REGULATOR INFORMATION DISTRIBUTION STEM (RIDS)

ACCESSION NBR: 8605190144 DOC. DATE: 86/05/14 NOTARIZED: NO DOCKET #
FACIL: 50-000 Generic Docket 05000000
50-261 H. B. Robinson Plant, Unit 2, Carolina Power & Light C 05000261
50-324 Brunswick Steam Electric Plant, Unit 2, Carolina Powe 05000324
50-325 Brunswick Steam Electric Plant, Unit 1, Carolina Powe 05000325
50-400 Shearon Harris Nuclear Power Plant, Unit 1, Carolina 05000400
AUTH. NAME AUTHOR AFFILIATION
ZIMMERMAN, S. R. Carolina Power & Light Co.
RECIP. NAME RECIPIENT AFFILIATION
DENTON, H. R. Office of Nuclear Reactor Regulation, Director (post 851125

SUBJECT: Forwards response to Generic Ltr 86-04, "Policy Statement on Engineering Expertise on Shift." Shift technical advisor program currently undergoing review.

DISTRIBUTION CODE: M003D COPIES RECEIVED: LTR 1 ENCL 1 SIZE: 20
TITLE: Operator Requalification Program

NOTES: Application for permit renewal filed. 05000400

	RECIPIENT ID CODE/NAME		COPIES LTTR	COPIES ENCL	RECIPIENT ID CODE/NAME		COPIES LTTR	COPIES ENCL
	PWR-A PD2 PD		1	1	BWR PD2 PD		1	1
	REQUA, G		1	1	SYLVESTER, E		1	1
	BUCKLEY, B		1	1				
INTERNAL:	NRR/DHFT/HFIB		1	1	NRR/DHFT/MTB		1	1
	REG FILE	04	1	1	RGN2		1	1
EXTERNAL:	24X		1	1	LPDR	03	3	3
	NRC PDR	02	1	1	NSIC	05	1	1

TOTAL NUMBER OF COPIES REQUIRED: LTTR 15 ENCL 15

CP&L
Carolina Power & Light Company

MAY 14 1986

SERIAL: NLS-86-152

Mr. Harold R. Denton, Director
Office of Nuclear Reactor Regulation
United States Nuclear Regulatory Commission
Washington, DC 20555

BRUNSWICK STEAM ELECTRIC PLANT, UNIT NOS. 1 AND 2
DOCKET NOS. 50-325 & 50-324/LICENSE NOS. DPR-71 & DPR-62

H. B. ROBINSON STEAM ELECTRIC PLANT, UNIT NO. 2
DOCKET NO. 50-261/LICENSE NO. DPR-23

SHEARON HARRIS NUCLEAR POWER PLANT
UNIT NO. 1 - DOCKET NO. 50-400

GENERIC LETTER 86-04, "POLICY STATEMENT
ON ENGINEERING EXPERTISE ON SHIFT"

Dear Mr. Denton:

In response to your letter dated February 13, 1986, which transmitted Generic Letter 86-04, "Policy Statement on Engineering Expertise on Shift," Carolina Power & Light Company (CP&L) provides the following requested information for the Shearon Harris Nuclear Power Plant (SHNPP), Unit No. 1, H. B. Robinson Steam Electric Plant (HBR2), Unit No. 2, and Brunswick Steam Electric Plant (BSEP), Unit Nos. 1 and 2.

NRC Request 1: Your current program for providing engineering expertise on shift.

CP&L Response: The Shift Technical Advisor (STA) Program for BSEP remains as defined in our letter dated December 31, 1980 (Utley to Eisenhut; SN: NO-80-1945) (Enclosure 1) and amended on September 3, 1985 (Zimmerman to Vassallo; SN: NLS-85-300) (Enclosure 2).

The HBR2 STA Program is as described in our letter dated December 31, 1980 (Utley to Eisenhut; SN: NO-80-1946) (Enclosure 3).

The current SHNPP STA Program requires an STA on each shift during plant operation above 200°F. The SHNPP STA Program is described in the SHNPP Final Safety Analysis Report Sections 1.8 and 13.1.2 (Enclosure 4). A copy of the SHNPP STA Training Program is attached as Enclosure 5.

NRC Request 2: If your current STA Program utilizes an "equivalency" criteria to an engineering degree, a description of the criteria used.

CP&L Response: CP&L does not use an "equivalency" criteria in our STA Program. Each STA is required to have a BS degree in Engineering or Applied Science, as committed to by the letters referenced in the response to NRC Request 1.

M003
1/1

411 Fayetteville Street • P. O. Box 1551 • Raleigh, N. C. 27602

NRC Request 3: A description of any modifications you intend to propose to your current program in order to take advantage of the options identified in the Commission's Policy Statement.

CP&L Response: The options stated in the Commission's Policy Statement are being evaluated by CP&L for potential use in developing changes to our present STA program. No changes are currently envisioned, however, we reserve the option of future program revision dependent on new developments.

Should you have any questions with regard to this submittal, please contact Mr. Arnold W. Schmich at (919) 836-8759.

Yours very truly,

S R Zimmerman by RAS

S. R. Zimmerman
Manager
Nuclear Licensing Section

AWS/crs (3822AWS)
Enclosures

cc: Mr. B. C. Buckley (NRC)
Mr. G. F. Maxwell (NRC-SHNPP)
Mr. E. D. Sylvester (NRC)
Mr. H. Krug (NRC Resident Inspector-RNP)
Dr. J. Nelson Grace (NRC-RII)
Mr. Travis Payne (KUDZU)
Mr. Daniel F. Read (CHANGE/ELP)
Wake County Public Library
Mr. F. Rowsome (NRC)
Mr. Wells Eddleman
Mr. John D. Runkle
Mr. W. H. Ruland
Mr. G. Requa (NRC)
Dr. Richard D. Wilson
Mr. G. O. Bright (ASLB)
Dr. J. H. Carpenter (ASLB)
Mr. J. L. Kelley (ASLB)

ENCLOSURE 1

Carolina Power & Light Company
Raleigh, N. C. 27602

FILE: NG-3514(B)

SERIAL NO.: NO-80-1945

December 31, 1980

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

BRUNSWICK STEAM ELECTRIC PLANT UNIT NOS. 1 AND 2
DOCKET NOS. 50-325 AND 50-324
LICENSE NOS. DPR-71 AND DPR-62
POST TMI REQUIREMENTS CONTAINED IN NUREG-0737

Dear Mr. Eisenhut:

As described in our letter of December 15, 1980, Carolina Power & Light Company (CP&L) hereby provides in the attached enclosures required documentation for the below listed items from NUREG-0737 - "Clarification of TMI Action Plan Requirements". The lefthand column of the below table gives the major item title from NUREG-0737 and the righthand column gives the description of the item subpart requiring documentation at this time.

Item Title		Description
I.A.1.1	Shift Technical Advisor	3. Trained per LL Cat B 4. Describe long term program
I.C.1	Short Term accident & procedures review	2. ICC a) Reanalyze and propose guidelines 3. Transients & Accidents a) Reanalyze and propose guidelines
I.C.6	Verify correct performance of operating activities	Revise performance procedures
II.B.4	Training for mitigating core damage	1. Develop training program
II.E.4.2	Containment Isolation Dependability	5. Containment Pressure Setpoint 6. Containment purge valves
II.K.3	B&O Task Force	13. HPCI & RCIC initiation levels 15. Isolation of HPCI & RCIC 17. ECC system outages 21. Restart of CSS & LPCI 27. Common Reference Level 44. Eval. transient with single failure 45. Manual depresurization
III.D.3.3	Inplant radiation monitoring	1. Modifications to accurately measure I_2

 10pp.

Submittals on Emergency Preparedness (Item III.A.2) and Control Room Habitability (Item III.D.3.4) are being sent under separate cover. The requirements of Item II.K.3.3 - Reporting Safety and Relief Valve Failures and Challenges have been incorporated into the appropriate plant procedures and subject reports will be submitted at the required frequency.

With regard to Item I.A.3.1 - Revise Scope and Criteria for Licensing Examinations - Simulator Exams, CP&L requests an exemption on this item for Brunswick RO/SRO candidates taking license exams in November and December, 1981. The exemption is required due to the lack of an available simulator. In the meantime, CP&L will continue to attempt to schedule the required simulator time, but to date these efforts have not been successful.

We trust this letter is responsive to your requirements at this time, and stand prepared to provide additional information if you so desire.

Yours very truly,

Original Signed By
E. E. UTLEY

E. E. Utley
Executive Vice President
Power Supply and
Engineering & Construction

JJS/dk (N#15)
Attachments

cc: Mr. J. N. Hannon (NRC)

bcc: Mr. D. L. Bensinger
Mr. C. S. Bohanan
Mr. A. B. Cutter
Dr. T. S. Elleman
Mr. J. M. Johnson
Mr. S. McManus
Mr. A. C. Tollison
Mr. R. M. Coats/NG-3514(B)
Mr. C. W. Woods (LIS)
File: BC/A-4
File: B-X-561

Item I.A.1.1 Shift Technical Advisor

CP&L Response to NRC Submittal Requirements:

In response to NUREG-0737, Item I.A.1.1, Shift Technical Advisor (STA), attachment one is a description of the STA program conducted at the Brunswick Steam Electric Plant in 1980, including the planned requalification training. The long-term STA Training Program is described in attachment two, and includes a comparison with Sections 5 and 6 of the INPO position paper dated April 30, 1980, concerning STA training and our plans for the long-term phase out of the STA.

The STA duties are separated into two distinct functional responsibilities. They are 1) operating experience assessment and 2) accident assessment. Both functions are performed by the STA group to ensure proper understanding of the two functions by all individuals (STA) involved. This is accomplished by assignment of STA personnel on a scheduled rotating basis.

The operating experience assessment function provides additional capability, dedicated to concern for the safety of the plant, to perform engineering evaluations of plant operations. A portion of the STA group at any one time is a dedicated day-shift function and receives training in normal and off normal operations. The accident assessment function provides additional capability, dedicated to the concern for safety of the plant, and for diagnosis of off normal events. This function of the group is available on shift to augment the operating shift as required. The individual(s) who perform this function have other nonaccident duties related to plant safety.

The STA's are B.S. Degreed Engineers trained in normal and off normal operations. Retraining will be conducted annually as described in attachment one. The group will remain cognizant of current operating experience evolutions through the operating experience assessment functions. They will have no other direct operating duties that might detract from their STA duties when performing this function.

The Shift Technical Advisors are available on site for both the operating experience and accident assessment functions. Assignment during the accident assessment function includes periods where the STA is on site but not restricted to the control room. Being on site, the STA will be capable of responding to an emergency situation within ten minutes of being alerted by the shift supervisor.

Full implementation and compliance of the requirements for STA Training set forth in NUREG-0578, as clarified or modified by D. G. Eisenhut's letter of September 13, 1979, H. R. Denton's letter of October 30, 1979, D. G. Eisenhut's letter to Mr. T. D. Keenan of November 14, 1979, NUREG-0660 and NUREG-0737 is demonstrated in attachments one and two.

ATTACHMENT ONE TO ITEM I.A.1.1

TRAINING THAT MEETS THE LESSONS-LEARNED REQUIREMENTS COMPLETED BY JANUARY 1, 1981

1. Each Shift Technical Advisor holds a B.S. Degree in Engineering or related Sciences.

2. Each STA has completed a plant-specific course covering the following material taught at the SRO level:

   a. Academics (14 weeks)

   b. On-the-job training (6 weeks)

   c. Transient and accident analysis (2 weeks)

   d. Control room management training (1 week)

   e. Simulator training (1 week)

3. Annual Retraining (80 hours minimum)

   a. Classroom training (48 hours minimum)

   b. Simulator training (32 hours minimum)

4. Although the specific number of hours for classroom versus simulator retraining do not agree with Section 6.9 of the INPO document (40 hours simulator, 40 hours classroom), the subject matter will meet the intent of this section of the INPO document and will provide a competent STA. Specifically, the simulator exercises will encompass transients addressed in Section 6.8 and will emphasize the role of the STA. This will be accomplished by having the STA's conduct their simulator retraining along with an operating shift.

ATTACHMENT TWO TO ITEM I.A.1.1

BSEP STA TRAINING PROGRAM FOR INITIAL TRAINING
AFTER JANUARY 1, 1981

1. Education - BS Engineering or Science

2. Experience - 18 months power plant (desirable)

3. Training -

a.	Engineering and Theory Fundamentals	- 200 hrs.	(approx.)
b.	Systems	- 200 hrs.	"
c.	Management/Supervisory	- 40 hrs.	"
d.	Administrative Controls	- 20 hrs.	"
e.	General Operating Procedure	- 8 hrs.	"
f.	Transients/Accident Analysis (EOP's)	- 40 hrs.	"
g.	Simulator	- 30 hrs.	"
		538 hrs.	"
h.	OJT	200 hrs.	"
		738 hrs.	

4. Annual Retraining - 80 hrs. (approx.)

ATTACHMENT TWO (CONTINUED)

INPO COMPARISON WITH THE BSEP TRAINING PROGRAM

1. Selection Criteria

BSEP Requirements:

a. BS Degree in Engineering or the Physical Sciences.

b. Greater than 18 months nuclear plant experience is desirable but not mandatory.

c. Complete security check and other preapplicant screening done on all employees.

INPO Comparison

a. Degree requirement is more specific than educational requirements recommended by INPO and will meet or exceed the INPO recommendation.

b. The experience requirement does not agree with the INPO recommendation. Exception is taken in order to increase the number of potential STA's available from the job market. The training program provided in this enclosure will give each candidate the necessary background and experience to provide competent STA's.

2. Qualifications

BSEP Requirements:

Prior to assignment to STA duties, each candidate must successfully complete the STA training program after meeting the selection criteria. Candidates who have successfully completed an equivalent program will receive a modified program covering plant-specific differences.

INPO Comparison:

INPO does not have a definitive set of qualifications.

3. Training Program

a. Prerequisites beyond high school diploma (INPO Item 6.1.1)

BSEP Requirement:

Due to the selection criteria stated in Item 1 above, Math, Chemistry, and Physics will not be covered during the STA training course. Each candidate's transcript will be checked to verify that it is a valid transcript demonstrating a Bachelor of Science Degree in Engineering or the related Physical Sciences.

INPO Comparison:

This position agrees with INPO recommendation stated in section 6.1.1 of the STA position paper.

b. College level fundamentals (INPO Item 6.1.2)

BSEP Requirements:

A minimum of 200 classroom hours will be presented to STA candidates covering the following subjects:

Math	Reactor Theory
Reactor Chemistry	Nuclear Materials
Thermal Sciences	Electrical Sciences
Nuclear Instrumentation	Radiation Protection
Health Physics	

The amount of time dedicated to each subject will vary depending on the background of the STA candidate.

INPO Comparison:

INPO recommends 520 hours contact time and specific hours for each subject in Section 6.1.2. This recommendation is generic and does not assume any previous training in these subjects. Due to the selection criteria and structured on-the-job taining, 200 hours is deemed sufficient.

c. Applied fundamentals (INPO Item 6.2)

BSEP Requirement:

This course, taught in Section 3b above, will include plant-specific applications. Therefore, no additional time is required.

INPO Comparison:

This item complies with Section 6.2 of the INPO position paper.

d. Management Skills (INPO Item 6.3)

BSEP Requirement:

The STA course includes one week of management training.

INPO Comparison:

This complies with the INPO document.

e. Systems Training (INPO Item 6.4)

BSEP Requirement:

Each candidate will receive a minimum of 200 contact hours training covering plant-specific systems.

INPO Comparison:

This meets with the time recommended in Item 6.4 of the INPO position paper. However, specific systems covered will vary from group to group based on experience and student needs.

f. Administrative Controls (INPO Item 6.5)

BSEP Requirement:

Each candidate will receive a minimum of 20 contact hours covering administrative procedures and controls as part of the STA course. This time is in addition to general employee training, plant orientation training, and structured on-the-job training.

INPO Comparison:

INPO recommends a total of 80 contact hours to cover administrative controls. The 60 hour difference is justified based on the structured on-the-job training, general employee training, and plant orientation received separate from the STA training course and which can be equated to the difference.

g. General Operating Procedures (INPO Item 6.6)

BSEP Requirement:

Each candidate will receive a minimum of 8 contact hours covering general operating procedures, this will be reinforced during the on-the-job training.

INPO Comparison: (This concurs with the INPO Document)

INPO recommends 30 contact hours, but does not address on-the-job training. Eight hours classroom, plus reinforcement during on-the-job training provides the students with a better understanding of the general operating procedures.

h. Transient and Accident Analysis (INPO Item 6.7)

BSEP Requirement:

Each student will receive a minimum of 40 hours training in transient and accident analysis and emergency procedures.

INPO Comparison:

INPO recommends 30 contact hours in these subjects in Section 6.7 of the INPO position paper.

i. Simulator Training (INPO Item 6.8)

BSEP Requirement:

Each candidate will receive a minimum of 30 hours of simulator training supplied by a vendor. More time will be alloted based on simulator availability.

INPO Comparison:

INPO recommendation for 50 hours simulator training coupled with 50 hours classroom time deviates with the 30 hour commitment. Due to available simulator time, committing to more than 30 hours would result in possibly not being able to meet the commitment. However, should more time on a vendor simulator be available, we will exceed the 30 hour requirement.

j. Structured On-the-job Training (No INPO Requirement)

BSEP Requirement:

Each STA candidate must successfully complete a minimum of ~~300~~ 200 hours of structured on-the-job training. This on-the-job training will be completed through the use of qualification cards and walk through exams.

Note: this typo existed in the orisinal submittal. 200hrs. is mentioned elsewhere. -AWS-

INPO Comparison:

INPO does not address this area. The structured on-the-job training will provide a better understanding of systems, operations, and theory application than an equal amount of classroom training could achieve.

4. Long-term-Phase Out of STA's

It is our intention to upgrade the shift supervisor's level of knowledge and modify the control room, as necessary, to better enhance human factors engineering. Once the guidelines for these items are established, we will phase out the STA's on a timely basis in favor of the upgraded shift supervisors and control rooms. We are presently planning to provide college level training to the operating personnel in order to meet or to exceed the NRC Guidelines when established.

ENCLOSURE 2

Carolina Power & Light Company

SEP 0 3 1985

SERIAL: NLS-85-300

Director of Nuclear Reactor Regulation
Attention: Mr. D. B. Vassallo, Chief
Operating Reactors Branch No. 2
Division of Licensing
United States Nuclear Regulatory Commission
Washington, DC 20555

BRUNSWICK STEAM ELECTRIC PLANT, UNIT NOS. 1 AND 2
DOCKET NOS. 50-325 & 50-324/LICENSE NOS. DPR-71 & DPR-62
SHIFT TECHNICAL ADVISOR (STA) PROGRAM

Dear Mr. Vassallo:

As described in our letter of December 31, 1980, the Shift Technical Advisor (STA) program established by Carolina Power & Light Company (CP&L) is presently in compliance with Item 1.A.1.1 of NUREG 0737. However, due to attrition of some of the STAs and in anticipation of further attrition, the Company has found it necessary to increase the Brunswick STA staff from six STAs and one supervisor to nine STAs and one supervisor. This change will also allow for additional retraining of the STA staff and the use of their engineering/technical expertise for the Operation Unit's review of plant modifications being conducted at the Brunswick Plant.

In order to upgrade the STA staff to the level indicated above, the Company has initiated training of five additional CP&L employees to fill vacant STA positions. Prior to the completion of the training of these employees, it will be necessary for the Company to supplement the STA program with contract employees. These contract employees will be placed in the STA rotation with the three CP&L qualified STAs.

Minimum requirements which the Company has established for the contract employees are:

1. Candidate must hold a B.S. degree in Engineering or Applied Science.
2. Candidate must be a currently certified Senior Reactor Operator (SRO).
3. Candidate must have 18 months of power plant experience.

The contractors currently identified to fill the positions meet the minimum power plant experience with a combination of 12 months of commercial BWR power plant experience and a minimum of 5 years of Navy nuclear power plant experience.

8509090049

3pp.

411 Fayetteville Street • P. O. Box 1551 • Raleigh, N. C. 27602

In addition to the minimum requirements specified above, the candidates will also receive Brunswick Plant Specific training in the following areas.

Transient/Accident Analysis	24 hrs
Administrative Control/Technical Specifications	20 hrs
Systems Training (ECCS, Reactivity Controls)	8 hrs
Abnormal and Emergency Operating Procedures	20 hrs
Core Thermal Limits and Core Power Response	8 hrs
On-the-job Training with a Qualified STA	40 hrs
Emergency Plan	4 hrs
Design Basis Accident	4 hrs
Process Computer - Post-Trip Logic	8 hrs
Electrical Distribution	8 hrs
Primary Containment Isolation	4 hrs
Diesel Generators	4 hrs
Radiation Monitoring	4 hrs

Implementation of the program as described above began with the training mode on August 12, 1985. Contract employees are anticipated to begin standing STA watches on or about September 1, 1985.

Carolina Power & Light Company has determined that the use of the contract employees as stated above fulfills the STA requirements as specified in NUREG 0737. Again, please note that the use of contract employees to fill STA positions is an interim measure only; the Company expects to have a full STA staff made up of CP&L employees by June 1986.

Should you have any questions regarding this program, please contact Mr. S. D. Floyd at (919) 836-6901.

Yours very truly,

Original Signed By
S. R. Zimmerman
S. R. Zimmerman
Manager
Nuclear Licensing Section

RWS/rtj (1851RWS)

cc: Mr. W. H. Ruland (NRC-BNP)
Dr. J. Nelson Grace (NRC-RII)
Mr. M. Grotenhuis (NRC)

ENCLOSURE 3

Carolina Power & Light Company

RC

FILE: NG-3514(R) December 31, 1980 SERIAL NO.: NO-80-1946

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

H. B. ROBINSON STEAM ELECTRIC PLANT UNIT NO. 2
DOCKET NO. 50-261
LICENSE NO. DPR-23
POST TMI REQUIREMENTS CONTAINED IN NUREG-0737

Dear Mr. Eisenhut:

As described in our letter of December 15, 1980, Carolina Power & Light Company (CP&L) hereby provides in the attached enclosures required documentation for the below listed items from NUREG-0737 - "Clarification of TMI Action Plan Requirements". The lefthand column of the below table gives the major item title from NUREG-0737 and the righthand column gives the description of the item subpart requiring documentation at this time.

Item Title		Description
I.A.1.1	Shift Technical Advisor	3. Trained per LL Cat B 4. Describe long term program
I.C.1	Short Term accident & procedures review	2. ICC a) Reanalyze and propose guidelines 3. Transients & Accidents a) Reanalyze and propose guidelines
I.C.6	Verify correct performance of operating activities	Revise performance procedures
II.B.2	Plant Shielding	2. Plant modifications 3. Environmental Qualification
II.B.3	Postaccident Sampling	2. Plant modifications
II.B.4	Training for mitigating core damage	1. Develop training program
II.E.4.2	Containment Isolation Dependability	5. Containment Pressure Setpoint
II.K.3	B&O Task Force	17. ECC system outages
III.D.3.3	Inplant radiation	2. Modifications to accurately measure I_2

411 Fayetteville Street • P. O. Box 1551 • Raleigh, N. C. 27602

8101060465

10pp

Submittals on Emergency Preparedness (Item III.A.2) and Control Room Habitability (Item III.D.3.4) are being sent under separate cover.

We trust this letter is responsive to your requirements at this time, and stand prepared to provide additional information if you so desire.

Yours very truly,

E. E. Utley
Executive Vice President
Power Supply and
Engineering & Construction

JJS/dk (N#16)
Attachments

cc: Mr. J. D. Neighbors (NRC)

Item I.A.1.1 Shift Technical Advisor

CP&L Response to NRC Submittal Requirements:

In response to NUREG-0737, Item I.A.1.1, Shift Technical Advisor (STA), attachment one is a description of the STA program conducted at the H. B. Robinson Steam Electric Plant in 1980, including the planned requalification training. The long-term STA Training Program is described in attachment two, and includes a comparison with Sections 5 and 6 of the INPO position paper dated April 30, 1980, concerning STA training and our plans for the long-term phase out of the STA.

The STA duties are separated into two distinct functional responsibilities. They are 1) operating experience assessment and 2) accident assessment. Both functions are performed by the STA group to ensure proper understanding of the two functions by all individuals (STA) involved. This is accomplished by assignment of STA personnel on a scheduled rotating basis.

The operating experience assessment function provides additional capability, dedicated to concern for the safety of the plant, to perform engineering evaluations of plant operations. A portion of the STA group at any one time is a dedicated day-shift function and receives training in normal and off normal operations. The accident assessment function provides additional capability, dedicated to the concern for safety of the plant, and for diagnosis of off normal events. This function of the group is available on shift to augment the operating shift as required. The individual(s) who perform this function have other nonaccident duties related to plant safety.

The STA's are B.S. Degreed Engineers trained in normal and off normal operations. Retraining will be conducted annually as described in attachment one. The group will remain cognizant of current operating experience evolutions through the operating experience assessment functions. They will have no other direct operating duties that might detract from their STA duties when performing this function.

The Shift Technical Advisors are available on site for both the operating experience and accident assessment functions. Assignment during the accident assessment function includes periods where the STA is on site but not restricted to the control room. Being on site, the STA will be capable of responding to an emergency situation within ten minutes of being alerted by the shift supervisor.

Full implementation and compliance of the requirements for STA Training set forth in NUREG-0578, as clarified or modified by D. G. Eisenhut's letter of September 13, 1979, H. R. Denton's letter of October 30, 1979, D. G. Eisenhut's letter to Mr. T. D. Keenan of November 14, 1979, NUREG-0660 and NUREG-0737 is demonstrated in attachments one and two.

ATTACHMENT ONE TO ITEM I.A.1.1

TRAINING THAT MEETS THE LESSONS-LEARNED REQUIREMENTS COMPLETED BY JANUARY 1, 1981

1. Each Shift Technical Advisor holds a B.S. Degree in Engineering or related Sciences.

2. Each STA has completed a plant-specific course covering the following material taught at the SRO level:

   a. Academics (14 weeks)

   b. On-the-job training (6 weeks)

   c. Transient and accident analysis (2 weeks)

   d. Control room management training (1 week)

   e. Simulator training (1 week)

3. Annual Retraining (80 hours minimum)

   a. Classroom training (48 hours minimum)

   b. Simulator training (32 hours minimum)

4. Although the specific number of hours for classroom versus simulator retraining do not agree with Section 6.9 of the INPO document (40 hours simulator, 40 hours classroom), the subject matter will meet the intent of this section of the INPO document and will provide a competent STA. Specifically, the simulator exercises will encompass transients addressed in Section 6.8 and will emphasize the role of the STA. This will be accomplished by having the STA's conduct their simulator retraining along with an operating shift.

Attachment Two to Item I.A.1.1

HBR STA TRAINING PROGRAM FOR INITIAL TRAINING
AFTER JANUARY 1, 1981

1. Education - BS Engineering or Science

2. Experience - 18 months power plant (desirable)

3. Training -

a.	Engineering and Theory Fundamentals	- 300 hrs.	(approx.)
b.	Systems	- 200 hrs.	"
c.	Management/Supervisory	- 40 hrs.	"
d.	Administrative Controls	- 20 hrs.	"
e.	General Operating Procedure	- 30 hrs.	"
f.	Transients/Accident Analysis (EOP's)	- 100 hrs.	"
g.	Simulator	- 96 hrs.	"
		786 hrs.	"
h.	OJT	400 hrs.	"
		1186 hrs.	

4. Annual Retraining - 80 hrs. (approx.)

Attachment Two (continued)

INPO COMPARISON WITH THE HBR TRAINING PROGRAM

1. Selection Criteria

HBR Requirements:

a. BS Degree in Engineering or the Physical Sciences.

b. Greater than 18 months nuclear plant experience is desirable but not mandatory.

c. Complete security check and other preapplicant screening done on all employees.

INPO Comparison

a. Degree requirement is more specific than educational requirements recommended by INPO and will meet or exceed the INPO recommendation.

b. The experience requirement does not agree with the INPO recommendation. Exception is taken in order to increase the number of potential STA's available from the job market. The training program provided in this enclosure will give each candidate the necessary background and experience to provide competent STA's.

2. Qualifications

HBR Requirements:

Prior to assignment to STA duties, each candidate must successfully complete the STA training program after meeting the selection criteria. Candidates who have successfully completed an equivalent program will receive a modified program covering plant-specific differences.

INPO Comparison:

INPO does not have a definitive set of qualifications.

3. Training Program

a. Prerequisites beyond high school diploma (INPO Item 6.1.1)

HBR Requirement:

Due to the selection criteria stated in Item 1 above, Math, Chemistry, and Physics will not be covered during the STA training course. Each candidate's transcript will be checked to verify that it is a valid transcript demonstrating a Bachelor of Science Degree in Engineering or the related Physical Sciences.

INPO Comparison:

This position agrees with INPO recommendation stated in section 6.1.1 of the STA position paper.

b. College level fundamentals (INPO Item 6.1.2)

HBR Requirements:

A minimum of 300 classroom hours will be presented to STA candidates covering the following subjects:

Math	Reactor Theory
Reactor Chemistry	Nuclear Materials
Thermal Sciences	Electrical Sciences
Nuclear Instrumentation	Radiation Protection
Health Physics	

The amount of time dedicated to each subject will vary depending on the background of the STA candidate.

INPO Comparison:

INPO recommends 520 hours contact time and specific hours for each subject in Section 6.1.2. This recommendation is generic and does not assume any previous training in these subjects. Due to the selection criteria and structured on-the-job taining, 300 hours is deemed sufficient.

c. Applied fundamentals (INPO Item 6.2)

HBR Requirement:

This course, taught in Section 3b above, will include plant-specific applications. Therefore, no additional time is required.

INPO Comparison:

This item complies with Section 6.2 of the INPO position paper.

d. Management Skills (INPO Item 6.3)

HBR Requirement:

The STA course includes one week of management training.

INPO Comparison:

This complies with the INPO document.

e. Systems Training (INPO Item 6.4)

HBR Requirement:

Each candidate will receive a minimum of 200 contact hours training covering plant-specific systems.

INPO Comparison:

This meets with the time recommended in Item 6.4 of the INPO position paper. However, specific systems covered will vary from group to group based on experience and student needs.

f. Administrative Controls (INPO Item 6.5)

HBR Requirement:

Each candidate will receive a minimum of 20 contact hours covering administrative procedures and controls as part of the STA course. This time is in addition to general employee training, plant orientation training, and structured on-the-job training.

INPO Comparison:

INPO recommends a total of 80 contact hours to cover administrative controls. The 60 hour difference is justified based on the structured on-the-job training, general employee training, and plant orientation received separate from the STA training course and which can be equated to the difference.

g. General Operating Procedures (INPO Item 6.6)

HBR Requirement:

Each candidate will receive a minimum of 30 contact hours covering general operating procedures; this will be reinforced during the on-the-job training.

INPO Comparison: (This concurs with the INPO Document)

INPO recommends 30 contact hours, but does not address on-the-job training. Thirty hours classroom, plus reinforcement during on-the-job training provides the students with a better understanding of the general operating procedures.

h. Transient and Accident Analysis (INPO Item 6.7)

HBR Requirement:

Each student will receive a minimum of 100 hours training in transient and accident analysis and emergency procedures.

INPO Comparison:

INPO recommends 30 contact hours in these subjects in Section 6.7 of the INPO position paper.

i. Simulator Training (INPO Item 6.8)

HBR Requirement:

Each candidate will receive a minimum of 96 hours of simulator training on the S. Harris Simulator.

INPO Comparison:

INPO recommendation for 50 hours simulator training coupled with 50 hours classroom training is obviously designed to accomodate vendors. Ninety-six hours simulator time with no classroom time provides the student with a better understanding of plant normal and abnormal operations.

j. Structured On-the-job Training (No INPO Requirement)

HBR Requirement:

Each STA candidate must successfully complete a minimum of 400 hours of structured on-the-job training. This on-the-job training will be completed through the use of qualification cards and/or walk through exams.

INPO Comparison:

INPO does not address this area. The structured on-the-job training will provide a better understanding of systems, operations, and theory application than an equal amount of classroom training could achieve.

4. Long-term Phase Out of STA's

It is our intention to upgrade the shift supervisor's level of knowledge and modify the control room, as necessary, to better enhance human factors engineering. Once the guidelines for these items are established, we will phase out the STA's on a timely basis in favor of the upgraded shift supervisors and control rooms. We are presently planning to provide college level training to the operating personnel in order to meet or to exceed the NRC Guidelines when established.

ENCLOSURE 4

Regulatory Guide 1.8 PERSONNEL SELECTION AND TRAINING
(REVISION 2, FEBRUARY 1979 DRAFT)

SHNPP will comply with the requirements of ANSI/ANS 3.1, September 1979 Draft, with the alternatives listed herein. It is understood that the NRC has not endorsed this Standard, but when the SHNPP applied for its operating license, the September 1979 Draft was current. Because this standard was the existing guidance at the time of our operating license application, CP&L believes it is acceptable to use the draft Standard as the basis for selecting and training SHNPP personnel. The Company has received approval from NRC to follow the September 1979 Draft without further revisions. 20

a) Paragraph 2 defines the terms of the Standard. As stated in SHNPP FSAR Section 1.8, paragraph 1.74, CP&L has combined the definitions given in various ANSI standards, in order to provide an available reference source. The definitions in Section 1.8, paragraph 1.74 agree with ANSI/ANS 3.1, September 1979 Draft with the following exception:

When the phrase "Bachelor's Degree or Equivalent" is used, the qualifications considered as minimal acceptable substitutes for a Bachelor's Degree are a high school diploma or its equivalent and one of the following:

1) Four years of formal schooling in science or engineering;

2) Four years applied experience at a nuclear facility in the area for which qualification is sought;

3) Four years of operational or technical experience or education or training in nuclear power; or

4) Any combination of the above totaling four years.

b) Table 1.8-1 cross references the "Functional Level and Assignment of Responsibility" definitions found in Section 3 of the Standard with the positions/titles of the SHNPP organization and the "Qualifications" found in Section 4 of the Standard. The numbers enclosed in parentheses denote the specific exceptions or proposed alternatives to the Standard's requirements which are described in paragraph (c) below:

c) Exceptions or proposed alternatives:

1) Paragraph 4.3.1 describes the qualifications for supervisors requiring NRC licenses. This paragraph requires that one year of nuclear power plant experience shall be at the plant where the supervisor is licensed, unless such experience is acquired on a similar (same NSSS) unit. CP&L shall alternatively provide the qualifications prescribed by 10CFR55 and the NRC letter dated March 28, 1980, which is titled "Qualifications of Reactor Operators". The qualifications cited in these two references shall be applicable to individuals employed as Operating Supervisor and Shift Foreman.

2) Paragraph 4.3.2 describes the qualifications for supervisors who are not required to hold an NRC license, but who are associated with "systems, equipment, or procedures involved in meeting the Limiting Conditions for Operation, which are identified in Technical Specifications". CP&L does not feel plant safety will be enhanced by requiring these supervisors to perform their duties under direct on-site supervision for a minimum of six months. Instead, CP&L proposes to select qualified individuals for these positions based upon past performance and experience.

3) Paragraph 4.5.1.1 describes the requirements for non-licensed operators. CP&L does not feel plant safety will be enhanced by requiring non-licensed operators to have one year power plant experience. CP&L shall alternatively provide a training/qualification program commensurate to the functions and responsibilities these employees will perform.

4) Paragraph 4.5.1.2 describes the requirements for licensed operators. CP&L takes exception to these requirements. Prior to operating the facility, licensed operators shall be qualified in accordance to 10CFR55 and the NRC letter dated March 28, 1980, "Qualification of Reactor Operators".

5) Paragraphs 4.5.2 and 4.5.3 describe the qualifications for technicians and maintenance personnel. CP&L considers these technicians and maintenance employees to be "in training or apprentice positions", as described in paragraph 3.2.4. Therefore, CP&L shall comply with the requirements as stated in paragraph 3.2.4.

6) Members of the QA staff will be trained and qualified in accordance with Regulatory Guide 1.58, which endorses ANSI 45.2.6. The SHNPP position on Regulatory Guide 1.58 addresses the SHNPP positions relative to ANSI N45.2.6. 26

7) Various CP&L positions are not addressed in the Standard. Therefore, CP&L lists these positions in Table 1.8-1 for reference, and CP&L will prescribe the training, responsibilities, and qualifications commensurate to the job requirements.

8) The ALARA Specialist shall have a BS Degree or the equivalent and two years experience, one of which shall be nuclear power plant experience, or the employee shall have an advanced degree and one year nuclear power plant experience.

9) The Project Engineer - On-Site Nuclear Safety shall have a BS Degree in Engineering or the equivalent and shall have a minimum of four years experience. These qualifications are required prior to preoperational testing or at position appointment, whichever is later.

10) The positions specified in Table 1.8-1 shall have a BS Degree in Engineering or the equivalent and two years experience, one of which shall be nuclear power plant experience, or the employees shall have an advanced degree and one year nuclear power plant experience. These qualifications are required at initial core loading or at position appointment, whichever is later.

11) The Training Specialist shall have at least four years power plant experience, two of which shall be nuclear power plant experience. Individuals in this position shall demonstrate their competence by having held an SRO license or by having trained at the SRO level prior to teaching NSSS, integrated response, transient analysis, or simulator courses. These qualifications are required at initial core loading or at position appointment, whichever is later.

d) Paragraphs 4.7.1 and 4.7.2 describe the qualifications for independent review personnel. Standard Technical Specifications also address the personnel requirements for individuals functioning in this capacity, and alternatively, CP&L shall comply with STS requirements for independent review personnel.

e) Paragraph 5.2 outlines an acceptable training program for personnel to be licensed by the NRC. However, CP&L feels this portion of the Standard is unnecessarily prescriptive. CP&L will provide a training program as described in FSAR Section 13.2 for licensed operators and senior operators, which will comply with the intent of the standard, requirements in 10CFR55, and the NRC letter dated March 28, 1980, "Qualifications of Reactor Operators". 22

Paragraph 5.5.1 outlines the retraining program for licensed personnel. 10CFR55 requires a requalification program to be submitted and approved to meet Appendix A, 10CFR55. CP&L proposes to requalify licensed personnel in accordance to the NRC approved requalification program outlined in Appendix A, 10CFR55. In addition, CP&L will comply to the NRC letter dated March 28, 1980, "Qualifications of Reactor Operators" and the intent of paragraph 5.5.1.

f) Paragraph 5.5.2.3 describes requirements to maintain certain documents. In order to provide consistency in the Document Control program, CP&L shall retain and maintain documents as required by ANSI N45.2.9-1974.

g) Paragraph 1, Scope, states in part, "this standard is further limited to personnel within the owner organization." However, paragraph 5.4 refers to temporary maintenance and service personnel. CP&L will apply the requirements of ANS 3.1, September 1979 to only those personnel directly employed by CP&L, and only the training of paragraph 5.4 will be required to be given to temporary maintenance and service personnel.

h) Positions shown on the SHNPP organization chart that have not been described herein shall be filled by individuals, who by virtue of training and experience, have been deemed qualified to fill these positions.

TABLE 1.8-1

FUNCTIONAL LEVEL, ASSIGNMENT OF RESPONSIBILITY, AND QUALIFICATIONS CROSS REFERENCE FOR SHNPP

ANS 3.1 Section	SHNPP Title
Managers	
4.2.1	Plant General Manager
4.3.2	Assistant to the General Manager
4.2.4	Manager - Technical Support
4.2.4	Manager - Start Up
4.2.3	Manager - Maintenance
4.2.2	Manager - Operations
4.4.4	Manager - Environmental and Radiation Control
4.3.2	Director - Regulatory Compliance
Technical Support	
4.6.2 (10)	Shift Technical Advisor
4.6.2 (8)	ALARA Specialist
4.6.2 (10)	Engineer Supervisor - Nuclear
4.6.2 (10)	Operations Support Supervisor
4.6.2 (10)	Principal Engineer - (Support)
4.6.2 (10)	Project Engineer - NSSS
4.6.2 (10)	Project Engineer - Equipment Evaluation
4.6.2 (10)	Project Engineer - BOP
4.6.2 (10)	Project Engineer - Engr. Specs.
4.6.2 (10)	Project Engineer - ISI
4.6.2 (10)	Project Engineer - Performance/Reliability
4.6.2 (10)	Project Engineer - Maintenance
4.6.2 (10)	Project Specialist - Radwaste
4.6.2 (10)	Project Specialist - Radiation Control
4.6.2 (10)	Project Specialist - Environmental and Chemistry
4.6.2 (9)	Project Engineer - On-Site Nuclear Safety
4.6.2	Engineering Subunit
4.6.2	Specialist Subunit
Professional Technical	
4.4.1	Senior Engineer - Reactor
4.4.4	Radiation Control Supervisor
4.4.3	Chemistry and Environmental Supervisor
4.4.2	Maintenance Supervisor - Electrical
4.4.6	Start-Up Supervisor
4.4.6	Start-Up Engineers
4.4.7	Director - Training
4.4.5	Director QA/QC

26

( ) denotes number of exceptions or alternatives proposed in paragraph c above.

TABLE 1.8-1 (cont'd)

Supervisors Foremen	
4.3.1 (1)	Shift Operating Supervisor
4.3.1 (1)	Shift Foreman
4.3.2	
4.3.2	Administrative Supervisor
4.3.2	Senior Specialist - Security
4.3.2 (2)	Senior Specialist - Fire Protection
4.3.2 (2)	Maintenance Supervisor - Mechanical
4.3.2 (2)	I&C Foreman
4.3.2 (2)	Electrical Foreman
4.3.2 (2)	Mechanical Foreman
4.3.2 (2)	Painter and Pipe Coverer Foreman
4.3.2 (2)	Radwaste Supervisor
4.3.2 (2)	Radwaste Shift Foreman
4.3.2 (2)	Environmental and Chemistry Foreman
4.3.2 (2)	Radiation Control Foreman
4.3.2 (2)	Traveling Radiation Control Foreman
4.3.2	Project Engineer - Computer
4.3.2	Senior Specialist - Emergency Preparedness
4.3.2	Director - On-Site Nuclear Safety
4.3.2	Principal Engineer - On-Site Nuclear Safety
4.3.2 (6)	Specialist - QA
4.3.2 (11)	Specialist - Training
Operators Technicians - Maintenance Personnel	
4.5.2	Technician I - Engineering
4.5.2	Technician I - Radiation Control
4.5.2 (5)	Technician II - Radiation Control
4.5.2	Technician I - Environmental and Chemistry
4.5.2 (5)	Technician II - Environmental and Chemistry
4.5.2	Technician I - Traveling Radiation
4.5.2 (5)	Technician II - Traveling Radiation
4.5.2	Technician I - Regulatory Compliance
4.5.2 (6)	Technician - QA
4.5.2 (7)	Technical Aide - Security
4.5.2 (7)	Technical Aide - Fire Protection
4.5.2 (7)	Technical Aide - Training

17

( ) denotes number of exceptions or alternatives proposed in paragraph c above.

TABLE 1.8-1 (cont'd)

Operators Technicians - Maintenance Personnel (cont'd)	
4.5.2	Technician I - Maintenance
4.5.2	Technician I - I&C
4.5.2 (5)	Technician II - I&C
4.5.3	Electrician I
4.5.3	Planner Analyst
4.5.3	Senior Mechanic
4.5.3	Mechanic I
4.5.3 (5)	Mechanic II
4.5.3	Painter and Pipe Coverer
4.5.1.2 (4)	Senior Control Operator
4.5.1.2 (4)	Control Operator
4.5.1.1 (4)	Auxiliary Operator
4.5.1.1 (3)	Control Operator - Radwaste
4.5.1.1 (3)	Auxiliary Operator - Radwaste
4.5.2 (7)	Draftsmen

17

( ) denotes number of exceptions or alternatives proposed in paragraph c above. 17

The Project Engineer - Maintenance provides technical support to plant electrical and mechanical maintenance and assists the Manager - Maintenance in assuring that plant instrumentation, control, electrical systems and mechanical systems are maintained at optimum dependability, safety, and operating efficiency, and remaining in compliance with all technical specifications and regulatory requirements. He is responsible for administration of the Maintenance Management System to accomplish the planning and scheduling of maintenance, ensuring parts availability, and establishing clearances necessary for preplanned work; he is assisted by a staff of engineers, specialists, technicians, and planner/analysts. The Project Engineer - Maintenance reports to the Manager - Maintenance Unit.

The Project Engineer - Computer provides process computer system maintenance support and technical expertise to ensure that all plant process computer systems are fully operational for the safe, reliable, and efficient operation of the plant. He is assisted by a staff of specialists and technicians. The Project Engineer - Computer reports to the Manager - Maintenance Unit.

13.1.2.2.3.3 Operations Unit

The Manager - Operations ensures that the safe and efficient operation of the unit and required support facilities. He is responsible for primary and secondary system performance and the timely completion of the scheduled periodic tests, and for adherence to the requirements of the operating license and technical specifications. He is also responsible for coordinating and overseeing the duties of the Operating Supervisor assigned to the plant, the Radwaste Supervisor, and the Operations Support Supervisor. He is responsible for orderly and safe operations, turnovers, and compliance with operating instructions. He shall hold a Senior Operator's License. He has the authority to issue Special Orders. He is supported in these responsibilities by a staff of the Operating Supervisor, Radwaste Supervisor, Operations Support Supervisor, engineers/specialists, Shift Technical Advisors, Shift Foremen, and Operators. The Manager - Operations Unit reports to the Plant General Manager. 25 25

The Harris Plant Operations Section will have shift operating crews assigned to provide 24-hour coverage of plant activities. Each shift operating crew will be manned in accordance with Technical Specification Table 6.2-1.

23

Each Shift Operating Crew in the Harris Plant Section shall meet the following requirements:

a) When the unit has fuel in the reactor core, there shall be a Shift Foreman with an SRO license on site at all times.

b) When the unit has fuel in the core, there shall be a licensed operator in the control room at all times.

c) When the reactor is operating, there shall also be a licensed SRO in the control room at all times.

d) When the reactor is being operated, there shall be an additional licensed operator in the control room to provide relief for the control room operator and to perform duties outside the control room that need to be performed by a licensed operator.

e) When the reactor contains fuel, there shall be an auxiliary operator in addition to the individuals required in (a) through (d) above. An additional auxiliary operator is required for the control room when the reactor is being operated.

f) For all core alterations, there shall be a licensed SRO or SRO limited to Fuel Handling to directly supervise the core alteration. This SRO shall not be assigned any other concurrent operational duties.

g) The Shift Foreman shall be assigned only the minimal administration duties required to operate his shift.

An extensive training program has been established to ensure that each onsite crew collectively has the requisite technical qualifications in reactor physics and control, nuclear fuel, thermal hydraulics, transient analysis, instrumentation and control, mechanical and structural engineering, radiation control and health physics, electric power, chemistry, and plant operation and maintenance.

The Shift Foremen ensure the safe, dependable, and efficient operation of the plant during their assigned shift and are the designated individuals in charge of the plant on that shift unless specifically relieved by the Operations Supervisor or his superior. They are responsible for adherence to the operating procedures, the operating license, and technical specifications. It

operating procedures, the operating license, and technical specifications. It is the responsibility and authority of the Shift Foreman to maintain the broadest perspective of operational conditions affecting the safety of the plant and to keep this as the highest priority at all times when on Control Room duty. The Shift Foreman shall hold a Senior Operator's license. The Shift Foreman, until properly relieved, remains in the Control Room at all times during an accident to direct the activities of Control Room Operators. He may be relieved only by qualified persons holding SRO licenses. During routine operations when the Shift Foreman is temporarily absent from the Control Room, a Senior Control Operator will be designated to assume the Control Room command function. He is supported by and supervises Senior Control Operators, Control Operators, and Auxiliary Operators. The Shift Foreman reports to the Operating Supervisor.

The Shift Foreman is the designated individual in charge of the plant on back shifts unless specifically relieved of the responsibility by either the Operating Supervisor, Manager - Operations, Manager - Plant Operations, or the Plant Manager. They are responsible for all personnel assigned on the back shifts including operators, mechanics, electricians, RC technicians, and I&C technicians.

a) Licensed Operators - The licensed operators are responsible for performing shift operations in accordance with the procedures, instructions, set points, limitations, and precautions contained in the Plant Operating Manual and the Technical Specifications. They exercise continuous monitoring of plant conditions and system parameters. They manipulate the controls and equipment to start up, change output, and shut down the plant as required by operating schedules and load demands. They initiate the immediate actions necessary to maintain the plant in a safe shutdown condition during abnormal and emergency situations. They maintain required records of plant data, shift events, and performance checks. They initiate plant corrective maintenance to report and document equipment problems. Licensed Senior Control Operators (SROs) have the responsibility and authority to assume the control room command function during the temporary absence of the Shift Foreman. The licensed operators report to the Shift Foreman. 19

b) Non-Licensed Operators - The non-licensed auxiliary operators are responsible to the Shift Foreman for assisting in the performance of assignments associated with shift operations or refueling. The non-licensed operators' duties are normally associated with the operation of auxiliary systems and equipment outside the control room. Non-licensed radwaste operators perform shift operations of the Waste Processing Systems. Non-routine operations are performed under the direction of a licensed control operator or Shift Foreman. Radwaste Operators report to the Radwaste Shift Foreman.

c) Radwaste Supervisor - The Radwaste Supervisor supervises the shift operations of the Waste Processing System. This includes the working procedures for the maintenance and implementation of the waste process equipment, and the operation of the equipment necessary to generate all the process water utilized within plant systems. The Supervisor is responsible for ensuring safe and efficient handling and storage of plant-generated

contaminated wastes until final disposition. He is assisted by the Radwaste Shift Foremen, Radwaste Operators, Project Specialist - Radwaste, Engineers, and Radwaste Auxiliary Operators. The Radwaste Operations Supervisor reports to the Manager - Operations Subunit.

d) Shift Foremen Radwaste - The Shift Foremen - Radwaste ensure the safe, dependable, and efficient operation of the Waste Processing System. It is the responsibility and authority of the Shift Foremen Radwaste to direct the activities of the Radwaste Operators to ensure efficient handling, processing, storage, and shipment of plant generated contaminated wastes. They are supported by and supervise Radwaste Control Operators and Radwaste Auxiliary operators. The Shift Foremen-Radwaste functionally report to the Radwaste Supervisor but are under the direction of the Shift Foreman to ensure that radwaste operations support is compatible with overall plant operations.

25 e) Operations Support Supervisor - The Operations Support Supervisor provides technical and engineering support to the plant operating personnel. He is responsible for the implementation and efficient operation of the shift technical advisor (STA) program at the plant as well as for providing direct technical support in the areas of: (1) Plant Operations; (2) Fire Protection as necessary to support safe, efficient, reliable operations; and (3) reactor core management to meet system load demands and compliance with regulatory requirements. He is assisted by Shift Technical Advisors, a Fire Protection Specialist, and a staff of engineers, technical aides, and technicians. The
25 Operations Support Supervisor reports to the Manager - Operations.

f) Senior Specialist - Fire Protection - The Senior Specialist - Fire Protection is responsible for fire detection equipment, fire protection equipment, and general safe working conditions for employees. He is responsible for keeping current on "Fire Protection Guidelines for nuclear power plants," Regulatory Guide 1.120, and Branch Technical Position APCSB 9.5-1 and 9.5-1 Appendix A, and informing plant management of changes affecting the plant. He will evaluate damage to plant fire protection equipment under warranty and make recommendations as to course of action. He will coordinate plant inspections for insurance purposes. He is assisted by a Specialist and Fire Protection Technical Aides. The Senior Specialist - Fire
25 Protection reports to the Operations Support Supervisor

g) Shift Technical Advisor - The Shift Technical Advisor provides accident assessment and technical advice concerning plant safety to shift operations personnel. He performs 10 CFR 21 evaluations for the shift operations personnel. He accomplishes this by performing engineering evaluations of plant operations, maintaining and broadening his knowledge of normal and off-normal operations, and diagnosing off-normal events. The Shift Technical
25 Advisors report to the Operations Support Supervisor

13.1.2.2.4 Startup and Test Unit

The Manager - Startup and Test is responsible for successfully implementing and accomplishing, on schedule, the Harris Nuclear Project preoperational and startup test program in accordance with the Startup Manual. The Manager - Startup and Test Unit reports to the General Manager - Harris Plant Operations Section.

TABLE 13.1.2-1

PROJECTED SHNPP STAFF LOADING

TITLE	NO. OF POSITIONS
GENERAL MANAGER	1
ASSISTANT TO GENERAL MANAGER	1
ADMINISTRATION	
Administrative Supervisor	1
Senior Specialist - Emergency Preparedness	1
Senior Clerk	3
Senior Specialist - Security	1
Technical Aide - Security	2
Secretary	1
OPERATIONS	
Manager - Plant Operations	1
Operating Supervisors	1
Shift Foreman	7
Senior Control Operators	15
Control Operators	12
Auxiliary Operators	54
Operations Support Supervisor	1
Shift Technical Advisor	8
Operations Engineer	1
Technician - Operations	1
Senior Specialist - Fire Protection	1
Specialist - Fire Protection	1
Technical Aide - Fire Protection	6
Radwaste Supervisor	1
Radwaste Shift Foreman	5
Radwaste Project Specialist	1
Radwaste Senior Engineer	2
Radwaste Control Operators	5
Radwaste Auxiliary Operators	15
MAINTENANCE	
Manager - Maintenance	1
Maintenance Supervisor (Mechanical)	1
Mechanic Foreman	3
Senior Mechanic	6
Mechanic 1/C	15

25

ENCLOSURE 5

CP&L

HARRIS TRAINING UNIT

TRAINING INSTRUCTIONS MANUAL

VOLUME: 2

TI NUMBER: 601

REVISION: 0

TITLE:

SHIFT TECHNICAL ADVISOR TRAINING AND RETRAINING

FOR INFORMATION ONLY

REV.	APPROVED BY	DATE	REV.	APPROVED BY	DATE	REV.	APPROVED BY:	DATE
1	R L Miller	4/3/86						

PREPARED BY: Larry W. Blackwell SR-TRNG-Spec — NAME/TITLE — 3/30/84 DATE

RECOMMENDED BY: Chris W. Powell Director-Training — NAME/TITLE — 4/4/84 DATE

APPROVED BY: [signature] C. S. WILLIS, PLANT GENERAL MANAGER — NAME/TITLE — 5/2/84 DATE

1.0 Purpose

To ensure that all Shift Technical Advisors (STA's) at Shearon Harris Nuclear Power Plant are qualified to provide advanced technical assistance to the operating shift complement during normal and abnormal operating conditions, and to make objective evaluations concerning plant safety.

2.0 References

1. INPO Guidelines GPG 01 Rev. 1
2. Nureg 0737
3. Denton Letter
4. FSAR Chapter 13
5. Nureg 0660
6. CP&L Resonse to DSER Question 630.7, July 23, 1983

3.0 Shift Technical Advisor Training (STA)

3.1 Selection Criteria

Prior to assuming shift duties as an STA, candidates will meet the following selection criteria:

1. B.S. Degree in Engineering or Physical Science
2. Minimum of 12 months nuclear experience which will include 6 months at the Shearon Harris Site.

3.2 Qualifications

3.2.1 Prior to assignment to STA Duties, each candidate must successfully complete the STA Training Program described in this instruction. Successful completion of SRO license training programs (TI-202), is acceptable in lieu of the training required per this instruction. For STA's who are to be Senior Licensed, selected portions of this training instruction may be administered prior to entering SRO Training. The determination as to which portions of the instruction will be administered prior to SRO Training will be at the discretion of the Manager Operations with concurrance of the Director of Training and based on previous candidate experience and educational background.

3.2.2 Waivers of required program instruction may be allowed based on past candidate experience or related training. The Director of Training must concur with all waivers.

3.2.3 Persons not actively performing STA shift functions for a period of six (6) months, prior to assuming the responsibilities of the STA position, must either:

1. Have been fully participating in operator requalification training., per TI-200.
2. Perform 1 week of simulator training, review materials in the required reading notebook, and discuss that material with the Operations Support Supervisor.

Documentation will be by memorandum from the Operations Support Supervisor.

3.3	Training Theory	484 hrs. (approx)
	1. Reactor Theory	100 hrs. "
	2. Thermal Sciences	128 hrs. "
	3. Electrical Sciences	60 hrs. "
	4. Radiation Protection and Health Physics	36 hrs. "
	5. Reactor Chemistry and Nuclear Chemistry	40 hrs. "
	6. Transient and Accident Analysis	80 hrs. "
	7. Mitigating Core Damage	40 hrs. "
3.4	Management and Supervisory Training	40 hrs.
3.5	Procedures Training	125 hrs. (approx)
	1. General Operating	40 hrs. "
	2. Administrative	20 hrs. "
	3. Plant Emergency Procedures (EAL's)	15 hrs. "
	4. Emergency Instructions (EOP Network)	20 hrs. "
	5. Technical Specifications	15 hrs. "
	6. Industry Events	15 hrs. "
3.6	Systems Training	200 hrs. "

STA candidates will receive training on the following systems:

1. RCS and Components
2. Safety Injection System
   a. High Head
   b. Accumulators
   c. Low Head
3. Containment Spray
4. RHR
5. Containment Cooling, Ventilation, and Isolation
6. CVCS and Primary Makeup
7. Emergency Electrical Power AC and DC
8. Auxiliary Feedwater
9. Containment Monitoring and H^2 Control
10. Station and Service Air

11. Main Steam
12. Main Feed and Condensate
13. Main Turbine and generator
14. Emergency Service Water
15. Component Cooling Water
16. Protection, Control and Monitoring Systems
    a. RPS
    b. RODCS
    c. SGWLC
    d. DEH
    e. Incore Instrumentation
    f. PZR Level and Pressure
    g. Steam Dump
    h. Temperature Instrumentation
    i. Loose Parts Monitoring
    j. Seismic Monitoring
    k. Radiation Monitoring
    l. Nuclear Instrumentation
    m. Sequencer
    n. Engineered Safety Features Actuation System
    o. Inadequate Core Cooling Monitor

3.7 Simulator Training (with training emphasis on overall plant operations)

3.7.1 Each STA candidate will receive approximately 120 hours of Simulator Training on the following:

1. Reactor and Plant Startup
2. Load Changes at Power
3. Plant Shutdown
4. Demonstrate Steam Generator Level Control
5. Load Rejection Greater Than 10%
6. Analysis of Reactor Plant conditions During Major Plant Accidents and Transients

3.7.2 A Simulator examination will be administered.

3.8 On the job training as an extra man on shift in the control room will consist of approximately 480 hours. Portions of the SRO Qual Card should be completed during this time (Attachment [Later] of TI-200)

3.9 Applicable poritions of existing programs may be used in lieu of seating an entire class of STA candidates (Sections 3.9.1, 3.9.2 and 3.9.3 are examples but not limited to.)

3.9.1 RO Theory classes (approx. 9 weeks) may be substituted to satisfy Theory portions of paragraph 3.3. above.

3.9.2 RO systems class (approx. 10 weeks) may be substituted for paragraph 3.6 above.

3.9.3 SRO Procedure training may be substituted for paragraph 3.5 above.

3.9.4 SRO MCD and T&AA may be substituted for paragraphs 3.3.6 and 3.3.7 above.

4.0 Grading Criteria

The grading criteria will follow the guidelines of TI-908.

5.0 STA Requalification Training

The STA's will participate in the License Operator Requalification Program TI-200.

6.0 Responsibilities

6.1 The Harris Training Unit will be responsible for providing the training set forth in this Training Instruction and the incorporation of any program changes deemed necessary as a result of the Program Evaluation. The Harris Training Unit will be responsible for documentation to support this program.

6.2 The Manager - Operations will be responsible for the selection of personnel requiring training in accordance with this TI to satisfy his staff requirements.

6.3 The Manager - Operations will be responsible for tracking time spent in the Main Control Room and qualification card completions per paragraph 3.8.

6.4 The Manager - Operations will be responsible for developing waivers to portions of this training based on past experience and/or training.

7.0 Program Evaluation

In order to maintain an effective program, periodic evaluation will be conducted. The evaluation will consist of communication among members of the training organization, departmental supervisor and the trainees. Consideration will be given to the following items:

1. Trainee Examination Results
2. Employee Job Performance
3. Regulations and Standards Affecting the Program

Necessary changes to the program content, instructional materials, training methods, examination techniques will be identified.