U. S. NUCLEAR REGULATORY COMMISSION REGION I
OPERATOR LICENSING EXAMINATION REPORT

Examination Report Nos.	50-277/91-01 (OL) and 50-278/91-01 (OL)
Facility Docket Nos.	50-277 and 50-278
Facility License No.	DPR-44 and DPR-56
Licensee:	Philadelphia Electric Company Nuclear Group Headquarters Correspondence Control Desk P.O. Box 195 Wayne, Pennsylvania 19087-0195
Facility:	Peach Bottom Atomic Power Station, Unit 2 and 3
Examination Dates:	February 11 - 13, 1991
Examiners:	C. Sisco, Operations Engineer S. Pullani, Senior Operations Engineer L. Vick, Reactor Engineer

Chief Examiner: Carl Sisco — 3/8/91
C. Sisco, Operations Engineer — Date

Approved by: Donald Haverkamp — 3/11/91
R. Conte, Chief, BWR Section, Operations Branch, Division of Reactor Safety — Date

Examination Summary: Written and operating examinations were administered to three Senior Reactor Operator (SRO) candidates and operating examinations only were administered to two Reactor Operator (RO) candidates. The RO candidates received a waiver of the written examination. One of the SRO candidates failed the written examination. All candidates passed the operating examination.

DETAILS

1.0 Introduction and Overview

The NRC examiners administered initial examinations to two RO candidates and three SRO candidates. The examinations were administered in accordance with NUREG 1021, Examiner Standards, Revision 6. The results of the examinations are summarized below.

	RO Pass/Fail	SRO Pass/Fail
Written	NA/NA	2/1
Operating	2/0	3/0
Overall	2/0	2/1

2.0 Persons Contacted

2.1 Nuclear Regulatory Commission (NRC)

C. Sisco, Operations Engineer (1) (2) (3)
S. Pullani, Senior Operations Engineer (2) (3)
L. Vick, Reactor Engineer (2) (3)

2.2 Philadelphia Electric Company

J. Franz, Plant Manager (3)
E. Till, Superintendent - Training (2) (3)
T. Niessen, Superintendent - Operations (2) (3)
G. Gellrich, Assistant Superintendent - Operations (2) (3)
M. Rosenberg, Supervisor - Simulator (3)
J. Lyter, Senior Instructor (1) (2)
R. Smith, Regulatory Inspection Coordinator (3)
R. Birley, Instructor (3)
C. Schwarz, Shift Manager (1)
R. Watkins, Instructor (3)

Notes

(1) Denotes those present during the pre-examination review of the written examination on February 4, 1991.

(2) Denotes those present during entrance meeting on February 11, 1991.

(3) Denotes those present during exit meeting on February 13, 1991.

3.0 Pre-Examination Activities

3.1 License Application Review

The license applications were reviewed in accordance with NUREG 1021, Examiner Standards, Revision 6. The applications contained sufficient information to determine the eligibility of the applicants to appear for the examinations.

3.2 Examination Preparation

The written examinations and operating test were prepared in accordance with NUREG 1021, Examiner Standards, Revision 6. The reference material provided by the licensee was found adequate for the preparation of the examination.

3.3 Pre-Examination Review

Prior to the administration of the written examination, on February 4, 1991, the facility reviewed the written examination at the Regional Office. All facility comments were discussed, and the written examination was revised as appropriate. The facility individuals involved with the review signed security agreements to ensure that there was no compromise of the examination.

3.4 Entrance Meeting

An entrance meeting with the licensee was held on February 11, 1991, at its training facility. The purpose of the meeting was to discuss the plan and schedule for the examination.

4.0 Examination - Related Findings and Conclusions

The following is a summary of the strengths and weaknesses noted during the administration of the written examination and operating tests. This information is being provided to aid the licensee in upgrading the operator training program. No licensee response is required.

4.1 Written Examination

Strengths

- Knowledge of 10 CFR 20 and related facility radiation control requirements
- Ability to interpret station reference material
- Knowledge of RHR/LPCI interlocks

Weaknesses

- Ability to coordinate personnel activities inside the control room
- Knowledge of recirculation flow control system
- Knowledge of electrical power supplies to the RPS MG sets

4.2 Operating Test

Strengths

- Control Board operations
- Communications/repeatbacks
- Teamwork

Weaknesses

- None

4.3 Additional Findings

During the preparation and administration of operating tests, the NRC examination team identified the following plant procedure deficiencies:

1. SE-3 "Loss of Conowingo Pond" did not address a decreasing water level within the plant intake structure. The licensee stated the procedure would be reviewed and revised if appropriate to the station.

2. ST-6.4 "MSIV Closure Timing" references Master Manual control of the Recirculation system pumps. Also, station directions do not prohibit Master Manual control of the pumps. The licensee stated the reference to Master Manual control would be removed from the procedure and station directions prohibiting the use of Master Manual control would be implemented.

3. SO 2D.7.A-2 "Manual/Local Operation of Recirc MG Scoop Tube" did not prohibit non-licensed personnel from changing Recirculation pump speeds locally at the motor-generator sets. The licensee proposed procedural changes that did not meet NRC regulations. In a subsequent telephone call on February 14, 1991, between the Chief Examiner and the Superintendent - Operations, the licensee proposed procedural changes and management controls that did meet regulations. The procedural changes and management controls were implemented on the same day. Refer to NRC Resident Inspector Report No. 50-277/278/91-03 for additional information.

5.0 Exit Meeting

An exit meeting was conducted on February 13, 1991, following the administration of the examinations. The licensee representatives that attended the meeting are listed in Section 2 of this report.

The strengths noted on the operating examinations were presented (see Section 4.2 of this report). Additionally, the Chief Examiner presented the procedural deficiencies noted (see Section 4.3).

The Chief Examiner stated that the examination results would be contained in the examination report in approximately 30 working days.

Facility comments on the written examination were forwarded in a letter from D. B. Miller, Jr. to R. J. Conte dated February 15, 1991.

Attachments
1. Senior Operator Examination Answer Key
2. NRC Resolution of Facility Comments
3. Simulator Facility Report

A N S W E R K E Y

ATTACHMENT 1

MULTIPLE CHOICE

001	B	
002	C	
003	C	
004	B	
005	C	
006	C	
007	C	
008	D	
009	B	
010	A	
011	D	DELETED QUESTION
012	A	DELETED QUESTION
013	D	
014	B	
015	B	
016	C	
017	D	
018	A	
019	C	
020	B	
021	B	
022	A	
023	D	
024	A	
025	B	
026	C	
027	C	
028	C	
029	A	
030	A	
031	B	
032	A	
033	A	
034	B	
035	A	
036	B	
037	D	& C
038	C	
039	C	
040	C	
041	D	
042	B	
043	B	
044	C	
045	D	A

ANSWER KEY

046	B	069	C
047	D	070	D
048	C	071	B
049	B	072	A
050	C	073	A
051	D	074	B
052	B	075	C
053	C	076	C
054	A	077	B
055	D	078	C
056	C	079	C
057	~~D~~ C	080	B
058	C	081	C
059	D	082	C
060	D	083	D , B
061	B	084	B
062	B	085	D
063	D	086	B
064	C	087	D
065	B	088	C
066	D	089	D
067	A , B	090	A
068	A	091	C

A N S W E R K E Y

092 B

093 C

094 B

095 D

096 C

097 B

098 D

099 C

100 D

(********** END OF EXAMINATION **********)

ATTACHMENT 2
NRC RESOLUTION OF FACILITY COMMENTS

Question 11

Facility Comment:

Accept answer C in addition to answer D. Reference document OMM-3, Rev. 5 is not an all inclusive list of Shift Supervisor responsibilities, other procedures describe Shift Supervisor responsibilities in addition to those found in OMM-3. Candidates may have picked answer C since Procedure A-12, Rev. 7 lists other individuals to which the authority to approve and issue ignition source permits has been delegated, specifically the Fire Protection Supervisor (see Section 5.2.2).

NRC Resolution:

Question deleted. The question requires the determination of authorities "delegated by the Shift Supervisor." OMM-3 does not elaborate on authorities delegated. As such, there is no correct answer.

Question 12

Facility Comment:

Accept answer C in addition to answer A since the Outside Shift Supervisor shall, when requested, review and approve Local Permits for completeness and technical accuracy per OMM-3, pg. 25, Item 2.h.

NRC Resolution:

Question deleted. The question requires the determination of activities "coordinated by the Outside Shift Supervisor." OMM-3 does not elaborate on activities coordinated. As such, there is no correct answer.

Question 37

Facility Comment

Accept answer C in addition to answer D. Reactor level at minus 160 inches for 15 minutes will allow the drywell high pressure bypass timer (9+1 min.) to time out which will allow actuation of ADS with D RHR pump operating (see SO 1G.1.A-2, Rev 1, Precaution 3.1 and Note).

NRC Resolution:

Comment accepted

Question 45

Facility Comment

Answer D is incorrect, answer A should be the correct answer. Per GP-11A, Rev. 16, pg. 3, item 4.1.1, the scram setpoint for IRM HI-HI is 120/125. Answer D is incorrect since the scram setpoint on the 0-40 scale is 38.4/40.

NRC Resolution

Comment accepted

Question 57

Facility Comment

Answer D is incorrect, answer C should be the correct answer, Operational Transient Procedure OT-100, Reactor Low Level, directs the operator to reduce recirculation flow in accordance with GP-9-2 until level is restored. Procedure GP-9-2 directs the operator to reduce recirculation flow as required to reduce power while maintaining load above 800 MWe (about 75% power), however, question 57 gives conditions of Unit 2 at 70% power. For the condition of Unit 2 at 70% power, GP-9-2 directs the operator to insert Appendix 1, Table 1 rods (Step 3.2) followed by reducing recirculation flow (Step 3.3).

NRC Resolution

Comment accepted

Question 67

Facility Comment

Accept answer B in addition to answer A. Tech. Spec. Bases 2.1.C states that, "this level has been used in transient analysis dealing with coolant inventory decrease," and Tech. Spec. Bases 3.2 paragraph 5 discusses the trip at zero inches and associated isolations as preventing the core from being uncovered. Additionally, LOT-0300, Rev. 9, pg. 21, Item 1.2 lists "core uncovery" as a purpose of the reactor low level scram.

NRC Resolution

Comment accepted

Question 83

Facility Comment

Accept answer B in addition to answer D. Control power for 480 VAC equipment is provided by a potential transformer within the breaker cubical and not from 125 VDC. Therefore, following a loss of 125 VDC power, remote stopping of 480 VAC powered equipment would still be possible.

NRC Resolution

Comment accepted

ATTACHMENT 3
SIMULATION FACILITY REPORT

Facility License: DPR 44/56

Facility Docket No.: 50-277/278

Operating Tests Administered on: February 11-12, 1991

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
NA	The telephone system failed, requiring the use of the radio system.
NA	The Steam Jet Air Ejector suction pressure indication was incorrect (read low).