from emergency events.

The use of alternative method B for the walkthrough portion of the exam, as well as not using common JPM's, resulted in a reduction in stress levels for the operators. This methodology allowed for each operator to be examined in an expeditious manner with minimal waiting period.

The New York Power Authority wishes to express our appreciation to the NRC examination team. Their professional attitude and technical expertise played a positive role in both the exam review and the conduct of the exam itself. Their work with the site examination team on the issue of improving the methods of evaluation by the instructors is appreciated and will aid our efforts to improve this area of the regualification program.

Section II

Description of Exam Process and Results

During the week of July 16, 1990, an NRC administered License Operator Requalification Exam was conducted. Two operations crews totaling ten licensed operators were examined. Each crew consisted of a Shift Supervisor, an Assistant Shift Supervisor, and a control room Senior Reactor Operator (all Senior Operator licensed). In addition, each crew had one control room Reactor Operator and a Reactor Operator Rover (both Reactor Operator Licensed). (See Attachment #1 for Crew Composition and Simulator Exam Scenarios Used.)

A. The simulator exam was conducted on Monday, July 16, 1990.

Crew #1 was examined first on three simulator exam scenarios. Each Senior Reactor Operator was evaluated in both the Shift Supervisor position (E-Plan responsibilities) and the Senior Reactor Operator position (directing responsibilities). The NYPA examining team (see Attachment #2) evaluated Crew #1 and determined there were no crew failures. However, during Scenario #57, Reactor Operator A, delayed the transfer of the automatic rod control system to manual control and communicated the incorrect status of the reactor trip breakers. Reactor operator A correctly reported and verified the reactor tripped, therefore, the weakness had no adverse impact on the remainder of the scenario.

Due to the delay in transferring to manual control and the incorrect status report, the NYPA examination team failed Reactor Operator A on the simulator portion of the exam. Although these incorrect actions by the Reactor Operator did not adversely affect the crew's ability to successfully mitigate the event, his actions did not meet the performance standards of the Indian Point 3 facility. The NRC examination team evaluated Crew #1 and determined that the crew passed the simulator portion of the exam. The NRC examination team did not fail Reactor Operator A although they noted the two instances of marginal performance. The NRC examination team passed all the operators of Crew #1 during the simulator portion of the exam.

Reactor Operator A was removed from watchstanding duties and assigned to the Training Department. He was remediated during the week of July 23, 1990. He was reexamined on July 27, 1990 and based on his satisfactory performance, he was reassigned back to the Operations Department to resume watchstanding duties.

Crew #2 was then evaluated using the same three simulator exam scenarios used during the evaluation of Crew #1. Each Senior Reactor Operator was evaluated in both the Shift Supervisor position (E-Plan responsibilities) and the Senior Reactor Operator position (directing responsibilities). The NYPA examination team evaluated Crew #2 and determined that Crew #2 passed the simulator exam. In addition, the NYPA examination team also passed all the operators of Crew #2. The NRC examination team concurred with these simulator examination results regarding Crew #2.

B. The walkthrough examination was conducted using alternate method B over a two-day period, July 17 and 18.

The NYPA examination team determined that all ten operators passed this portion of the exam. The NRC examination team concurred with these walkthrough evaluations. (Refer to Attachment #3 for the JPM results for each operator.)

C. The written examination was conducted on Thursday, July 19.

Each operator was examined utilizing two simulator static exams (one hour time limit each), and one part B classroom exam which had a two hour time limit. The written exams were independently graded by three license operator instructors. During the grading process, the answer key on one static exam question was found to be incorrect. According to the NYPA exam graders, all the operators passed the written portion of the exam. The written exam results and the one answer key change were transmitted to the NRC Chief Examiner Larry Briggs on Monday, July 21. Refer to Attachment #4 for the individual operator grades on the written exam.

Section III

Items Needing Improvement/Resolution

The following is a summary of the items identified during the exam process that need improvement and/or resolution.

A. Simulator Items

Emergency Operating Procedure Implementation

Reluctance by the operators to take action prior to being directed to perform these actions by the Emergency Operating Procedures.

Both NYPA and the NRC examination team agreed that prudent operation action is expected prior to being directed by the Emergency Operating Procedures. This practice is not contrary to the philosophy of compliance with the EOP's. The Operations Superintendent will communicate formal guidance to this effect to the operators. It was understood by both the NRC and the NYPA examination teams that this guidance (policy) would not contradict the intent or performance of the EOP's.

Command and Control by the Senior Reactor Operator.

Three of the Senior Reactor Operators (SS-A, SS-B, and SRO-A) demonstrated good command and control while three Senior Reactor Operators (ASS-A, ASS-B, and SRO-B) demonstrated weaknesses in command and control in the area of crew briefings.

Although this did not adversely impact the mitigation of the events, crew performance would be improved with better command and control technique (crew briefs). The purpose and use of "crew briefs" will receive increased emphasis in the license operator requalification program and the initial operator training program.

Procedure Deficiencies

During the course of the simulator exam the following procedural deficiencies were identified:

- o SOP-EL-5 (needs better indexing)
- o ONOP-CVCS-2 (needs to address VCT level instrument failure)
- o EOP-E-3 Step 21.C (need to determine if valves can be throttled instead of closed)
- o E-Plan Table 4.1 XIII.1 (needs clarification).

B. Walkthrough Items

Job Performance Measure Guidance

Better guidance to the operators is needed when doing simulator JPM's. The following issues need to be improved:

- o Communications from CCR to the field.
- o JPM specific guidance as to the acknowledgement /clearing of alarm annunciators is needed.
- o Further improve the JPM initial conditions by identifying that for the purpose of the exam process the operator acts alone.

Evaluation Techniques

The following improvements were made subsequent to the September, 1989 exam:

- o JPM's were reformatted with several steps per page. The previous format had only one step per page. This resulted in a possible cue as the evaluator turned the page to mark each step.
- o An initial conditions and initiating cues page was developed to give to the examinee to avoid any confusion as to what event had occurred and what the examinee was being directed to do.
- o The use of JPM's was increased in the License Operator Qualification program for both training and evaluation.
- o The JPM's used during the July exam had termination criteria to ensure evaluation consistency.

Continued improvement is needed in the area of inadvertent and/or unintentional cueing. Several instances of this were noted during the walkthrough portion of the exam.

- o Evaluator's facial expression changing (starting to smile) during the JPM questioning phase.
- o Evaluator closing his JPM book prior to the operator completing his answer to JPM question.
- o Unintentional verbal cue by a leading question during the performance of one JPM.

- o Evaluator prompting operator to continue reactor trip verification actions after he had stopped at Step One of E-0.

The Indian Point 3 facility will improve evaluator techniques, particularly in the area of inadvertent and/or unintentional cueing by doing one or more of the following:

- o Videotaping the performance of JPM's for critiquing and improving evaluator techniques.
- o Periodic observation by supervisory personnel to evaluate the performance of the walkthrough portions of the license operator requalification program.
- o Evaluate the instructor training program to ensure the topic of "cueing" is appropriately covered.
- o Provide additional training on this topic to the evaluators as part of their continuing instructor training program.

Procedure Deficiencies

During the course of the walkthrough exam the following procedural deficiencies were identified.

- o ARP-13 - needs to direct operators to the procedure for filling the nitrogen accumulators for the pressurizer PORV's.
- o SOP-EL-15 - needs to address MCC-32A extension.

C. Written Exams Items

Analysis of the written exam revealed the following generic weakness:

- o Incorrect determinations of useable auxiliary feed flow under the following conditions:
 1. When auxiliary feed flow indicates less than 100gpm
 2. When auxiliary feed flow is feeding a faulted steam generator
- o Incorrect use of the Tave/Tref Recorder. Several operators incorrectly used Tref for the leak calculation instead of Tave. This had minimal impact since the difference between Tave and Tref was only .3 degrees F.

The following are items that need improvement relating to the written exam:

- o Time validation for the part B exam and one static exam (A-5) was too conservative. This was evidenced by the fact that most of the operators were done in approximately 60 minutes on the part B exam, and 30 minutes on one of the static exams.
- o Question LIC-ESS-7.1.17.1 needs to be revised, to elicit from the operators, the indications used to verify that the event was a faulted 33 steam generator inside the VC. Several operators listed indications to support that 33 steam generator was faulted but did not list indications that showed the fault being inside the VC.

The two generic weaknesses will be addressed in the Licensed Operator Requalification Program. The two written exam items will be addressed via the written exam preparation and review process.

D. The following simulator fidelity items were identified during the exam and need resolution.

Item(s):

1. The response of various phase A isolation valves do not correctly model the plant.
2. The response of PCV-1139 (steam supply to 32 ABFP) did not correctly model the plant.
3. The simulator radiation monitoring system does not model the current system being used in the plant.
4. The simulator does not model the Reactor Vessel Level Indicating System which is installed in the plant.
5. The response of the core model to the withdrawal of a dropped control rod was questioned by both the NRC and NYPA examination team.

Resolutions

Item's #1, 3, and 4 were known deficiencies in simulator fidelity. Item #1 is anticipated to be resolved prior to the next requal exam. Item's 3 and 4 are in the simulator configuration control system and will be completed as part of the certification program. Item #2 has a discrepancy report written and will be resolved via the normal simulator configuration control system. Item #5 is currently being worked on by both site and corporate reactor engineering personnel. The core model upgrade to reflect new core loads is in the simulator configuration control system.

ATTACHMENT #1

Crew Composition

Crew #1

Name	License Type	Watch Position	Letter Designation
	SRO	Shift Supervisor	SS-A
	SRO	Ass't. Shift Supervisor	ASS-A
	SRO	Senior Reactor Operator	SRO-A
	RO	Reactor Operator/Rover	RO-A
	RO	Reactor Operator/Rover	RO-B

Crew #2

Name	License Type	Watch Position	Letter Designation
	SRO	Shift Supervisor	SS-B
	SRO	Ass't. Shift Supervisor	ASS-B
	SRO	Senior Reactor Operator	SRO-B
	RO	Reactor Operator/Rover	RO-C
	RO	Reactor Operator/Rover	RO-D

Simulator Exam Scenarios Used

LIC-SES-50 (Steam Generator Tube Rupture)
LIC-SES-53 (Loss of Heat Sink)
LIC-SES-57 (ATWAS/Faulted S/G)

ATTACHMENT #2

New York Power Authority Examination Team

Name	Title
C. MacKay	Operations Superintendent
S. Bridges	Operations Training Supervisor
W. Sorrell	Nuclear Training Specialist
C. Embry	Nuclear Training Specialist
W. Ruzicka	Nuclear Training Specialist
R. Robenstein	License Training Instructor (Contractor)

Individual JPM Results

Name: SS-A

JPM #	Performance	Question #1	Question #2
46	Pass	---	---
80	---	Pass	Pass
33	Pass	---	---
88	---	Pass	Pass
04	Pass	---	---
24	---	Pass	Pass
11	Pass	---	---
03	---	Pass	Pass
63	Pass	---	---
01	---	Pass	Pass

Totals: (Passed) 5/5 (100%)

10/10 (100%)

Name: ASS-A

JPM #	Performance	Question #1	Question #2
46	---	Pass	Pass
80	Pass	---	---
33	---	Pass	Pass
88	Pass	---	---
04	---	Pass	Pass
24	Pass	---	---
11	---	Pass	Pass
03	Pass	---	---
63	---	Pass	Pass
01	Pass	---	---

Totals: (Passed) 5/5 (100%)

10/10 (100%)

ATTACHMENT #3

Individual JPM Results

Name: RO-A

JPM #	Performance	Question #1	Question #2
24	Pass	---	---
8	---	Pass	Pass
11	Pass	---	---
7	---	Pass	Pass
33	---	Pass	Pass
1	Pass	---	---
38	---	Pass	Fail
85	Pass	---	---
107	---	Pass	Pass
35	Pass	---	---

Totals: (Passed) 5/5 (100%)

9/10 (90%)

Name: SRO-A

JPM #	Performance	Question #1	Question #2
24	---	Pass	Pass
8	Pass	---	---
11	---	Pass	Pass
7	Pass	---	---
33	Pass	---	---
1	---	Pass	Pass
38	Pass	---	---
85	---	Pass	Pass
107	Fail	---	---
35	---	Pass	Pass

Totals: (Passed) 4/5 (80%)

10/10 (100%)

Individual JPM Results

Name: SS-B

JPM #	Performance	Question #1	Question #2
46	Pass	---	---
33	---	Pass	Pass
04	Pass	---	---
03	---	Pass	Pass
11	Pass	---	---
02	---	Pass	Pass
80	Pass	---	---
63	---	Pass	Pass
88	Pass	---	---
85	---	Pass	Pass
Totals: (Passed) 5/5 (100%)			10/10 (100%)

Name: ASS-B

JPM #	Performance	Question #1	Question #2
46	---	Pass	Pass
33	Pass	---	---
04	---	Pass	Pass
03	Pass	---	---
11	---	Pass	Pass
02	Pass	---	---
80	---	Pass	Pass
63	Pass	---	---
88	---	Pass	Pass
85	Pass	---	---
Totals: (Passed) 5/5 (100%)			10/10 (100%)

Individual JPM Results

Name: SRO-B

JPM #	Performance	Question #1	Question #2
11	Pass	---	---
10	---	Pass	Fail
03	Fail	---	---
04	---	Pass	Pass
107	Pass	---	---
01	---	Pass	Pass
88	Pass	---	---
63	---	Pass	Pass
33	Pass	---	---
85	---	Pass	Pass

Totals: (Passed) 4/5 (80%)

9/10 (90%)

Name: RO-C

JPM #	Performance	Question #1	Question #2
11	---	Pass	Pass
10	Pass	---	---
03	---	Fail	Pass
04	Pass	---	---
107	---	Fail	Pass
01	Pass	---	---
88	---	Pass	Pass
63	Pass	---	---
33	---	Pass	Pass
85	Pass	---	---

Totals: (Passed) 5/5 (100%)

8/10 (80%)

Individual JPM Results

Name: RO-B

JPM #	Performance	Question #1	Question #2
35	---	Pass	Pass
107	Pass	---	---
63	---	Pass	Pass
80	Pass	---	---
38	---	Pass	Pass
46	Pass	---	---
2	Pass	---	---
3	---	Pass	Pass
7	Pass	---	---
24	---	Pass	Pass
Totals: (Passed) 5/5 (100%)			10/10 (100%)

Name: RO-D

JPM #	Performance	Question #1	Question #2
35	Pass	---	---
107	---	Pass	Pass
63	Pass	---	---
80	---	Pass	Pass
38	Pass	---	---
46	---	Pass	Pass
2	---	Pass	Pass
3	Fail	---	---
7	---	Pass	Pass
24	Pass	---	---
Totals: (Passed) 4/5 (80%)			10/10 (100%)

ATTACHMENT #4

NAME	TOTAL POINTS	A-5	A-24	B	TOTAL	GRADE
SRO'S	(46)	(11)	(13)	(22)		
SS-B	46	10.24	12.75	21	43.99	95.6
SS-A	46	9.47	11.0	21	41.47	90.1
ASS-B	46	9.34	13.0	22	44.34	96.3
ASS-A	46	11.0	12.875	22	45.87	99.7
SRO-A	46	11.0	12.875	21	44.875	97.5
SRO-B	46	9.9	11.875	20	41.77	90.8
RO's	(42)	(11)	(13)	(18)		
RO-D	42	7.24	11.875	17	36.115	85.9
RO-B	42	9.3	11.375	18	38.675	92.0
RO-C	42	11.0	11.875	16	38.875	92.5
RO-A	42	10.14	8.625	17	35.765	85.1
Average		9.863	11.812	RO 17 SRO 21.16	37.35 43.72	88.9 95.0