UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

BEFORE THE ATOMIC SAFETY AND LICENSING BOARD

In the Matter of	)	
	)	
CAROLINA POWER AND LIGHT COMPANY	)	Docket No. 50-261
	)	
(H.B. Robinson Steam Electric Plant, Unit 2)	)	(Steam Generator Repair)
	)	

NRC STAFF RESPONSE TO INTERROGATORIES
OF THE HARTSVILLE GROUP

The following are the responses of the NRC Staff to the Interrogatories of the Hartsville Group. The Staff and the Intervenor have agreed which of the interrogatories submitted are to be responded to by the Staff. We are not responding to any of the interrogatories related to Contention 2 since the Staff decision to publish an Environmental Impact Statement renders Contention 2 moot.

Contention 1

Questions No. 21 through 55

INTERROGATORY 21

Do you agree that CP&L has been responsible for a history of repetitive noncompliance with NRC rules and regulations?

RESPONSE

As detailed below, instances of repetitive noncompliance have been in isolated areas of Plant operation.

DESIGNATED ORIGINAL

Certified By

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CP&L as the Licensee for the H. B. Robinson 2, the Brunswick 1 & 2, and the Harris facilities is responsible for any noncompliances with NRC rules and regulations.

Three apparent instances of repetitives noncompliances at the Brunswick facility have occurred in the areas of Q-list identification of instruments, calibration of instruments used to verify technical specification requirements and the inadequate implementation of corrective action.

a. The repetitive Q-list noncompliance is discussed in IE Reports 325/82-10 and 324-82-10, and IE Reports 325/82-45 and 234-85-45 CP&L's responses to these violations are dated May 24, 1982 and March 18, 1983.

b. Repetitive violations concerning the calibrations of instruments, used to verify technical specification requirements, are discussed IE Reports 325/82-16 and 324/82-16, and IE Reports 325/82-45 and 324/82-45. CP&L responses to those violations are dated August 3 and 26, 1982, and March 18 and April 22, 1983.

c. The repetitive violation concerning inadequate implementation of corrective action is discussed in IE Reports 325/81-20 and 324/81-20, and IE Reports 325/82-08. CP&L's responses to these violations are dated October 6, 1981 and May 12, 1982.

Apparent instances of repetitive noncompliances at Robinson 2 are identified below.

a. Overexposures in 1981 associated with steam generator eddy current and tube plugging activities. These overexposures were either calculated or as measured by dosimetry. IE Reports 261/81-10, 81-11, 81-17 and 81-24 apply.

b. Failure to establish and implement an adequate drawing control program. IE Reports 261/81-12 and 261/82-20 apply.

Apparent instances of repetitive noncompliances at Harris are identified below.

a. Improper curing of concrete test cylinders, can be identified in IE Reports 400/79-17, 400/81-24, 400/82-16.

b. Failure to identify and correct nonconforming conditions or electrical cable tray supports, identified in IE Reports 400/81-25/ 400-82-24, 400/82-28.

c. Failure to protect equipment from the environment and adjacent construction activities, identified in IE Reports 4//880-26, 400/80-27, 400/81-13, 400/82-02, 400/82-05.

The above instances of noncompliance in isolated areas does not lead the Staff to a conclusion that CP&L has any widespread problem of repetitive noncompliance with NRC regulations.

INTERROGATORY 22

If your response to Interrogatory 21 is negative, explain in detail the respects in which you do not agree.

RESPONSE

Not applicable.

INTERROGATORY 23

Do you agree that CP&L has been responsible for breakdowns in corporate and facility management controls in the areas of corporate oversight, facility management and operations, and problem identification and correction which suggest a programmatic failure?

RESPONSE

CP&L as the Licensee is responsible for instituting corporate and facility management controls in the areas ifentified. Weaknesses which can be categorized as programmatic in nature, have been identified in certain functional areas at the Brunswick and Robinson 2 facilities.

INTERROGATORY 24

If your response to Interrogatory 23 is affirmative, describe each such breakdown in detail.

RESPONSE

A programmatic failure in the area of surveillance activities was identified at the Brunswick facility. This breakdown was discussed in IE Reports 325/82-28 and 324/82-28. The surveillance program at Robinson 2 was reviewed in detail subsequent to the identification of the Brunswick problems, but no similar breakdowns were identified. This Robinson 2 review is discussed in IE Reports 261/82-27 and 82-35.

At Robinson, the NRC has identified breakdowns in management controls in the areas of health physics controls. This documented in IE Reports 261/81-07, 81-10, 81-17, 81-24, 81-11.

While the above indicates breakdown in management controls with respect to specific problems, they do not indicate a failure in the overall program of management controls which covers a much broader spectrum of programs.

INTERROGATORY 25

What is the basis for your response to Interrogatory 24? Identify all documents, testimony or oral statements by any person and legal requirements on which you reply in support of your position.

RESPONSE

Basis for response are the IE Reports listed in response to Interrogatory No. 24.

INTERROGATORY 26

If your response to Interrogatory 23 is negative, explain in detail the respects in which you do not agree.

RESPONSE

Not applicable.

INTERROGATORY 27

Describe in detail each CP&L violation of NRC operating procedures, rules and regulations categorized at Severity Level I pursuant to NRC Enforcement Policy.

RESPONSE

None.

INTERROGATORY 28

Describe in detail each CP&L violation of NRC operating procedures, rules and regulations categorized at Severity Level II pursuant to NRC Enforcement Policy.

RESPONSE

None.

INTERROGATORY 29

Describe in detail each CP&L violation of NRC operating Interrogatory is (SIC).

RESPONSE

Question is incomplete and not understood.

INTERROGATORY 30

Describe in detail each CP&L violation of NRC operating procedures rules and regulations categorized at Severity Level III pursuant to NRC Enforcement Policy.

RESPONSE

Severity Level III Violations at Robinson 2 since the establishment of the present severity level system on October 7, 1980.

a. Personnel Monitoring

1) IE Report 261/81-10 (item 81-10-01) and EA-81-46

2) CP&L response letters dated June 17 and 30, 1981

b. Calculated Overexposures

1) IE Report 261/81-10 (item 81-10-03) and EA-81-46

2) CP&L response letters dated June 17 and 30, 1981

c. Inadequate Surveys and Overpressure

1) IE Report 261/81-24 (item 81-24-01) and EA-82-07

2) CP&L response letters dated December 31, 1981 and January 5, 1982

d. Failure to follow procedures

1) IE Report 261/81-24 (item 81-24-02) and EA-82-07

2) CP&L response letters dated December 31, 1981 and January 5, 1982

e. Improper Radioactive Waste Shipment

1) IER 261/82-40 (item 82-40-01)

2) CP&L response letter dated December 31, 1982

Severity Level III violations at the Brunswick facility since the establishment of the present severity level system on October 7, 1980.

a. Inadequate Survey and Overpressure

1) IE Reports 324/81-16 and 325/81-16 and EA 81-77

2) CP&L response letter dated October 30, 1981

b. Inoperable Reactor Water Level Instrument and Failure to take adequate corrective action.

1) IE Reports 324/82-02 and 325/82-02 and EA 82-75

2) CP&L response letter dated August 16, 1982

c. Surveillance Program Inadequacies and Inadequate Corrective Action

1) IE Reports 324/82-28 and 325/82-28 and EA 82-106

2) CP&L response letter dated May 2, 1983

d. Failure to operate the facility in accordance with the facility operating license and Technical Specifications

1) IE Reports 324/83-03 and 325/83-03

2) Response due June 25, 1983

Security Level III violations at the Harris facility since the establishment of the present severity level systems on October 7, 1980

None.

INTERROGATORY 31

Describe in detail each CP&L violation of NRC operating procedures, rules and regulations categorized at Severity Level IV pursuant to NRC Enforcement Policy.

RESPONSE

Severity Level IV Violations at Robinson 2 since October 7, 1980

a. Inadequate procedure

1) IE Report 261/81-03 (item 03-02)

2) CP&L Response dated March 23, 1981

b. Failure to follow procedures

1) IER 261/81-07 (item 81-07-29)

2) CP&L response dated July 30, 1981

c. Failure to control modification

1) IER 261/81-08 (item 81-08-01)

2) CP&L response dated April 30, 1981

d. Inadequate maintenance program

1) IER 261/81-15 (item 81-15-03)

2) CP&L response dated June 23, 1981

e. Failure to perform adequate 50.59 review and failure to report

1) IER 261/81-19 (item 81-19-03)

2) CP&L response dated August 21, 1981

f. Inexperienced health physics technician

1) IER 261/81-24 (Item 81-24-03) and EA-82-07

2) CP&L response dated January 5, 1982

g. Failure to control post maintenance testing

1) IER 261/81-27 (item 81-27-33)

2) CP&L response dated November 18, 1981

h. Failure to implement modification controls

1) IER 261/81-36 (item 81-26-01)

2) CP&L response dated March 30, 1982

i. Failure to maintain procedures

1) IER 261/81-26 (item 81-36-02)

2) CP&L response dated March 10, 1982

j. Failure to perform safety review

1) IER 261/81-36 (item 81-36-03)

2) CP&L response dated March 10, 1982

k. Inadequate procedure

1) IER 26/182-08 (item 82-08-01)

2) CP&L response dated April 23, 1982

l. Failure to perform timely audit

1) IER 271/82-16 (item 82-16-04)

2) CP&L response dated July 14, 1982

m. Inadequate access control

1) IER 261/82-16 (item 82-16-05)

2) CP&L response dated July 14, 1982

n. Failure to implement drawing controls

1) IER 261/82-20 (item 82-20-02)

2) CP&L response dated August 20 and August 27, 1982

o. Failure to maintain valve lineups

1) IER 261/82-20 (item 82-20-03)

2) CP&L response dated August 20 and August 27, 1982

p. Failure to implement storage requirements

1) IER 261/2-20 (item 82-20-09)

2) CP&L response dated August 20 and August 27, 1982

q. Failure to perform adequate review

1) IER 261/82-27 (item 82-27-01)

2) CP&L response dated October 8, 1982

r. Use of superceded documents

1) Use 261/82-27 (item 82-27-02)

2) CP&L response dated October 8, 1982

s. Failure to control high radiation area

1) IER 261/82-31, (item 82-32-04)

2) CP&L repsonse dsated February 24, 1983 and October 22, 1982

t. Failure to implement procedures

1) IER 261/82-32 (item 82-32-01)

2) CP&L response dated October 29, 1982

u. Failure to implement adequate corrective action

1) IER 261/82-32 (item 82-32-02)

2) CP&L response dated October 29, 1982

v. Failure to establish and implement adequate surveillance procedure

1) IER 261/82-32 (item 82-32-03)

2) CP&L response dated October 29, 1982

w. Failure to perform audits

1) IER 261/82-33 (items 82-32-01 and 02)

2) CP&L response dated December 2, 1982, December 31, 1982, and March 14, 1983

x. Failure to distribute audit in time

1) IER 261/82-33 (item 82-33-03)

2) CP&L response dated December 2, 1982, December 31, 1982 and March 14, 1983

y. Failure to respond to audit in 30 days

1) IER 261/82-33 (item 82-33-04)

2) CP&L response dated December 2, 1982, December 31, 1982 March 14, 1983

z. Unauthorized waste disposal

1) IER 261/82-34 (item 82-34-02)

2) CP&L response dated November 30, 1982, and January 13, 1983

aa. High radiation area controls

1) IER 261/82-34 (item 82-34-07)

2) CP&L response dated November 30, 1982 and January 13, 1983

ab. Failure to establish and implement equipment control procedures

1) IER 82-37 (item 82-37-13)

2) CP&L response dated January 21, 1983

ac. Failure to implement corrective action

1) IER 261/82-41 (item 82-41-04)

2) CP&L response dated February 3, 1983

ad. Failure to establish adequate calibration procedures

1) IER 261/82-42 (item 82-42-01)

2) CP&L response dated March 4, 1983

ae. Overpressure protection outside design basis

1) IER 261/82-42 (item 82-42-02)

2) CP&L response dated March 4, 1983

af. Failure to implement procedures

1) IER 261/83-02 (item 83-02-01)

2) CP&L response dated March 25, 1983

af. Failure to take adequate corrective action

1) IER 261/83-02 (item 83-02-03)

2) CP&L response dated March 25, 1983

ah. Improper radioactive waste shipment

1) IER 261/83-03 (item 83-08-01)

2) CP&L response due June 23, 1983

ai. Failure to maintain procedures

1) IER 261/83-12 (item 83-12-01)

2) CP&L response due June 26, 1983

aj. Failure to implement housekeeping

1) IER 261/83-12 (item 83-12-02)

2) CP&L response due June 26, 1983

ak. Failure to provide adequate controls

1) IER 261/83-12 (item 83-12-03)

2) CP&L response due June 26, 1983

Severity Level IV violations at Brunswick facility since October 7, 1980.

a. Service Water Systems Secured Rending Safety Systems Inoperable

1) IE Reports 324/81-02 and 325/81-02

2) CP&L response dated April 14, 1981

b. Late Licensee Report to NRC

1) IE Reports 324/81-04 and 325/81-04

2) CP&L response dated June 12, 1981

c. Failure to Follow Procedures

1) IE Reports 324/81-06 and 325/81-06

2) CP&L response dated June 12, 1981

d. Inadequate Procedure

1) IE Reports 324/81-13 and 325/81-13

2) CP&L response dated August 24, 1981

e. Failure to Sample Radioactive Liquid Effluent Prior to Release

1) IE Report 324/81-20 and 325/81-20

2) CP&L response dated October 12, 1981

f. Failure to Declare High Pressure Coolant Injection System Inoperable

1) IE Reports 324/81-24 and 325/81-24

2) CP&L response dated November 2, 1981

g. Failure to Implement Procedures and Failures to Take Required Primary Coolant Samples

1) IE Reports 325/82-01 and 325/82-01

2) CP&L response dated March 1, 1982

h. Failure to Implement Procedures

1) IE Reports 324/82-05 and 325/82-05

2) CP&L response dated April 30 and May 10, 1982

i. Failure to Promptly Implement Corrective Action

1) IE Reports 324/82-08 and 325/82-08

2) CP&L response dated May 12, 1982

j. Failure to Implement Procedures

1) IE Reports 324/82-09 and 325/82-09

2) CP&L response dated May 21, 1982 and February 25, 1983

k. Failure to Take Adequate Corrective Action and Failure to Follow Procedures

1) IE Reports 324/82-10 and 325/82-10

2) CP&L response dated May 24, 1982

l. Failure to Establish Procedures and Failure to Establish a Trend and Review Program

1) IE Reports to 324/82-16 and 325/82-16

2) CP&L responses dated August 3, August 26 and Novembe 29, 1982

m. Failure to Establish Measures to Assure Prompt Corrective Action

1) IE Reports 324/82-20 and 325/82-20

2) CP&L responses dated August 16 and September 24, 1982

n. Failure to Establish New Pump Reference Data

1) IE Reports 324/82-23 and 325/82-23

2) CP&L responses dated August 18 and September 15, 1982

o. Operating Procedures Not Conforming to ANSI Requirements and Not Adequately Maintained

1) IE Reports 324/82-25 and 325/82-25

2) CP&L response dated September 7, 1982

p. Failure to Establish Measure to Assure Require Post Maintenance Testing is Performed

1) IE Reports 324/82-26 and 325/82-26

2) CP&L response dated September 13, 1982

q. Improper Radioactive Waste Shipment

1) IE Reports 324/82-42 and 325/82-42

2) CP&L response dated January 5, 1983

r. Failure to Take Adequate Corrective Action

1) IE Reports 324/82-45 and 325/82-45

2) CP&L responses dated March 18 and April 27, 1983

s. Failure to Establish Adequate Written Procedures

1) IE Reports 324/83-10 and 325/83-10

2) CP&L response due June 23, 1983

Severity Level IV Violations at the Harris Facility since the establishment of the present severity level system on October 7, 1980.

a. Failure to Identify and Correct Nonconforming Conditions

1) IER Nos. 400/82-05 and 401/82-05

2) CP&L responses dated April 21, 1982 and July 22, 1982

b. Failure to Perform Required Audits

1) IER Nos. 400/82-07 and 401/82-07

2) CP&L response dated May 19, 1982

c. Welding Record Discrepancies and Use of Non-certified Welding Inspectors

1) IER Nos. 400/82-03 and 401/82-03

2) CP&L response date June 1, 1982

d. Failure to Follow Procedures

1) IER Nos. 400/82-21 and 401/82-21

2) CP&L responses dated August 5, 1982 and August 24, 1982

e. Failure to Identify Nonconforming Condition

1) IER Nos. 400/82-24 and 401/82-24

2) CP&L responses dated September 2, 1982 and December 17, 1982

f. Failure to Follow Procedures

1) IER Nos. 400/82-26 and 401/82-26

2) CP&L response dated September 23, 1982

g. Failure to Identify Nonconforming Condition

1) IER Nos. 400/82-28 and 401/82-28

2) CP&L response dated October 7, 1982

h. Materials Nonconformance with Procurement Document

1) IER Nos. 400/82-39 and 401/82-39

2) CP&L response dated February 4, 1983

i. Failure to Document Material Upgrade

1) IER Nos. 400/83-07 and 401/83-07

2) CP&L response dated May 12, 1983

j. Deficient QA Inspection

1) IER Nos. 400/83-16 and 401/83-16

2) CP&L response due June 19, 1983

INTERROGATORY 32

Describe in detail the corrective actions and management controls instituted by CP&L with respect to each instance of violation of NRC operating procedures, rules and regulations referred to in response to Interogatories 28-31.

RESPONSE

The Licensees planned corrective actions are detailed in response to the enforcement action. The NRC reviews the responses for adequacy and subsequently reviews the implementation of the Licensees corrective action on site.

INTERROGATORY 33

What are the bases for your responses to Interrogatories 28-32? Identify all documents, testimony or oral statements by any person on which you rely in support of your position.

RESPONSE

The documentation listed in response to Interrogatories 30 and 31.

INTERROGATORY 34

Have any CP&L employees or contractors or subconstractor employees been warned, counseled, disciplined, transferred, demoted, penalized, suspended or terminated as a result of noncompliance with NRC operating and administrative procedures, rules or regulations at any licensed facility or for actions under any NRC license since January 1, 1978?

RESPONSE

The NRC does not track this data. This information should be obtained from CP&L.

INTERROGATORY 35

Has CP&L been the subject of requests for action, notices of proposed action, notices of violation, notices of proposed imposition of civil penalties, orders to show cause, proceedings to modify, suspend or revoke a license or to impose civil penalties pursuant to 10 C.F.R. Part 2, Subpart B, any other provisions of AEC or NRC statutes or regulations, or any civil or criminal proceeding in the courts of the United States or any State, before any agency of the United States or any State with resect to activities under AEC/NRC license? Describe in detaile each such instance, the violation or claim alleged, its date and place, the CP&L response including any evidence offered in answer, remission or mitigation, the proceedings had thereon and the outcome.

RESPONSE

Yes, violations and civil penalties are addressed under previous Interrogatories (27-33) back to October 7, 1980 (date of the present enforcement policy).

Known orders for modification of license the H.B. Robinson license:

a. September 19, 1980 concerning environmental qualification

b. October 24, 1980 concerning environmental qualification

c. April 20, 1980 concerning primary system isolation valve testing

d. July 10, 1981 concerning TMI action items

e. March 14, 1983 concerning TMI action items

Known orders for the Bruswick facility NRC orders issued are as follows:

a. Commission orders confirming commitments for TMI related requirements were issued on July 10, 1981, March 14, 1983 and May 5, 1983.

b. On December 22, 1982 an NRC Confirmatory Order was issued confirming the commitment to implement a long range Brunswick Station improvement program submitted by CP&L.

INTERROGATORY 36

What are the bases for your responses to Interrogatories 34 and 35? Identify all documents, testimony or oral statements by any person and legal requirements on which you rely in support of your position.

RESPONSE

The documentation listed in response to Interrogatories No. 34 and 35.

INTERROGATORY 37

Identify in detail any complaints made to the NRC regarding violations of NRC operating and administrative procedures, rules and regulations with respect to any activities under any AEC/NRC license

issued to CP&L. For each complaint, set forth the name, address and telephone number of the persons complaining or involved in the manner complained of an explain fully the manner in which Applicant learned of the complaint.

RESPONSE

See response to Interrogatory No. 38.

INTERROGATORY 38

Identify in detail any instances in which allegations have been made of pressure, intimidation, harrassment, encouragement, direct orders, suggestions, or inducement of any sort of employees of CP&L or its contractors or subcontractors intended to result in the violation of or noncompliance with NRC operating and administrative procedures, rules or regulations. For each such instance, set forth the name, address or telephone numbers of the person(s) making the allegation or invovled in the NRE Matter alleged, describe fully any investigations made by CP&L or the NRC Staff, and describe in detail any actions taken.

RESPONSE

The following is a list of all allegations in summary form, that were readily retrievable as a result of computer input. Much earlier allegations regarding CP&L operations may exist in filed documentation. The retrieval of any earlier allegations (if any exist) would require the manual search of inspection reports and other correspondence that would encompass a massive effort and several hundred manhours.

The allegations as submitted in this list provide the case number, respective dates for opening and closing a case, the subject matter and a summary of actions taken or planned.

A key to acronym and abbreviations is included.

Case No: 83A002 Subject: Improper Marking of Hi Rad

Opened: 1-27-83 Areas - Possible Overexposure

Pending: Additional info to be provided by OI

Case No: 83A003 Subject: Failure to adhere to ALARA
Opened: 1-27-83 Policy when working in contain
Facility: Brunswick ment

Pending: Awaiting report of technical review

Case No: 83A009 Subject: Use of uncertified welders and
Opened: 3-383 Falsification of records in the
Facility: Brunswick construction of spent fuel racks

Pending: Status to be provided by OI

Case No. 83A010 Subject: Failure to adhere to ALARA Policy
Opened: 2-19-83
Facility: Brunswick

UTL/FACLTY	CASE DATES	SUBJECT	SUMMARY
CPL Brunswick	20047 OPND: 78-10-04 CLSD: 78-12-14	Inadequate Guard Tra ing. Conduct Of Guards, Etc.	Inv. By I, S 0 Of 4 Alleg Subt 1 Item On N/C
CPL Brunswick	23064 OPND: 79-08-07 CLSD: 79-10-24	Reactor Vessels for Units 1 & 2 Switched During Const	Inv. by R4 Disclosed Unfounded Closed W/O Further Action
CPL Brunswick	2D073 OPND: 79-08-24 CLSD: 79-10-01	Use of Alcoholic Beverages by Operat-ing Staff	Spec. Backshift Insp. (2) By Res Insp Allege Unsubst No N/C
CPL Brunswick	2B001 OPND: 80-01-02 CLSD: 80-02-21	Security Locks Inade-quate and Personnel Safety Hazards	Allegations Found To Be Outside NRC Juris-diction Alleger Referred To DOL/OSHA
CPL Brunswick	2E012 OPND: 80-03-07 CLSD: 80-09-30	Radiation Safety Practices	RI Conducted by F 3 of 3 Alleg Subst 6 items of NC
CPL Brunswick	2E017 OPND: 03-28-80 CLSD: 80-08-29	Failure to Decontam-inate Clothing Before Leaving Site	SI by FFMS 0 of 1 Allege Subst No Related N/C But Rpt Part of CP Pkg
CPL Brunswick	2E024 OPND: 80-04-25 CLSD: 80-09-22	Inadequate HP Procedures During Outage	SI Conducted by F 27 items of NC Identified in Related Spec Insp Civil Penalty Issued
CPL Brunswick	2E033 OPND: 80-05-19 CLSD: 80-08-06	Deliberate Decision To Continue Unmonitored Release	Inv Conducted by I&O 0 of 1 Allegation 0 Items of NC
CPL Brunswick	2E038 OPND: 80-06-17	Security Records Falsification	Case Closed W/O Action Due To Lack Of Specifics No Response To Letters
CPL Brunswick	2E066 OPND: 80-08-11 CLSD: 81-01-05	Possible Intentional Improper Position Of Stop Check Valves	Insp Conducted BY SRI&INV. 1 of 1 Allegations

UTL/FACLTY	CASE DATES	SUBJECT	SUMMARY
			Subst I Item of NC
CPL Brunswick	2E067 OPND: 80-09-18 CLSD: 80-11-08	Inadequate Correlation Between TLD & Dosimeter	RI Conducted By F Prior To Allegation Which Already Substiated The Inade-The Inadequacies - 1 N/C
CPL Brunswick	2E091 OPND: 80-11-13 CLSD: 82-02-12	Improper Radiation Protection Practices Unreported Releases	Inv by I&F 1 of 1 alleg subst 5 violations
CPL Brunswick	2F022 OPND: 81-03-31 CLSD: 81-05-12	Improper Radwaste Operation-Inop Valve and Leaking pipes	Allegations referred to F and O for action deemed appropriate no action by EIS for lack of specifics
CPL Brunswick	2F043 OPND: 81-10-15 CLSD: 81-01-21	Improper Security Practices	RI conducted by EIS & S O of 2 allegations subst 1 related violation ID
CPL Brunswick	2G001E OPND: 82-01-05 CLSD: 81-11-15	Failure low level Transmitter-6 days SL3-CP	3 Viol - Each SL3 R2 Proposed 50K H2 Prop 240K CP 120K Issued
CPL Brunswick	2G007 OPND: 82-12-12 CLSD: 82-01-17	Improper Security Practices-Access Control	Insp conducted by R2 T O of 2 allegations subst No Violation identified
CPL Brunswick	2G035 OPND: 82-05-1 CLSD: 82-09-2	Large numbers of contaminaed workers workers	RI by TIB 1 of 4 Alleg Subst No Violations
CPL Brunswick	2G041 OPND: 82-06-0 CLSD: 82-09-2	Potential Sabotage of Incore Nuclear Instruments	Inv Conducted by Rpt Rvwd by 01 and PSS No Further R2 Action No Info of Sabotage
CPL Brunswick	2G055 OPND: 82-09-03 CLSD:	Falsification of QC Inspection Records	Pending: Inv. Conducted By Licensee Q.A. Task Force

UTL/FACLTY	CASE DATES	SUBJECT	SUMMARY
CPL Brunswick	2G069 OPND: 82-10-04 CLSD: 83-02-14	Falsification of Dosimetry Records	Inv. Conducted Could Not Substantiate No N/C
CPL Harris	2C046 OPND: 78-09-12 CLSD: 78-10-26	Improper Installation Of Rebar & Achor Bold Pads	RI By RCES 0 of 6 alleg Subst No N/C
CPL Harris	2D071 OPND: 79-08-16 CLSD: 70-01-28	Inadequacies Resolution of NCRs of Concrete placement	RI by RCES 2 of 3 Alleg Substi 2 Items of N/C
CPL Harris	2D096 OPND: 79-11-29 CLSD: 80-06-23	Qualification of Craft Personnel	Lack of Detailed Info Alleger Failed to Respond To Request for Details Closed W/O Action
CPL Harris	2E016 OPND: 80-03-21 CLSD: 80-07-15	Improper Construction Practices	No Concerns Within NRC Jurisdiction Identified Insufficient Detail To Proceed Allegation Referred OSHA
CPL Harris	2F017A OPND: 81-03-23 CLSD: 81-12-28	Improper QC Practice Qualification, & NCR Handling	Ri conducted By ET1 + 0 1 of 4 allegations subst 1 violation identified 1 IFI
CPL Harris	2F017B OPND: 81-03-23 CLSD: 81-09-28	Inadequate QC Inspector Qualifications	RI conducted by 0 0 of 2 allegation subst 0 items of NC
CPL Harris	2F029 OPND: 11-06-23 CLSD: 11-11-06	Improper Welding of rebar in containment bldg	Insp conducted by 0 of 1 allegation subst 2 violations identified
CPL Harris	2F035 OPND: 81-08-10 CLSD: 81-12-07	Improper Const Materials and Practices	SI by E 8 of 12 allegations subst 1 violation 1 URI
CPL Harris	2F051 OPND: 8_-12-11 CLSD: 8_-09-30	Improper welding inspection practices	Inv by EIS 1 of 1 Alleg Subst 2 Viol - Both SL4

UTL/FACLTY	CASE DATES	SUBJECT	SUMMARY
CPL Harris	2G010 OPND: 82-02-02 CLSD: 82-05-26	Improper construc Inspection Practices	Invest by I 1 of 2 allegations subst No violations
CPL Harris	2G025 OPND: 82-03-31 CLSD: 82-06-16	Falsification of Daily Aggregate Tests	RI conducted by E 1 of 1 allegation subst 1 insp followup 82-12-01 0 violations
CPL Harris	2G027A OPND: 82-04-14 CLSD: 82-09-22	Forgery of QC Weld Inspection Document	Inv by EIS 0 of 1 Alleg Subst No Violations 1 Related URI
CPL Harris	2G027B OPND: 82-09-22 CLSD:	Discrepancies Id'd In Hanger Insp Records During Inv	Pending: Review of Technical Follow Up
CPL Harris	2G067 OPND: 82-09-30 CLSD: 82-11-19	Falsified Hydrotest Results	Inv. Conducted Insufficient Detail To Proceed - Case Closed
CPL Robinson	2C011 OPND: 78-02-17 CLSD: 78-03-01	Inadequate Radiation Protection Program (Several Examples)	SI By FFMS - Results Not Indicated In File - FFMS Memo Indicate Alleger Satisfied W NRC Response
CPL Robinson	2D004 OPND: 79-01-29 CLSD: 79-03-22	Inadequate Training of HP Personnel	RI by FFMS None of 3 Alleg Subst No N/C - Alleger Filed Complaint W/DOL:WHA
CPL Robinson	2E015 OPND: 80-03-12 CLSD: 80-06-23	Falsification of Guard Training Records	RI Conducted By S 0 of 1 Allegation 0 Item of NC
CPL Robinson	2E074A OPND: 80-10-07 CLSD: 80-11-21	Inadequate Security Practices	Insp Conducted By S 0 Of 7 Allegations Subst 0 Items of NC

UTL/FACLTY	CASE DATES	SUBJECT	SUMMARY
CPL Robinson	2E074B OPND: 80-10-07 CLSD: 80-11-08	Inadequate Control Room Practices CPS Personnel Sleep	Backshift 1 sp By RONS On 2 Occasions Not Identify Any Problem 1 Alleg Unsubst - NC
CPL Robinson	2E078 OPND: 80-10-16 CLSD: 80-11-08	Inadequate Operation of Containment Hatch	RI Conducted By O And Telecon To CP&L By F 1 Of 2 Allegations Subst. 0 Items of NC
CPL Robinson	2E085A OPND: 80-10-27 CLSD: 81-07-20	Inadequate HP Practices (Inhalation)	SI Conducted by ETI 0 of 7 allegations sbust 6 related violations identified
CPL Robinson	2E085B OPND: 80-10-27 CLSD: 81-03-26	Inadequate Security (Escort) Practices	Inspection conducted by 5 0 of 1 allegation subst No items of NC No related items
CPL Robinson	2E086 OPND: 80-10-30 CLSD: 81-07-20	Inadequate Neutron Exposure Records And Surveys	SI conducted by ETI 0 of 3 allegations subst 6 related violations identified
CPL Robinson	2E097 OPND: 80-11-21 CLSD: 81-07-21	Improper Contamination (Control) (Tools) and Suspected Drug Use	SI Conducted by ETI 0 of 2 allegations subst 6 related identified
CPL Robinson	2F010 OPND: 81-02-26 CLSD: 81-12-04	HP Practices RWPs Trng contam contr	1 Rvw Licensee Inv 1 of 12 allegations subst 4 referred to OSHA No violations
CPL Robinson	2F054 OPND: 81-12-30 CLSD: 82-05-26	Possible Materials False Statement	Inv by EIS disclosed NFS - Sev Lev 3 violation Referred to Enf
CPL Robinson	2F054E OPND: 82-05-19 CLSD: 82-07-07	Material False Statement - SL3 - No CP	Issued as an Infraction under old policy - Failure to Report

UTL/FACLTY	CASE DATES	SUBJECT	SUMMARY
CPL Robinson	2F055E OPND: 81-12-31 CLSD: 82-05-07	Failure to evaluate radiation risk to worker SL3-CP (5 K)	Adequate Response Acknowledged by ETI
DPC Catawba EDS Nuclear	2C014 OPND: 78-03-09 CLSD: 78-03-23	Inadequate Seismic Analyses - Pipe Restraints	SI by I, C & NRR Unresolved Item IDd - NRR Determined Method Acceptable W/Conditions

Pending: Awaiting report of technical review

Case No: 83A024 Subject: Onsite marijuana use

Opened: 4-5-83

Facility Brunswick

Pending: Awating report of Licensee internal investigation

Case No: 83A026 Subject: Improper QA practices on safety

Opended: 4-12-83 related installations

Facility: Brunswick

Pending: Submitted for technical review

Case No: 83A035 Subject: Anon allegation on HP Matters

Opened: 5-31-83

Facility: Brunswick

Pending: Submitted for technical review

Case No: 83A041 Subject: Anon caller: weed killer on

Opened: 5-12-83 stainless pipi

Facility: Catawba

Closed: 5-12-83

Pending: Closed after review of Technical Evaluation 6/7/83

Case No: 83A45 Subject: Alleged over-exposure ALARA

Opened: 6-10-83 violation

Facility: Robinson

Closed: 6-10-83

Inspection conducted case closed subject submitted erroneous info to licensee

Case Key: Acronyms for Summary Resolution of Allegations

ANON	=	Anonymous
INV	=	Investigation
I, or IS	=	Investigators of Investigative Staff
R4	=	Region IV
N/C or	=	Noncompliance
RES	=	Resident Inspector
DOL	=	Department of Labor
OSHA	=	Occupational Safety & Health Agency
RI	=	Reactive Inspection
SI	=	Special Investigation or Inspection
F	=	FFMS or Fuel Facilities & Materials Safety
CP	=	Civil Penalty
SRI	=	Senior Resident Inspector
NC	=	Noncompliance
I&O	=	Office of Investigator or Investigators & Operations
O	=	Operations
EIS	=	Enforcement & Investigators Staff
S	=	Security
ID	=	Identified
SL	=	Severity Level

T	=	Techical Staff
OI	=	Office of Investigations
PSS	=	Program Support Staff
QA	=	Quality Assurance
RCES	=	Reactor Construction & Engineering Support
IFI	=	Inspector Follow Up Item
URI	=	Unresolved Item
RONS	=	Reactor Operations & Nuclear Support
ETI	=	Engineering & Technical Inspection
MFS	=	Material False Statement
NRR	=	Nuclear Reactor Regulation

INTERROGATORY 38

Identify in detail all documents reflecting disagreements, disputes or differences of opinion between employees of CP&L and their supervisors or CP&L management regarding compliance or sufficiency of compliance with NRC operating and administrative procedures, rules or regulations. Include the subject, data, names of persons involved and resolution for each such instance.

RESPONSE

The NRC does not track this information.

INTERROGATORY 40

What evaluations of CP&L or its nuclear facilities have been carried out by the NRC Systematic Assessment of Licensee Performance Review Group? Identify each such study or assessment and describe in detail its results and conclusions.

RESPONSE

Evaluations of the CPL nuclear facilities by the Systematic Assessment of Licensee Performance Review Group and the results and conclusions of such studies are contained in;

*IE Inspection Report 50-261/83-07
IE Inspection Report 50-261/82-17

*IE Inspection Report 50-324/83-09
*IE Inspection Report 50-325/83-09
IE Inspection Report 50-324/83-15
IE Inspection Report 50-325/82-15
*IE Inspection Report 50-400/82-14
IE Inspection Report 50-400/82-14
IE Inspection Report 50-401/82-14

*Not issued as of 6/9/83.

INTERROGATORY 41

Describe in detail the basis for any rating of CP&L or any of its facilities by the NRC Systematic Assessment of Licensee Performance Review Group.

RESPONSE

The basis for rating a utility by the NRC SALP Review Group is contained in:

- NRC Manual Chapter 0516, dated March 23, 1982 entitled - Systematic Assessment of Licensee Performance"
- NRC Region II, Regional Office Instruction No. 1411 Revision 1, dated February 28, 1983 entitled - "Systematic Assessment of Licensee Performance"
- Detailed bases on a specific rating are contained in the individual SALP reports when issued.

INTERROGATORY 42

What are the bases for your responses to Interrogatories 40 and 41?

RESPONSE

The documentation listed in response to Interrogatories 40 and 41.

INTERROGATORY 43

Have any audits or reviews conducted by NRC Staff or consultants to NRC Staff resulted in recommendation by one or more Staff members that sanctions be imposed upon CP&L for violation of or non-compliance with NRC operating and administrative procedures, rules or regulations where no sanctions were in the end imposed? If so, identify each such incident, describe in detail the violation or non-compliance, identify the staff member recommending imposition of sanctions, including that person's title and address, and the reason that no sanctions were imposed.

RESPONSE

No.

INTERROGATORY 44

What is the basis for your response to Interrogatory 43? Identify all documents, testimony or oral statements by any person on which you rely in support of your position.

RESPONSE

NRC Policy provides for the filing of differing professional opinions. There have been no differing professional opinions filed in Region II regarding sanctions to be imposed on CPL for noncompliance to NRC regulations. IN addition, the principal inspectors involved with each plant have been questioned as to their agreement or disagreement on each sanction to be imposed. There has been only one differing professional opinion regarding a proposed sanction. The disagreement was solely on the amount of the civil penalty, not on whether to impose the civil penalty. This was resolved to the satisfaction of Headquarters and Region II.

INTERROGATORY 45

Do any NRC Staff members differ in any way from the Staff position on Contention 1a or Contention 1b in this proceeding?

RESPONSE

Not to our knowledge. Also see answer to Interrogatory No. 44.

INTERROGATORY 46

If the answer to Interrogatory 45 is affirmative, identify each such NRC staff member, including that person's title, address and telephone number.

RESPONSE

Not applicable.

INTERROGATORY 47

If the answer to Interrogatory 45 is affirmative, identify in detail the differences of each such identified staff period with the NRC Staff position and the bases for that difference.

RESPONSE

Not applicable.

INTERROGATORY 48

What are the bases for your responses to Interrogatories 45-47? Identify all documents, testimony or oral statements by any person on which you rely in support of your position.

RESPONSE

NRC Region II has no record of differing opinions regarding Contention 1a or Contention 1b, nor is the Staff aware of any disagreement communicated outside of the differing professional opinion method.

INTERROGATORY 49

Is the NRC Staff currently considering the imposition of any fines or sanctions on CP&L for violations of any NRC operating and administrative procedures, rules or regulations? If so, describe in detail the incident involved?

RESPONSE

Yes, the NRC has under consideration enforcement actions which may be indicated as a result of recent inspections. At the present time the actions to be taken are not firmly established pending completion of NRC reviews. Any further discussions of the incidents may jeopardize further investigation and would have to await conclusion of the decision making process.

INTERROGATORY 50

What is the basis for your response to Interrogatory 49? Identify any documents, testimony or oral statements by any person upon which you rely for support for your position.

RESPONSE

See response to Interrogatory No. 49.

INTERROGATORY 51

Describe in detail how the procedures followed by the NRC Staff in conducting an investigation of alleged non-compliances.

RESPONSE

When the NRC Staff receives an allegation of non-compliances with NRC regulations, the allegation is referred to the appropriate technical personnel at the region for evaluation. If the allegation is of potential immediate safety significance, the licensee may immediately be informed of the allegation in order to allow immediate corrective

actions, if the safety significance is such that the licensee need not be immediately informed, but inspection into the concern can not await the next scheduled inspection, the Region would conduct a special inspection into the allegation. All other allegations would be inspected in the course of scheduled inspection and enforcement activities. All allegations are tracked with an assigned tracking number both within the Region and through an NRC-wide systems maintained by I&E. Evaluation of an allegation may also involve the Office of Investigations (OI). OI is independent of the Office of Inspection and Enforcement and reports to the Commission. OI's function is to investigate allegations which may involve wrongdoing or which involve extensive interviewing on both technical and non-technical issues. When the inspections are completed and any OI investigation input has been provided to the inspection enforcement staff, the staff, if the allegation is substantiated, will take appropriate enforcement action and will issue an inspection report which provides the basis for the enforcement action. For those allegers who wish to be recontacted, contact is made by letter or by telephone. Cases, whether closed or not, remain on file indefinitely.

INTERROGATORY 52

What standards does the NRC Staff employ in determining which level of enforcement severity shall be assigned to each instance of violation or non-compliance?

RESPONSE

10 CFR Part 2, Appendix C entitled "General Policy and Procedure for NRC Enforcement Actions"

INTERROGATORY 53

Describe in detail the basis for Region II determinations which result in the notification of Washington NRC officials of items of non-compliance or violation.

RESPONSE

Region II determinations of which items of non-compliance or violations are submitted for concurrence to I&E Headquarters, is currently based on the "case law" concept supplemented by guidance memorandums issued by the Director of Enforcement, IE. All enforcement actions involving Severity Level III or higher violations must be submitted to IE Headquarters for detailed review. Level IV violations occuring after an enforcement conference are also forwarded to IE Headquarters for review and concurrence with planned Regional action. Also an audit program by IE Headquarters is in effect to assure Regional uniformity.

INTERROGATORY 54

Is Region II currently under NRC internal investigation or review for failure to adequately conduct inspections or audits or to apply sufficiently stringent severity levels to non-compliances or violations?

RESPONSE

A formal request was made by a member of the public involved in the Catawba hearings to OI to review the handling of allegations by Region II relative to welding allegations relative to Catawba. OI transferred the request to OIA who is presently reviewing the matter in accordance with the request. No other Region II cases are being reviewed.

INTERROGATORY 55

If the answer to Interrogatory 54 is affirmative, describe those investigations in detail and identify all documents, testimony or oral statements by any person upon which you rely.

RESPONSE

NRC Region II is not conducting the evaluation. The system that NRC employed in any matter of this type is to conduct separate and independent review by OIA.

Contention 3

INTERROGATORY 1

When do you maintain that Robinson Unit 2 will exceed Pressurized Thermal Shock (PTS) screening criteria based upon current operation, procedures and practices?

RESPONSE

The Staff has found acceptable the CP&L estimated dated of 1993 for HBR-2 to reach the PTS screening criteria under current conditions.

INTERROGATORY 2

Describe in detail any proposed changes to operation of Robinson 2 which are designed to extend the period before Robinson 2 would exceed PTS screening criteria.

RESPONSE

Many changes could effectively be used to extend the period of operation before HBR-2 reaches the PTS screening criteria. With respect to the peak weld it has been estimated that a fast flux reduction factor of about 9.2 (as of the end of 1981) would be adequate for the HBR-2 pressure vessel to reach the PTS screening criteria at 32 EFPYs. Flux reductions could be accomplished with a variety of core modifications.

However, CP&L has not yet proposed the exact scheme for flux reduction. The Staff is aware that CP&L is studying flux reduction to be effected with and after reload Cycle 10. The Staff will review and evaluate any flux reduction schemes when submitted.

INTERROGATORY 3

For each of the proposed changes identified in response to Interrogatory 2, specify the reason that the change would extend the period before exceedance of PTS screening criteria.

RESPONSE

To reach the PTS screening criteria the peak weld fast neutron fluence at HBR-2 must reach the value of 19.5X10 n/cm, (E 1.0MeV). Reduction in the fast flux will extend the period for fluence accumulation to the indicated level.

INTERROGATORY 4

For each of the proposed changes identified in response to Interrogatory 2, specify the length of time which the change would add to the period before Robinson 2 would exceed PTS screening criteria.

RESPONSE

As mentioned in the response to Interrogatory 2 the staff does not yet have the specific flux reduction scheme or other measures from CP&L for review and evaluation, hence, no specific response can be given.

INTERROGATORY 5

What are the bases for your response to Interrogatories I-5? Identify all documents, testimony or oral statements by any person upon which you rely in support of your position.

RESPONSE

The Staff relies upon its own review and evaluation, the work of its consultants at BNL, sumittals, meetings and discussions with the Applicant and his consultants. The major documents for the PTS work for HBR-2 are:

1. NRC Staff evaluation of pressurized thermal shock, (and Enclosure A) SECY-82-465), November 23, 1982.

2. Aronson, A. L., et al. "Evaluation of Methods for Reducing Pressure Vessel Fluence" BNL-NUREG-32876, BNL, March 1983.

3. Meeting NRC, CP&L, January 25, 1983.

4. Memorandum from L. Rubenstein to F. Schroeder, "Carolina Power & Light's Estimate of 1993 for H. B. Robinson-2 Reaching the PTS Screening Criteria," March 15, 1983.

5. Memorandum from L. Rubenstein to G. Lainas, "H. B. Robinson-2 Pressure Vessel Flux Reduction Plan," May 6, 1983.

6. Summary of Meetings with Carolina Power & Light Company on November 4, 8, and 12, 1982 concerning the pressurized thermal shock issue relating to the H. B. Robinson-2 plant, G. Requa, Project Manager, January 6, 1983.

7. Letter from S. Varga (NRC) to E. Utley (CP&L), February 1, 1983.

8. Letter from Zimmerman (CP&L) to S. Varga (NRC), "Fast Neutron Fluence Calculations for Reactor Vessel," September 24, 1982.

9. Letter from Zimmerman (CP&L) to S. Varga (NRC), "Fast Neutron Fluence Calculations for Reactor Vessel," September 24, 1982.

10. "Summary of Meeting with CP&L on January 25, 1982 Concerning the Pressurized Thermal Shock Issue Relating to the H. B. Robinson-2 Plant" G. Requal, Project Manager, February 11, 1983.

11. Chexal, B. et al. "EPRI PTS R&D Efforts and Robinson-2 Plant Specific Analysis" Presentation to the NRC, November 12, 1982.

12. Trip Report: "Discussion of H. B. Robinson Fast Neutron Fluence Discrepancy to the Pressure Vessel, with W, CP&L and BNL", L. Lois, August 30, 1982.

13. Letter Report: E. Utley (CP&L) to D. Eisenhut (NRC), "Thermal Shock to Reactor Pressure Vessels," January 25, 1982.

14. Letter Report: L. Eury (CP&L) to T. Novak (NRC), "Pressurized Thermal Shock," May 4, 1982.

15. Memorandum from L. Lois to C. Berlinger, "H. B. Robinson, Fast Neutron Fluence to the Pressure Vessel," September 8, 1982.

INTERROGATORY 6

Which of the proposed changes identified in response to Interrogatory 2 have been approved by the NRC Staff?

RESPONSE

As mentioned in the respone to Interrogatory 2 above, the Staff has not yet approved any changes related to H. B. Robinson flux reduction.

INTERROGATORY 7

What is the basis for your response to Interrogatory 6? Identify all documents, testimony or oral statements by any person upon which you rely in support of your position.

RESPONSE

See the document list supplied in the response to Interrogatory 5 above.

INTERROGATORY 8

If all currently planned and approved changes in operation of Robinson 2 ar implemented, when do you maintain that Robinson 2 will exceed PTS screening criteria?

RESPONSE

See response to Interrogatory 6 above.

INTERROGATORY 9

What is the basis for your response to Interrogatory 8? Identify all documents, testimony or oral statements by any person upon which you rely in support of your position.

RESPONSE

See response to Interrogatory 6 above.

INTERROGATORY 10

Has CP&L been issued a 10 CFR 50.54(f) letter with regard to PTS screening criteria or PTS at Robinson 2?

RESPONSE

Yes. By letter dated August 21, 1981 CP&L was issued a 10 C.F.R. 50.54(f) letter concerning PTS for Robinson 2.

INTERROGATORY 11

Is the NRC Staff considering issuing a 10 CFR 50.54(f) letter to CP&L with regard to PTS?

RESPONSE

Not as of this date (July 5, 1983).

INTERROGATORY 12

What is the basis for your response to Interrogatory 11? Identify all documents, testimony, or oral statements by any person upon which you rely in support of your position?

REPONSE

CP&L has provided responses to the NRC letter dated August 21, 1981. These responses along with responses of other Licensees who received the August 21, 1981 letter were reviewed by the Staff and contributed to the Staff's present position concerning PTS. This position is provided in SECY 82-465. SECY 82-465 provides a list of references which related to this issue.

As a result of SECY 82-465 and a subsequent Commission Meeting of December 9, 1982, the Commission directed the Staff (See Memorandum for W. J. Dircks from S. J. Chilk dated December 23, 1983) to meet with CP&L to determine CP&L's plans for flux reduction programs for Robinson 2 and issue a 10 CFR 50.54(f) letter if appropriate following the meeting. The Licensee has met with the Staff concerning their plans of flux reduction programs for Robinson 2 and has provided substantial data which appear to support their view that such programs would prevent reaching the PTS screening criterion before the expiration of the operaing license for Robinson 2. The material is under review by the Staff for a determination. Documents which support the above in addition to those identified above and referenced above are:

1. Letter dated February 1, 1983 to E. E. Utly, CP&L from S. A. Varga, NRC.

2. Summary of Meetings with CP&L on November 4, 8, and 12, 1982 concerning PTS issue related to the Robinson 2 plant dated January 6, 1983.

3. Summary of Meeting with CP&L on January 25, 1983 concerning PTS issue relating to the Robinson 2 plant dated February 11, 1983.

4. Letter dated February 9, 1983 from E. E. Utly, CP&L to H. R. Denton, NRC.

5. Letter dated February 24, 1983 from E. R. Zimmerman, CP&L to H. R. Denton, NRC.

6. SECY 83-79 dated February 25, 1983.

INTERROGATORY 14

What is your assessment of the fluence experienced to date by the welds and plates in the Robinson 2 pressure vessel and the rate of increase expected assuming that future fuel cycles to which CP&L has committed to the NRC.

RESPONSE

The results of the most recent Staff estimate of the vessel peak wall fluence vs EFPYs including the low leakage core now in operation can be found in Enclosure 1 of document No. 6 of the response to Interrogatory 5 above. However, the projections shown do not represent NRC approved nor CP&L committed loading schemes.

INTERROGATORY 15

What is the basis for your response to Interrogatory 14? Identify all documents, testimony or oral statements by any person upon which you rely for support for your position.

RESPONSE

See Enclosure 1 of document No. 6 in the response to Interrogatory 5. The calculations for the fluence estimate have been performed by BNL.

INTERROGATORY 16

Using the fluence information set out in response to Interrogatory 14, what is your assessment of the RT_{NDT} presently existing in the Robinson 2 pressure vessel welds utilizing the methodology outlined in Appendix E to Enclosure A of SECY 82-465, the expected future rates of increase, and the expected dates when the applicable proposed screening criteria [RT_{NDT} of 270°F for plates and axial welds and 300°F for circumferential welds] will be exceeded?

RESPONSE

Projected fluence values for several loading schemes are shown in Enclosure 1 of document No. 6 in the response to Interrogatory 5. The corresponding values of a Best Estimate (BE) and of a Conservative Estimate (CONS) of the peripheral weld RT_{NDT} are also shown. However, these projections do not correspond to any CP&L committed or NRC

approved leading scheme. See also the responses to Interrogatories 2 and 14 above.

INTERROGATORY 17

What are the bases for your response to Interrogatory 16? Identify all documents, testimony or oral statements by any person upon which you rely for support of your position.

RESPONSE

See Enclosure 1 of document No. 6 in the response to Interrogatory 5. The calculations for the fluence estimate have been performed by BNL.

INTERROGATORY 18

Does the NRC Staff agree that the H. B. Robinson plant will not exceed the NRC Generic Screening Criteria until 1993.

RESPONSE

Yes. See response to Interrogatory 1 above.

INTERROGATORY 19A

Identify all letters, memoranda, notes of telephone conversations, minutes of meetings, correspondence, or other communications between CP&L, its contractors, suppliers or agents with the NRC Staff, its employees, or consultants with regard to PTS at the Robinson 2 facility.

RESPONSE

See documents listed in response to Interrogatory 5 above.

INTERROGATORY 19B

Identify all reports, memoranda, studies or other documents prepared by or on behalf of the Office for Analysis and Evaluation of Operational Data of the NRC relating to PTS.

RESPONSE

1. Some general information was described in Appendix C of NUREG-0900, Vol. 4, No. 4 and Appendix C of NUREG-0900-5.

2. Reports issued in Power Reactor Events/Current Events - Power Reactors

   a. Power Reactor Events, May-June 1982/Vol. 4, No. 4, "Inoperable Overpressure Protection System," pp. 10-12. (North Anna 1)

   b. Current Events - Power Reactors, May-June 1978, "Overpressurization," pp. 8-10. (Robinson)

   c. Current Events - Power Reactors, March-April 1978, "Loss of Non-Nuclear Instrumentation," pp. 1-3. (Rancho Seco)

INTERROGATORY 20

Identify all memoranda or other correspondence between the Generic Issues Branch of the NRC to the Nuclear Reactor Regulation branch and all internal memoranda within the Generic Issues Branch relating to PTS.

RESPONSE

The Generic Issues Branch has not authored memoranda or other correspondence on the subject of PTS addressed to the Nuclear Reactor Regulation "branch". The same answer applies if we assume the petitioner actually meant to properly identify the Office of Nuclear Reactor Regulation, which is not a "branch".

The Generic Issues Branch has not issued any internal memoranda on the subject of PTS.

INTERROGATORY 21

Do any NRC Staff members differ in any way from the Staff positions set forth in response to Interrogatories 1-18?

RESPONSE

Respondent is not aware of any NRC Staff members who differ in opinion as far as neutron fluence levels or neutron flux reduction measures are concerned.

INTERROGATORY 22

If the answer to Interrogatory 21 is affirmative, identify each such NRC Staff member, including the person's title, address and telephone number.

RESPONSE

See response to Interrogatory 21 above.

INTERROGATORY 23

If the answer to Interrogatory 21 if affirmative, identify in detail the differences of each such identified Staff member with the NRC Staff position and the bases for that difference.

RESPONSE

See response to Interratory 21 above.

INTERROGATORY 24

Identify in detail all regulatory guides or other formal or informal guides, standards, rules of thumb or screening criteria employed by the Staff in reviewing the adequacy of proposed actions to reduce neutron flux in the reactor vessel or the safety margins in reactor neutron bombardment.

RESPONSE

With respect to fast neutron flux reduction there do not exist any applicable regulatory guides, standards, or other rules.

INTERROGATORY 25

Excluding PTS and steam generator tube degradation, has CP&L or the Staff identified other major reactor components utilized at the Robinson 2 facility which have demonstrated a tendency to degrade with age?

RESPONSE

All components have a normal degradation with age. Normal degradation is handled by surveillance testing and routine maintenance programs. Abnormal aging, accelerated by corrosion or irradiation, as observed in the steam generators and the pressure vessel has not been observed on other major reactor components utilized in Robinson 2.

INTERROGATORY 26

If the response to Interrogatory 25 if affirmative, identify each such component.

RESPONSE

Not Applicable.

INTERROGATORY 27

What are the bases for your responses to Interrogatories 25 and 26? Identify all documents, testimony or oral statements by any person upon which you rely for support for your position.

RESPONSE

Response to Interrogatory 25 is based on discussions with previous project manager, the resident I&E inspector and members of the NRC technical staff.

INTERROGATORY 28

For each component identified in response to INterrogatory 27, what is your best estimate of:

a) the useful life of the component
b) when CP&L will be required to undertake replacement of the component;
c) what the estimated costs of repair and/or replacement will be.

RESPONSE

Not applicable.

INTERROGATORY 29

What is the basis for your response to Interrogatory 28? Identify all documents, testimony or oral statements of any person upon which you rely.

RESPONSE

Not applicable.

INTERROGATORY 30

Which operating reactors utilize the Westinghouse Model 44 steam generators?

RESPONSE

H. B. Robinson 2

Indian Point 2

Indian Point 3

Turkey Point 4

Ginna 1

Point Beach 1

Point Beach 2

INTERROGATORY 31

How does the Model 44F steam generator differ in design from other Model 44 steam generators?

RESPONSE

To minimize the potential for several modes of steam generator tube degradation which have been identified to date, the Model 44F generators include the following improvements:

1. Type 405 ferritic stainless steel quatrefoil tube support plate.
2. Thermally treated Inconel 600 tubing and stress relief of the innermost eight rows of the tube bundle.
3. Expansion of the tubes to the full depth of the tubesheet to eliminate crevices.
4. A flow baffle plate above the tubesheet to direct lateral flow across the tubesheet surface and thus minimize the number of tubes exposed to sludge.
5. An improved blowdown system to increase blowdown capacity.

INTERROGATORY 32

Which operating reactors utilize the Westinghouse Model 44F steam generator?

RESPONSE

Turkey Point 3.

INTERROGATORY 33

What are the bases for your responses to Interrogatories 30-32? Identify all documents, testimony or oral statements by any person upon which you rely for support of your position.

RESPONSE

USNRC Report NUREG-0886, "Steam Generator Tube Experience," published February 1982.

INTERROGATORY 34

How many Westinghouse Model 44F steam generators have experienced significant degradation of tubes resulting in tube leaks?

RESPONSE

There have been no reports of tube leaks in Westinghouse Model 44F steam generators.

INTERROGATORY 35

Identify each reactor utilizing Westinghouse Model 44F steam generators which has experienced tube leaks.

RESPONSE

There have been no reports of any reactors utilizing Westinghouse Model 44F steam generators having experienced tube leaks.

INTERROGATORY 36

What data do you possess on the frequency and severity of tube leaks in reactors equipped with Westinghouse Model 44F steam generators? Identify the sources and bases for that data.

RESPONSE

There are no data indicating tube leaks in reactors equipped with Westinghouse Model 44F steam generators.

INTERROGATORY 37

What are the bases for your responses to Interrogatories 34-36? Identify all documents, testimony or oral statements by any person upon which you rely for support of your position.

RESPONSE

The docket file of Turkey Point 3, the only operating reactor with Westinghouse Model 44F steam generators, contains no information indicating steam generator tube leakage as of this date.

INTERROGATORY 38

How many tube ruptures have occurred at reactors employing Westinghouse Model 44F steam generators?

RESPONSE

There have been no tube ruptures reported at reactors employing Westinghouse Model 44F steam generators.

INTERROGATORY 39

At which reactors employing Westinghouse Model 44F steam generators, have:

a) steam generator tubes been plugged;
b) steam generator tubes been sleeved; or,
c) lower steam generator assemblies been replaced?

RESPONSE

There have been no reported replacements, sleeving or plugging of tubes employing Westinghouse Model 44F steam generators.

INTERROGATORY 40

Identify any additional reactors employing Model 44F steam generators where the operators or owners anticipate:

a) plugging steam generator tubes;

b) sleeving steam generator tubes;
c) replacing the lower steam generator assemblies.

RESPONSE

There are no additional reactors employing Westinghouse Model 44F steam generators where the operators or owners anticipate plugging, sleeving or replacement.

INTERROGATORY 41

What are the bases for your responses to Interrogatories 39-40? Identify all documents, testimony or oral statements by any person upon which you rely for support for your position.

RESPONSE

There is only one operating reactor, Turkey Point 3, employing Westinghouse Model 44F steam generators and the docket file of this reactor does not show any instances of tube leaks, plugging, or anticipated sleeving or replacement.

INTERROGATORY 45

"Describe in detail the bases for the number of plugged tubes allowed at Robinson 2".

RESPONSE

The bases for the maximum number of plugged tubes allowed at H. B. Robinson Unit 2 (HBR-2), are found in the Exxon Nuclear Company (ENC) report XN-NF-82-18 "ECCS Plant Transient Analyses for HBR-2 Reactor Operating at Reduced Primary Temperature", dated March 1982. The licensee's program of reduced temperature, flow and power was proposed to allow up to 20% tube plugging and to improve the operating conditions of the steam generators. Detailed transient and accident analyses were

submitted in the above ENC document. The NRC safety evaluation concluded that the licensee's analyses provide an adequate safety margin for the events analyzed, and were acceptable subject to provision of certain confirmatory information.

INTERROGATORY 48

"What are the bases for your responses to Interrogatories 42-47? Identify all document, testimony or oral statement by any person upon which you rely in support of your position".

RESPONSE

With regard to Interrogatory 45, the major document in support of our position is listed in the response. The following additional documents were utilized in the NRC review:

- ENC report XN-NF-80-43 "ECCS and PTS Analyses for HBR-2 Reactor with 6%, 10% and 15% Steam Generator Tube Plugging", September 8, 1980.
- ENC Report XN-NF-81-54 "LOCA ECCS analysis for HBR-2 Reactor For Revised Safety Injection Location", August 6, 1981.
- ENC Report XN-NF-79-42 "Review of Plant Transient Analysis for Positive Moderator Temperature Reactivity Feedback for HBR-2", JUne 22, 1979.
- ENC Report XN-76-54 "LOCA Analyses for HBR-2 Using WREM Based PWR ECCS Evaluation Model with Reduced LPSI Flow, Steam Generator Plugging and Increased Upper Head Temperature", December 1976.
- Amendment 61 to HBR-2 Facility Operating License, November 1981

INTERROGATORY 54

"Was the current derating required by the NRC?"

RESPONSE

The current derating was not required by the NRC, but was proposed by the licensee for the reasons given in the response to Interrogatory 45. Based on the favorable conclusions of the staff's safety evaluation, the NRC, by letter to Carolina Power & Light of July 23, 1982, issued Amendment 71 to the HBR-2 facility operating license, which authorized Cycle 9 operation at reduced power level and revised the HBR-2 technical specifications for operation at reduced Taverage. At reduced Taverage condition, rated power is defined as 1955 MWt (85% of normal rated power).

INTERROGATORY 58

Has AVT eliminated tube cracking, thinning, and denting?

RESPONSE

Thinning and cracking of steam generator tubes resulting from phosphate secondary water chemistry ocntrol have been reduced or eliminated by implementing AVT. However, denting was first discovered after implementing AVT. Since 1977 there has been a significant decrease in denting initiation and progression while using AVT.

INTERROGATORY 60

Has the employment of AVT treatment resulted in the occurrence of other problems in steam generator tubes?

RESPONSE

Yes.

INTERROGATORY 61

If the response to Interrogatory 60 is affirmative, identify in detail what those problems are, where they have occurred, and the extent to which they have resulted in the need to plug or sleeve steam generator tubes.

RESPONSE

AVT provides no buffering capacity to mitigate the effect of impurities in the cooling water. The use of AVT has resulted in denting of steam generator tubes at region s between the tubes and the tube supports. In addition to denting, cracking has occurred at the inner-row tube apex in one plant as a consequence of excessive tube denting. Two plants have had pitting of the Inconel 600 tubes near the tubesheet. Tube sleeving or plugging have been used as repair techniques for most degraded tubes.

INTERROGATORY 62

What are the bases for your responses to Interrogatories 58-60? Identify all documents, testimony, or oral statements by any person upon which you rely in support of your position.

RESPONSE

The responses to Interrogatories 58-60 are based on direct experience in the area of steam generator corrosion. A large number of papers and reports in the open literature which are too numerous to document provide supporting information. For example:

1. J. A. Armantano and V. P. Murphy, "Standby Protection of High Pressure Boilers," Proceedings of the 25th Annual Water Conference of the Engineers' Society of Western Pennsylvania, Pittsburgh, PA, September 28-30, 1964, pp. 111-124.

2. H. H. Uhlig, Corrosion Handbook, J. Wiley & Son, Inc. N.Y., 1971, pp. 98-99.

3. S. L. Goodstine and J. J. Kurpen, "Corrosion and Corrosion Product Control in the Utility Boiler - Turbine Cycle, Combustion, May 1973.

4. F. Gabrielli and J. J. Kurpen, "Secondary Cycle Chemistry Control for a Pressurized Water Reactor," Proceedings of the American Power Conference, 34 (1972).

5. M. C. Bloom, "A Survey of Steel Corrosion Mechanisms Pertinent to Steam Power Generation," Proceedings of the 21st Annual Water Conference of the Engineers' Society of Western Pennsylvania, Pittsburgh, PA, October 24-26, 1960, pp. 1-21.

6. NRC Report NUREG-0886, "Steam Generator Tube Experience".

7. E. C. Potter and G. M. W. Mann, "The Fast Linear Growth of Magnetite on Mild Steel in High-Temperature Aqueous Condition," British Corrosion Jornal, 1, pg. 26 (1965).

8. EPRI Report NP-2541, "PWR Steam Side Chemistry Follow Program, Research Project RP 699-1 Final Report," Electric Power Research Institute, August 1982.

9. G. E. Von Nieda, G. Economy, and M. J. Wootten, "Denting in Nuclear Steam Generators--Laboratory Evaluation of Carbon Steel Corrosion Under Heat Transfer Conditions," presented at the NACE Annual Meeting, March 1980.

10. G. Economy, W. M. Connor, and G. E. Von Nieda, "Laboratory Studies of the Effect of Chemistry on Denting in Nuclear Steam Generators," presented at the NACE Annual Meeting, March 1982.

11. EPRI Report NP-xxxx, "Rationale for Chemical Control of Feed and Boiler Water, Research Project RP1171-1 Final Report," Electric Power Research Institute, 1982.

12. EPRI Report NP-516, "PWR Secondary Water Chemistry Study, Research Project RP401-1 Interim Report," Electric Power Research Institute, February 1977.

13. W. L. Pearl and S. G. Sawochka, "PWR Secondary Water Chemistry Study - Progress Report," Proceedings of the American Power Conference, 39, 840 (1977).

14. S. G. Sawochka and W. L. Pearl, "PWR Secondary Water Chemistry Study - Progress Report," Proceedings of the American Power Conference, 40, 918 (1968).

15. EPRI Report NP-2149, "Corrosion Product Transport in PWR Secondary Systems, Research Project RP 404-1 Topical Report," Electric Power Research Institute, December 1981.

INTERROGATORY 64

Do you restimate that the design changes outlined in the FSGRR will eliminate tube leaks?

RESPONSE

Design changes, water chemistry changes, and other changes outlined in the FSGRR, particularly the thermal treatment of the Inconel 600 tubes, should greatly minimize the potential for tube leaks in the replacement Model 44F steam generator tubes. The use of stainless steel support plates should eliminate support plate corrosion buildup as a cause for denting the tubes at that location, and subsequent leakage due to excessive denting of the tubes.

INTERROGATORY 65

If the response to Interrogatory 64 is affirmative, what is the basis for your respone? Identify all documents, testimony or oral statements by any person upon which you rely for support of your position.

RESPONSE

There is no record of tube leaks in operating Westinghouse Model 44F steam generators indicating an improvement over past performance of operating Model 44 steam generators.

The technical literature also indicates that thermally treated Inconel 600 is not susceptible to intergranular stress corrosion cracking and intergranular attack which are two of the principal mechanisms of tube degradation that have been experienced in the past.

INTERROGATORY 66

If the response to Interrogatory 64 is negative, describe in detail your estimates of the number of tubes which will leak during each year of operation from 1984 until decommissioning of Robinson 2.

RESPONSE

There is no data base on which to estimate the number of tubes that will leak every year in the Robinson 2 nuclear plant replacement steam generators.

INTERROGATORY 67

What is the basis for the response to Interrogatory 66? Identify all documents, testimony or oral statements by any person upon which you rely in support of your position.

RESPONSE

The only operating plant with Westinghouse Model 44F steam generators has not reported any steam generator tube leaks as of this date.

INTERROGATORY 74

Is the weld which will be made to rejoin the lower steam generator assembly and the upper steam generator assembly the same weld as the girth weld which has cracked at Indian Point 3? [See Report to Congress on Abnormal Occurrences, April-June 1982, NUREG-0900, Vol. 5, No. 2, pp. 18-19.]

RESPONSE

Yes, as to location. However, the welds at Robinson will be made in the field using manual shielded metal arc welding. The Indian Point 3 welds were shop welded, with the majority of the volume of weld metal being deposited by the submerged arc welding process. Accordingly, these welds are not the same as those in the Indian Point 3 steam

generators. There have been no failures in welds which were field fabricated.

INTERROGATORY 75

If the response to Interrogatory 74 is affirmative, is there any basis for asserting that the same kind of crack is incredible in the repaired steam generators at Robinson 2?

RESPONSE

With (1) the improvements in water chemistry, (2) the efforts to improve other plant equipment, and (3) that the chloride content of its condenser cooling water is low compared to that of Indian Point 3, we would describe the finding of cracks in Robinson Unit 2 steam generators as occurred in Indian Point 3 as very unlikely. Although the mechanism (corrosion fatigue) was identified, the actual cause is not known, and is regarded as inconclusive based on the available data.

INTERROGATORY 76

If the response to Interrogatory 75 is negative, what is the likelihood of such a crack occurring in the weld at Robinson expressed in probabilistic terms?

RESPONSE

Because there has been only one event (thr four steam generators at Indian Point 3), there is not enough data to perform a meaningful probabilistic evaluation.

INTERROGATORY 77

What are the bases for your responses to Interrogatories 74-76? Identify all documents, testimony or oral statements upon which you rely in support of your position.

RESPONSE

1. Safety Evaluation by the Office of Nuclear Reactor Regulation related to Amendment 47 to Facility Operating License No. OPR-64, May 7, 1983.

2. Lucius Pitkin Inc. Technical Report No. 7164.

3. Brookhaven National Laboratories Report, NUREG/CR-3281, BNL/NUREG-51670.

INTERROGATORY 78

What studies are you aware of which have been conducted by CP&L, Westinghouse, the NRC or any other entity which examine the likelihood of steam generator degradation and tube leaks in circumstances involving Model 44F steam generators?

RESPONSE

One of the most significant changes made in the Model 44F steam generators which will directly impact on steam generator tube degradation and leakage is the thermal treatment of the Inconel 600 tubes. There is extensive literature coverage of the fact that thermally treated Inconel 600 has improved resistance to intergranular corrosion over mill annealled Inconel 600. Three specific references, most appropriate to the Westinghouse thermal treatment are as follows:

1. G. P. Airey, "Optimization of Metallurgical Variables to Improve the Stress Corrosion Resistance of Inconel 600". EPRI Report NP-1354, March 1980.

2. G. P. Airey, A. R. Vaia, "A Caustic SCC Evaluation of Thermally Treated Inconel Alloy 600 Steam Generator Tubing," Presented at WICON 82 Symposium, Houston, Texas.

3. G. P. Airey, "Carbide Dissolution and Precipitation Kinetics of Inconel 600". EPRI Report NP-2093, October, 1981.

INTERROGATORY 79

Identify all reports, memoranda, studies or other documents produced by or on behalf of the Office of Analysis and Evaluation of Operational Data relating to steam generator tube degradation in Westinghouse Model 44 steam generators.

RESPONSE

1. Reports issued in the NUREG-0900 series

   a. A general update of steam generator tube experience for all PWR vendors as of November 1981 was described in NUREG-0886 issues in February 1982.

   b. A summary of NUREG-0886 and a description of experience from November 1981 through August 1982 described in Appendix B (AO 76-11) of NUREG-0900, Vol. 5, No. 2.

   c. Steam Generator Tube Failure (Point Beach) NUREG 75/090 (AO 75-1).

   d. Steam Generator Tube Rupture at RE Ginna Nuclear Power Plant NUREG-0900, vol. 5, No. 1 (AO 82-4).

2. Reports issued in Power Reactor Events/Current Events - Power Reactors

   a. Westinghouse NSSS:

      - Power Reactor Events, January-February 1982/Vol. 4, No. 2, "Steam Generator Tube Rupture," pp. 1-7. (Ginna)
      - Power Reactor Events, Vol. 2, No. 2/ March 1980, "Steam Generator Problems," pp. 3-5. (Point Beach 1)
      - Current Events - Power Reactors, August-September 1975, "Steam Generator Tube Leak," pp. 2-3. (Point Beach 2)
      - Current Events - Power Reactors, March 1975, "Steam Generator Tube Failure," p. 7. (Point Beach 1)

- Current Events - Power Reactors, August 1974, "Tube Degradation in Steam Generators," p. 2. (Robinson 2 and Slurry 2)

INTERROGATORY 80

Identify all memoranda or other correspondence from the Generic Issues Branch of the NRC to the Nuclear Reactor Regulation Branch regarding tube degradation in Westinghouse Model 44 steam generators.

RESPONSE

The Generic Issues Branch has no memoranda regarding this subject.

INTERROGATORY 81

Identify all internal memoranda of the Generic Issues Branch of the NRC relating to steam generator tube degradation in the Westinghouse Model 44 steam generators.

RESPONSE

This interrogatory is the same as number 80.

INTERROGATORY 82

Do an NRC staff members differ in any way from the staff positions set forth in response to Interrogatories 30-81 relating to tube degradation in Westinghouse Model 44F steam generators?

RESPONSE

The Generic Issues Branch is not involved with the issues associated with Interrogatories 30-81, and has no position on this matter. Consequently, we have no response for Interrogatories 83 and 84.

INTERROGATORY 85

Identify in detail all regulatory guides or other informa' or formal guides, standards, rules of thumb or screening criteria employed by the staff in reviewing the adequacy of steam generator desig1 and performance.

RESPONSE

The following are some of the criteria used by the staff in reviewing steam generator design and performance:

- o Regulatory Guide 1.83 "Inservice Inspection of PWR Steam Generator Tubes";
- o Regulatory guide 1.21 "Bases for Plugging Degraded PWR Steam Generator Tubes";
- o SRP Section 5.4.2.1 "Steam Generator Materials";
- o BTP CMEB MTEB 5-3 "Monitoring of Secondary Side Water Chemistry in PWR Steam Generators";
- o Plant Technical Specifications.

INTERROGATORY 86

Has the NRC staff published or is it preparing any reports on steam generators subsequent to the "Steam Generator Status Report" of February 1982?

RESPONSE

The NRC staff has prepared a draft report to be designated NUREG-08441, "NRC Integrated Program for the Resolution of Unresolved Safety Issues (USI's) A-3, A-4, and A-5 regarding Steam Generator Tube Integrity." The only other generic report on steam generators is an update of the February 1982 NUREG-0886 "Steam Generator Tube Experience" which the staff is planning to prepare.

INTERROGATORY 87

If the answer to Interrogatory 86 is affirmative, identify each such document or draft document.

RESPONSE

The draft report is designated an NUREG-08441 as identified in response 86. This draft is currently under internal staff review. There are presently no drafts in existence for updating the February 1982 NUREG-0886 "Steam Generator Tube Experience."

Contention 8

INTERROGATORY 8

How will the design of the SGLA vault differ from that employed by Florida Power & Light company at Turkey Point?

RESPONSE

The NRC staff cannot respond to this interrogatory since, except for the brief description in the FSAR, CP&L has not yet submitted the SGLA vault design to the NRC.

INTERROGATORY 9

How will the design of the SGLA vault differ from that employed by Virginia Electric Power company at Surrey?

RESPONSE

Same response as response 8.

INTERROGATORY 10

What is the basis for your responses to Interrogatories 8 and 9. Identify all documents, testimony or oral statements by any person on which you rely for support of your position.

RESPONSE

No SGLA vault design has been submitted or received by the NRC staff as of June 27, 1983.

INTERROGATORY 11

What is the seismic design basis for the SGLA vault?

RESPONSE

Same response as 8.

INTERROGATORY 12

For the tectonic region in which the Robinson facility is located, what is the maximum historical earthquake?

RESPONSE

In the Staff review of the updated FSAR and AEC Safety Analysis Reports, we found the only reference significant to the interrogatory question contained in Appendix D to the February 27, 1967 AEC Safety Analysis Report. In Appendix D the Staff seismology consultant, the U.S. Coast and Geodetic Survey stated:

> "Our estimate, based on the seismic history of the site, the adjacent seismic areas near Summerville and to the west of the site, and the geology of the site, is that during the lifetime of the facility, we believe that an MM intensity VII earthquake with accelerations of 0.2g (on dense underlying stratum), might occur and should be considered as the maximum potential earthquake."

INTERROGATORY 13

What would be the effect on the SGLA vault of the nearsite occurrence of an earthquake of Modified Mercalli Intensity X and Magnitude 7?

RESPONSE

Same response as 8.

INTERROGATORY 52

In evaluating the safety of disposal of the SGLAs, what standard will the NRC Staff employ?

RESPONSE

The staff will use the requirements listed in 10 CFR 20.1(c), 20.207, 20.301, 20.302, 20.311, 10 CFR Part 71 as well as the recommendations listed in Regulatory Guide 8.8, "Information Relevant to Ensuring That Occupational Radiation Exposures at Nuclear Power Stations Will Be As Low As Is Reasonably Achievable," as the principal standards. Other applicable Federal and State regulations will be used as appropriate.

INTERROGATORY 53

Identify any studies, reports, or other documents upon which the NRC Staff will rely ;in making its determinations and reaching its conclusions regarding the safety of the proposed method for disposing of the SGLAs.

RESPONSE

(1) 10 CFR Part 20

(2) 10 CFR Part 71

(3) Regulatory Guide 8.8

(4) NUREG/CR-0199

(5) NUREG/CR-1595

INTERROGATORY 54

Do any NRC Staff members differ in any way from the Staff position on contention 8 in this proceeding?

RESPONSE

There are no staff members known whose positions regarding Contention 8 differ from the staff positions presented regarding radiation protection.

INTERROGATORY 55

If the answer to Interrogatory 54 is affirmative, identify each such NRC staff member, including the person's title, address and telephone number.

RESPONSE

See response to Interrogatory No. 54.

INTERROGATORY 56

If the answer to Interrogatory 54 is affirmative, identify in detail the differences of each such identified Staff member with the NRC Staff position and the bases for that difference.

RESPONSE

See response to Interrogatory No. 54.

INTERROGATORY 57

What are the bases for your responses to Interrogatories 54-56? Identify any documents, testimony or oral statements by any person upon which you rely for support for your response.

RESPONSE

Communication with NRC staff members.

INTERROGATORY 58

Identify any reports, memoranda, draft reports, studies, comments or other documents prepared by or on behalf of the Office for Analysis and Evaluation of Operation Data (AEOD regarding the disposal of SGLAs at Robinson, Unit 2, or any other reactor, including, but not limited to, material related to the design and construction of long-term storage vaults for the SGLAs or similar large contaminated components removed from reactor buildings.

RESPONSE

We have not issued any reports on this subject.

PROFESSIONAL QUALIFICATION OF PAUL R. BEMIS

1. USNRC

A. Section Chief - As Chief, Reactor Projects Section, supervises the implementation of a program for the routine and reactive inspections of assigned power and research reactors during all phases of constructions, testing, operation, or decommissioning to assure the safety of NRC licensed facilities and activities, compliance with NRC requirements, and to enforce the provisions of NRC permits, licenses, rules, regulations, orders and other directives pertinent to the protection of the public and safety and to the common defense and security.

B. Technical Assistant - Assists the Director in establishing policies and guidance covering the mission of the Region II Division of Engineering and Technical Porgrams. Conducts and/or supervises assigned special projects, inspections, safety analyses or investigations. Provides the Director with appraisals of and recommendations for improving the effectiveness and efficiency of Regional inspection and licensing programs. Services in an advisory capacity to the Director on technical, policy, and administrative matters coming to the Director's office for resolution in the areas of operator licensing, Health physics and Radiation Protection, management programs, and all facets of engineering.

C. Senior Resident Inspector - In charge of the onsite inspection and coordination of regional inspection at a large two unit facility with one unit in the prestartup thru commercial phases and the other unit in the construction and preop phases.

D. Management Programs Team - Assist a team of inspectors in looking at all facets of management programs to include: operations, surveillance, maintenance, Quality Assurance/Quality Control, training, procedures, procurement, and regulatory adherence.

E. Operator Licensing Examiner/Reactor Engineer - Develope and administers examinations to reactor operators and Senior reactor operators at PWR's, BWR's, and research reactors. Served on numerous task forces in licensing post TMI.

F. Nuclear Engineer/Operating Reactor Technology Specialist - Developed and implemented a "modified" SRO program for future resident inspectors. Developed programs for the technical staff at NRC in the areas of systems, security, Radwaste, Health Physics, and Statistics (PRA). Served as technical assistant to the Korean and Tiwan Governments in the area of operations and Health Physics. Served as operations "specialist" for the commission during the TMI incident.

2. Director of Training - At Electrical Utility Developed training programs in all areas of a nuclear plant of a utility. Implemented the programs for the cold license and first hot license classes. Developed program for engineers to take prior to P. E. exam. Developed a structured, self paced program for

A.O's, CRO's, and SF at a fossil power plant, Received SRO license certification.

3. Manager Compliance Assistance and Technical Services (Private Industry) Supplied all phases of compliance assistance, training, operator licensing exams, specialized operational programs and Rad waste assistance to the nuclear industry.

4. U.S. Army

A. Health Physicist - In charge of the Health Physics program at the Walter Reed Institute of Research, Armed Forces Institute of Pathology, and Walter Reed Hospital.

B. Shift Supervisor and Health Physicist - Functioned as shift supervisor and acting operations manager at a land based nuclear power plants. Served as Health Physicist supervisor at one power plant.

C. Student - Attended one year academic program in operations with specialty in Health Physics. Graduate #1 in class.

D. Numerous positions in the army to include the Security Agency, and taught at a survey school.

Education

Undergraduate Majors and Cognates:

Math, Physics, Chemistry, Computer Science, and Accounting

Graduate Studies:

Nuclear Engineering, Statistics, Business Administration

Numerous Technical and Business short courses

Memberships

American Nuclear Society, Health Physics Society, Honorary Math and Physics Societies.

UNITED STATES OF AMERICA

NUCLEAR REGULATORY COMMISSION

BEFORE THE ATOMIC SAFETY AND LICENSING BOARD

RICHARD JOHN SERBU

PROFESSIONAL QUALIFICATIONS

I am presently assigned as a health physicist with the Radiation Protection Section of the Radiological Assessment Branch, Division of Systems Integration, Office of Nuclear Reactor Regulation, U. S. Nuclear Regulatory Commission.

I graduated from the State University College of New York at Potsdam with a Bachelor of Arts Degree in Chemistry. I have work in a professional capacity in the field of radiation protection/health physics in association with nuclear power reactors since June 1973.

From June 1973 to April 1980, I held positions as Project Engineer, Dosimetry and Health Physics; Manager, Radiological Monitoring; Project Engineer, Radiological Training; Radiological Controls Supervisor; and Instructor, Chemistry and Radiological Controls at Knolls Atomic Power Laboratory. My responsibilities at KAPL included development, implementation, and management of radiological training programs, operational health physics/ALARA programs, and dosimetry programs. This includes broad experience in all aspects of reactor health physics/radiation protection; familiarity with reactor systems; radiation protection aspects of reactor startup; radiation protection for maintenance and refueling/overhaul; chemistry control programs; and compliance with established requirements. Since April of 1980, I have been with the Nuclear Regulatory Commission as a radiological engineer. In this capacity, I am responsible for the review and evaluation of radiation protection/ALARA (As Low As Reasonably Achievable) aspects of nuclear power reactor facility equipment and design, planning and procedure programs, and techniques and practices which are employed by nuclear reactor licensees and license applicants in meeting the standards for protection against radiation of 10 CFR Part 20.

PAUL E. NORIAN

PROFESSIONAL QUALIFICATIONS

I am a Section Leader in the Generic Issues Branch, Division of Safety Technology. I have held this position since 1980 and am responsible for supervising staff activities related to the technical resolution of various Unresolved Safety Issues. These activities include the development of task action plans (TAP) which describe the actions to be followed to resolve each issue, the performance of various technical studies described in the TAP, and development of the proposed regulatory position and value-impact analyses for resolution of these issues.

I graduated from Lehigh University in June 1955 with a Bachelor of Science Degree in Engineering Physics. I also attended Drexel Institute of Technology, Catholic University of America, and the University of Maryland where I have taken various graduate courses in mathematics, physics, and electrical engineering.

In July 1955, I began work as a physicist with the duPont Company at the Savannah River Plant in Aiken, South Carolina. From that time until March 1962, I worked in the Works Technical Department on operational physics problems associated with the heavy water production reactors of Savannah River. This work included such assignments as the devlopment of monitoring systems, performance of physics calculations required in reactor operation and in the development of new fuel elements, the review of operating procedures, and the analysis of various operating problems. In March 1962, I was transferred to the duPont Company's Chestnut Run Laboratories in Wilmington, Delaware, and worked for its Film Department on the development of industrial applications for plastic films.

In December 1963, I accepted a position with the Division of Reactor Licensing of the U. S. Atomic Energy Commission, and was a project leader in the construction permit review of Consolidated Edison's Indian Point No. 2 reactor and Wisconsin-Michigan's Point Beach No. 1 reactor. I was assigned as a nuclear engineer in the Systems Performance Branch of the Division of Reactor Standards in March 1967. My responsibilities included analyzing and evaluating the performance of engineered safety systems and performing computer calculations for the evaluation of containment response and loss-of-coolant accidents. In March 1971, I participated in the Regulatory Task Force reappraisal of emergency core cooling systems for light water reactors. My main responsibility for the task force was the review of computer codes and input assumptions for LOCA analyses. In May 1973, I was assigned to the Core Performance Branch in the Directorate of Licensing. I served as Section Leader in the Thermal Hydraulics Section and supervised the review of portions of reactor vendor model changes to conform with the new requirements for LOCA models specified in Appendix K to 10 CFR Part 50.

In 1975, I became Section Leader of the Systems Analysis Section, Analysis Branch, Division of Systems Safety. I was responsible for supervising the review of reactor vendor transient and LOCA analysis methods, the improvement of NRC analysis methods used in related accident analyses, and the performance of staff audit calculations for transients and LOCAs. From June through December 1979, I was assigned to the Bulletins and Orders Task Force as a member of the Analysis Group. I served as Alternate Group Leader and coordinated the reviews of small break loss-of-coolant accidents (LOCA) and transient analyses submitted by the vendor owner's groups since the Three Mile Island accident.

PROFESSIONAL QUALIFICATIONS

Bernard Mann
Reactor Systems Branch
Division of Systems Integration
Office of Nuclear Reactor Regulation
U. S. Nuclear Regulatory Commission

I am employed as a Nuclear Engineer with the Reactor Systems Branch, Division of Systems Integration, Office of Nuclear Reactor Regulation, U. S. Nuclear Regulatory Commission, Washington, D.C. My duties include evaluation of the design and safety analysis of reactor systems of nuclear power plants with respect to nuclear safety. As part of my duties, I have been responsible for reviewing the safety analyses for steam generator repair for several facilities, including H. B. Robinson Unit 2.

I have been associated with nuclear energy licensing, design, systems analysis, project and test engineering. From 1955 to 1960 I was employed by the Westinghouse Electric Corporation, Bettis Atomic Power Laboratory, where I performed systems design, analysis and process engineering work on pressurized water systems for naval reactors. From 1960 to 1968 I was a senior engineer with Aerojet-General Corporation, performing project, systems and test engineering work connected with space nuclear power programs. From 1968 to 1969 I was employed by Battelle-Northwest on the Fast

Flux Test Facility (FFTF) program as resident engineer in their Atomics International Office. From 1970 to 1972 I was a senior engineer with C. F. Braun & Co., where I performed systems design work on nuclear power and process projects, including the fast breeder reactor.

From 1972 to 1977 I was employed by the Atomic Energy Commission (subsequently NRC) in the Auxiliary and Power Conversion Systems Branch and Effluent Treatment Systems Branch. From 1977 to 1980 I was a Nuclear Engineer with Energy Research and Development Administration (subsequently Department of Energy) in the Division of Nuclear Research and Application and subsequently in the Division of Nuclear Waste Management. In 1980 I rejoined NRC as a senior systems engineer with the Auxiliary Systems Branch. In 1982 I commenced working for the Reactor Systems Branch.

I attended the University of Louisville where I received a Bachelor of Chemical Engineering degree in 1948. I received a Master of Science degree in chemical engineering from the University of Cincinnati in 1949. I also attended specialized courses in nuclear technology offered by the NRC, Westinghouse, Aerojet-General Corporation, and University of California-Los Angeles.

I am a licensed professional engineer, registered in Pennsylvania (chemical engineering) and California (nuclear engineering).

GLODE REQUA
DIVISION OF LICENSING
OFFICE OF NUCLEAR REACTOR REGULATION
U.S. NUCLEAR REGULATORY COMMISSION

PROFESSIONAL QUALIFICATIONS

My name is Glode Requa. I am currently employed by the U.S. Nuclear Regulatory Commission as a Project Manager, Operating Reactors Branch No. 1, Division of Licensing, Office of Nuclear Reactor Regulation. My duties include scheduling, managing, and participating in the review and evaluation of applications for license amendments for assigned power reactors.

I received a B.S. degree in Civil Engineering from New Jersey Institute of Technology in 1953 and did graduate studies at Carnegie Tech. in 1956 and 1957.

I have been associated with nuclear energy design, test, fabrication, and construction since 1956. From 1956 to 1966 I was employed by the Westinghouse Electric Corporation, Bettis Atomic Power Laboratory, as a senior engineer designing and managing hydraulic and mechanical testing of Navy reactor components and produced mechanical designs of reactor components and instrumentation. From 1966 to 1969, I was employed by Combustion Engineering, Inc. I was in charge of in-core instrumentation design and later was manager of Design Quality Assurance. I developed CE's first Design QA Program which was approved by the NRC.

I received a patent for an "inegrated flow measuring device" while employed at the Bettis Atomic Power Laboratory.

Guy S. Vissing
Professional Qualifications
Division of Licensing
Office of Nuclear Reactor Regulation
U.S. Nuclear Regulatory Commission

My name is Guy S. Vissing. I am currently employed by the U.S. Nuclear Regulatory Commission as a Project Manager, Operating Reactors Branch No. 4, Division of Licensing, Office of Nuclear Reactor Regulation. As such, my duties include managing the licensing activities related to assigned power reactors, managing the licensing functions related to assigned multi-plant issues (one of these include the Pressurized Thermal Shock Issue, MPA B-67, MPF-B-73) and serving on task forces, committees, inspection teams and other ad hoc assignments.

I received a B.S. degree with a major in Civil Engineering from Michigan State College in 1948. I am a registered Professional Engineer in the State of Michigan.

I have had a broad range of progressive experience in Project Management, reliability engineering, civil engineering and management of the above. From 1948 to 1962, I was with two consulting engineering firms in responsible charge of structural & civil engineering design & preparation of specification, estimates, and plans for a large steam-electric power plant, small dams, industrial buildings and sewage treatment plants. I was individually responsible for surveys, and design and analyses on many phases of large electric power plants, nuclear power plants, hydro-electric power plants, office buildings, industrial facilities, sewage treatment plants, earth dams, spillways, concrete dams, roads and railroads. I was a resident engineer on construction.

While with the Government (NASA/AEC) from 1962-1973, I have been a reliability specialist as applied to review of nuclear safety, a reliability & system engineering specialist on management of reliability programs for nuclear rocket and isotopic power systems, a manager of technology utilization reporting program, and a project manager for planning and design efforts for nuclear rocket test site facilities.

While with the U.S. Nuclear Regulatory Commission from 1973 to present, I have been a reliability specialist and for the past seven years, a project manager for operating reactors.

LAMBROS LOIS
DIVISION OF SYSTEMS INTEGRATION
OFFICE OF NUCLEAR REACTOR REGULATION
PROFESSIONAL QUALIFICATIONS

My name is Lambros Lois. I am currently employed by the U. S. Nuclear Regulatory Commission, Office of Nuclear Reactor Regulation, Division of Systems Integration, Core Performance Branch. As such, my duties include review of fast neutron flux and fast neutron fluence calculations to the pressure vessel and review of the pressure vessel neutron surveillance program as related to the pressurized thermal shock of pressurized water reactors.

I received a Doctor of Science degree in Nuclear Engineering from Columbia University, New York City in 1965.

I have been associated with nuclear energy research, development and regulation for 22 of the past 25 years. I was employed by Argonne National Laboratory for two years as a trainee at the International School of Nuclear Science and Engineering and as a nuclear engineer. My duties included criticality and control rod worth calculations. I was employed by Bettis Atomic Power Laboratory as a Senior Scientist for about 5 years, where I did research and development work in radiation transport and radiation shielding. I was employed by Stone and Webster Engineering Corp. for about one year and my duties were in the design of nuclear power plants and particularly in the evaluation of radiation sources and radiation shield design. I was employed by the Environmental Protection Agency for about one year. I have been employed by the Nuclear Regulatory Commission for about nine years. My responsibilities included fast reactor safety analysis, reactor systems, light water reactor reload methodologies and reloads.

I have about 25 publications in the fields of radiation transport and reactor safety. I also have co-authored a book in the series of "Progress in Nuclear Science and Engineering."

PROFESSIONAL QUALIFICATION
OF
DR. HUGH W. (ROY) WOODS

I am currently the NRC Task Manager for the Pressurized Thermal Shock Unresolved Safety Issue. In that position, which I have held since November 1981, I am responsible for coordinating and directing all NRC activities towards generic resolution of this issue. I am, therefore, familiar with all of the various aspects of the problem and its proposed resolution in the many technical discipline involved, including reactor system considerations.

Since 1973, I have been employed by the Nuclear Regulatory Commission or its predecessor, the Atomic Energy Commission, in various capacities as a Nuclear Engineer, most recently (before my present assignment) as the Office of Inspection and Enforcement principal reactor systems specialist for Westinghouse supplied nuclear plants.

Prior to 1973, I was employed by the E. I. DuPont Company at the Savannah River Laboratory, where I was responsible for various safety studies for their nuclear materials production reactors.

I hold Ph.D., M.S., and B. S. degrees in Nuclear Engineering with minors in Mechanical Engineering, Materials Engineering, and Electrical Engineering. These degrees were awarded respectively in 1969 and 1965 by the University of Florida and 1964 by North Carolina State University.

PHYLLIS SOBEL, PH.D.
GEOSCIENCES BRANCH
DIVISION OF ENGINEERING
U. S. NUCLEAR REGULATORY COMMISSION

My name is Phyllis Sobel and I am employed as a Geophysicist in the Geosciences Branch, Division of Engineering, Office of Nuclear Reactor Regulation, Washington, D.C. 20555.

PROFESSIONAL QUALIFICATIONS

In 1969 I received a B.S. degree in Geological Sciences from the Pennsylvania State University. I also pursued graduate studies at Princeton University and the University of Minnesota. In 1978 I received a Ph.D. degree in Geophysics from the University of Minnesota.

From 1970 to 1973 I was a teaching assistant and research assistant at the University of Minnesota. I taught undergraduate laboratories in physical geology, historical geology, and oceanography courses. My activity as a research assistant was in the development and use of a program to simulate marine magnetic anomalies. My interests in graduate school included all areas of geophysics, structural geology, and marine geology. My dissertation was a study of seismic phases reflecting off structures below the Earth's crust under several geographic regions.

From 1973 to 1977 I was employed by Teledyne Geotech in Alexandria, Virginia as a research geophysicist. At this corporation's research laboratory I worked on a variety of research problems in seismology related to the detection of nuclear explosions, including (1) the use of filters to extract signals from seismograms, (2) the propagation of Rayleigh waves through heterogeneities, and (3) the characteristics of earthquakes in areas of proposed underground nuclear testing in Asia.

I am a member of the American Geophysical Union and the Seismological Society of America. I have authored or co-authored ten papers published as Teledyne Geotech reports or in the Bulletin of the Seismological Society of America. I have authored or co-authored two papers presented at meetings of the Seismological Society of America.

From October 1977 to March 1978 I was employed as a seismologist by the NRC Office of Standards Development in the revision and development of new regulatory guides and standards and the supervision of technical assistance contracts related to generic problems found in the licensing process. Since March 1978 I have been employed by the Geosciences Branch in the evaluation of the seismological and geophysical data submitted to the NRC in support of a proposed seismic design basis for nuclear facilities. I have participated in the licensing activity for approximately fifteen sites.

Paul C. S. Wu

Professional Qualifications
Division of Engineering
Office of Nuclear Reactor Regulation
U.S. Nuclear Regulatory Commission

My name is Paul C. S. Wu. I am currently employed by the U.S. Nuclear Regulatory Commission as a Chemical Engineer, Chemical Engineering Branch, Division of Engineering, Office of Nuclear Reactor Regulation. As such, my duties include review of primary and secondary water chemistry control and the corrosion of materials used in the construction and operation of nuclear power plants.

I received a Ph.D. degree in Materials Science from the Iowa State University in 1972.

I have been associated with nuclear energy research, development, and construction as a research scientist, principal engineer, and supervisor since 1967. From 1967 to 1972, I was employed by Ames Laboratory, USAEC as a research scientist, responsible for nuclear materials research in coolant technology and fuel reprocessing. From 1972 to 1980, I was employed by Westinghouse Electric Corporation on a variety of management and engineering positions, responsible for all materials and corrosion programs related to nuclear fuel reprocessing and waste management. I was also in charge of the Mechanical Properties Laboratory responsible for research and developmental programs concerning fatigue, creep, fatigue-creep interaction, and stress rupture evaluation of nickel structural alloys. I was also responsible for advanced nuclear control materials development.

I have more than 30 publications in the field of mechanical, physical, and chemical properties of nuclear materials. I have also given 6 invited presentations in various national laboratories and research institutions.

Louis Frank

Professional Qualifications
Division of Engineering
Office of Nuclear Reactor Regulation
U.S. Nuclear Regulatory Commission

My name is Louis Frank. I am a Senior Materials Engineer in the Inservice Inspection Section, Materials Engineering Branch, Division of Engineering, Office of Nuclear Reactor Regulation, of the United States Nuclear Regulatory Commission. In my present position, I am responsible for performing technical reviews and evaluations of PWR steam generator tube surveillance and repair programs for NTOL and operating plants.

I hold a Bachelor of Science Degree in Metallurgical Engineering and a Master of Science Degree in Metallurgy from the University of Kentucky and New York University, respectively. I am also a Registered Professional Engineer in the State of Maryland.

I have a total of thirty-one years of professional experience of which thirty years has been in the nuclear field. I was employed as a materials research engineer at General Telephone & Telegraph's Atomic Energy Labs in Bayside, N.Y. starting in 1952. From 1955 thru 1963 I was a supervisory engineer in nuclear materials research and development at the Martin Co's. nuclear divsion. From 1963 thru 1973 I was with two consulting firms engaged in nuclear safety studies.

Since joining the NRC in June 1973 I have been involved in corrosion and steam generator issues. In the Office of Standards I prepared regulatory guides on steam generator inspection and plugging. In the Office of Research I managed programs involving eddy-current inspection, particularly developing advanced techniques for conducting eddy-current inspections.

David E. Smith

Professional Qualifications
Division of Engineering
Office of Nuclear Reactor Regulation

March 80	Materials Engineer
to	Materials Engineering Branch
Date	Division of Engineering

Knowledgeable and experienced in welding, fabrication and inspection of materials and other related engineering aspects of nuclear reactors. Serves as a qualified materials engineer in the Materials Engineering Branch, Division of Engineering. Responsible for reviews, analyses, and evaluation of safety issues related to structural and mechanical components of reactor facilities licensed for power operation. Participates as a technical reviewer in evaluating applications for construction permits and operating licenses for power and non-power reactors and operational and design modifications of DOE and DOD-owned operating facilities exempt from the licensing process.

Specific assignments include review of operating license applications for compliance with Standard Review Plans for which the Materials Application Section is responsible.

EDUCATION: Bachelor of Metallurgical Engineering, Rensselaer Polytechnic Institute, 1959

EXPERIENCE: (Prior to joining NRC)

May 1967 to	Materials Engineer Naval Sea Systems Command, Code 05E2,
March 80	Washington, D.C.

Responsible for materials specifications, Hull material development programs, consultant on welding, fabrication and inspection of metal structures, material selection, corrosion, machinery materials problems. The hull materials development programs involved basic alloy research, the making and processing of all structural metal forms (castings, forgings, plate, extrusions, weld wire, rolled product), their fabrication (welding, cutting, machining, forming, painting), structural tolerances, and evaluation of structural performance, strength, toughness, corrosion, fatigue, compatibility with other materials, etc. I would interface with material manufacturers, suppliers, shipyards, and designers, and the type desks responsible for providing ships to the fleet.

April 66 to May 67	Student. Acquired commercial and instrument ratings for single engine land airplanes.
Dec 64 to April 66	Manufacturing Engineer for Ling Temco Vought, Centerline, MI. Developed welding procedures for the LANCE missile tankage assembly.

AFFIRMATION OF PREPARATION

I, Lambros Lois, being duly sworn, state that I was reponsible for preparing the foregoing response to Interrogatories 1-9, 14-19, 21-24 Contention 3. Those responses are true and correct to the best of my knowledge.

Lambros Lois

Subscribed and sworn to before me this 6th day of July, 1983

Notary Public

My Commission expires: 7/1/86

AFFIRMATION PREPARATION

I, Guy Vissing, being duly sworn, state that I was responsible for preparing the foregoing response to Interrogatories 10-12, Contention 3. Those responses are true and correct to the best of my knowledge.

Guy Vissing

Notary Public

My Commission expires: 7/1/86

Subscribed and sworn to before me this 6th day of July, 1983

AFFIRMATION OF PREPARATION

I, Colode Requa, being duly sworn, state that I was reponsible for preparing the foregoing response to Interrogatories 25-29, Contention 3 and Interrogatories 8-10, Contention 8. Those responses are true and correct to the best of my knowledge.

Glode Requa

Subscribed and sworn to before me this 6th day of July, 1983

Patricia J. Noonan
Notary Public

My Commission expires: 7/1/86

AFFIRMATION OF PREPARATION

I, Louis Frank, being duly sworn, state that I was reponsible for preparing the foregoing response to Interrogatories 30-41, 64-67, 78 and 85-87, Contention 3. Those responses are true and correct to the best of my knowledge.

Louis Frank

Subscribed and sworn to before me this 6th day of July, 1983

Patricia J. Noonan
Notary Public

My Commission expires: July 1, 1986

AFFIRMATION OF PREPARATION

I, Bernard Mann, being duly sworn, state that I was reponsible for preparing the foregoing response to Interrogatories 45, 48 and 54, Contention 3. Those responses are true and correct to the best of my knowledge.

Bernard Mann

Subscribed and sworn to before me this 6th day of July, 1983

Patricia J. Noonan
Notary Public

My Commission expires: 7/1/86

AFFIRMATION OF PREPARATION

I, Paul Wu, being duly sworn, state that I was reponsible for preparing the foregoing response to Interrogatories 58 and 60-62, Contention 3. Those responses are true and correct to the best of my knowledge.

Paul Wu

Subscribed and sworn to before me this _____ day of July, 1983

Notary Public

My Commission expires: _____

AFFIRMATION OF PREPARATION

I, David Smith, being duly sworn, state that I was reponsible for preparing the foregoing response to Interrogatories 74-77, Contention 3. Those responses are true and correct to the ~~best~~ of my knowledge.

David Smith

Subscribed and sworn to before
me this 6th day of July, 1983

Notary Public

My Commission expires: 7/1/86

AFFIRMATION OF PREPARATION

I, John Crooks, being duly sworn, state that I was reponsible for preparing the foregoing response to Interrogatory 19(b) and 79, Contention 3 and Interrogatory 58, Contention 8. Those responses are true and correct to the best of my knowledge.

John Crooks

Subscribed and sworn to before
me this _____ day of July, 1983

Notary Public

My Commission expires: _____

AFFIRMATION OF PREPARATION

I, Paul E. Norian, being duly sworn, state that I was reponsible for preparing the foregoing response to Interrogatories 80-84, Contention 8. Those responses are true and correct to the best of my knowledge.

Paul E. Norian

Subscribed and sworn to before
me this _____ day of July, 1983

Notary Public

My Commission expires: _____

AFFIRMATION OF PREPARATION

I, Hugh W. Woods, being duly sworn, state that I was reponsible for preparing the foregoing response to Interrogatory 20, Contention 3. That response is true and correct to the best of my knowledge.

Hugh W. Woods

Subscribed and sworn to before
me this 7th day of July, 1983

Patricia J. Noonan
Notary Public

My Commission expires: 7/1/86

AFFIRMATION OF PREPARATION

I, Phyllis Sobel, being duly sworn, state that I was reponsible for preparing the foregoing response to Interrogatories 12-14, Contention 8. Those responses are true and correct to the best of my knowledge.

Phyllis Sobel

Subscribed and sworn to before me this 6th day of July, 1983

Patricia J. Noonan
Notary Public

My Commission expires: 7/1/86

AFFIRMATION OF PREPARATION

I, Richard Serbu, being duly sworn, state that I was reponsible for preparing the foregoing response to Interrogatories 52-57, Contention 8. Those responses are true and correct to the best of my knowledge.

Richard Serbu

Subscribed and sworn to before me this 6th day of July, 1983

Patricia J. Noonan
Notary Public

My Commission expires: 7/1/86

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

BEFORE THE ATOMIC SAFETY AND LICENSING BOARD

In the Matter of:	
CAROLINA POWER & LIGHT COMPANY	Docket No. 50-261 QLA
(H.B. Robinson Steam Electric Plant, Unit 2)	

AFFIDAVIT OF PAUL BEMIS

I, Paul Bemis, being duly sworn, depose and say,

1. I am a Section Chief with the U.S.N.R.C. assigned to Region II, Atlanta, Georgia.

2. The answers to interrogatories 21 thru 55 on Contentions 1a and 1b contained in the "Staff's Response to Hartville Groups Interrogatories" are true and correct to the best of my knowledge and belief. The sources of information on which I base this statement are personnel of the U.S.N.R.C. assigned to Region II, Atlanta.

Paul Bemis 6/29/83

Elizabeth S. Gaines
Notary Public State at Large

Notary Public
My Commission Expires Sept. 17, 1984

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

BEFORE THE ATOMIC SAFETY AND LICENSING BOARD

In the Matter of	)	
	)	
CAROLINA POWER AND LIGHT COMPANY	)	Docket No. 50-261
	)	
(H.B. Robinson Steam Electric Plant, Unit 2)	)	(Steam Generator Repair)

CERTIFICATE OF SERVICE

I hereby certify that copies of "NRC STAFF RESPONSE TO INTERROGATORIES OF THE HARTSVILLE GROUP" in the above-captioned proceeding have been served on the following by deposit in the United States mail, first class, or, as indicated by an asterisk, through deposit in the Nuclear Regulatory Commission's internal mail system, this 7th day of July, 1983:

Morton B. Margulies, Chairman
Administrative Judge
Atomic Safety and Licensing Board
U.S. Nuclear Regulatory Commission
Washington, DC 20555*

Dr. Jerry R. Kline
Administrative Judge
Atomic Safety and Licensing Board
U.S. Nuclear Regulatory Commission
Washington, DC 20555*

Dr. David L. Hetrick
Administrative Judge
Professor of Nuclear Engineering
University of Arizona
Tuscon, AZ 85721

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Shaw, Pittman, Potts & Trowbridge
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Hartsville Group
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Hartsville, SC 29550

Samantha Francis Flynn, Esq.
Carolina Power & Light Company
P.O. Box 1551
Raleigh, NC 27602

Atomic Safety and Licensing Board
U.S. Nuclear Regulatory Commission
Washington, DC 20555*

Atomic Safety and Licensing Appeal Board
U.S. Nuclear Regulatory Commission
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Myron Karman

Myron Karman
Deputy Assistant Chief
Hearing Counsel