NOV 28 1988

Docket No. 50-352

Philadelphia Electric Company
ATTN: Mr. C. A. McNeill
Executive Vice President
Nuclear
Correspondence Control Desk
P.O. Box 7520
Philadelphia, PA 19101

Gentlemen:

Subject: Licensee Requested Meeting Concerning Limerick Unit 1 Fuel Handlers License

This letter transmits the NRC report of the meeting held on November 2, 1988 in the Region I office, King of Prussia, Pennsylvania. This meeting was requested to discuss the plan and schedule for Limited Senior Reactor Operator (LSRO) license examinations for the fuel handler candidates at Limerick Unit 1 to be administrated on January 3-5, 1989.

No reply to this letter is required. Thank you for your cooperation.

Sincerely,

ROBERT M. GALLO

Robert M. Gallo, Chief
Operations Branch
Division of Reactor Safety

Enclosure and Attachments 1 and 2

cc w/encl. and Attachments 1 and 2:
John S. Kemper, Sr., Senior Vice President - Nuclear
E. C. Kistner, Chairman, Nuclear Review Board
Graham M. Leitch, Vice President, Limerick Generating Station
J. W. Gallagher, Vice President - Nuclear
Troy B. Conner, Jr., Esquire
Eugene J. Bradley, Esquire, Assistant General Counsel
W. M. Alden, Director, Licensing Section
Public Document Room (PDR)
Local Public Document Room (LPDR)
Nuclear Safety Information Center (NSIC)
NRC Resident Inspector
Commonwealth of Pennsylvania

IE42
1/1

OFFICIAL RECORD COPY LIM1 FUEL HANDLERS - 0001.0.0
11/10/88

bcc w/encl. and Attachments 1 and 2
Region I Docket Room (with concurrences)
Management Assistant, DRMA (w/o encl)
Section Chief, DRP
Robert J. Bores, DRSS

NOTE: The Enclosure is the Meeting Summary Rpt.

RI:DRS	RI:DRS	RI:DRS
Pullani	Lapp	Gallo
11/14/88	11/23/88	11/27/88

OFFICIAL RECORD COPY LIM1 FUEL HANDLERS - 0001.1.0
11/10/88

U.S. NUCLEAR REGULATORY COMMISSION
REGION I
MEETING SUMMARY

Docket No. 50-352

License No. NPF-39

Licensee: Philadelphia Electric Company
ATTN: Mr. C. A. McNeill
Executive Vice President
Nuclear
Correspondence Control Desk
P.O. Box 7520
Philadelphia, PA 19101

Facility Name: Limerick Generating Station, Unit 1

Meeting at: NRC Region I Office, King of Prussia, PA

Meeting Date: November 2, 1988

1. Introduction

The meeting requested by the facility licensee discussed the plan and schedule for the Limited Senior Reactor Operator (LSRO) license examinations for fuel handler candidates at Limerick 1 to be given on January 3-5, 1989.

2. Meeting Attendees

1.1 Nuclear Regulatory Commission (NRC)

T. Fish, Operations Engineer
A. Howe, Sr. Operations Engineer
D. Lange, Chief, BWR Section
S. Pullani, Sr. Operations Engineer

1.2 Philadelphia Electric Company (PECO)

W. Barnshaw, Schedule/Qualifications Administrator
J. Doering, Superintendent - Operations
E. Firth, Superintendent - Training

3. Purpose of Meeting

The purpose of the meeting was to discuss the plan and schedule for the LSRO license examinations to be administered to the Limerick 1 fuel handler candidates on January 3-5, 1989. (See Attachment 1 for details of Agenda).

4. Licensee Presentation

The licensee presented the detailed plan for the examination including the proposed training program, reference material requirement for the preparation of the NRC written and walk-through examinations, qualification and experience of the candidates, administrative requirements for the interface between the fuel handlers (5 General Electric employees) and the PECO Operations group and proposed examination date. The details of the plan are presented in Attachment 2. This was followed by a discussion session which arrived at the following conclusion:

5. Conclusions

a. The written examination is to be given on January 3, 1989 and the operating test (oral/plant walk-through to be given on January 4 and 5, 1989.

b. The examinations and the LSRO licenses will be for Unit 1 only. To extend the licenses to Unit 2, they must be amended later after satisfying all the requirements.

c. The scope of the training reference material was developed after performing a Job Task Analysis (JTA) specific to the fuel handlers job requirements and identifying the associated Knowledge/Abilities (K/A). The training material will also meet the requirements for the preparation of NRC examinations. The licensee presented a set of the reference material to the NRC at the meeting. The licensee stated that the material presented generally satisfies the above criteria. However, they will further review it to include any additional material (for e.g., EOP for fuel handling accident, inadvertent criticality, loss of fuel pool level, additional Administrative Procedures for shift rotation, interface with PECO operations, etc.).

d. The written examination will be approximately 4-6 hours duration and the operating tests about 3 hours.

e. Access to the refueling floor and refueling bridge will be necessary to conduct the operating examinations. Those control room systems and in plant systems, associated with refueling operations, will also be evaluated during the operating examinations.

f. The candidates' applications, including medical certificates are to be received in Region I by December 16, 1988.

ATTACHMENT 1

SRO LIMITED LICENSE (REFUEL FLOOR) MEETING

FOR LIMERICK GENERATING STATION

Time: 1330 - 1500 Location: NRC Region I Headquarters

Date: November 2, 1988

AGENDA

- Participant Introduction and Involvement in Process (NRC/PECo)
- Brief discussion of NRC of SRO Limited Licensing Process and recent effort to examine PBAPS Refuel Floor SRO's (NRC)
- LGS Analysis of Training Required/Proposed Training Program by LGS to prepare candidates (PECo)
- Reference Material for NRC use (PECo)
- Brief discussion of proposed General Electric Company SRO Candidates and their qualifications (PECo)
- Administrative Requirements for meshing General Electric's SRO's on Refuel Floor together with PECo's Operations Group (PECo)
- Proposed Examination Date and NRC Examination Layout for that week (NRC)
- Question and Answers for clarification (NRC/PECo)

Proposed Attendees:	PECo (LGS)	NRC
	J. Doering (OPS Superintendent)	R. Gallo
	L. Hopkins (Asst. OPS Superintendent)	D. Lange
	E. Firth (Superintendent-Training)	S. Pullani
	W. Barnshaw (SRO/Ex-Superintendent)	

ATTACHMENT 2

PHILADELPHIA ELECTRIC COMPANY
LIMERICK GENERATING STATION
LIMITED SENIOR REACTOR OPERATOR
PROGRAM DESCRIPTION

I. INTRODUCTION

Routine tasks performed by the Senior Reactor Operator (SRO) were identified and verified by subject matter experts, and provide the basis for the NRC Licer Training Program. Refueling tasks were selected from the SRO Task Analysis and were used to design and develop the training curriculum (See Attachment A). Upon completion of this training program, the operator will be able to perform the required evaluations safely and efficiently, and the plant will be operated without danger to personnel or equipment.

Academic training will provide the theoretical knowledge base required to enable the operator to understand and respond to tasks associated with abnormal conditions. Since all abnormal conditions cannot be accurately predicted, the operator must rely on his/her theoretical knowledge base to recognize and diagnose the abnormal or emergency condition, and take steps necessary to mitigate the event.

II. GOALS/OBJECTIVES

The goals of this program are to prepare the operator to perform the following duties and responsibilities:

A. Shall be responsible for ensuring that all procedures being used for core alterations are being complied with.

B. Shall supervise the proper completion of all Core Component Transfer Authorization Sheets.

C. Shall direct and supervise the Health Physics qualified personnel in the absence of the Health Physics supervision.

D. Shall direct and supervise all operators assigned to the refuel floor.

E. Shall determine the proper corrective action and direct the fuel handling crew should an abnormal event or an abnormal instrument response occur.

F. Shall be responsible for the completion of the Refueling Platform and SRM core monitoring check list prior to initial fuel handling and as early as practical on subsequent shifts.

G. Shall be responsible for review of the prerequisites to the Fuel Movement and Core Alteration procedure to assure that all prerequisites are met during core alterations.

H. Shall be responsible for completion of the Daily SRM Operability Test.

I. Shall be responsible for completion of the Weekly Refueling Interlock Function Test.

J. Shall direct the updating of the fuel pool and reactor tag boards.

The objectives of this program is to qualify participants to perform the tasks identified for the Limited Senior Reactor Operator (LSRO) position.

III. PREREQUISITES

A. Candidates should be badged at Limerick Generating Station.

B. Candidates shall have successfully completed a SRO Certification Program.

C. Candidates shall have successfully completed a Refueling Floor Technical Director/Coordinator course (See Attachment B).

IV. LISTING OF COURSES

A. Theory (Attachment C)

B. Systems (Attachment D)

C. Procedures (Attachment E)

D. Technical Specifications (Attachment F)

E. Refueling Floor Technical Director/Coordinator Refresher Lab (Attachment G)

F. Refueling Floor O.J.T. (Attachment H)

V. TRAINING SCHEDULE (ATTACHMENT I)

ATTACHMENT A

LGS CROSS REFERENCE MATRIX FOR LIMITED SENIOR REACTOR OPERATOR

**2010030203 CONDUCT REFUELING INTERLOCKS FUNCTIONAL TEST/CONTROL ROD DRIVE MAINTENANCE TEST (SUPERVISE) [DIAGNOSTIC]

FH-105	ST-6-107-630-1	RT-3-097-402-0	LSR-0760 LSR-1573

**2010120203 REPLACE A CONTROL ROD DRIVE BLADE (SUPERVISE)

FH-301	ST-6-107-632-1	LSR-0760 LSR-0060 LSR-1573

**2330150103 LOWER REFUELING POOL LEVEL (FUEL TRANSFER CANAL) AS A SRO ON THE REFUEL FLOOR (AUTHORIZE) [DIAGNOSTIC]

S53.4.A LSR-0760

**2340010203 PERFORM ROUTINE BRIDGE AND GRAPPLE CHECKS (SUPERVISE) [DIAGNOSTIC]

RT-3-097-402-0

**2340020203 VERIFY CORRECT CORE CONFIGURATION [DIAGNOSTIC]

LSR-0020
LSR-0760

**2340030103 OPERATE THE REFUELING MACHINE/MAIN FUEL HANDLING BRIDGE (SUPERVISE)

FH-105	S97.0.A S97.0.B S97.0.C S97.0.D S97.0.E S97.0.F S97.0.G	LSR-0760

**2340070103 OPERATE THE AUXILIARY FUEL HANDLING BRIDGE MANIPULATING CRANE (SUPERVISE)

S97.0.B LSR-0760

**3410290303 SUPERVISE REFUELING OPERATIONS AS FUEL HANDLING DIRECTOR

FH-101	FH-220	S97 SERIES ALL	LSR-1570
FH-102	FH-230	RT-3-097-402-0	LSR-0760
FH-103	FH-240		
FH-104	FH-270		
FH-105	FH-301		
FH-106	FH-340		
FH-205	FH-605		
FH-210	FH-606		
FH-211			

**3410480103 CONDUCT REFUELING SHIFT SUPERVISOR SHIFT TURNOVER

A-7	LSR-1570
	LSR-0760

ATTACHMENT "B"

REFUELING FLOOR TECHNICAL DIRECTOR/COORDINATOR - 8205

GOALS: Provide the training, skills, and knowledge necessary to personnel involved in the monitoring, directing, and coordinating of refueling floor outage preparations and outage activities. The disciplines covered in this course include **SUPERVISOR, RAD CON, SCHEDULING, QA/QC, AND OPERATIONS.**

DESCRIPTION: The course consists of classroom instruction and hands-on training in the operation, inspection and general maintenance of the refueling floor equipment. Students will also become familiar with outage planning techniques, technical specifications, refueling systems, procedures, QA/QC requirements, and radiation and safety precautions pertaining to refueling floor operations.

PRESENTATION: The course is taught by GE instructors using conventional classroom techniques. The course will also consist of instruction and hands-on training on product line equipment on the refueling floor at the BWR Services Training Facility, if the course is delivered in San Jose.

PREREQUISITES: There are no formal prerequisites for enrollment in this course.

LOCATION: This course is taught at the BWR Services Training Facility in San Jose, California, or at the customer site.

CLASS SIZE: It is recommended that class size be limited to 4-6 students, although 10 students are permissible in the on-site course since it is primarily lecture.

COURSE LENGTH: The course is three weeks in length for San Jose delivery and two weeks in length for on-site delivery.

ATTACHMENT "B"

REFUELING FLOOR TECHNICAL DIRECTOR/COORDINATOR - 8905 (Contd)

OBJECTIVES: Students successfully completing this course will be able to:

- Outline and state the importance of the outage pre-planning activities.
- Given an outage schedule, locate and correct any errors in 1) the sequence affecting critical path time and/or logic constraints, 2) the minimum manpower requirements, and 3) the interrelationship with other plant outage activities.
- Identify refueling tools and equipment from sketches or photos, briefly state their function and how they are used, and if there are any maintenance requirements.
- State radiation precautions and actions to be adhered to during various maintenance or refueling operations.
- Discuss refueling interlocks and identify and correct typical malfunctions with the refueling platform.
- State whether Tech Specs are being violated for a given set of plant conditions.
- Discuss methods and/or techniques used to prevent entry of foreign objects into the RPV and pools.

OUTLINE:

Orientation and Facility Tour
RPV and Internals
Refuel Floor Description and Arrangement
Refueling Systems
Planning and Scheduling
Servicing Aids
Fuel Service Equipment
Vessel Servicing Equipment
Reactor Vessel Disassembly
Jet Pump Servicing
In-Vessel Servicing Equipment
Refuel Platform Orientation
Fuel Handling Equipment

REFUELING FLOOR TECHNICAL DIRECTOR/COORDINATOR - 8905 (Contd)

OUTLINE: (Contd)

Each subject area listed above will include the following:

- o Description of system, tool or component
- o Procedures used for operation or handling of the equipment including the following:
  - Radiation precautions
  - QA/QC requirements if applicable
  - Tech Spec requirements
- o Hands-on training and manipulation for familiarity with equipment rather than proficiency. (San Jose delivery only.)

ATTACHMENT "C"

THEORY

The following THEORY subject matter will be addressed in a classroom training environment

I. LOT-0860, Fisson Process

II. LOT-0870, Characteristics of Fisson

III. LOT-0900, Neutron Cycle and Neutron Balance

IV. LOT-0930, Effective Multiplication Factor

V. LOT-0940, Reactivity

VI. LOT-0950, Excess Reactivity and Shutdown Margin

VII. LOT-0960, Neutron Source

VIII. LOT-0970, Subcritical Multiplication

IX. LOT-0980, Count Rate Comparison

X. LOT-1450, Moderator Temperature Coefficient

XI. LOT-1490, Control Rod Worth

XII. LSR-1580, BWR Accident Analysis

XIII. LOT-1705, Health Physics Principles

ATTACHMENT "D"

SYSTEMS

I. The Systems Course will be administered in the following three (3) separate training environments where applicable:

1. Classroom

2. Plant Tours of Limerick Generating Station

3. On-The-Job-Training (O.J.T.) at G.E. BWR Services Training Facility in San Jose, California, and Limerick Generating Station

II. The following list of systems will be addressed in this course

A. LSR-0010, Reactor Vessel and Internals
B. LSR-0020, Nuclear Fuel and Control Rods
C. LSR-0060, Control Rod Drive Mechanism
D. LSR-0070, Control Rod Drive Hydraulics
E. LSR-0110, Reactor Water Cleanup
F. LSR-0130, Primary Containment
G. LSR-0190, Secondary Containment
H. LSR-0200 Reactor Enclosure Ventilation
I. LSR-024(Source Range Monitor
J. LSR-030 Reactor Protection System
K. LSR-037(Residual Heat Removal
L. LSR-0400, Residual Heat Removal Service Water
M. LSR-0480, Condensate and Refueling Water Storage
N. LSR-0520, Condensate System of Demineralization
O. LSR-0640, Main and Auxiliary Power Distributior
P. LSR-0650, 480 and 120 VAC Power Distribution
Q. LSR-0710, Area Radiation Monitoring
R. LSR-0720, Process Radiation Monitoring
S. LSR-0733, Fire Protection Systems
T. LSR-0750, Fuel Pool Cooling and Cleanup
U. LSR-0760, Refueling and Refueling Equipment

ATTACHMENT "E"

PROCEDURES

The procedures listed below will be addressed in the following training environment as applicable:

1. Classroom
2. Refueling Floor Technical Director/Coordinator Refresher Lab
3. Refueling Floor O.J.T. at Limerick Generating Station

I. ADMINISTRATION

A. A-7, Shift Operations
B. A-8, Locked Valves
C. A-12, Ignition Source Control
D. A-13, Reporting Defects and Non-Compliance
E. A-30, Plant Housekeeping
F. A-31, Notification of the NRC
G. A-41, Control of Safety Related Equipment
H. A-42, Control of Temporary Circuit Alteration
I. A-44, Special Nuclear Material Accounting
J. A-90, Control of Heavy Loads
K. A-95, Operator Aids

II. FUEL HANDLING

A. FH-101, Receipt of New Boiling Water Reactor Fuel
B. FH-102, Transfer of New Fuel from New Fuel Storage Area to Refuel Floor
C. FH-103, Uncrating and Unpacking of New Fuel on the Refueling Floor
D. FH-104, Preparation and Shipment of Empty Fuel Boxes
E. FH-105, Core Component Movement - Core Transfers
F. FH-106, Core Component and Irradiated Item Movement - No Core Transfer
G. FH-201, New Fuel Inspection, Channeling and Placement in the Fuel Pool
H. FH-210, New Channel Cleaning and Inspection
I. FH-211, New Channel Fastner Inspection
J. FH-220, Preparation and Inspection of New Control Rods
K. FH-230, Preparation and Inspection of New Control Rod Guide Tubes
L. FH-240, Inspection of New Fuel Support Piece
M. FH-270, Blade Guide Preparation
N. FH-301, Transfer of New Control Rods to the Fuel Pool
O. FH-340, Removal/Installation of Local Power Range Monitors
P. FH-605, Core Component Transfer Authorization Sheet Instructions
Q. FH-606, Instructions for Refuel Floor Airlock Access

III. ROUTINE TEST

A. RT-3-097-402-0, Checkout of Refueling Platform Bridge, Trolley, Monorail in Fuel pool
B. RT-6-097-410-0, Daily Refueling Platform Checkout

IV. SURVEILLANCE TEST

A. ST-6-107-591-1, Daily Surveillance Log- OPCONS 4 & 5,
B. ST-6-107-630-1, Core Alteration Testing for Offloading, Shuffling and Reloading the Core
C. ST-6-107-632-1, One Rod Out Interlock Verification Testing

V. SYSTEMS

A. S53.4.A, Draining Reactor Well and Dryer/Separator Storage Pool
B. S97.1.A, Electrical and Pneumatic Alignment of Refueling Platform Bridge, Trolley and Main Hoist for Operations
C. S97.O.A, Operation of the Refueling Platform Bridge, Trolley and Main Hoist
D. S97.O.B, Operation of the Refueling Platform Auxilliary Hoists
E. S97.O.C, Transfer of Fuel from the Fuel Pool to the Reactor
F. S97.O.D, Transfer of Fuel from the Reactor to the Fuel Pool
G. S97.O.E, Transfer of Fuel within the Reactor
H. S97.O.F, Transfer of Blade Guides from Reactor to the Fuel Pool
I. S97.O.G, Transfer of Blade Guides from the Fuel Pool to the Reactor
J. S97.O.H, General Handling of Core Component and Irradiated Items in the Fuel Pool/Cask Pool
K. S97.O.J, Transfer of Blade Guides within the Reactor

VI. HEALTH PHYSICS

A. HP-102, Administrative Dose Limits, Dose Extensions and Notification Requirements
B. HP-109, High Radiation Area Key Control
C. HP-215, Establishing and Posting Controlled Areas
D. HP-310, Radiation Work Permits
F. HP-817, Personnel Contamination Monitoring

VII. GENERAL

A. GP-6.1, Shutdown Operations - Refueling, Core Alterations and Core Off-Loading
B. GP-6.2, Shutdown Operations - Shutdown Condition Tech. Spec. Actions
C. GP-9(III), Refuel Area Secondary Containment Integrity (Zone I,I)

VIII. OFF NORMAL

A. On-111, Loss of Secondary Containment

IX. EMERGENCY

A. EP-101, Classification of Emergencies

X. The lesson plans listed below will be addressed in a classroom environment

A. LSR-1520, Emergency Plan and Procedures
B. LSR-1530, General Procedures
C. LSR-1550, Off-Normal Procedures
D. LSR-1570, Administrative Procedures
E. LSR-1573, Surveillance Test Procedures
F. LOT-1760, Health Physics Procedures
G. LSR-1860, Permits and Blocking

ATTACHMENT "F"

TECHNICAL SPECIFICATIONS

The lesson plans and associated TECHNICAL SPECIFICATIONS listed below will be addressed in the following training environments as applicable:

1. Classroom
2. Refueling Floor Technical Director/Coordinator Refresher Lab
3. Refueling Floor O.J.T. of Limerick Generating Station

I. LSR-1800, Introduction to Technical Specifications

II. LSR-1810, Technical Specifications Definitions

III. LSR-1820, Tech. Spec. Safety Limits and Bases

IV. LSR-1830, Tech. Spec. LSSS and Bases

V. LSR-1840, Tech. Spec. LCOs and Bases

VI. LSR-1850, Tech. Spec. Administrative Control

VII. LSR-1855, Tech. Spec. Subtleties

ATTACHMENT "G"

REFUELING FLOOR TECHNICAL DIRECTOR/COORDINATOR REFRESHER LAB

This four (4) day course will be administered at the G.E. BWR Services Tr.'ning Facility in San Jose, California.

This course provides the license candidate with the opportunity to reinforce his/her knowledge on the operation of refueling equipment and introduces him/her to the Limerick Generating Station fuel handling procedures identified in Attachment "E".

ATTACHMENT "H"

ON-THE-JOB TRAINING AT LIMERICK GENERATING STATION

The license candidate will supervise a qualified refueling platform operator performing his/her duties in accordance with Limerick Generating Station procedures as identified in the Limerick Generating Station SRO Task Analysis (See Attachment "A").

MICHAEL D. MARLOW

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Wayne, Pennsylvania 19087
(215) 964-8443

Office
1000 First Avenue
King of Prussia, PA 19406
(215) 962-6152

CERTIFICATIONS

NRC Senior Reactor Operator, Browns Ferry
GE Senior Reactor Operator, Dresden
US Navy Engineering Office of the Watch
US Navy Engineering Watch Supervisor

EDUCATION AND TRAINING

University of Tennessee, Chattanooga, completed 3 years in Mathematics/ Computer Science Regents College, University of New York, enrolled in Nuclear Technology degree program

GE BWR SRO Certification Course
GE Fundamental of Nuclear Engineering
GE Refuel Floor Technical Director Course
US Navy Nuclear Power School & Prototype
US Navy Electronics Technician "A" School

WORK EXPERIENCE

1979 - Present — GENERAL ELECTRIC COMPANY

1985 - Present — Training Sales Manager - Nuclear Training Services, King of Prussia, PA
- Identifies customer training service/product needs
- Coordinates site-related deliveries and ensures customer satisfaction at 11 sites
- Directed Refuel Floor SLO program for Peach Bottom
- Directed 10 instructors at customer sites

1983 - 1985 — Program Manager - Simulator Training, Chattanooga, Tennessee
- Directed delivery of initial and requalification training for licensed operators
- Served on Plant Hatch Steering Committee for Training
- Evaluated licensed operators, training programs, and administrative procedures at Plant Hatch
- Analyzed NRC exam results and reported to Plant Hatch Management. Report used in presentation to NRC

1979 - 1983 — Instructor/Senior Instructor - Operator Training Services, Morris, IL
- Developed EOP validation scenarios and Emergency Plan drill guides, assisted Fitzpatrick validation EOPs and conducted EOP training
- Trained operations and management staff at Shoreham during initial plant license preparation
- Provided initial/requalification simulator training for 4 plants
- Conducted NRC audit examinations and SRO certification examinations for 10 plants
- Provided one-on-one training for the Susquehanna Operations Manager

1971 - 1979 — US Navy

1976 - 1979 — E6 Electronics Technician aboard Submarine NR-1
- Qualified Engineering Officer of the Watch
- Implemented preventive maintenance program for all departments and served as Maintenance Coordinator

1973 - 1979 — Electronics Technician aboard USS Spadefish
- Qualified Engineering Watch Supervisor
- Reactor Operator for Hot/Cold plant testing
- Directed major modification of reactor safety equipment

RESUME

NAME: WILLIAM J. DAGAN, JR.

CURRENT TITLE: Senior Engineer, Plant Operations

NUCLEAR EXPERIENCE: 10-1/2 Years

EDUCATION: BS Nuclear Engineering, Penn State

ADVANCED TRAINING:
- Senior Reactor Operator's Certificate
- Engineer-in-Training Certificate
- Station Nuclear Engineer
- Refuel Floor Technical Director
- Instrumentation for Engineering Measurements Course (emphasis on vibration instrumentation)
- Kepner-Tregoe Problem Solving Course
- Licensing Program Management Course
- Management Practice Course

EXPERIENCE: GENERAL ELECTRIC COMPANY - 10-1/2 Years

Senior Engineer, Plant Operations (July 1987 - Present)

- Supervise the writing of Limerick Unit 2 Startup Test Procedures and Hot Functional Test Procedures
- Assist in the review, approval and scheduling of the Startup Test Procedures
- Supervise the scheduling and setup of the power ascension pipe test program for Limerick Unit 2
- Filled in as G.E. Refuel Floor Technical Director for 3 weeks during Limerick 1 first refueling outage
- Wrote special procedures and performed restart testing on the pressure control system for Limerick Unit 1

Senior Engineer, Plant & System Startup Testing (1987)

- Coordinated the Perry Startup Test Simplication program with General Electric engineering and the Perry Plant
- Resolved problems, test exceptions, and changes for startup tests conducted at Perry, Clinton, Fermi, and Nine Mile Point 2
- Defined and scheduled testing for the Alto Lazio units. This included system flushes, preliminary checkouts, pre-operational and startup tests

Lead Startup Test Design & Analysis Engineer (1983 - 1986)

- Managed the power ascension test program at River Bend. This included organizing the program, writing and reviewing test procedures and reports, conducting tests, analyzing results and resolving exceptions. Supervised test personnel

- Defined and successfully implemented the first startup test simplication program

- Responsible for calibrating and testing the Emergency Response Information System (ERIS). This included updating interfacing system documentation. Initiated both hardware and software design changes

- Responsible for pipe vibration and expansion testing for both BOP and NSSS system piping during the preoperational and startup test phases. Defined types, locations and installation of instrumentation. Performed testing, analyzed results and resolved problems

- Was Chairman of a power ascension task force composed of members of most utility disciplines. The task force was implemented to effectively coordinate initial fuel receipt, neutron source installation and fuel load

Startup Test Engineer (1980 - 1982)

- On shift as a Startup Test Design & Analysis Engineer for all startup testing at Kuosheng Unit 1 and Unit 2. This included extensive process computer, control systems and pipe testing

Reactor Engineer (1980)

- Acted as a reactor engineer at Hatch, Oyster Creek and Kuosheng

Licensing Engineer (1979)

- Addressed licensing issues (fuel and ECCS concerns) for operating plants

Core Management Engineer (1978)

- Perform Core Management of reloads. Authored various data books including Cycle Summary Reports, Reference Loading Pattern, Rod Withdrawal Error, and Fuel Loading Error

RESUME

NAME: SIETZE JEFF ROTTON

CURRENT TITLE: Engineer - Startup, Test & Operations

NUCLEAR EXPERIENCE: 8 Years

EDUCATION: B.S. - U. S. Naval Academy

ADVANCED TRAINING: 16 Week BWR Simulator Training Class - SRO Certificate

8 Week Prospective Nuclear Engineer Officer Course - Navy Nuclear Engineer Qualified

2 Week Advanced Water Chemistry and Radiological Controls

6 Month Naval Nuclear Prototype - EOOW Qualified

6 Month Naval Nuclear Power School

3 Week Refuel Floor Technical Directors Course

1 Week MSIV Maintenance and Recirc Pump Seal Replacement Course

EXPERIENCE: General Electric Company - 2 Years

- Startup Engineer - Limerick Generating Station

  - Responsible for the Main Steam, MSIV Leakage Control, Steam Leak Detection and ADS preoperational test procedures. This included writing, reviewing and performing the preoperational tests. Have also participated in other flush and preoperational tests

U.S. Navy - 6 Years

- Main Propulsion Assistant/Chemistry and Radiological Controls Officer

  - Supervised 15 machinist mates and four engineering lab technicians. Responsible for all mechanical and radiological training

  - Responsible for operation, repair and maintenance of nuclear reactor and mechanical reactor support systems, steam generating systems and associated auxiliary systems

  - Responsible for maintaining proper primary/secondary water chemistry and radiological controls

- Responsible for operation and maintenance of ship's turbine generators, main propulsion equipment and associated auxiliaries and emergency diesel generator

- Damage Control Assistant/Quality Assurance Supervisor

  - Supervised 12 non-nuclear machinist mates and four interior communications technicians.

  - Responsible for operation, repair and maintenance of submarine's auxiliary mechanical and safety systems

  - Responsible for operation of ship's quality assurance program and all applicable training

RESUME

NAME: WILLIAM R. VICTOR

CURRENT TITLE: Nuclear Services Trainee - BWR

NUCLEAR EXPERIENCE: 7 Years

EDUCATION: B.S. - U.S. Naval Academy

ADVANCED TRAINING: 2 Week Refuel Floor Technical Director Class - Refuel Floor TD Certification

3 Week BWR Simulator Training Class - SRO Certification

1 Month Nuclear Power Training Unit EOOW Qualified

6 Month Naval Nuclear Power School

EXPERIENCE: General Electric Company - 2 Years

Startup Engineer - Limerick Generating Station

- Responsible for the investigation and closure of discrepancy documentation, performance of NSSS preoperational testing and flushing procedures

Startup Engineer - Pilgrim Station

- Lead Engineer responsible for implementing changes to station procedures based on Tech Spec Amendments and plant design changes. Work included review and revision of station procedures and the development and operation of a computer document tracking system

- Investigated applicability and developed courses of action for numerous INPO SER's and SOER's and GE SIL's as part of an administrative backlog commitment to the NRC

U. S. Navy - 5 Years

Division Officer - USS Henry L. Stimson (SSBN055)

Main Propulsion Assistant (1983-1986)

- Supervised 20 technicians and oversaw extensive testing and inspections of the propulsion plant during refueling overhaul

Electrical Officer

- Responsible for 10 personnel in performance of major maintenance projects during post-overhaul upkeep period and regular refit cycles

Engineering Officer of the Watch and Engineering Duty Officer

- Directed operations, maintenance and testing of reactor plant for three years

- Held many other primary and collateral duties including Chemistry and Radiological Controls Officer, Interior Communications Officer, Ship's Customs Inspector and Structure Borne Noise Officer - all performed to Command's complete satisfaction.

Nuclear Power School, FL (1981 - 1983)

- Navy Nuclear Power Training Unit (SBG), NY

- Submarine Officers' Basic School, CT

Graduated from all Schools

Nuclear Power Recruiter - 6 Months

- Represented the Navy on college campuses at speaking engagements and employment fairs. Performed screening and interviews with prospective officer candidates. Responsible for planning and initiating the highly successful fiscal 1982 advertising campaign

RESUME

NAME: STEPHEN CONROY

CURRENT TITLE: Engineer - Startup, Test & Operations

NUCLEAR EXPERIENCE: 7 Years

EDUCATION: B.S. - Physics and Math

ADVANCED TRAINING: 1 Week in Vessel Visual Inspection Class

3 Weeks Refueling Floor Technical Director Class

1 Week Instructor Training Workshop

16 Week BWR Simulator Training Class - SRO Certification

6 Month Nuclear Power Training Unit - Qualified EOOW

6 Month Nuclear Power School

EXPERIENCE: GENERAL ELECTRIC COMPANY - 2-1/2 Years

- Peachbottom Atomic Power Station
  - Review of Vendor Manuals for Procedure Updating
- Pilgrim Station
  - Assistant to Operations Manager for writing procedures for special restart program tests
- BWR Training Course Instructor
  - Instruction of SRO Certification students in classroom and simulator

U. S. Navy - 4-1/2 Years

- Main Propulsion Assistant
  - Responsible for supervision of 20 personnel assigned to maintain the main propulsion equipment
    - This equipment includes all primary coolant systems, steam generators, all steam systems and components, main turbines and turbine generators, feed and condensate systems, air conditioning systems, all cooling water systems, all lube oil systems, and the emergency diesel generator

- Major Evolutions

  - Two-year refueling overhaul of a nuclear powered submarine; initial criticality, power range testing, and sea trials

    - Three-month post-overhaul shakedown

  - Qualified EOOW

APPENDIX I PROGRAM SCHEDULE

FW8846 NOV 7-12	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
0800			REFUELING FLOOR TECHNICAL DIRECTOR REFRESHER LABORATORY AT THE BWR SERVICES TRAINING FACILITY IN SAN JOSE, CA			
0900						
1000						
1100						
1200						
1300						
1400						
1500						
1600						
1700						

APPENDIX I PROGRAM SCHEDULE

FW8847 NOV 14-18	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY
0800	COURSE OVERVIEW	QUIZ #1	QUIZ #2	QUIZ #3	HEALTH PHYSICS THEORY
0900	CONDENSATE & REFUEL WATER STORAGE	REACTOR THEORY	REACTOR THEORY	PRIMARY/ SECONDARY CONTAINMENT	HEALTH PHYSICS THEORY
1000	FUEL POOL COOLING & CU	RWCU/ CRD	FIRE PROTECTION	REACTOR ENCLOSURE VENTILATION	TECH SPECS
1100	RHR/RHRSW	SRM/ RPS	ELECTRICAL DISTRIBUTION	ARM/ PRM	TECH SPECS
1200	LUNCH	LUNCH	LUNCH	LUNCH	LUNCH
1300	PLANT TOUR	PLANT TOUR	PLANT TOUR	PLANT TOUR	SELF STUDY
1400					EXAM #1
1500	SELF STUDY	SELF STUDY	SELF STUDY	SELF STUDY	
1600					
1700					

APPENDIX I PROGRAM SCHEDULE

FW8848 NOV 21-25	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY
0800	EXAM REVIEW	QUIZ #4	GENERAL PROCEDURES	HOLIDAY	HOLIDAY
0900	ADMIN PROCEDURES	HP PROCEDURES & PRACTICES			
1000					
1100					
1200	LUNCH	LUNCH	LUNCH		
1300	ADMIN PROCEDURES	TECH SPECS	SELF STUDY		
1400			EXAM #2		
1500	SELF STUDY	SELF STUDY			
1600					
1700					

APPENDIX I PROGRAM SCHEDULE

FW8843 NOV 28- DEC 2	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY
0800	EXAM REVIEW	QUIZ #5	QUIZ #6	QUIZ #7	SYSTEM PROCEDURES
0900	RPV & INTERNALS	REFUELING EQUIPMENT	FUEL HANDLING PROCEDURES	FUEL HANDLING PROCEDURES	
1000					
1100	FUEL & CONTROL RODS	REFUELING INTERLOCKS			
1200	LUNCH	LUNCH	LUNCH	LUNCH	LUNCH
1300	REFUEL FLOOR ORIENTATION	SURVEILLANCE TEST PROCEDURES	FUEL HANDLING PROCEDURES	ROUTINE TEST PROCEDURES	SELF STUDY
1400	TOUR				EXAM #3
1500	SELF STUDY	SELF STUDY	SELF STUDY	SELF STUDY	
1600					
1700					

APPENDIX I PROGRAM SCHEDULE

FW8850 DEC 5-9	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY
0800	EXAM REVIEW	QUIZ #8	FINAL EXAM	EXAM REVIEW	UPGRADE
0900	ON JOB TRAINING	ON JOB TRAINING		PROCTICE ORAL EXAMS/UPGRADE	
1000					
1100					
1200	LUNCH	LUNCH	LUNCH	LUNCH	LUNCH
1300	ACCIDENT ANALYSIS	SELF STUDY	PRACTICE WALKTHROUGHS		SELF STUDY
1400	OFF NORMAL & EMERG. PROCEDURES				
1500	SELF STUDY				
1600					
1700					

APPENDIX I PROGRAM SCHEDULE

FW8851 DEC 12-16	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY
0800	AUDIT EXAM WRITTEN	WALKTHROUGHS	WALKTHROUGHS	ORAL BOARDS	ORAL BOARDS
0900					
1000					
1100					
1200	LUNCH	LUNCH	LUNCH	LUNCH	LUNCH
1300			ORAL BOARDS	ORAL BOARDS	ORAL BOARDS
1400					
1500					
1600					
1700					

APPENDIX I PROGRAM SCHEDULE

FW8852 DEC 19-23	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY
0800	SELF STUDY	SELF STUDY	SELF STUDY	SELF STUDY	HOLIDAY
0900					
1000					
1100					
1200					
1300					
1400					
1500					
1600					
1700					

APPENDIX I PROGRAM SCHEDULE

FW8853 DEC 26-30	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY
0800	HOLIDAY	SELF STUDY	SELF STUDY	SELF STUDY	SELF STUDY
0900					
1000					
1100					
1200					
1300					
1400					
1500					
1600					
1700					

APPENDIX I PROGRAM SCHEDULE

FW8901 JAN 1-5	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATU
0800	HOLIDAY	NRC EXAMS	NRC EXAMS	NRC EXAMS		
0900						
1000						
1100						
1200						
1300						
1400						
1500						
1600						
1700						