

PHILADELPHIA ELECTRIC COMPANY

2301 MARKET STREET

P.O. BOX 8699

PHILADELPHIA, PA. 19101

SHIELDS L. DALTROFF
VICE PRESIDENT
ELECTRIC PRODUCTION

(215) 841-5001

August 21, 1984

Docket No. 50-352

Mr. Darrell G. Eisenhut, Director
Division of Licensing
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

Dear Mr. Eisenhut:

This letter is in response to your letter of May 31, 1984 to Mr. Edward G. Bauer, Jr. requesting operating shift staffing information for the Limerick Generating Station. The need for a delayed submittal was discussed with Mr. L. P. Crocker of your staff on July 30, 1984, during a conversation with W. T. Ullrich, PECO. Mr. Crocker indicated that submission of this information 30 days prior to fuel load was acceptable.

Based on the criteria in the proposal by the Industry Working Group and the additional NRC conditions, as delineated in your May 31 letter and its attachments, shift advisors will be needed to augment some of the operating shifts. The information presented in our letters of December 19, 1983 and April 4, 1984 is correct; however, certain individuals are presently participating in further training. This information is updated in the attachments to Enclosure 1. Enclosure 1 provides two five-shift rotation, staffing schemes. The first utilizes only those individuals who are presently licensed. The second preferred scheme uses additional personnel who are expected to obtain NRC SRO licenses prior to September 15, 1984, the present target fuel loading date. In either case, certain shifts will require the use of shift advisors. Shift advisors will be Philadelphia Electric Company employees with extensive on-shift experience at our Peach Bottom facility in an SRO capacity.

Enclosure 2 provides the information associated with the shift advisor personnel qualifications, training programs, responsibilities, and relationships to shift SRO licensed personnel.

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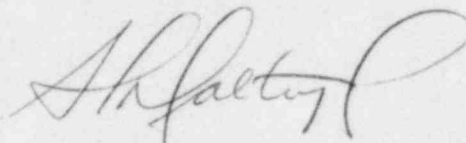
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Mr. Darrell G. Eisenhut

August 21, 1984
Page 2

If you have any further questions or require additional information, please do not hesitate to contact us.

Very truly yours,

A handwritten signature in cursive script, appearing to read "A. H. Faltus". The signature is written in dark ink and is positioned to the right of the typed closing "Very truly yours,".

cc: Dr. T. E. Murley, Administrator
See Attached Service List

cc: Judge Lawrence Brenner
Judge Peter A. Morris
Judge Richard F. Cole
Troy B. Conner, Jr., Esq.
Ann P. Hodgdon, Esq.
Mr. Frank R. Romano
Mr. Robert L. Anthony
Maureen Mulligan
Charles W. Elliott, Esq.
Zori G. Ferkin, Esq.
Mr. Thomas Gerusky
Director, Penna. Emergency
Management Agency
Angus Love, Esq.
David Wersan, Esq.
Robert J. Sugarman, Esq.
Martha W. Bush, Esq.
Spence W. Perry, Esq.
Jay M. Gutierrez, Esq.
Atomic Safety & Licensing Appeal Board
Atomic Safety & Licensing Board Panel
Docket & Service Section (3 copies)
James Wiggins
Timothy R. S. Campbell

Response on
Limerick Shift Staffing

Enclosure 1

Limerick Generation Station
Shift Staffing

The proposed staffing of Shift Supervisory positions and SRO positions shown below is based on personnel who presently hold NRC SRO licenses.

<u>Shift</u>	<u>Shift Supv (1)</u>	<u>SRO (1)</u>	<u>Shift Advisor</u>
1	SST M	SSV T	
2	SST C	SSV CC	
3	SST G	SSV A	SA S or SS
4	SST P	SSV CCC	SA TT (2)
5	SST S	SSV MM	SA B (2)

NOTES:

- (1) Shift Supervisor and SRO are Utility Group Designations which correspond to PECO position designations of Shift Superintendent and Shift Supervisor, respectively.
- (2) Due to past training received in preparation for the NRC examination, these individuals will not participate in the shift advisor training program. Their resumes are provided in Enclosure 2.

Attachment A to Enclosure 1 provides the experience profile on each of the individuals above. Also provided in Attachment A is a cross-reference from the identification code used in this document to the PECO letter of April 4, 1984.

During the week of August 13, 1984 NRC Senior Operator License examinations were administered to six individuals. It is anticipated that the results of this examination will be available prior to September 15, 1984. If key individuals in this group are successful in obtaining their NRC SRO license, the proposed staffing will be as follows:

<u>Shift</u>	<u>Shift Supv (1)</u>	<u>SRO (1)</u>	<u>Shift Advisor</u>
1	SST M	SSV T	
2	SST C	SSV CC	
3	SST G	SSV S	SA S or SS
4	SST TT	SSV P	
5	SST B	SSV R or RR	

Attachment B to Enclosure 1 provides the experience profile on each of the individuals above. A cross-reference which provides personnel identification code to the PECO letter of April 4, 1984 is also included.

The information contained in Attachments A and B has been revised to reflect the status of the operating shift experience as of August 1, 1984.

All individuals expected to be assigned to Shift Supervisor or SRO positions will have the 6 weeks hot-participation experience as outlined in your letter of May 31, 1984. All shift supervisors and most SROs will also have the required start-up and shutdown participation experience.

On any shift where the Shift Supervisor does not meet the 6-month shift SRO or RO experience (at an operating similar BWR facility) requirement at the Shift Supervisor (SST) position, a shift advisor will be provided.

Mr. D. G. Eisenhut
DATE 8-1-84
PLANT NAME LGS
UTILITY PECo
O.L. DATE _____

OPERATING SHIFT EXPERIENCE

JOB TITLE: SHIFT SUPERINTENDENT
(NOTE 2)

NUCLEAR POWER PLANT EXPERIENCE
FOR OPERATING SHIFT POSITIONS (NOTE 1)

ENTER DATA: MONTHS/MONTHS X WEIGHTING FACTOR
* Held SRO license at PBAPS

TYPE OF EXPERIENCE	WEIGHTING FACTOR	MAXIMUM CREDIT	SST M	SST C	SST G	SST P	SST S						
1. SAME TYPE COMMERCIAL SRO	1.00	NO LIMIT	*										
2. OTHER COMMERCIAL SRO	.75	NO LIMIT											
3. SAME TYPE COMMERCIAL RO	1.00	NO LIMIT	24	24	97	97							
4. OTHER COMMERCIAL RO	0.75	NO LIMIT	89	67									
5. NAVY (MILITARY) NUCLEAR (RO, EWS, EOOW, PPWS) (OTHER)	0.50 0.25	36 MONTHS											
6. SIMULATOR (REFERENCE PLANT) (SIMILAR)	5.00 3.00	12 MONTHS (12 MONTHS) (9 MONTHS)	3 12	2 10	3 12	3 12	3 12						
7. NUCLEAR PLANT EXPERIENCE ON SHIFT (OWN PLANT) (LESS THAN 1 1/2 YEARS PRIOR TO F.L.) (MORE THAN 1 1/2 YEARS PRIOR TO F.L.)	0.75 0.50	24 MONTHS (12 MONTHS) (12 MONTHS)	9 7	5 4	9 7	9 7	9 7						
8. LICENSED CLASSROOM TRAINING AND EXAM (OWN PLANT)	0.50	9 MONTHS	4 2	4 2	8 4	8 4	9 5						
9. PARTICIPATION AT OPERATING PLANT	0.75	12 MONTHS	27 12	27 12		78 12							
10. OTHER NUCLEAR PLANT EXPERIENCE	0.25	12 MONTHS	23 6		33 8	32 8	36 9						
11. CONDUCTING LICENSE TRAINING	0.25	9 MONTHS											
12. DEGREE (ENGINEERING, APPLIED SCIENCE OR EQUIVALENT) (BACHELORS DEGREE) (ASSOCIATES DEGREE)		12 MONTHS (12 MONTHS) (6 MONTHS)											
TOTAL NUCLEAR PLANT EXPERIENCE:			130	125	31	43	33						
FOSSIL PLANT EXPERIENCE ON SHIFT (YEARS)			2 1/2	-	19	2	8						
<u>HOT PARTICIPATION EXPERIENCE</u>													
TIME > 20% PWR/BWR (WKS)			6+	6+									
STARTUP & SHUTDOWN (YES/NO)			YES	YES									
MONTHS ON SHIFT			113	97									

NOTE 1: SEE "INSTRUCTIONS FOR USE OF NUCLEAR POWER PLANT EXPERIENCE FACTORS FOR OPERATING SHIFT POSITIONS (OL APPLICANTS)"

CHECK ONE OF THE FOLLOWING:

NOTE 2: INCLUDE ALL SHIFT SUPERVISORS (SS), SHIFT SRO'S, REACTOR OPERATORS (RO) AND SHIFT TECHNICAL ADVISORS (STA).

- a. Shift advisors must be used to satisfy the "hot participation" requirements of the utility plan.
- b. Shift advisors will probably be required, at least for s

D. G. Eisenhut
DATE 8-1-84
PLANT NAME LGS
UTILITY PECO
O.L. DATE _____

OPERATING SHIFT EXPERIENCE

JOB TITLE: SHIFT SUPERVISOR
(NOTE 2)

NUCLEAR POWER PLANT EXPERIENCE
FOR OPERATING SHIFT POSITIONS (NOTE 1)

ENTER DATA: MONTHS/MONTHS X WEIGHTING FACTOR

TYPE OF EXPERIENCE	WEIGHTING FACTOR	MAXIMUM CREDIT	SSV T SSV CC SSV A SSV CCC SSV MM									
			SSV T	SSV CC	SSV A	SSV CCC	SSV MM					
1. SAME TYPE COMMERCIAL SRO	1.00	NO LIMIT										
2. OTHER COMMERCIAL SRO	.75	NO LIMIT										
3. SAME TYPE COMMERCIAL RO	1.00	NO LIMIT										
4. OTHER COMMERCIAL RO	0.75	NO LIMIT										
5. NAVY (MILITARY) NUCLEAR (RO, EWS, EOOW, PPWS) (OTHER)	0.50	36 MONTHS						45	22			
	0.25							15	4			
6. SIMULATOR (REFERENCE PLANT) (SIMILAR)	5.00	12 MONTHS (12 MONTHS)	3	3	3	3	3	3	3			
	3.00	(9 MONTHS)	12	12	12	12	12	12	12			
7. NUCLEAR PLANT EXPERIENCE ON SHIFT (OWN PLANT) (LESS THAN 1 1/2 YEARS PRIOR TO F.L.) (MORE THAN 1 1/2 YEARS PRIOR TO F.L.)	0.75	24 MONTHS (12 MONTHS)	9	9								
	0.50	(12 MONTHS)	7	7								
8. LICENSED CLASSROOM TRAINING AND EXAM (OWN PLANT)	0.50	9 MONTHS	10	10	5	2	6	3	6	3		
			5	5	5	2	3	3	3	3		
9. PARTICIPATION AT OPERATING PLANT	0.75	12 MONTHS			52	12			24	12		
10. OTHER NUCLEAR PLANT EXPERIENCE	0.25	12 MONTHS	29	7	29	7	16	4	16	4	18	5
11. CONDUCTING LICENSE TRAINING	0.25	9 MONTHS										
12. DEGREE (ENGINEERING, APPLIED SCIENCE OR EQUIVALENT) (BACHELORS DEGREE) (ASSOCIATES DEGREE)		12 MONTHS (12 MONTHS)										
		(6 MONTHS)			12		12		12		12	
TOTAL NUCLEAR PLANT EXPERIENCE:			31	31	42		31		70			
FOSSIL PLANT EXPERIENCE ON SHIFT (YEARS) <u>HOT PARTICIPATION EXPERIENCE</u>			11	11	-		-		-			
TIME > 20% PWR/BWR (WKS)												
STARTUP & SHUTDOWN (YES/NO)												
MONTHS ON SHIFT												

NOTE 1: SEE "INSTRUCTIONS FOR USE OF NUCLEAR POWER PLANT EXPERIENCE FACTORS FOR OPERATING SHIFT POSITIONS (OL APPLICANTS)" CHECK ONE OF THE FOLLOWING:

- NOTE 2: INCLUDE ALL SHIFT SUPERVISORS (SS), SHIFT SRO'S, REACTOR OPERATORS (RO) AND SHIFT TECHNICAL ADVISORS (STA).
- a. Shift advisors must be used to satisfy the "hot participation" requirements of the utility plan.
 - b. Shift advisors will probably be required, at least for s

Cross Reference Index

<u>Enclosure Designation</u>	<u>April 4 Designation</u>
M	Shift Superintendent 4
C	Shift Superintendent 5
G	Shift Superintendent 6
MM*	Engineer 11
CCC*	Engineer 5
A*	Engineer 2
T*	Control Operator 4
CC*	Control Operator 5
S*	Shift Supervisor 5
P*	Shift Supervisor 2
TT	Shift Superintendent 3
B	Shift Superintendent 1
R	Shift Supervisor 4
RR	Control Operator 1

*Participating in 6 weeks in SRO/RO duties at an operating plant.

D. G. Eisenhut
DATE 8-1-84
PLANT NAME I GS
UTILITY PECo
O.L. DATE _____

OPERATING SHIFT EXPERIENCE

JOB TITLE: SHIFT SUPERVISOR
(NOTE 2)

NUCLEAR POWER PLANT EXPERIENCE
FOR OPERATING SHIFT POSITIONS (NOTE 1)

ENTER DATA: MONTHS/MONTHS X WEIGHTING FACTOR

TYPE OF EXPERIENCE	WEIGHTING FACTOR	MAXIMUM CREDIT	SSV T	SSV CC	SSV S	SSV P	SSV R	SSV RR				
1. SAME TYPE COMMERCIAL SRO	1.00	NO LIMIT										
2. OTHER COMMERCIAL SRO	.75	NO LIMIT										
3. SAME TYPE COMMERCIAL RO	1.00	NO LIMIT										
4. OTHER COMMERCIAL RO	0.75	NO LIMIT										
5. NAVY (MILITARY) NUCLEAR (RO, EWS, EOOW, PPWS) (OTHER)	0.50 0.25	36 MONTHS										
6. SIMULATOR (REFERENCE PLANT) (SIMILAR)	5.00 3.00	12 MONTHS (12 MONTHS) (9 MONTHS)	3 12	3 12	3 12	3 12	3 12	3 12				
7. NUCLEAR PLANT EXPERIENCE ON SHIFT (OWN PLANT) (LESS THAN 1 1/2 YEARS PRIOR TO F.L.) (MORE THAN 1 1/2 YEARS PRIOR TO F.L.)	0.75 0.50	24 MONTHS (12 MONTHS) (12 MONTHS)	9 7	9 7	9 7	9 7	7 5	7 5				
8. LICENSED CLASSROOM TRAINING AND EXAM (OWN PLANT)	0.50	9 MONTHS	10 5	10 5	9 5	8 4	12 6	8 4				
9. PARTICIPATION AT OPERATING PLANT	0.75	12 MONTHS				78 12						
10. OTHER NUCLEAR PLANT EXPERIENCE	0.25	12 MONTHS	29 7	29 7	36 9	32 8	32 8	32 8				
11. CONDUCTING LICENSE TRAINING	0.25	9 MONTHS										
12. DEGREE (ENGINEERING, APPLIED SCIENCE OR EQUIVALENT) (BACHELORS DEGREE) (ASSOCIATES DEGREE)		12 MONTHS (12 MONTHS) (6 MONTHS)										
TOTAL NUCLEAR PLANT EXPERIENCE:			31	31	33	43	31	29				
FOSSIL PLANT EXPERIENCE ON SHIFT (YEARS) HOT PARTICIPATION EXPERIENCE			11	11	8	2	18	14				
TIME > 20% PWR/BWR (WKS)												
STARTUP & SHUTDOWN (YES/NO)												
MONTHS ON SHIFT												

NOTE 1: SEE "INSTRUCTIONS FOR USE OF NUCLEAR POWER PLANT EXPERIENCE FACTORS FOR OPERATING SHIFT POSITIONS (OL APPLICANTS)"

CHECK ONE OF THE FOLLOWING:

NOTE 2: INCLUDE ALL SHIFT SUPERVISORS (SS), SHIFT SRO'S, REACTOR OPERATORS (RO) AND SHIFT TECHNICAL ADVISORS (STA).

a. Shift advisors must be used to satisfy the "hot participation" requirements of the utility plan.

b. Shift advisors will probably be required, at least for some

Mr. D. G. Eisenhut
DATE 8-1-84
PLANT NAME LGS
UTILITY PECo
O.L. DATE _____

OPERATING SHIFT EXPERIENCE

JOB TITLE: SHIFT SUPERINTENDENT
(NOTE 2)

NUCLEAR POWER PLANT EXPERIENCE
FOR OPERATING SHIFT POSITIONS (NOTE 1)

ENTER DATA: MONTHS/MONTHS X WEIGHTING FACTOR
*Held SRO license at PBAPS

TYPE OF EXPERIENCE	WEIGHTING FACTOR	MAXIMUM CREDIT	SST M SST C SST G SST TT SST B									
			SST M	SST C	SST G	SST TT	SST B					
1. SAME TYPE COMMERCIAL SRO	1.00	NO LIMIT	*			*	52	52				
2. OTHER COMMERCIAL SRO	.75	NO LIMIT										
3. SAME TYPE COMMERCIAL RO	1.00	NO LIMIT	24	24	97	97	89	89	27	27		
4. OTHER COMMERCIAL RO	0.75	NO LIMIT	89	67			14	10	27	20		
5. NAVY (MILITARY) NUCLEAR (RO, EWS, EOOW, PPWS) (OTHER)	0.50 0.25	36 MONTHS										
6. SIMULATOR (REFERENCE PLANT) (SIMILAR)	5.00 3.00	12 MONTHS (12 MONTHS) (9 MONTHS)	3	2	3	3	3	3				
7. NUCLEAR PLANT EXPERIENCE ON SHIFT (OWN PLANT) (LESS THAN 1 1/2 YEARS PRIOR TO F.L.) (MORE THAN 1 1/2 YEARS PRIOR TO F.L.)	0.75 0.50	24 MONTHS (12 MONTHS) (12 MONTHS)	9	5	9	7	7	7				
8. LICENSED CLASSROOM TRAINING AND EXAM (OWN PLANT)	0.50	9 MONTHS	4	2	4	2	8	4	6	3	6	3
9. PARTICIPATION AT OPERATING PLANT	0.75	12 MONTHS	27	12	27	12		13	10	61	12	
0. OTHER NUCLEAR PLANT EXPERIENCE	0.25	12 MONTHS	23	6			33	8	22	5	40	10
1. CONDUCTING LICENSE TRAINING	0.25	9 MONTHS										
2. DEGREE (ENGINEERING, APPLIED SCIENCE OR EQUIVALENT) (BACHELORS DEGREE) (ASSOCIATES DEGREE)		12 MONTHS (12 MONTHS) (6 MONTHS)										
TOTAL NUCLEAR PLANT EXPERIENCE:			130		125		31		134		141	
FOSSIL PLANT EXPERIENCE ON SHIFT (YEARS)			2 1/2		-		19		1/2		4	
<u>HOT PARTICIPATION EXPERIENCE</u>												
TIME > 20% PWR/BWR (WKS)			6+		6+		6+		6+		6+	
STARTUP & SHUTDOWN (YES/NO)			YES		YES		YES		YES		YES	
MONTHS ON SHIFT			113		97				103		106	

NOTE 1: SEE "INSTRUCTIONS FOR USE OF NUCLEAR POWER PLANT EXPERIENCE FACTORS FOR OPERATING SHIFT POSITIONS (OL APPLICANTS)"

NOTE 2: INCLUDE ALL SHIFT SUPERVISORS (SS), SHIFT SRO'S, REACTOR OPERATORS (RO) AND SHIFT TECHNICAL ADVISORS (STA).

CHECK ONE OF THE FOLLOWING:

- a. Shift advisors must be used to satisfy the "hot participation" requirements of the utility plan.
- b. Shift advisors will probably be required, at least for so

Response on
Limerick Shift Staffing

Enclosure 2
Information Required Regarding Shift Advisors

1. Question: A resume of each shift advisor which highlights his previous operating experience.

Response: Resumes of Shift Advisors SA S, SA SS, SA TT, and SA B are provided in Attachment A to this enclosure.

2. Question: A copy of the procedure which describes the duties and authority of the shift advisors and the working relationships between the advisors and the operating shift personnel.

Response: Attachment B to this enclosure is a memorandum which describes the responsibilities and authority of the shift advisor.

3. Question: A copy of the training program presented to the shift advisors to assure they have adequate knowledge of plant specific matters to properly perform their duties.

Response: A six week training program for shift advisors will include both classroom and simulator instruction. Three weeks of classroom instruction will address plant systems, including system design, controls, interlocks, automatic functions, and instrumentation. The procedures and Technical Specifications for each system will also be discussed. At least two weeks will be spent on simulator training at the Limerick Training Center. This training will include classroom and simulator instruction, plant tours, and appropriate operating procedures and Technical Specification. Several days will be devoted to course review and the examination process. Attachment C to this enclosure provides a course outline and schedule.

4. & 5. Question: A copy of the written examination administered to the shift advisors and the results of the examination, if available.

A description of, and copies of notes regarding, the oral examination administered to the shift advisors.

Response: Written and oral examinations administered to the shift advisor are not available at this time. This material and test results will be provided for review as soon as it becomes available.

6. Question: A description of the training program presented to the operating shift crews to assure that they understand the role of the shift advisors.

Response: The memorandum describing the responsibilities and authority of the shift advisor will be discussed with operating shift personnel.

7. Question: A statement regarding the medical qualification requirements for the shift advisors.

Response The PECO Medical Department will examine the shift advisors or review existing medical records in light of the duties and responsibilities assigned to the Shift Advisor in order to assure that the individuals are qualified.

8. Question A description of the procedures that will be used to evaluate the performance of the shift advisors during plant startup

Response The performance of shift advisors will be evaluated by the Operations Engineer. Attachment D to this enclosure is a copy of the evaluation form which will be utilized.

SHIFT SUPERINTENDENT (SA B)

NAME: William N. Barnshaw, Jr.

EDUCATION AND TRAINING

1956 Graduated from Mastbaum Vocational Technical High School in Philadelphia, Pa. - majored in machine design

1957-1959 United States Army-Completed Combat Engineer Training and Airborne Heavy Weapons Infantry Training. Discharged with the rank of Corporal

1960 Mechanical Training Course -Philadelphia Electric Co.

1962-1963 Nuclear Theory and Plant Systems Course, Phase "A" - Philadelphia Electric Co.

1964 Peach Bottom Atomic Power Station Unit 1 (HTGR) "On Site Training Program" - Philadelphia Electric Co.

1966 Health Physics Training Program - Philadelphia Electric Co.

1967-1968 Peach Bottom Atomic Power Station Unit 1 (HTGR) formal preparation for A.E.C. licensing self study program and pre-licensing simulator training

April 1970 Completed the General Electric Company Six Week BWR Simulator Operator Experience Program and BWR Technology Tape Program at General Electric BWR simulator - Morris, Illinois

Nov. 1971 Basic algebra course - Harford Junior College, Harford County, Maryland

1971-1972 In preparation for taking the AEC Senior Operator License (BWR), the following training programs were completed:

- 1) NUS Corporation Nuclear Power Preparatory Training Course
- 2) On-Site Review Classes
- 3) Off-Site Observation Training at Oyster Creek Nuclear Station

- 4) BWR Simulator Refresher Program at General Electric Training Center - Morris, Illinois
- 5) General Physics Corporation Written Audit Examination
- 6) General Electric Company Written and Oral Audit Examinations

12/73-12/79

Participated in the Operator Regualification Program that was initiated on site, at Peach Bottom, in December, 1973 as follows:

- 1) Monthly Reading Assignments
- 2) Monthly Lecture Sessions
- 3) Minimum of ten reactivity changes logged each year
- 4) Annual Written Regualification Examination
- 5) Annual Oral Regualification Examination

Dec. 1975 Fire fighting - two day training course at West Conshohocken - Philadelphia Electric Co. Fire School

Oct. 1976 Management Training - Three day course presented for Philadelphia Electric Company by American Management Association

Nov. 1976 Red Cross multimedia first aid course and annual refresher qualification training - Philadelphia Electric Co.

Feb. 1978 Basic Nuclear Concepts, two week course presented for Philadelphia Electric Co. by NUS Corporation

Feb. 1979 Management Training - two day refresher course presented for Philadelphia Electric Co. by Management Development Programs

Nov. 1979 Solid radwaste burial training - Department of Transportation (DOT) and NRC requirements - presented for Philadelphia Electric Co. by General Physics Corporation

June 1980 Assisted in functional testing and evaluation of the Limerick Simulator for three weeks at Singer Link Corp., Silver Spring, Md.

Sept. 1980 Two weeks on campus at Penn State University operating and training at their test reactor facility

Dec. 1980 Essentials of algebra course - Montgomery County Community College, Montgomery County, Pa.

May 1980 General Physics Corp. Limerick Simulator 12 week Senior License Certification Program

Sept. 1981 Effective writing course (four day), conducted by Thomas McGrath Associates

Dec. 1981 Trigonometry and Communication courses - Drexel University, Limerick extension

Dec. 1980 Two weeks with INPO in Atlanta, Ga. working on supervisory task analysis program

Jan. 1982 Time Management Program (one day) with Cashman Consulting Corp.

March 1982 Management Performance Training Two Day Course presented for Philadelphia Electric Co. by Human Resource Technology, Inc.

April 1982 Participated in two day review of plant start up program at Susquehanna Nuclear Power Station, Berwick, Pa.

April 1982 Limerick Simulator one week requalification program, General Physics Corp.

April 1982 Kepner Tregoe Seminar on Problem Solving and Decision Making (three day)

Oct. 1982 Fire fighting - two day training course at West Conshohocken - Philadelphia Electric Co. Fire School

Jan. 1983 One day trip to Susquehanna Nuclear Power Station, Berwick, Pa. to observe RHR Steam Condensing operation at 42% power

March 1983 Limerick Simulator one week requalification program, General Physics Corp.

July 1983 Attended six weeks of Limerick System design lectures presented by General Physics Corp.

Oct. 1983 "Transient Response Implementation Plan" for Limerick - four day training class presented by General Physics Corp.

- Nov. 1983 "Heat Transfer and Thermodynamics", one week training class presented by General Physics Corp.
- Dec. 1983 Management workshop by Kepner Tregoe on "Conducting Effective Meetings" (one day)
- Dec. 1983 Training class on "Mitigation of Core Damage" (one week) presented by General Physics Corp.
- Annually Cardiopulmonary resuscitation (CPR) training and fire fighting hands-on training - presented by Philadelphia Electric Co.

WORK EXPERIENCE

12/79 to present Shift Superintendent,
Limerick Generating Station

Duties: Directed operating personnel in the performance of developing: system operating procedures; equipment description tagging; alarm response procedures; component blocking procedures; and system routine inspection procedures.

Served as a member of the Plant Operations Review Committee, whose responsibilities included recommending changes to, or final acceptance of the following: plant normal, transient, and emergency operating procedures; station administrative procedures; fuel handling procedures; preventative maintenance procedures; surveillance test and routine inspection procedures.

Participated as the shift operations coordinator whose responsibilities included: review of proposed corrective actions to be taken on plant systems which had been transferred from the construction phase to the operating phase, and authorize such changes, and authorize the scheduling of personnel to support the operation and testing of plant systems during the startup phase of plant development.

Directed station operating personnel during the reactor vessel hydro, system turnover, pre operational tests, flushes, electrical energization of sub stations and plant auxiliary buses and the everyday operation of the plant.

Participated with Stone Webster Corp. in the development and implementation of the Peach Bottom Atomic Power Station 1982 Emergency Plan Exercise.

8/75 - 12/79 Shift Supervisor - Peach Bottom Atomic Power Station, Units 2 & 3 (BWR)

Duties: Second senior licensed operator on shift. Responsible for supervising operating personnel in all aspects of plant operation and administration. Actively participated in and supervised all phases of BWR operations including: reactor start-ups; shutdowns; planned tests; plant transients; refueling operations; liquid radioactive waste releases; and issuance of radiation work permits and safety blocking permits. Occasionally worked as radwaste supervisor, supervising off site shipping of solid radwaste.

2/71 - 8/75 Control Operator - Peach Bottom Atomic Power Station, Units 2 & 3 (BWR)

Duties: Participated in writing operating procedures and working as the control room operator when equipment and systems were placed into service during initial start-up activities and pre-operational testing. Directed plant operations, operated major equipment, performed electrical switching, wrote blocking permits and directed their application and, on a regularly scheduled basis, worked as an assistant control operator at the reactor console manipulating the controls during plant startups, shutdowns or steady state operations.

9/70 - 2/71 Plant Mechanic - Peach Bottom Atomic Power Station Unit 1 (HTGR)

Duties: Performed or directed shift operations outside the control room. These included equipment blocking, system surveillance and operations.

11/68 - 9/70 Mechanical Operator (Reactor Operator) - Peach Bottom Atomic Power Station, Unit 1 (HTGR)

Duties: Manipulated reactor controls during reactor startups, shutdowns, and plant transients. Operated major plant equipment, including reactor fuel handling equipment.

7/68 - 11/68 Health Physics Technician - Peach Bottom Atomic Power Station, Unit 1 (HTGR)

Duties: Qualified for this position in August 1966 and relieved the regular Health Physics Technicians during heavy work loads. Performed routine radiation surveys, prepared and issued Radiation

Work Permits, monitored personnel working on contaminated equipment and in radiation areas, calibrated radiation survey instruments, and analyzed radioactive liquid waste samples in connection with processing of liquid waste for discharge.

10/63 - 7/68 Auxiliary Operator - Peach Bottom Atomic Power Station, Unit 1 (HTGR)

Duties: Participated in the initial plant startup activities and assisted in the work of preparing operating procedures and checking construction progress; operated equipment outside the control room including chlorine handling systems, domestic and demineralized water treatment systems; performed normal equipment surveillance duties; and applied safety blocking.

12/59 - 10/63 Various Positions - Southwark Generating Station

Duties: As auxiliary operator, operated chlorine handling systems, demineralizers, and water treatment systems. As mill operator, operated mills and subsystems and ash and slag removal equipment. As boiler house helper, performed general boiler room duties.

LICENSES AND CERTIFICATES

Sept. 1968	Received AEC Operators License for Peach Bottom, Unit 1 (HTGR)
May 1973	Received AEC Senior Operators License for Peach Bottom Unit 2 (BWR)
June 1974	Peach Bottom Unit 2 Senior Operators License was amended to include Peach Bottom Unit 3.
April 1980	General Electric six week BWR Simulator Certification
May 1981	General Physics twelve week BWR Simulator Senior License Certification

SHIFT SUPERINTENDENT (SA TT)NAME: William TruaxEDUCATION AND TRAINING

1964 John Bartram High School, Philadelphia, Pa., completed the trade curriculum course in Electrical Application, graduating as an honor roll student

1966-1968 United States Marine Corp - Completed Automotive Organizational Maintenance Course - Discharged with the rank of Corporal

1968 Mechanical Training Course and Electrical Training Course - Philadelphia Electric Company

1968 Basic Nuclear Theory Course - Philadelphia Electric Company

1968 On-Site Training Program for Peach Bottom Atomic Power Station, Unit 1 (HTGR) - Philadelphia Electric Company

1969 Health Physics Training Program - Philadelphia Electric Company

Oct. 1969 Peach Bottom Atomic Power Station (HTGR) formal preparation for A.E.C. licensing. Completed on-site pre-license training, pre-license self-study program, and simulator training

May 1970 Completed the General Electric Company BWR operator certification program at the BWR simulator, Morris, Illinois

1970-1973 In preparation for taking reactor operator license (BWR), the following training programs were completed:

- 1) NUS Corporation Nuclear Power Preparatory Training Course
- 2) On-Site Review Classes
- 3) Off-Site Observation Training at Oyster Creek Nuclear Station
- 4) BWR Simulator Refresher Program at General Electric Training Center - Morris, Illinois (Feb. 1973)

5) General Physics Corporation Written Audit Examination

6) General Electric Company Written and Oral Audit Examinations

12/73-12/81 Participated in the Operator Requalification Program that was initiated on site, at Peach Bottom, in December, 1973 as follows:

- 1) Monthly Reading Assignments
- 2) Monthly Lecture Sessions
- 3) Minimum of ten reactivity changes logged each year
- 4) Annual Written Requalification Examination
- 5) Annual Oral Requalification Examination

1978 BWR Senior Operator License Training Program conducted on site by General Physics Corporation

1979 Red Cross CPR Instructors Certification Course

1979 Management Training - Course presented for Philadelphia Electric Company by American Management Association (three day)

Jan. 1980 BWR Operators Simulator Requalification Program presented by General Physics Corporation at TVA Simulator Training Center

Aug. 1981 BWR SRO Training Course conducted by General Physics Corp. at the Limerick Training Center (12 week)

Nov. 1981 Management development course at Philadelphia Electric Company (two day)

Dec. 1981 Completed one semester of Algebra and Fundamental English administered by Drexel University at the Limerick extension

Dec. 1981 Participated for 2 weeks on a team to develop task analysis computer codes. The program was directed by the Institute of Nuclear Power Operations for generic BWR plant operations.

Jan. 1982 Supervisory workshop on "Time Management" (one day)

March 1982 Completed two day management training program, "Phase III, Managing Performance"

March 1982 Attended one day formalized critique session dealing with the findings of the TMI accident investigation conducted by General Physics Corp

April 1982 Completed one semester of college Trigonometry administered by Drexel University at the Limerick extension

April 1982 Participated in two day review of Plant Startup Program at Susquehanna Nuclear Power Station

May 1982 Kepner Tregoe seminar on Problem Solving decision making (three day)

Feb/June 1982 Participated in the development and implementation of the Peach Bottom Atomic Power Station Emergency Plan, drill senario's, and demonstration exercise

July 1982 Completed two week training course conducted by Penn State University at the Nuclear Reactor Test Facility on Penn State main campus

Sept. 1982 Attended one week simulator refresher course conducted by General Physics Corp. at the Limerick Training Center

Oct. 1982 Completed two days of class room and practical application in fire fighting at West Conshohocken Fire School

Aug. 1983 Attended one week simulator refresher course conducted by General Physics Corp. at the Limerick Training Center

Sept. 1983 Conducted simulator walk-throughs and oral exams to evaluate license operator candidates strengths and weaknesses subsequent to their 12 week certification training program

Sept. 1983 Attended one day management workshop by Kepner Tregoe on "Conducting Effective Meetings"

Sept. 1983 Completed one week of review training in the performance of "Transient Response Implementation Plan" procedures at the Limerick Generating Station Simulator

Nov. 1983 Completed 6 weeks of training conducted by General Physics Corp. to review the latest design aspects

of systems being incorporated at the Limerick
Generating Station

WORK EXPERIENCE

3/81 to present Shift Superintendent,
Limerick Generating Station

Duties: Directed operating personnel in the performance of developing: system operating procedures, equipment description tagging, alarm response procedures, component blocking procedures, and system routine inspection procedures.

Served as a member of the Plant Operations Review Committee, whose responsibilities included recommending changes to, or final acceptance of the following: plant normal, transient, and emergency operating procedures, station administrative procedures, fuel handling procedures, preventative maintenance procedures, surveillance test and routine inspection procedures.

Participated as the shift operations coordinator whose responsibilities included: review of proposed corrective actions to be taken on plant systems which had been transferred from the construction phase to the operating phase, and authorize such changes; and authorize the scheduling of personnel to support the operation and testing of plant systems during the startup phase of plant development.

Directed station operating personnel during the reactor vessel hydro, system turnover, pre operational tests, flushes, electrical energization of sub stations and plant auxiliary buses and the everyday operation of the plant.

Participated with Stone Webster Corp. in the development and implementation of the Peach Bottom Atomic Power Station 1982 Emergency Plan Exercise.

8/75 - 2/81 Control Operator - Peach Bottom Atomic Power
Station, Units 2 & 3 (BWR)

Duties: In charge of control room activities and directed floor operators during shift operations. Operated major equipment, performed electrical switching, and wrote safety blocking directed their application. On a regular basis, worked as Assistant Control Operator at the reactor console

manipulating controls during plant startups, shutdowns, and steady-state operations. Frequently acted as a coordinator between the operations group and construction and maintenance forces during equipment and system shutdowns to ensure that repairs and tests were performed in compliance with plant Technical Specifications. As a Senior Licensed Operator, occasionally filled in as Shift Supervisor responsible for operating personnel in all aspects of plant operation and administration. Performed as Senior Licensed Operator in charge of refueling operations. Operated refueling bridge.

2/71 - 8/75 Assistant Control Operator - Peach Bottom Atomic Power Station, Units 2 & 3 (BWR)

Duties: Participated in writing original operating procedures for systems and plant startup. Worked with constructing forces during the pre-operational testing phase. Worked as fuel handling bridge operator during initial fuel loading and subsequent outages. Manipulated the reactor controls during reactor startups, shutdowns, and plant transients. Operated major equipment during all phases of operation.

10/69 - 12/70 Mechanical Operator (Reactor Operator) - Peach Bottom Atomic Power Station, Unit 1 (HTGR)

Duties: Manipulated reactor controls during reactor startups, shutdowns, and plant transients. Operated major plant equipment, including reactor fuel handling equipment.

1969 Health Physics Technician - Peach Bottom Atomic Power Station, Unit 1 (HTGR)

Duties: Performed routine radiation surveys, prepared and issued Radiation Work Permits, monitored personnel working on contaminated equipment and in radiation areas, calibrated radiation survey instruments, and analyzed radioactive liquid waste samples.

9/58 - 10/69 Auxiliary Operator - Peach Bottom Atomic Power Station, Unit 1 (HTGR)

Duties: Operated equipment outside the control room, including chlorine handling systems, domestic and demineralized water treatment systems; performed normal equipment surveillance duties; and removed equipment from service for the application of safety blocking.

2/65 - 9/65 Auxiliary Boiler House Operator - Richmond
Generating Station

Duties: Acted as a support operator during all operational phases for various types of fossil-fueled boilers at Richmond Generating Station. As mill operator, operated various fossil fuel handling systems, such as coal pulverizers and ash removal equipment. Performed general duties, such as lubrication and cleaning of rotating equipment.

LICENSES AND CERTIFICATES

Oct. 1969	Received A.E.C. Operators License for Peach Bottom Atomic Power Station, Unit 1 (HTGR)
Feb. 1973	Received General Electric Co. BWR 12 week training certificate
May 1973	Received A.E.C. Operators License for Peach Bottom Atomic Power Station, Unit 2 (BWR)
April 1974	Operators License Amended to include Peach Bottom Atomic Power Station, Unit 3 (BWR)
Sept. 1978	Received NRC Senior Operators License for Peach Bottom Atomic Power Station, Units 2 & 3 (BWR)
Aug. 1981	Received General Physics Corp. SRO cold license operator training certificate

SHIFT SUPERVISOR

OUTAGE PLANNING, BLOCKING COORDINATOR (SA SS)

Name: Frederick L. Shanaman Jr.

EDUCATION AND TRAINING

- 1951 Graduated from Norristown Senior High School, Norristown, PA specializing in Electrical Vocational.
- 1953-1955 United States Army Signal Corps. Completed Telephone Installation Training. Discharged with rank of Specialist 3rd Class.
- 1957 Mechanical Training Course - Philadelphia Electric Company.
- 1962-1963 Nuclear Theory and Plant Systems Course Phase "A" - Philadelphia Electric Company.
- 1964 Peach Bottom Atomic Power Station Unit 1 (HTGR) "On Site Training Program" - Philadelphia Electric Company.
- 1964 Electrical Training Course - Philadelphia Electric Company.
- 1965 Health Physics Training Program.
- 1967-1968 Peach Bottom Atomic Power Station Unit 1 (HTGR) formal preparation for A.E.C. licensing self study program and pre-licensing simulator training.
- 1968 Mechanical Operator Training - Philadelphia Electric Company.
- 1969 Plant Mechanic Training - Philadelphia Electric Company.

- 1969 BWR Technology Tape Program.
- 1970 BWR Simulator Training, Morris, Illinois.
- 1971-1972 In preparation for taking the AEC Senior Operator License (BWR), the following training programs were completed:
1. NUS Corporation Nuclear Power Preparatory Training Course.
 2. On-Site Review Classes.
 3. Off-Site Observation Training at Oyster Creek Nuclear Station
 4. BWR Simulator Refresher Program at General Electric Training Center, Morris, Illinois.
 5. General Physics Corporation Written Examination.
 6. General Electric Company Written and Oral Audit Examinations.
- 1973-1981 Participated in Operator Requalification Program that was initiated on site, at Peach Bottom in December, 1973.
1. Monthly Reading Assignments
 2. Monthly Lecture Sessions
 3. Minimum of ten reactivity changes per year.
 4. Annual Written Requalification Examination.
 5. Annual Oral Requalification Examinations.
- 1973 Fire Equipment Familiarization - Philadelphia Electric Company.
- 1973 One week BWR Simulator and On-Shift Training, Morris, Illinois.

- 1976 Management Training - Three day course presented for Philadelphia Electric Company by American Management Association.
- 1976 Cardiopulmonary Resuscitation (CPR) - Philadelphia Electric Company.
- 1976,1980, American Red Cross Standard Multimedia First Aid -
1984 Philadelphia Electric Company.
- 1977-1981 First Aid Proficiency Review - PECO Nuclear Training Section.
- 1977-1979 Fire Equipment Familiarization - PECO Methods & Training Section.
- 1978 Fire Brigade Training (2 day) - West Conshohocken Gas Plant.
- 1979 Management Training - two day refresher course presented for Philadelphia Electric Co. by Management Development Programs.
- 1979 Solid radwaste burial training - Department of Transportation (DOT) and NRC requirements presented for Philadelphia Electric Company by General Physics Corporation.
- 1980 BWR Operators Simulator Requalification Program presented by General Physics Corporation of TVA Simulator Training Center.
- 1981 BWR Operators Simulator Requalification Program presented by General Physics Corporation at Limerick Training Center.
- 1981 Fire Apparatus Training and Fire Practice Session - Philadelphia Electric Company.
- 1983 Fitness for Duty and Supervisory Training Seminar presented by Gilbert Commonwealth and PECO Nuclear Training Section.

WORK EXPERIENCE

12/81 to
present

Outage Planning and Shift Operations
Coordination - Peach Bottom Atomic
Power Station, Units 2 & 3 (BWR)

Duties: Coordinates the efforts between
Maintenance and shift operations, placing emphasis
on permit and blocking procedures in the removal of
systems and equipment from service.

7/74-12/81

Shift Supervisor - Peach Bottom Atomic Power
Station, Units 2 & 3 (BWR)

Duties: Second senior licensed operator on shift.
Acted as the assistant to the Shift Superintendent
in directing overall plant operations and
administration. If the Shift Superintendent was
not available, authorized liquid and gaseous
radioactive waste releases and issuance of
radiation work permits and equipment safety
blocking permits. Was cognizant of plant operating
parameters, plant equipment, control and chemistry
problems and administrative requirements with
respect to plant operations. Personally supervised
any unusual plant operations, monitored and
directed shift activities during power level
changes including startups and shutdowns, and
troubleshooted any problems which developed.

Participated in the Operator Regualification
Program and in all phases of BWR operations
including startups, shutdowns, planned tests, and
plant transients. Contributed to training programs
by discussing with shift personnel and trainees the
operating procedures, administrative procedures,
plant operating characteristics, and plant
experiences.

2/71-7/74

Control Operator - Peach Bottom Atomic Power
Station, Units 2 & 3 (BWR)

Duties: Writing procedures, working as control
room operator when equipment and systems were
placed into service and underwent preoperational
tests.

10/70-2/71 Chief Operator - Peach Bottom Atomic Power Station,
Unit 1 (HTGR)

Duties: Directed shift plant operations and operated major equipment. Was aware of plant problems and maintenance work, wrote blocking permits, and directed their application.

7/69-10/70 Plant Mechanic - Peach Bottom Atomic Power Station,
Unit 1 (HTGR)

Duties: Performed or directed shift operations outside the control room. This included equipment blocking, surveillance, and operations.

7/68-7/69 Mechanical Operator - Peach Bottom Atomic Power
Station - Unit 1 (HTGR)

Duties: Operated major plant equipment including the nuclear reactor and fuel handling machinery.

7/65-7/68 Health Physics Technician - Peach Bottom Atomic
Power Station, Unit 1 (HTGR)

Duties: Performed routine radiation surveys, prepared and issued radiation work permits and monitored personnel working on contaminated equipment or in radiation areas. Analyzed radioactive liquid waste samples in connection with processing of liquid waste for discharge.

10/63-7/65 Auxiliary Operator - Peach Bottom Atomic Power
Station, Unit 1 (HTGR)

Duties: Operated equipment outside the control room during all phases of plant operation, performed normal equipment surveillance duties, and applied safety blocking to low voltage equipment.

1955-10/63 Operator - Barbadoes Generating Station

LICENSES AND CERTIFICATES

Jan. 1968	Received AEC Operators Licnese for Peach Bottom Unit 1 (HTGR).
1970	BWR Simulator Certification, General Electric Corporation.
May 1973	Received AEC Senior Operator License for Peach Bottom Unit 2 (BWR).
Jan. 1973	General Electric BWR Simulator Refresher Certification.
June 1974	Peach Bottom Unit 2 Senior Operators License amended to include Peach Bottom Unit 3.

SHIFT SUPERINTENDENT
SUPERVISING MAINTENANCE ACTIVITIES COORDINATOR (SA S)

Name: Daniel H. Sparks

EDUCATION AND TRAINING

1943 Graduated from Masbaum Vocational Technical High School in Philadelphia, PA specializing in automotive mechanics.

1943-1946 United States Army Basic Training. Discharged with rank of Corporal.

1960 Mechanical and Electrical Training Courses - Philadelphia Electric Company.

1963 Nuclear Theory and Plant Course Phase "A" - Philadelphia Electric Company.

1964 Peach Bottom Atomic Power Station, Unit 1 (HTGR) "On Site Training Program" - Philadelphia Electric Company.

1966 Peach Bottom Atomic Power Station, Unit 1 (HTGR) - formal preparation for AEC license self study program and pre-licensing simulator training.

1967 In preparation for certification as Senior Licensed Operator (Unit 1 HTGR) completed

 1. Pre-License Training

 2. Pre-License Simulator Training

1970 G.E. Simulator & On-Shift Training, Morris, Illinois.

1971-1972 In preparation for taking the AEC Senior Operator License (BWR), the following training programs were completed:

1. NUS Corporation Nuclear Power Preparatory Training Course.
2. On-Site Review Classes.
3. Off-Site Observation Training at Oyster Creek Nuclear Station
4. BWR Simulator Refresher Program at General Electric Training Center, Morris, Illinois.
5. General Physics Corporation Written Examination.
6. General Electric Company Written and Oral Audit Examinations.

1971 Nine Mile Point Observation Training.

1973-1979 Participated in Operator Requalification Program that was initiated on site, at Peach Bottom in December, 1973.

1. Monthly Reading Assignments
2. Monthly Lecture Sessions
3. Minimum of ten reactivity changes per year.
4. Annual Written Requalification Examination.
5. Annual Oral Requalification Examinations.

1973,1975
1977 Fire Equipment Familiarization Program (Fire Apparatus Training and Fire Practice Session)- Philadelphia Electric Company's Methods and Training Section.

1975 Multimedia Standard First Aid - Philadelphia Electric Company.

1976 Fire Brigade Training (2 day) - West Conshohocken Gas Plant.

1976 Management Training - Three day course presented for Philadelphia Electric Company by American Management Association.

- 1978 & 1982 Cardiopulmonary Resuscitation and First Aid Proficiency Review - Philadelphia Electric Company.
- 1979 Management Training - Two day refresher course presented for Philadelphia Electric Company by Management Development Programs.
- 1980 Resource Conservation and Recovery Act Program presented by Western Designer Consultants.
- 1981 Control Rod Drive School (2 weeks) presented by General Electric Company.
- 1983 Fitness for Duty and Supervisory Training Seminar presented by Gilbert Commonwealth and PECO Nuclear Training Section.
- 1983 One day trip to Susquehanna Nuclear Power Station, Berwick, PA to observe housekeeping practices.

WORK EXPERIENCE

- 12/79 to present Supervising Maintenance Activities Coordinator - Peach Bottom Atomic Power Station, Units 2 & 3 (BWR)
- Duties: Reviews, authorizes and coordinates maintenance work activities; supervises the Janitorial/Building Maintenance Group; coordinates vendors, stores, and spare parts group activities; aids in the preparation of the maintenance budget and expense authorizations; organizes preventive maintenance packages for plant systems and equipment; and investigates and resolves recurring maintenance problems.
- 7/74-12/79 Shift Superintendent - Peach Bottom Atomic Power Station, Units 2 & 3 (BWR)
- Duties: Assumed overall administration of operations, as well as outage work in the nuclear and conventional portions of the plant. Responsible for radioactive liquid and gaseous releases and issuance of radiation work and

equipment safety blocking permits. Participation in all phases of BWR operations included system checkouts on Units 2 & 3, startups, shutdowns, planned tests, and plant transients. Participated in the Operator Requalification Program during his license period; supervised reactor startups for training, as well as normal shift operations; and contributed to training programs by discussing with shift personnel and trainees the operating procedures, administrative procedures, plant operating characteristics, and plant experiences.

2/71-7/74 Shift Supervisor - Peach Bottom Atomic Power Station, Units 2 & 3 (BWR)

Duties: Writing procedures and directing shift operations on the BWR units as equipment and systems were placed into service and underwent preoperational tests.

7/68-2/71 Shift Supervisor - Peach Bottom Atomic Power Station, Unit 1 (HTGR)

Second senior licensed operator on shift. Acted as the assistant to the Shift Superintendent in directing overall plant operations and administration. If the Shift Superintendent was not available, authorized liquid and gaseous radioactive waste releases and issuance of radiation work permits and equipment safety blocking permits. Was cognizant of plant operating parameters, plant equipment, control and chemistry problems and administrative requirements with respect to plant operations. Supervised any unusual plant operations, monitored and directed shift activities during power level changes, including startups and shutdowns, and troubleshooted any problems which developed.

9/63-7/68 Chief Operator - Peach Bottom Atomic Power Station, Unit 1 (HTGR)

Duties: Directed shift plant operations and operated major equipment. Was aware of plant problems and maintenance work; wrote and directed the application of blocking permits; and, under the

direction of a licensed operator, observed and performed low level reactor power changes.

1/48-9/63 Various Positions - Richmond Generating Station

Duties: Progressed through positions of boiler room helper, pulveriser operator, assistant boiler operator, stoker operator, water tender, and boiler operator. Duties included operation of boiler plant equipment and operation of three different types of steam generators.

CERTIFICATES AND LICENSES

Dec. 1966 Received AEC Operator License for Peach Bottom Unit 1 (HTGR).

Jan. 1968 Received AEC Senior Operator License for Peach Bottom Unit 1 (HTGR).

1970 General Electric BWR Simulator Certification.

May 1973 Received BWR Senior Operator License for Peach Bottom Unit 2.

April 1974 Peach Bottom Unit 2 Senior Operators License was amended to include Peach Bottom Unit 3.

PHILADELPHIA ELECTRIC COMPANY
ELECTRIC PRODUCTION DEPARTMENT
LIMERICK GENERATING STATION

August 10, 1984

FROM: G. M. Leitch
TO: J. Doering
Shift Supervision
Shift Operating Personnel
SUBJECT: Responsibilities and Duties of Shift Advisor

The NRC has required that all operating shift crews have adequate previous "hot" operating experience. In order to provide this experience, in certain cases, shift advisors will be utilized to bring to bear BWR operating experience in the initial operation of Unit 1.

The purpose of this memorandum is to define the role of the shift advisors. If there are any questions concerning this matter, please contact Jay Doering for clarification.

This memorandum establishes the primary responsibilities, duties and working relationships of the Shift Advisor.

1. Responsibilities:

- a. To provide advisory support to the operating shift crew. The Shift Advisor will review and assess the impact of significant shift activities that are scheduled or in progress and will keep control room personnel apprised of any potential problem areas. The Shift Advisor should be involved in significant shift operating decisions and recommend appropriate actions (including plant shutdowns).
- b. To provide technical and administrative support to the Shift Technical Advisor, Shift Supervision and the Operations Engineer.

2. Limitations:

- a. Responsibilities will not include direct manipulation of equipment.
- b. Responsibilities will also not include supervision of licensed operators in assignments which require an operator's license.

3. Duties:

The Shift Advisor duties will include the following tasks:

- a. Review and assess the impact of significant shift activities.
- b. Review startup procedures planned for the shift.
- c. Research any potential problems involving Technical Specifications and provide input based upon his experience.

The Shift Advisor duties may include the following tasks:

- a. Review shift turnover checklists.
- b. Review control room logs.
- c. Review equipment status in the Control Room.
- d. Assist in review of plant problem reports.
- f. Participate in shift turnover and shift briefings.
- g. Other tasks assigned by Shift Supervision.

4. Working Relationships

- a. The Shift Advisor assigned to a shift will report directly to the Shift Superintendent during normal operation and plant testing, and to the Shift Technical Advisor (STA) during any plant emergency. The Shift Advisor will also work closely with all operations personnel as necessary to perform his duties.
- b. Shift Advisors not assigned to shift will report directly to the Operation Engineer.
- c. The Shift Advisor will report any disagreements that cannot be resolved with the Shift Superintendent (which may affect safe operation of the plant) to the Operations Engineer or other appropriate plant management.

5. Miscellaneous

- a. At least one Shift Advisor shall be on duty on each shift whenever the reactor is not in a cold shutdown condition and adequate previous operating experience is not available on the shift.

- b. In case of illness or otherwise, the "on shift" Shift Advisor will make arrangements for relief. The "on shift" person will stay until relieved.
- c. It should be understood that the Shift Advisors bear no direct responsibility for the operating crews actions.



G. M. Leitch
Superintendent

CRE:lkr

SHIFT ADVISOR TRAINING PROGRAM

SCHEDULE AND OUTLINE

<u>Week # 1</u>	<u>Morning</u>	<u>Afternoon</u>
Monday 8/6/84	Introduction LGS Tech Specs S-Procedures Reactor Vessel Instrumentation Barrier Fuel, Control Cell Core	Reactor Recirculation
Tuesday 8/7/84	Primary Containment Suppression Pool CRD Hydraulics	Rod Drive Control System RSCS RWM
Wednesday 8/8/84	Fission Chamber Ops SRM's IRM's	LPRM's APRM's TIP RBM
Thursday 8/9/84	RPS, UPS RRCS	SBLC Fuel Pool Cooling & C/U
Friday 8/10/84	Containment Atm. Control Drywell Ventilation and Chill Water Secondary Containment Reactor Enclosure Vent	RERS SBGT Exam

<u>Week #2</u>	<u>Morning</u>	<u>Afternoon</u>
Monday 8/13/84	Examination LOCA Criteria HPCI RCIC	Core Spray RHR
Tuesday 8/14/84	General Employee Training Simulator Systems	Simulator Systems
Wednesday 8/15/84	Main Steam & SRV's MSIV - LCS	Auxiliary Steam Steam Seal Evaporator Steam Packing Exhauster
Thursday 8/16/84	Main Turbine MTLO	EHC Hydraulics EHC Logic
Friday 8/17/84	Main Condenser Cooling Towers Circulating Water	SJAE Off-Gas Exam

<u>Week #3</u>	<u>Morning</u>	<u>Afternoon</u>
Monday 8/20/84	Examination Condensate & Demins Feedwater & FWLC	Extraction Steam Cascading Drains
Tuesday 8/21/84	Main Generator & Auxiliary Diesel Generator & Auxiliary Electrical Distribution AC DC	Simulator Systems
Wednesday 8/22/84	Service Water Emergency Service Water RHRSW Spray Pond	Simulator Systems
Thursday 8/23/84	Plant Air Refuel Bridge TECW RECW	Simulator Systems
Friday 8/24/84	Remote Shutdown Panel Process Computer Fire Protection	Review Exam

<u>Week #4</u>	<u>Morning</u>	<u>Afternoon</u>
Monday 8/27/84	Examination Plant Tour (2 hours) General Procedures Technical Specifications	Simulator IC-1 Startup Snapshot at end of day
Tuesday 8/28/84	Admin. Procedures Technical Specifications	Simulator One IC-30 S/U Continue IC-1 S/U
Wednesday 8/29/84	Plant Tour (2 hours) Emergency Procedures	Simulator IC-30 S/U Perform ECCS, D/G ST's Low Power Operations Minor Malfunctions
Thursday 8/30/84	Fuel Handling Procedures Health Physics Procedures	Simulator IC-30 S/U PCIOMR
Friday 8/31/84	Plant Tour (2 hours) ON'S & Bases	Simulator Hot S/U Minor Transients Consistent with ON's Exam

<u>Week #5</u>	<u>Morning</u>	<u>Afternoon</u>
Monday 9/3/84 LABOR DAY	HOLIDAY	HOLIDAY
Tuesday 9/4/84	Examination Plant Tour OT's & Bases	Simulator Team Training Consistent with OT's
Wednesday 9/5/84	TRIP's & Bases	Simulator TRIP's
Thursday 9/6/84	Plant Tour TRIP's & Bases	Simulator TRIP's
Friday 9/7/84	TRIP's & Bases	Simulator TRIP's Exam

<u>Week #6</u>	<u>Morning</u>	<u>Afternoon</u>
Monday 9/10/84	Examination Simulator Integrated Plant and Transients	Simulator Integrated Plant and Transients
Tuesday 9/11/84	NSSS RWCU	Simulator Integrated Plant and Transients
Wednesday 9/12/84	Area Rad Monitors Process Rad Monitors General System Review	Simulator Integrated Plant and Transients
Thursday 9/13/84	Review for Exam	Review for Exam
Friday 9/14/84	Written Exam	Oral Exam

<u>Category</u>	<u>Criteria</u>	<u>*Rating</u>
Tech Specs	Does the Individual demonstrate the ability to convert his knowledge of general plant technical specification into advice concerning LCO and surveillance requirements and problems.	_____
Plant Response	Individual demonstrates knowledge of anticipated integrated plant response to normal and abnormal plant operations.	_____
Procedures	Individual demonstrates knowledge of the interrelationship of Operating and Administrative Procedures with daily plant operations.	_____
Communications	Individual demonstrates ability to interface with shift compliment and communicate his concerns/advice.	_____
Leadership	Individual demonstrates leadership capabilities representative of the Shift Advisors role.	_____
Problem Analysis	Individual demonstrates ability to evaluate seemingly normal plant evolutions with regard to potential operating problems.	_____
Radiation/Systems	Individual demonstrates an understanding of the interrelationship of plant systems and the potential for radiation hazards resulting from normal or abnormal plant operations.	_____
Experience	Individual demonstrates the ability to convert previous expereinces into advice regarding on going plant operations.	_____

Areas needing improvement:

The following areas have been discussed with the individual as areas needing improvement.

Signature (Operations Engineer) _____ Date _____

Signature (Shift Advisor) _____ Date _____

* Ratings 1 (needs major improvement) to 5 (outstanding).
Attach extra sheets explaining ratings other than 2, 3, 4.