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-OLA
	)	
(H. B. Robinson Steam Electric Plant, Unit 2)	)	ASLBP No. 83-484-03LA
	)	

APPLICANT'S ANSWERS TO THE HARTSVILLE GROUP FIRST SET OF INTERROGATORIES AND REQUESTS TO PRODUCE

A. ANSWERS TO GENERAL INTERROGATORIES

The following interrogatories apply severally to each of the contentions admitted as issues in controversy in this proceeding.

INTERROGATORY NO. G-1. State the full name, address, occupation and employer of each person answering the interrogatories and designate the interrogatory or the part thereof he or she answered.

ANSWER NO. G-1.

Name	Interrogatories Answered
Ronnie M. Coats Center Plaza Building Post Office Box 1551 Raleigh, N. C. 27602 Assistant to the Group Executive Carolina Power & Light Company	1-1, 1-2, 1-3, 1-4, 1-5 and 1-7
R. L. Mayton, Jr. Center Plaza Building P. O. Box 1551 Raleigh, N. C. 27602 Manager - Corporate Health Physics Carolina Power & Light Company	1-6, 1-10, 1-11, 1-12, 1-13 and 1-14
Harold R. Banks Center Plaza Building P. O. Box 1551 Raleigh, N. C. 27602 Manager - Corporate Quality Assurance Carolina Power & Light Company	1-15, 1-16, 1-17 and 1-18

G. P. Beatty, Jr.
Center Plaza Building
P. O. Box 1551
Raleigh, N. C. 27602
Manager - Special Projects
Carolina Power & Light Company

1-8, 1-9, 3-88, 8-44, 8-45 and 8-46

Robert E. Halliburton
Harris Energy & Environment Center
New Hill, N. C. 27562
Project Specialist - Health Physics
Carolina Power & Light Company

8-21, 8-22, 8-23, 8-24, 8-25, 8-26, 8-31, 8-32, 8-33, 8-37, 8-50 and 8-51

S. R. Zimmerman
Center Plaza Building
P. O. Box 1551
Raleigh, N. C. 27602
Manager - Licensing & Permits Section
Carolina Power & Light Company

1-27, 1-28, 1-29, 1-30, 1-31, 1-32, 1-33, 1-35, 1-36, 1-49, 1-50, 3-1, 3-2, 3-3, 3-4, 3-5, 3-8, 3-9, 3-13, 3-14, 3-15, 3-16, 3-17, 3-19 (first 3-19), 8-12, 8-14, 8-38 and 8-40

Richard E. Lumsden
Center Plaza Building
P. O. Box 1551
Raleigh, N. C. 27602
Acting Assistant to Vice President - Nuclear Operations
Carolina Power & Light Company

3-25, 3-26, 3-27, 3-28 and 3-29

J. Henry Oehmann, III
Center Plaza Building
P. O. Box 1551
Raleigh, N. C. 27602
Director - Personnel Relations, General Office
Carolina Power & Light Company

1-19 and 1-20

J. R. Bohannon
Harris Energy & Environment Center
New Hill, N. C. 27562
Manager - Nuclear Training Section
Carolina Power & Light Company

1-19 and 1 20

R. B. Starkey, Jr.
H. B. Robinson Steam Electric Plant
P. O. Box 790
Hartsville, S. C. 29550
General Manager - Robinson Plant
Carolina Power & Light Company

3-68, 3-69, 3-70, 3-71, 3-72 and 3-73

L. B. Wilson, Jr. Center Plaza Building P. O. Box 1551 Raleigh, N. C. 27602 Manager - Fossil Plant Engineering and Construction Carolina Power & Light Company	8-1, 8-2, 8-3, 8-4, 8-5, 8-6, 8-7, 8-8, 8-9, 8-10, 8-11, 8-13, 8-14, 8-15, 8-16, 8-17, 8-18, 8-19, 8-20, 8-39, 8-40, 8-47 and 8-48
W. Parker Tomlinson Center Plaza Building P. O. Box 1551 Raleigh, N. C. 27602 Principal Engineer - Mechanical Carolina Power & Light Company	3-30, 3-31, 3-32, 3-33, 3-34, 3-35, 3-36, 3-37, 3-38, 3-39, 3-40, 3-41, 3-63, 3-64, 3-65, 3-66, 3-67, 3-74, 3-75, 3-76, 3-77, 3-78, 8-29, 8-30, 8-34, 8-36, 8-37 and 8-49
Mike McDowell Harris Energy & Environment Center Route 1, Box 327 New Hill, N. C. 27562 Principal Specialist - Chemistry Carolina Power & Light Company	3-55, 3-56, 3-57, 3-58, 3-59, 3-60, 3-61 and 3-62
B. M. Williams Center Plaza Building P. O. Box 1551 Raleigh, N. C. 27602 Director - Staff Services Carolina Power & Light Company	3-89, 3-90, 3-91, 3-92, 3-93, 3-94, 3-95, 3-104, 3-105, 3-106, 3-107, 3-108, 3-109, 3-110, 3-111, 3-112, 3-113, 3-114, 3-115, 3-116, 3-117, 3-118, 3-119, 3-120, 3-123, 3-124, 3-125, 3-126, 3-127, 3-128 and 3-129
Manley A. Pope Brunswick Steam Electric Generating Plant P. O. Box 11059 Southport, N. C. 28461 Manager - Personnel Relations, Nuclear Plants Carolina Power & Light Company	1-34, 1-36, 1-38 and 1-39

INTERROGATORY NO. G-2. Identify each and every person you are considering calling as a witness at the hearing in this matter on this contention, and with respect to each such person:

a) State the substance of the facts and opinions to which the witness is expected to testify;

b) Give a summary of the grounds for each opinion; and

c) Describe the witness's educational and professional background.

ANSWER No. G-2. See objections of counsel.

INTERROGATORY NO. G-3. Is your position on the contention based on one or more calculations? If so:

a) Describe each calculation and identify any documents setting forth such calculation.

b) Indicate who performed the calculation.

c) Indicate when each calculation was performed.

d) Describe each parameter used in such calculation and each value assigned to the parameter, and describe the source of your data.

e) Indicate the results of each calculation.

f) Explain in detail how each calculation provides a basis fo- [sic] the issue.

ANSWER NO. G-3. See objections of counsel.

INTERROGATORY NO. G-4. Is your position on this contention based upon conversations, consultations, correspondence, or any other type of communications with one or more individuals? If so:

a) Identify by name and address each such individual.

b) State the educational and professional background of each such individual, including occupational and institutional affiliations.

c) Describe the nature of each communication with such individuals, when it occured, and all other individuals involved.

d) Describe the information received from such individuals and explain how it provides a basis for the issue.

e) Identify each letter, memorandum, tape, note or other record related to each conversation, consultation, correspondence or other communication with such individual.

ANSWER NO. G-4. See objections of counsel.

B. ANSWERS TO INTERROGATORIES ON CONTENTION 1 (PARTS A & B)

INTERROGATORY NO. 1-1. Describe in detail the administrative structure of Carolina Power & Light Company (CP&L), including the Table of Organization and assignment of responsibilities for ensuring adherence to NRC operating and administrative procedures, rules and regulations.

ANSWER NO. 1-1. ADMINISTRATIVE STRUCTURE

CP&L's management structure, depicted on an exhibit following this answer and discussed below, consists of eight functional groups aligned beneath the President and three executive vice presidents.

The eight groups are led by senior vice presidents or executive vice presidents and include:

- Corporate Services
- Accounting, Audit, and Finance
- Engineering and Construction
- Fuel and Materials Management
- Power Supply
- Customer and Operating Services
- Communications and Public Affairs
- Legal and Regulatory

The President also serves as Chairman of the Board.

An Executive Vice President - Power Supply and Engineering and Construction reports to the President and oversees CP&L's engineering and construction, plant and transmission systems, fuel and materials management, corporate nuclear safety and research, and corporate quality assurance. He is assisted by:

- The Senior Vice President - Engineering and Construction, who is responsible for construction budgeting and project management, electrical and generating plant construction, and engineering activities

- The Senior Vice President - Fuel and Materials Management, who oversees fuel planning, procurement and management, as well as operations purchasing and inventory management

- The Senior Vice President - Power Supply, who is accountable for all production facilities (except the Brunswick Nuclear Project), substation and transmission maintenance, system dispatching, and the sale and purchase of bulk power

- Two vice presidents and a department manager:

Vice President - Brunswick Nuclear Project

Vice President - Corporate Nuclear Safety and Research

Manager - Corporate Quality Assurance

An Executive Vice President and Chief Financial Officer coordinates general accounting, economic studies, tax, internal auditing, budgetary and banking activities, and risk management.

- Reporting to this position are:

Vice President - Accounting and Controller

Vice President - Performance Review and Audit Services

Secretary and Manager - Insurance

Treasurer

The Executive Vice President - Customer and Operating Services, Communications and Public Affairs, and Legal and Regulatory supervises:

- The Senior Vice President - Customer and Operating Services, who directs line division operations

- The Senior Vice President and General Counsel - Legal and Regulatory, who provides leadership for CP&L's legal activities, regulatory policy, and rates and service practices

Also reporting to this position are the:

- Vice President - Corporate Communications
- Director - Public Affairs-Federal
- Director - Public Affairs-North Carolina
- Director - Public Affairs-South Carolina

The Senior Vice President - Corporate Services also reports directly to the President.

- This officer is responsible for administrative services, employee relations, information management (data processing), and business and system planning and coordination.

RESPONSIBILITY ASSIGNMENTS

All personnel, whether employees of or contractors to CP&L, are responsible for adhering to applicable NRC operating and administrative procedures, rules, and regulations. Specific line management responsible for ensuring adherence to these requirements is delegated to the Plant General Managers. This delegation of authority flows from a chain of command beginning with the Chariman/President and CEO and from there to the Executive Vice President - Power Supply and Engineering and Construction, then to the Senior Vice President - Power Supply, and then to the Vice President - Nuclear Operations Department. In the case of the Brunswick Plant, the delegation of authority flows after said Executive Vice President to the Vice President - Brunswick Nuclear Project. The Plant General Managers of Robinson and Harris Plants report to the Vice President - Nuclear Operations. The Plant General Manager of Brunswick reports to the Vice President - Brunswick Nuclear Project.

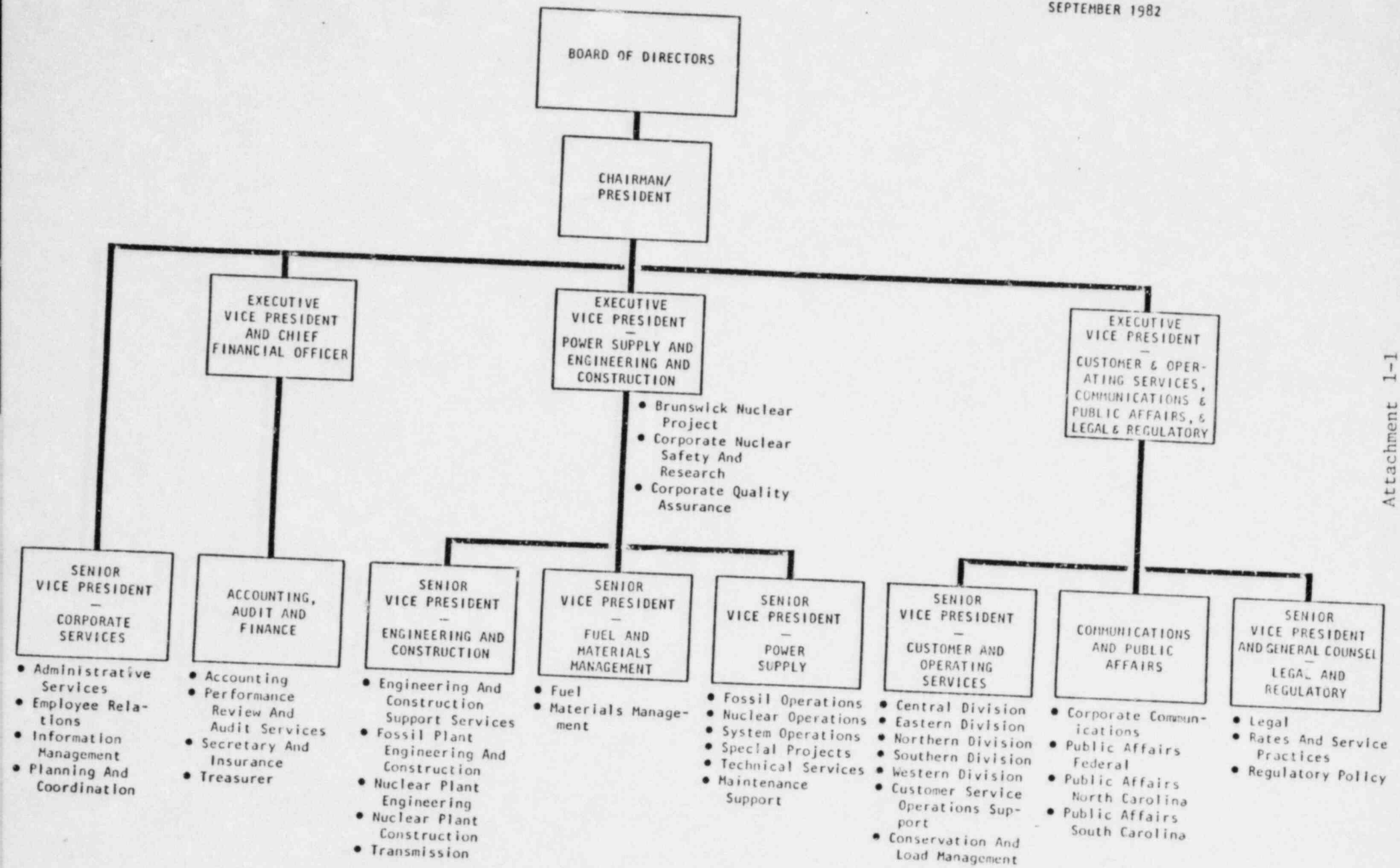
INTERROGATORY NO. 1-2. Has the administrative structure of CP&L undergone changes in the past five years?

ANSWER NO. 1-2. Yes.

CAROLINA POWER & LIGHT COMPANY

PRESENT PLAN OF ORGANIZATION

SEPTEMBER 1982



Attachment 1-1

INTERROGATORY NO. 1-3. If the answer to Interrogatory 2 is affirmative, describe those changes.

ANSWER NO. 1-3. Several changes have been made in CP&L's administrative organizational structure during the 1976-1983 time period in order to provide the most effective and efficient level of management oversight for the various corporate functions.

In 1976, the Chairman had two executive level positions, the Chief Administrative Officer and the Chief Operating Officer, reporting directly to him. Reporting directly to these two positions were six functional groups and one department. Due to the expanded workload and the need to provide more direct oversight and attention to all Company functions, the Chairman/President now has three Executive Vice Presidents and one Senior Vice President reporting directly to him. Reporting directly to these three Executive Vice Presidents are seven of the Company's eight functional groups. The reporting relationship of the Corporate Services Group has been changed such that the Senior Vice President - Corporate Services currently reports directly to the Chairman/President, providing for independence from influence by the functional organizations to which this Group provides services.

The Corporate Quality Assurance and Corporate Nuclear Safety & Research functions have been formalized at the department level during this time period. Due to the need for reporting independence, these departments both report directly to the Executive Vice President - Power Supply and Engineering and Construction. In 1982, a Corporate Vice President was assigned on-site responsibility for the Brunswick Nuclear Project reporting directly to this same Executive Vice President in order to ensure appropriate management attention to operations at that Plant.

The Fuel and Materials Management Group was formed by combining the Fuel Department from the Power Supply Group and the Materials Management Department from the Customer and Operating Services Group. This change allowed these support

functions with similar responsibilities to be assigned under the direction of one Senior Vice President, and reduced the scope of responsibility under the Power Supply Group, allowing greater dedication to power plant operations.

During this period, the previous Generation Department was separated into the Fossil Operations Department and the Nuclear Operations Department to allow management of those departments to concentrate on the specific requirements of each generation type. For similar reasons, the previous Power Plant Engineering and Power Plant Construction Departments were reorganized into three new departments: the Fossil Plant Engineering and Construction Department, the Nuclear Plant Engineering Department, and the Nuclear Plant Construction Department.

In order to provide additional support to the operating system, the Technical Services Department was reassigned from the Engineering and Construction Group to the Power Supply Group. Also within the Power Supply Group, additional supporting functions were added during this period to provide special engineering-related expertise for operating plant requirements and to provide centralized support of maintenance requirements.

The previous Legal, Regulatory and Communications Group was separated into the Legal and Regulatory Group and the Communications and Public Affairs Group due to the increase in workload and critical nature of these areas. These two groups were combined with the Customer and Operating Services Group under the Executive Vice President - Customer and Operating Services, Communications and Public Affairs, Legal and Regulatory to ensure appropriate management attention to these functions.

The functions of the previous General Operating Services Department were combined with those of the Customer Service Operations Support Department to bring these responsibilities under the direction of one Company officer.

Within the Customer and Operating Services Group, a new organization, the Conservation and Load Management Department, was formed to provide increased

emphasis on the requirements of the Company and its customers for maximizing the effective utilization of electric service.

The System Planning and Coordination Department was realigned to report to the Senior Vice President - Corporate Services to enhance the level of management oversight and provide independence from the operating functions to which this organization provides support.

Emphasis on the Company's internal auditing and performance monitoring functions has been increased and formalized by the formation of the Performance Review and Audit Services Department. This department reports to the Executive Vice President - Accounting, Audit, and Finance.

The Company continuously monitors the appropriateness of its organizational structure and makes changes such as those described above to provide effective and efficient oversight of its operations.

INTERROGATORY NO. 1-4. Which officers or employees of C P & L have administrative responsibility for ensuring adherence to NRC operating and administrative procedures, rules and regulations?

ANSWER NO. 1-4. As described in Answer 1-1 above, there are five levels of CP&L line management in the structure linking the Robinson Plant with the Chairman/President and CEO. By virtue of delegated responsibilities, the Plant Manager is the on-site CP&L representative for ensuring adherence to NRC operating and administrative procedures, rules, and regulations. The chain of command upwards from the Plant General Manager at the Robinson and Harris Plants is to the Vice President - Nuclear Operations, who reports to the Senior Vice President - Power Supply, who reports to the Executive Vice President - Power Supply and Engineering and Construction, who reports to the Chairman/President and CEO. For the Brunswick Plant, the chain of command upwards from the Plant General Manager is to the Vice President - Brunswick Nuclear Project, who reports to the Executive Vice President - Power Supply and Engineering and Construction, who reports to the Chairman/President and CEO.

INTERROGATORY NO. 1-5. For each of the officers or employees identified in response to Interrogatory 5 [sic - presumably Interrogatory 4]:

a. Identify the person by name, title and business address;

b. Describe fully the person's job responsibilities.

ANSWER NO. 1-5.

Sherwood H. Smith, Jr.
Chairman/President and CEO
P. O. Box 1551
Raleigh, NC 27602

The Chairman/President is accountable to the Board of Directors, and through the Board to the shareholders, for the total management of the Company in formulating and achieving short- and long-range corporate objectives identified with efficient, economic and safe production and delivery of electrical energy; satisfactory and responsive customer services; effective communication with all publics; good public and governmental relations; appropriate balancing of income and expenditures; efficient allocation of resources; development of strategic plans and corporate objectives; continuity of competent managerial and specialized skills; employee productivity and morale; and continuance of the Company's leadership role in the community and industry.

E. E. Utley
Executive Vice President
P. O. Box 1551
Raleigh, NC 27602

This position is accountable for effectively managing the Power Supply, Fuel and Materials Management, and Engineering & Construction Groups, and the Corporate Quality Assurance, Brunswick Nuclear Project and Corporate Nuclear Safety & Research Departments to:

1. Produce electric power to meet the system's demand.
2. Provide timely and economic completion of quality generating, transmission line, and transmission substation facilities through the overall management of site development, licensing, engineering, and construction functions.

3. Manage the procurement and control of fuels and materials for operational needs.
4. Deliver electric power to the Company's distribution system.
5. Assure the safe operation of nuclear facilities such that there is no adverse impact on the health and welfare of the general public and employees.
6. Minimize the impact on the natural environment.
7. Assure the implementation of effective corporate-level health physics policies.
8. Assure the implementation of an effective corporate QA Program.
9. Assure corporate involvement in appropriate research and development.

L. W. Eury
Senior Vice President - Power Supply
P. O. Box 1551
Raleigh, NC 27602

This position is accountable for ensuring the following end results:

1. No adverse impact on the general health and welfare of the general public and the employees, and maintenance of a formalized on-going radiation protection program which will ensure that radiation exposure to the general public and employees is maintained as low as reasonably achievable (ALARA).
2. Compliance with regulatory bodies, environmental protection laws and guidelines, and other Federal, State, and local requirements in a manner which ensures no adverse impact on the health and welfare of employees and the general public; and assurance that the appropriate Corporate officers are continuously informed of potential problems and their solutions.
3. Timely and effective delivery of service to CP&L's customers from Company-owned or leased generating stations.
4. Development and implementation of long-range corporate plans which will result in the most economical delivery of electrical power to consumers.

5. Controlling the costs of construction, maintenance, and transmission in compliance with Corporate budgets and within or below industry norms.
6. Selecting, developing, and motivating departmental management personnel with emphasis on continuity of managerial and specialized skills.
7. Completing and submitting operating budgets for plant improvements, power production, and system operations and maintenance in a timely manner.
8. Establishment and maintenance of a high level of productivity and morale among employees, supervisors, and management.
9. Contribution to corporate profitability through effective management of operations and related functions.
10. Maintenance of sensitivity to power supply's effect on customer relations.
11. Contribution to the development of an appropriate annual load factor.
12. Maintenance of effective communication with CP&L's other senior management and key staff.
13. Providing public leadership of CP&L, and serving as an example to other employees, by participation in governmental, community and civic activities, and programs in appropriate areas.

B. J. Furr
Vice President - Nuclear Operations
P. O. Box 1551
Raleigh, NC 27602

This position is accountable for ensuring the following end results:

1. No adverse impact on the general health and welfare of the general public and the employees, and maintenance of a formalized on-going radiation protection program which will ensure that radiation exposure to the general public and employees is maintained as low as reasonably achievable (ALARA).
2. Department activities conducted within the Federal, State, and local laws and Company policies to ensure minimum impact on the environment.

3. Efficient, reliable, and economical nuclear generation to meet system load requirements.
4. An effective safety program which results in favorable safety performance when compared to other utilities in the Southeastern Electric Exchange.
5. An effective organization structure to accomplish department objectives.
6. Selection, development, training, and motivation of departmental personnel which ensure a present and future competent work force.
7. Cost control effectiveness which ensures that operations, maintenance, and construction activities are performed within the approved budgets.
8. Timely completion and submission of budgets for plant improvements and operations and maintenance.
9. Establishment and maintenance of a high level of productivity and morale among department personnel.
10. Effective communication with supervisor, subordinates, peers, and other key personnel.
11. Pursuance of long-range plans which will support the corporate plans.
12. Support of Corporate Communications Department and other Company efforts as appropriate to keep the public informed on matters related to nuclear generation.
13. Maintaining a high standard of housekeeping at all facilities in order to contribute to safety performance, better employee morale, maintenance and operational efficiency, and a better working environment.

P. W. Howe
Vice President - Brunswick Nuclear Project
Box 10429
Southport, NC 28461

As set forth in Answers 1-1 and 1-3, this position was established in 1982 and is accountable for effectively managing the Brunswick Nuclear Plant Project operations, engineering, and construction manpower and resources resulting in the economical, reliable, and safe production of electrical power by the Brunswick generating facility, including the conduct of all plant functions in accordance with plant technical specifications, licenses, quality assurance, NRC, Federal, State and Company requirements. Reporting to this position is the General Manager, Brunswick Plant, who is Charles R. Dietz, with responsibilities similar to those hereafter set forth for the General Manager - Robinson.

R. B. Starkey, Jr.
General Manager - Robinson Plant
Box 790
Hartsville, SC 29550

This position is responsible for ensuring the following end results:

1. No adverse impact on the general health and welfare of the general public and the employees, and maintenance of a formalized on-going radiation protection program which will ensure that radiation exposure to the general public and employees is maintained as low as reasonably achievable (ALARA).
2. Plant activities conducted within Federal, State, and local laws and Company policies and with minimum impact on the environment by plant implementation of compliance procedures (Technical Specifications, Industrial Security, NPDES, etc.) and of CNS, CHP, CQA programs; by reviewing audit and surveillance results; and by managing the planning, direction, and control of E&RC support services, Nuclear Safety and QA subunit functions in monitoring and reporting compliance efforts, providing an effective Fire Protection and Security Program, and effective interface with the news media and audit groups.

3. Efficient, reliable, economical electric generation from the plant to meet system load requirements by managing the planning, direction, and control of plant operations to obtain highest plant efficiency and reliability and meet heat rate goals; by providing for the development and implementation of plant efficiency, reliability, and performance programs, procedures and testing, an effective preventive and corrective maintenance program, and outage planning and coordination; and providing for adequate engineering, plant chemistry, and other Technical and Administrative support to O&M functions, including availability of sufficient spare parts.

4. An effective safety program which provides for the safety of personnel and ensures a safe plant working environment by the implementation of an effective plant safety program; requiring proper safety training; providing safety equipment; enforcing safety rules; maintaining high housekeeping standards; and ensuring that unsafe conditions and practices are identified and corrected and that work is performed in accordance with CP&L Safety Manual and meets OSHA requirements.

5. Maintaining an effective plant organizational structure to accomplish plant objectives and contribute to accomplishment of department objectives by reviewing manpower and training requirements, forecasting workload, providing justification for and recommending a lean but sufficient organization, and properly implementing the approved plant organizational structure.

6. Providing for a present and future competent plant work force by coordinating recruitment, careful selection, providing for effective training, including new employee indoctrination programs; operator training and retraining to meet regulatory requirements; specialized training; technical training for mechanics, I&C and RC and Chem. Technicians; management training; and

ensuring that minimum requirements for promotion are met and that the best qualified are promoted.

7. Cost control effectiveness which ensures that O&M and construction activities are performed within the approved budget by establishing an effective cost control system which provides the status of budget, WA's, ER's, etc., identifies variances and permits timely corrective action; and by ensuring that deviations receive proper management approval; that contracts and purchases are made in accordance with Company policy; and that acceptable accounting practices are followed.

8. Providing for timely completion and submission of budgets for plant improvements, operations, and maintenance by directing plant budget preparation, submitting by deadline, and requiring approved budget (ER) items to be completed in a timely manner.

9. Establishing and maintaining a high level of productivity and morale among plant personnel by implementing an effective employee information program, ensuring appropriate application of Company salary administration and personnel policies, objective performance evaluations and prompt response to employee concerns, applying motivational management, and implementing systems to monitor and improve productivity.

10. Effective communication with plant employees, department supervision, and other contacts by providing and securing appropriate information to keep plant management current on plant and Company matters, and by keeping department supervision apprised of plant status, etc.

11. Pursuing long-range plant needs which support department goals and objectives by providing for the identification of manpower, equipment, facility, staffing, and training needs to meet future plant requirements, and for the development of recommendations for long-range improvement programs.

12. Supporting Nuclear Operations Department efforts to keep the public informed on matters related to nuclear power generation by providing department-requested information and data within a reasonable time, and by ensuring effective interface with the news media.

13. Maintaining a high standard of housekeeping at the plant in order to contribute to safety performance, better employee morale, maintenance and operational efficiency, and a better working environment.

J. L. Willis
General Manager - Harris Plant
Box 165
New Hill, NC 27562

This position is responsible for ensuring the results as previously set forth herein for the General Manager - Robinson Plant. It includes ensuring the safe and efficient start-up and operation of the Harris Nuclear Generating Plants to obtain highest plant efficiency, reliability and availability in compliance with license, regulatory and Company requirements and consistent with nuclear safety, environmental, and other considerations.

INTERROGATORY NO. 1-6. Describe in detail C P & L policy, program and procedures, if any, for assuring adherence to NRC operating and administrative procedures, rules and regulations.

ANSWER NO. 1-6. CP&L has established a policy statement associated with assuring the overall nuclear safety of our nuclear facilities. The policy states that CP&L is committed to design, construct and operate its nuclear power plants without jeopardy to its employees or to the public health and safety. Nuclear safety programs shall be developed, implemented and managed so that all plant systems used to treat, store and convey wastes produced by the generation of nuclear steam will be designed, constructed and operated in a safe manner. The design, construction and operation of nuclear plants shall be accomplished in accordance with U. S. Nuclear Regulatory Commission (NRC) Regulations specified in Title 10 of the U. S. Code of Federal Regulations. All

commitments to the NRC Regulatory Guides and engineering and construction codes shall be carried out. The operation of the CP&L's nuclear power plants shall be in accordance with the terms and conditions of the facility operating license issued by the NRC. Any changes in operating procedures, experiments at the facility, or modifications to plant hardware or systems, shall be made in accordance with the terms and the conditions of the facility operating license.

The responsibility for assuring adherence to NRC rules and regulations and license requirements is transmitted through line management discussed above in response to Interrogatory 1-1 to the Plant General Manager. The plant administrative procedures provide documentation of the organization of the plant necessary to assure compliance with appropriate NRC rules, regulations and license requirements. The Plant General Manager works through key line management at the plant to establish appropriate plant procedures which are needed to operate the plant safely and to conduct specific testing necessary to document compliance with the NRC rules and regulations, the operating license and technical specification requirements.

In addition, other Company organizations have responsibility for verifying that the nuclear facilities comply with NRC rules and regulations, the operating license and the technical specification requirements. Principal among these are the activities of the Corporate Quality Assurance Department which is responsible for assuring compliance with the Corporate Quality Assurance Program. The Corporate Quality Assurance Program is intended to assure that the nuclear plants are operated in compliance with all regulatory commitments and plant procedures that are developed to operate the plant and to satisfy various regulatory requirements for surveillance testing. The Corporate Nuclear Safety and Research Department through the Corporate Nuclear Safety Section assures that the Company's nuclear programs are being carried out in an effective manner from the standpoint of nuclear safety. The section monitors CP&L's nuclear programs and assures that the nuclear safety functions are carried out as defined in

applicable standards and as required by the technical specifications. The Corporate Health Physics Section assesses the health physics aspects of plant operations to assure the effectiveness of the programs to meet regulatory requirements, plant procedural requirements and good health physics practices. The responsibilities of the Corporate Nuclear Safety Section and Corporate Health Physics Section are contained in written procedures which are approved by appropriate line management.

INTERROGATORY NO. 1-7. Describe in detail the experience of C P & L in designing, engineering, constructing, directing, and otherwise carrying out a project of the magnitude of the steam generator repair project.

ANSWER NO. 1-7. CP&L has been actively involved in all aspects of major nuclear power plant construction projects since the late 1960's when construction of the Robinson Plant began. This unit was a turnkey project with responsibility for design and construction resting with Westinghouse Electric Corporation; however, CP&L had an active role in licensing, start-up testing, and operations. CP&L had a more limited role in construction management and site quality assurance, but this initial experience formed the basis for more detailed involvement in future projects.

The first opportunity to expand and increase Company control and management came with construction of the two nuclear units at the Brunswick Plant. For this project, CP&L awarded separate engineering and construction contracts. The architect engineer had responsibility for design, engineering, and procurement of equipment, while a major constructor had responsibility for construction, including construction management. Throughout this project, CP&L became increasingly more involved in coordinating the total project effort, and in doing so, significantly increased the level of corporate experience in the area of construction supervision and oversight.

Subsequent to the Brunswick Project, in a climate of rapidly increasing construction costs and inability to obtain firm-price contracts on the more complex projects, it was apparent that even more direct management responsibility for

engineering and construction of future power plants was required. Consequently, CP&L created an organization to assume direct control of construction management activities for the Shearon Harris Nuclear Power Plant. An architect-engineer was engaged for the design of Harris, Westinghouse was selected to supply the nuclear steam supply systems, and a major construction company was contracted to construct the power block and associated facilities. Site excavation, main and auxiliary dam construction, land clearing, containment liner erection, cooling tower erection, and numerous other work items are being executed by other companies under direct contract to CP&L.

As construction manager at Harris, CP&L is responsible for job coordination and communication, planning, cost control, inspection, quality assurance, accounting, procurement, inventory control, warehousing, field engineering, scheduling, and site security. CP&L exercises the authority to approve or disapprove prime contractor recommendations on construction methods and force levels, provides the communication link between the designer and the builder, and controls site delivery dates. By retaining these responsibilities, the real burden of construction management remains with CP&L rather than being delegated to a contractor.

This evolution of construction management philosophy was such that the Company was in a position to apply construction management techniques similar to those used on the Harris project to construction of the Mayo project, a large, two-unit, fossil-fired generation plant. CP&L retained the services of an architect-engineer to provide the full scope of engineering, design, and equipment procurement for the two units. The major portion of the power block work was awarded to one contractor, while site development activities, including dam construction, road relocations, and specialty construction work such as chimneys, cooling towers, and concrete foundations were awarded to individual contractors. CP&L serves as the project's construction management organization and coordinates the work of all the individual contractors. The success of this construction management effort was proven when the first unit was declared commercial on March 1, 1983, on schedule and within budget.

The Company plans to apply these same, proven techniques to the management of the Robinson steam generator repair project. CP&L has appointed a Project Team Manager in the General Office, reporting directly to the Group Executive of the Power Supply Group, who will have responsibility for coordinating this project. This manager has 25 years of experience in power plants, including service at the H. B. Robinson Plant as Maintenance Supervisor and Superintendent, and 10 years managing a power plant of another utility which consisted of both nuclear and fossil generating units. CP&L has set up an on-site Construction Management Organization which is being staffed to supervise the construction activities and which will have on-site planning, scheduling, procurement, accounting, estimating, and cost-control capabilities. This organization is headed by a Project Construction Manager with over 40 years of experience. CP&L is installing computer hardware and software necessary to implement automated planning, scheduling, and cost-monitoring programs. The architect-engineer of the original plant and Westinghouse Electric Corporation, the manufacturer of the steam generators, have been contracted to provide engineering assistance. Finally, the Company is taking full advantage of the experiences of other utilities by having key CP&L personnel visit VEPCO and Florida Power & Light Company (FP&L) to discuss their steam generator replacement programs, and by having assigned a Senior Engineer to FP&L full-time for on-the-job experience during their recent steam generator change-out.

Considering the magnitude of major construction programs and projects successfully conducted and managed by CP&L, the Company is confident of its ability to carry out the steam generator repair effort in a safe, efficient, and fully satisfactory manner.

INTERROGATORY NO. 1-8. Which components of C P & L will be responsible for designing, engineering, constructing, directing, and otherwise carrying out the steam generator repair?

ANSWER NO. 1-8. The designing and engineering are the responsibility of the

Nuclear Plant Engineering Department. The construction and the direction of the replacement are the responsibility of the Nuclear Plant Construction Department. The health physics direction will be the responsibility of the plant staff. The Corporate Quality Assurance Department is responsible for the effective implementation of the Corporate Quality Assurance Program.

INTERROGATORY NO. 1-9. Which individual in each of those components described in response to Interrogatory 8 is chiefly responsible for assuring adherence to NRC procedures, rules and regulations?

ANSWER NO. 1-9. The department manager of each component mentioned in the Answer 1-8 bears responsibility for compliance with the rules and regulations applicable to their scope of responsibility.

INTERROGATORY NO. 1-10. Describe in detail how corporate and plant responsibilities for assuring adherence to NRC procedures, rules and regulations relate to one another.

ANSWER NO. 1-10. As stated in Answer 1-6 above, the Plant General Manager has ultimate responsibility for assuring adherence to NRC rules and regulations pertaining to the operation of the Company's nuclear facilities. This responsibility is carried out with the assistance of plant management level personnel divided by functions into five units: Planning and Scheduling, Operations and Maintenance, Assistant to the General Manager, Technical Support, and Environmental and Radiation Control. Personnel in these groups carry out the various plant procedures contained in the plant operating manual to properly operate the plant in compliance with NRC rules and regulations. The procedures also provide for surveillance testing to document compliance with requirements of the plant technical specifications.

Other Corporate organizations provide additional assurance regarding adherence to NRC rules and regulations. The Corporate Quality Assurance Department under the Manager - Corporate Quality Assurance is responsible for assuring compliance with the Corporate Quality Assurance Program. This program provides for independent inspection

and audit to assure that commitments to the NRC are being met and that procedures developed in compliance with NRC rules and regulations to operate the plant are being followed. Within the Corporate Quality Assurance Department, a unit of the QA/QC — Brunswick and Robinson Plants Section is stationed at the nuclear facility site which provides day to day QA/QC surveillance of activities to assure compliance with regulatory requirements and procedural aspects of plant operation. In addition, the Performance Evaluation Unit of the QA Services Section provides periodic audits of plant operations to verify compliance with NRC rules and regulations and procedures developed in compliance with NRC requirements to operate and maintain the plant. These audits are conducted by Corporate level personnel who are totally independent of plant management.

In addition, personnel in the Corporate Nuclear Safety and Research Department located in the Corporate offices provide review of nuclear safety and health physics aspects of plant operations. The Corporate Nuclear Safety Section under the Manager - Corporate Nuclear Safety who reports to the Vice President - Corporate Nuclear Safety and Research is responsible for the independent assessment of nuclear safety aspects of CP&L's nuclear plants. He reports recommendations and concerns relative to nuclear safety to responsible levels of management in accordance with the plant technical specification and section procedures.

The Corporate Nuclear Safety Section maintains an On-site Nuclear Safety Unit at each facility which provides day to day nuclear safety support of plant operations. The support is in the form of review of nuclear safety aspects of plant operations including modifications to the plant, procedural revisions of plant activities, and transients. The Manager of the Corporate Health Physics Section, who also reports to the Vice President - Corporate Nuclear Safety and Research, is responsible for establishing Corporate policies associated with Company health physics activities, assuring the effectiveness of the health physics programs and providing assistance as may be necessary within the

Company regarding health physics matters. Periodic assessments are made of various aspects of the health physics activities to assure the effectiveness of the programs in meeting NRC rules and regulations and good health physics practices. Personnel in this section are located in the Corporate offices and perform these assessments during visits to the nuclear plants.

INTERROGATORY NO. 1-11. What is the documentary basis for your response to interrogatory 10?

ANSWER NO. 1-11. The responsibilities of the Plant General Manager are documented in the plant administrative instructions for the facility. The responsibilities of the Corporate Quality Assurance Department to assure compliance with the Corporate Quality Assurance Program are documented in the Corporate Quality Assurance Program. In addition, procedures have been developed by various sections of the Corporate Quality Assurance Department responsible for the QA/QC surveillance and auditing of plant operations. Procedures have been developed by the Corporate Nuclear Safety Section to document the activities regarding their independent assessment of plant operations. A procedure has been developed documenting the Corporate Health Physics assessments of the health physics programs at the nuclear plants.

The Plant Operating Manual contains procedures developed under the direction of the Plant General Manager necessary to assure safe operation of the facility as well as performance of surveillance and calibration testing activities necessary to comply with the technical specification requirements imposed by the Nuclear Regulatory Commission.

INTERROGATORY NO. 1-12. Are the relationships described in response to Interrogatory 10 the same for both Robinson, Unit 2, and the Brunswick nuclear facilities?

ANSWER NO. 1-12. Yes.

INTERROGATORY NO. 1-13. If the answer to Interrogatory 12 is negative, describe in detail how they differ.

ANSWER NO. 1-13. Not applicable.

INTERROGATORY NO. 1-14. What is the documentary basis for your response to Interrogatory 13?

ANSWER NO. 1-14. Not applicable.

INTERROGATORY NO. 1-15. Describe in detail C P & L's Quality Assurance program.

ANSWER NO. 1-15. CP&L's Quality Assurance Program is generally described in Answers Nos. 1-6 and 1-10 and is described in detail in its Corporate Quality Assurance Program Manual.

INTERROGATORY NO. 1-16. What is the documentary basis for your response to Interrogatory 15?

ANSWER NO. 1-16. Chapter 17, FSAR for H. B. Robinson Unit 2, and the Corporate Quality Assurance Program Manual, Revision 4, (Blue Book).

INTERROGATORY NO. 1-17. How does C P & L's Quality Assurance program relate to its engineering, design, construction, and health physics functions?

ANSWER NO. 1-17. These functions or activities are covered by the QA program. Section 4 of the Corporate Quality Assurance Program specifically addresses engineering and design control. Construction and health physics activities are included in the program and augmented by Corporate audits and on-site inspections and surveillances.

INTERROGATORY NO. 1-18. What is the documentary basis for your response to Interrogatory 17?

ANSWER NO. 1-18. Same as Answer to Interrogatory 1-16.

INTERROGATORY NO. 1-19. Describe in detail any C P & L personnel training, selection, performance evaluation or disciplinary procedures employed to assure adherence to NRC operating and administrative procedures, rules and regulations.

ANSWER NO. 1-19. General Employee Training is required for all personnel requiring unescorted access to CP&L's nuclear plants. General Employee Training

provides classroom instruction on radiation protection, security, safety, and appropriate emergency actions. The objective of the General Employee Training is to make each person working in a CP&L nuclear plant aware of his responsibility to carry out CP&L's policies concerning safety, security, health physics, and emergency requirements.

Classroom training conducted at the Harris Energy & Environmental Center provides fundamental training for selected key employee classifications. As a part of this training, applicable NRC procedures, rules, and regulations are taught.

Training instructions exist for each of CP&L's nuclear plants which set forth the training that specified classifications of employees will receive. Training instructions establish a program for training licensed and certain nonlicensed personnel in appropriate aspects of plant operations, NRC requirements, plant procedures, and corporate policies. Training instructions provide the framework for training nonlicensed personnel who do not have experience or education to qualify them to perform particular duties as well as for the retraining of qualified employees.

The following is a description of the selection, performance evaluation, and disciplinary procedures employed by CP&L, one of the purposes of which is to assure adherence to NRC regulations and CP&L procedures and policies relating to NRC requirements.

I. Employee Selection

CP&L uses a series of selection processes to ensure that the most qualified candidates are selected for each job opening.

a. Pre-Employment Testing

Pre-employment testing is required for the following job classifications. These job classifications are currently employed at or supporting CP&L's nuclear facilities.

1. Engineers
2. Engineering Technicians
3. Radiation Waste Control Operators

4. Nuclear Control Operators
5. Plant I&C Technicians
6. Mechanics/Electricians
7. Radiation Control Technicians
8. Drafting Technicians
9. Communications Technicians
10. Environmental & Radiation Control Technicians
11. Maintenance Technicians
12. Test & Results Technicians
13. Quality Assurance Technicians
14. Operations Technicians
15. Fuel Specialists
16. Administrator Specialists
17. Quality Assurance Specialists
18. Operator Training Specialists
19. Construction Specialists
20. Generation Specialists
21. Vendor Surveillance Specialists
22. Clerks/Stenographers
23. Construction Craft Craftsmen
24. Construction Craft Mechanics
25. Construction Craft Electricians

The pre-employment test for each of these jobs has received a test validation by Management Consultants of Chapel Hill, Inc. In addition to the pre-employment testing, a background investigation is conducted of each prospective employee whose work would involve unescorted access to the vital areas of the nuclear plant, in order to verify the reliability and trustworthiness of that job applicant. Included

in this background check is a 5-year search of records concerning the individual's education, previous employment, credit, criminal record, and references. In addition, a psychological profile, a physical examination, and drug screen are developed. Furthermore, supervisors are given training in the area of interview techniques and aberrant behavoir recognition and each job applicant is thoroughly interviewed and reviewed by at least two levels of management before an offer of employment is made.

b. Performance Evaluation

1. Category II Employees (Generally employees exempt from minimum wage and/or overtime provision of the Fair Labor Standards Act of 1938). Each Category II employee is subject to an annual review of performance. The review is conducted based upon a performance evaluation made by the immediate supervisor and concurred in by management. This evaluation program is called the Performance Evaluation Plan. It has five categories of rating — these categories are: Marginal, Fair, Competent, Distinguished, and Superior.

2. Category I Employees (Non-Exempt Employees)

Each Category I employee is subject to a performance review after the completion of the first six months of service. Also, an employee is subject to a mandatory review six months after transferring into a different job classification. In addition, employees are reviewed each six months as they move through a job progression. It is customary after the individual reaches the top of a classification to review that individual on an annual basis.

c. Disciplinary Procedures

Employees are subject to disciplinary procedures outlined in the CP&L Supervisor's Manual under the heading, Guidelines for Disciplinary Action. It is the practice of CP&L to administer discipline, as appropriate, which can entail multiple disciplinary interviews followed by disciplinary action. Disciplinary action may include both salary action and/or employment action.

INTERROGATORY NO. 1-20. What is the documentary basis for your response to Interrogatory 19?

ANSWER NO. 1-20. The documents which underlie the response in Answer 1-19 relating to training are:

Carolina Power & Light Company - Nuclear Training Section General Employee Training Manual

(1) Level I - Badging, Rev. 3 (April 27, 1983)

(2) Level II - Radiation Indoctrination (March 12, 1982)

(3) Level III - Monitor (March 12, 1982).

Carolina Power & Light Company - Training Manual for Nuclear and Fossil Operations Personnel, Rev. 10 (May 20, 1983)

Carolina Power & Light Company - Brunswick Steam Electric Plant Training Instructions

CP&L - H. B. Robinson Training Instructions

CP&L - Harris Training Unit Training Instructions Manual (draft).

The documents underlying the response in Answer 1-19 relating to employee selection are:

Carolina Power & Light Company Employee Handbook - Company Policy

Carolina Power & Light Company Employee Handbook - Standard Personnel Practices

Carolina Power & Light Company Test Administration Manual

Carolina Power & Light Company - Organization and Human Resource Development Guide

Carolina Power & Light Company Unescorted Access Personnel Screening Manual

The documents which underlie the response in Answer 1-19 relating to personnel employment evaluation are:

Carolina Power & Light Company - Performance Evaluation Plan for Category II Employees

Carolina Power & Light Company - Performance Review Forms for Category I Employees

The Guidelines for Disciplinary Action set forth in the CP&L Supervisor's Manual provides the basis for the response in Answer 1-19 relating to disciplinary actions.

INTERROGATORY NO. 1-21. Do you agree that C P & L has been responsible for a history of repetitive non-compliance with NRC rules and regulations?

ANSWER NO. 1-21. See objections of counsel.

INTERROGATORY NO. 1-22. If your response to Interrogatory 21 is negative, explain in detail the respects in which you do not agree.

ANSWER NO. 1-22. See objections of counsel.

INTERROGATORY NO. 1-23. Do you agree that C P & 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?

ANSWER NO. 1-23. See objections of counsel.

INTERROGATORY NO. 1-24. If your response to Interrogatory 23 is affirmative, describe each such breakdown in detail.

ANSWER NO. 1-24. See objections of counsel.

INTERROGATORY NO. 1-25. 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 rely in support of your position.

ANSWER NO. 1-25. See objections of counsel.

INTERROGATORY NO. 1-26. If your response to Interrogatory 23 is negative, explain in detail the respects in which you do not agree.

ANSWER NO. 1-26. See objections of counsel.

INTERROGATORY NO. 1-27. Describe in detail each C P & L violation of NRC operating procedures, rules and regulation categorized at Severity Level I pursuant to NRC Enforcement Policy.

ANSWER NO. 1-27. No CP&L plant has ever been assessed with a Severity Level I violation.

INTERROGATORY NO. 1-28. Describe in detail each C P & L violation of NRC operating procedures, rules and regulations categorized at Severity Level II pursuant to NRC Enforcement Policy.

ANSWER NO. 1-28. No CP&L plant has ever been assessed with a Severity Level II violation.

INTERROGATORY NO. 1-29. Describe in detail each C P & L violation of NRC operating

ANSWER NO. 1-29. This interrogatory is incomplete as set forth.

INTERROGATORY NO. 1-30. Describe in detail each C P & L violation of NRC operating procedures, rules and regulations categorized at Severity Level III pursuant to NRC Enforcement Policy.

ANSWER NO. 1-30. For the H. B. Robinson Plant, see HBR Attachment 1.a. attached hereto. For the Brunswick Plant, see BSEP Attachment 1.b. attached hereto. The Harris Plant has never been assessed with a Severity Level III violation.

INTERROGATORY NO. 1-31. Describe in detail each C P & L violation of NRC operating procedures, rules and regulations categorized at Severity Level IV pursuant to NRC Enforcement Policy.

ANSWER NO. 1-31. For the H. B. Robinson Plant, see HBR Attachment 2.a. attached hereto. For the Brunswick Plant, see BSEP Attachment 2.b. attached hereto. For the Harris Plant, see SHNPP Attachment 2.c. attached hereto.

INTERROGATORY NO. 1-32. Describe in detail the corrective actions and management controls instituted by C P & L with respect to each instance of violation of NRC operating procedures, rules and regulations referred to in response to Interrogatories 28 - 31.

ANSWER NO. 1-32. The corrective actions and management controls instituted by CP&L with respect to each instance of violation referred to in Answers 1-28 through 1-31 are incorporated in Attachments 1.a., 1.b., 2.a., 2.b., and 2.c.

INTERROGATORY NO. 1-33. 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.

ANSWER NO. 1-33. Answers 1-28 through 1-32 consist of copies of CP&L's actual responses to the violations assessed by the NRC. Each response restates the violation as assessed by the NRC, gives CP&L's reason for the violation and provides the corrective actions to be taken as a result of the violations. The documents on which the above responses are based are noted with each violation and consist of an Inspection and Enforcement Report number, the date of the CP&L response to that report and the serial number of the CP&L response as appropriate.

INTERROGATORY NO. 1-34. Have any C P & L employees or contractor or subcontractor employees been warned, counseled, disciplined, transferred, demoted, penalized, suspended or terminated as a result of non-compliance with NRC operating and administrative procedures, rules or regulations at any licensed facility or for actions under any NRC license since January 1, 1978? Identify the name, title, dates of employment, address and telephone number of each such employee; describe in detail the action taken, the reason for each such action, the procedures, rules or regulations not complied with, and the safety significance of such non-compliance.

ANSWER NO. 1-34. As stated by CP&L in its objections of counsel, Interrogatory 1-34 is objectionable in that it would require an unreasonably burdensome search of voluminous files at each of CP&L's three nuclear plants.

CP&L has made a reasonably limited inquiry with respect to this interrogatory and will provide the information obtained through such inquiry.

Where an employee error has given rise to a situation which becomes the subject of an NRC Notice of Violation, it is CP&L's practice to describe in its response to the Notice the nature of the error and any counseling, disciplinary or other corrective measure taken by CP&L. CP&L's responses to Notices of Violation have been provided in connection with Answers 1-30 and 1-31.

CP&L has made inquiry, described below, at each of its nuclear plants to identify instances of disciplinary action which might not already be reflected in the responses to the Notices of Violation.

At the Brunswick plant, the Site Personnel Director made inquiry of the Plant General Manager and the Site Director of Quality Assurance and Quality Control. Based upon his recollection of specific events, information pertaining to those events were reviewed. The latter had no recollection of any such incidents.

At the Harris plant, the Site Personnel Director made inquiry of the Plant General Manager, the Site Manager of Quality Assurance and Quality Control and the Construction Site General Manager. Based upon their recollections of specific events, information pertaining to those events were reviewed.

At the Robinson plant, the personnel director made inquiry of the Plant General Manager, the Site Director of Quality Assurance and Quality Control and a representative of the Manager of Construction. Based upon their recollections of specific events, information pertaining those events were received.

The information obtained from these reviews is summarized below:

Brunswick Plant

Date of Incident or Action	Description of Incident	Action Taken
2/12/83	use of unapproved procedure in loading cask	5 days suspension without pay and written reprimand
12/81	failure to adhere to established health physics procedures	3 days suspension without pay
9/81	failure to adhere to established health physics procedures	3 days suspension without pay
3/83	two radiation safety violations within 60 days	letter placed in file with performance evaluation review to be made in 6 months
4/83	allowed an employee to sign verification sheet for a periodic test performed by another	letter placed in file
4/83	Improper clearance - failed to	one day suspension

	exercise supervisory overview	without pay, letter of reprimand included in file
3/17/83	improper review of periodic test	letter of caution
3/17/83	failure to sign off a step of a periodic test	written reprimand
7/81	allowed worker to exceed calculated stay time resulting in over-exposure	2 weeks suspension without pay
10/15/81	Radiation safety violation. False information about age.	counseling
12/20/82	failed to have QC verify cleanliness of hold point	letter of reprimand
2/5/83	improper attention to procedures related to waste casks	letter placed in personnel file for 1 year
8/81	Level 2 radiation safety violation	1 day suspension without pay and 1 day training with health physics.
12/82	failure to do required testing in time specified on diesel generator	letter of reprimand
1/83	failure to enter into action statement as required - Technical Specifications violation	suspension of license pay for 2 weeks
2/83	failure to perform safety related activity in accordance with procedure	5 day suspension without pay
5/83	failure to maintain awareness of power plant status	removed from contol floor

Harris Plant

Contractor Employees

5/83	passing hold point	reprimand
1/83	violation of welding procedures	reprimand
1/83	violation of welding procedures	reprimand

1/83	passing hold point (welding)	reprimand
2/83	violation of welding procedures	reprimand
3/83	violation of welding procedures	reprimand
8/82	violation of welding procedures	reprimand
CP&L Employees		
4/83	performed and inspected own work	counseled
prior to 7/29/82	improper inspection of welds	employee resigned before action could be taken
4/82	suspected of improper initialing of seismic I inspection reports	employee resigned while investigation being conducted
4/21/83	unsatisfactory performance of weld inspections	certification invalidated, retraining, retesting and recertification required
12/82	unsatisfactory performance of weld inspections	certification rescinded; re-certification required. Warning given.
prior to 2/3/82	evidence of use of cocaine	terminated
Robinson Plant		
2/83	failure to follow plant procedures	periodic increase in pay deferred for 6 months
5/83	improper performance of valve lineups	employee sent home; resigned before further disciplinary action could be taken
3/83	noncompliance with administrative procedures	counseled
2/83	failure to sign out on R.W.P.	counseled
2/83	conviction of possession of controlled substance off the	terminated

	job (on his own time)	
2/83	failure to follow procedure. Sodium hydroxiden 2 supply valve left out of position	counseled
2/10/83	failure to follow plant procedures	periodic pay increase deferred for 6 months
1/11/83	failure to implement all aspects of special procedure for moving spent fuel in spent fuel pit	counseled; required to review special procedure and administrative requirements for procedures compliance; 2 days suspension without pay.

INTERROGATORY NO. 1-35. Has C P & 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 CFR 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 respect to activities under AEC/NRC license? Describe in detail each such instance, the violation or claim alleged, its date and place, the C P & L response including any evidence offered in answer, remission or mitigation, the proceedings had thereon and the outcome.

ANSWER NO. 1-35. As stated in its objections, CP&L objects to Interrogatory 1-35 in that it is limitless in scope and would require an unduly burdensome search of an extensive number of files. CP&L has conducted, however, a reasonably limited investigation with respect to this interrogatory which consisted of inquiry of personnel with responsibilities in the area of regulatory compliance and an investigation of their files. CP&L has interpreted Interrogatory 1-35 as seeking documents relating to alleged or actual violations of law or administrative regulations.

CP&L has been the subject of NRC Notices of Violation, the substance of which is set forth in CP&L's Responses thereto. These responses relating to violations categorized at Severity Levels III and IV have been provided in connection with Answers 1-30 and 1-31. CP&L has also received NRC Notices of Violations alleging violations

categorized as Severity Level V under the current NRC Enforcement Policy, as Severity Level VI under the NRC's Interim Policy and as deficiencies, deviations or infractions under NRC's previous enforcement policy. CP&L's responses to such notices are available for inspection and copying.

An identification of other notices and orders of the types described in Interrogatory 1-35, as well as CP&L's responses and corrective actions with respect thereto, are contained in documents which are incorporated in HBR Attachment 3.a and BSEP Attachment 3.b.

INTERROGATORY NO. 1-36. 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.

ANSWER NO. 1-36. The bases of the responses set forth in Answer 1-34 are described therein. The bases for the responses set forth in Answer 1-35 are the documents which comprise the Attachments furnished with respect thereto.

INTERROGATORY NO. 1-37. 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 an AEC/NRC license issued to C P & L. For each such complaint, set forth the name, address and telephone number of the persons complaining or involved in the matter complained of and explain fully the manner in which Applicant learned of the complaint.

ANSWER NO. 1-37. This interrogatory is addressed solely to the NRC Staff.

INTERROGATORY NO. 1-38. 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 C P & L or its contractors or subcontractors intended to result in the violation of or non-compliance with NRC operating and administrative procedures, rules or regulations. For each such instance, set forth the name, address and telephone numbers of the person(s) making the allegation or involved in the matter alleged, describe fully any investigations made by C P & L or the NRC Staff, and describe in detail any actions taken.

ANSWER NO. 1-38 As stated in CP&L's objections of counsel, Interrogatory 1-38 is objectionable in that it is limitless in scope and would require an unreasonably burdensome search of extensive files at each of CP&L's nuclear plants. CP&L has made a reasonably limited investigation, however, consisting of inquiry of each plant general

manager, and such inquiry has identified no instance of an allegation of any of the types described in Interrogatory 1-38.

INTERROGATORY NO. 1-39. Identify in detail all documents reflecting disagreements, disputes or differences of opinion between employees of CP&L and their supervisors or C P & L management regarding compliance or sufficiency of compliance with NRC operating and administrative procedures, rules or regulations. Include the subject, date, names of persons involved and resolution for each such instance.

ANSWER NO. 1-39. As stated in CP&L's objections of counsel, Interrogatory 1-39 is objectionable in that it is limitless in scope and would require an unreasonably burdensome search of extensive files at each of CP&L's nuclear plants. CP&L has conducted a reasonably limited investigation, however, consisting of inquiry of each plant general manager and such inquiry has disclosed no document of a kind described in Interrogatory 1-39. It is the case, however, that differences of opinion about matters affecting the operation or construction of each of CP&L's nuclear plants do occur in the free exchange of views which properly attend day to day operation or construction of such plants.

INTERROGATORY NO. 1-40. 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.

ANSWER NO. 1-40. This interrogatory is addressed solely to the NRC Staff.

INTERROGATORY NO. 1-41. Describe in detail the basis for any rating of C P & L or any of its facilities by the NRC Systematic Assessment of Licensee Performance Review Group.

ANSWER NO. 1-41. This interrogatory is addressed solely to the NRC Staff.

INTERROGATORY NO. 1-42. What are the bases for your responses to Interrogatories 40 and 41?

ANSWER NO. 1-42. This interrogatory is addressed solely to the NRC Staff.

INTERROGATORY NO. 1-43. 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 C P & 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.

ANSWER NO. 1-43. This interrogatory is addressed solely to the NRC Staff.

INTERROGATORY NO. 1-44. 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.

ANSWER NO. 1-44. This interrogatory is addressed solely to the NRC Staff.

INTERROGATORY NO. 1-45. Do any NRC Staff members differ in any way from the Staff position on Contention 1a or Contention 1b in this proceeding [sic]?

ANSWER NO. 1-45. This interrogatory is addressed solely to the NRC Staff.

INTERROGATORY NO. 1-46. If the answer to Interrogatory 45 is affirmative, identify each such NRC Staff member, including that person's title, address and telephone number.

ANSWER NO. 1-46. This interrogatory is addressed solely to the NRC Staff.

INTERROGATORY NO. 1-47. If the answer to Interrogatory 45 is affirmative, identify in detail the differences of each such identified staff person with the NRC Staff position and the bases for that difference.

ANSWER NO. 1-47. This interrogatory is addressed solely to the NRC Staff.

INTERROGATORY NO. 1-48. What are the bases for your responses to Interrogatories 45 - 47? Identify all documents, testimony or oral statements by any person on which your rely in support of your position.

ANSWER NO. 1-48. This interrogatory is addressed solely to the NRC Staff.

INTERROGATORY NO. 1-49. Is the NRC Staff currently considering the imposition of any fines or sanctions on C P & L for violations of any NRC operating and administrative procedures, rules or regulations? If so, describe in detail the incident involved.

ANSWER NO. 1-49. CP&L has been advised by NRC that it is reviewing an alleged violation at the Brunswick plant involving "a failure to follow-up on corrective actions

regarding a prior violation (improper identification of Q-List equipment)" and that this review might result in enforcement action.

INTERROGATORY NO. 1-50. 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.

ANSWER NO. 1-50. Letter to CP&L from James P. O'Reilly, Regional Administrator, NRC, Region II dated May 25, 1983 concerning Inspection Report Nos. 50-324/83-03 and 50-325/83-03 and transmitting Notice of Violation.

INTERROGATORY NO. 1-51. Describe in detail how the procedures followed by the NRC Staff in conducting an investigation of alleged non-compliances.

ANSWER NO. 1-51. This interrogatory is addressed solely to the NRC Staff.

INTERROGATORY NO. 1-52. 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?

ANSWER NO. 1-52. This interrogatory is addressed solely to the NRC Staff.

INTERROGATORY NO. 1-53. 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.

ANSWER NO. 1-53. This interrogatory is addressed solely to the NRC Staff.

INTERROGATORY NO. 1-54. 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?

ANSWER NO. 1-54. This interrogatory is addressed solely to the NRC Staff.

INTERROGATORY NO. 1-55. 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.

ANSWER NO. 1-55. This interrogatory is addressed solely to the NRC Staff.

C. ANSWERS TO INTERROGATORIES ON CONTENTION 2

See objections of counsel.

D. ANSWERS TO INTERROGATORIES ON CONTENTION 3

INTERROGATORY NO. 3-1. When do you maintain that Robinson, Unit 2, will exceed Pressurized Thermal Shock (PTS) screening criteria based upon current operation procedures and practices?

ANSWER NO. 3-1. H. B. Robinson Unit 2 will approach the proposed NRC Pressurized Thermal Shock Screening Criteria of an RT_{NDT} of 300°F for Circumferential Reactor Vessel Welds around 1993. The date can vary by 1 or 2 years depending on assumptions used concerning fuel loading and capacity factors. This calculation assumes conservative, worst case chemistry. If best estimate chemistry is utilized, the unit will not approach the screening criteria during the lifetime of the plant.

INTERROGATORY NO. 3-2. Describe in detail any proposed changes to operation of Robinson 2 which are designed to extend the period before which Robinson 2 would exceed PTS screening criteria.

ANSWER NO. 3-2. CP&L plans to install a new fuel design starting with Cycle 10 which will provide significant additional flux reductions at the critical weld. See Answer 3-5.

INTERROGATORY NO. 3-3. For each of the proposed changes identified in response to Interrogatory 2, specify the reason that that change would extend the period before exceedance of PTS screening criteria.

ANSWER NO. 3-3. The proposed new fuel design will reduce the neutron flux seen at the critical weld by a factor of 9 to 10 over original design basis flux. This will reduce the fluence accumulation rate by the same factor and thereby significantly slow additional irradiation of the weld.

INTERROGATORY NO. 3-4. For each of the proposed changes identified in response to Interrogatory 2, specify the length of time which that change would add to the period before which Robinson 2 would exceed PTS screening criteria.

ANSWER NO. 3-4. The new fuel design would extend the time before the unit approached the proposed NRC Pressurized Thermal Shock Screening Criteria to at least the end of the current Operating License, which expires in 2007.

INTERROGATORY NO. 3-5. What are the bases for your responses to Interrogatories 1 - 5? Identify all documents, testimony or oral statements by any person upon which you rely in support of your position.

ANSWER NO. 3-5. The response to Interrogatory 3-1 is based on results presented in a January 25, 1983 meeting with the NRC which were documented in a CP&L letter to the NRC dated February 9, 1983.

The response to Interrogatories 3-2, 3-3 and 3-4 are based on results presented in a March 11, 1983 meeting with the NRC which were documented in a CP&L letter to the NRC dated April 1, 1983. The information contained in the enclosure to the letter contains information proprietary to CP&L, and CP&L has requested such information be withheld from disclosure pursuant to 10 CFR §2.790(b)(1). See objections of counsel to disclosure of such proprietary information.

The response to Interrogatory 3-3 is also based on preliminary neutron transport calculations performed for CP&L by Technology for Energy Corporation.

INTERROGATORY NO. 3-6. Which of the proposed changes identified in response to Interrogatory 2 have been approved by the NRC Staff?

ANSWER NO. 3-6. This interrogatory is addressed solely to the NRC Staff.

INTERROGATORY NO. 3-7. 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.

ANSWER NO. 3-7. This interrogatory is addressed solely to the NRC Staff.

INTERROGATORY NO. 3-8. If all currently planned and approved changes in operation of Robinson 2 are implemented, when do you maintain that Robinson 2 will exceed PTS screening criteria?

ANSWER NO. 3-8. As set forth in Answers 3-2 through 3-5 above, even with worst case weld chemistry assumptions, H. B. Robinson Unit 2 will not reach the proposed NRC Pressurized Thermal Shock Screening Criteria during the lifetime of the Operating License which expires in 2007.

INTERROGATORY NO. 3-9. 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.

ANSWER NO. 3-9. See Answers 3-2, 3-3, 3-4, and 3-5 above.

INTERROGATORY NO. 3-10. Has CP & L been issued a 10 CFR 50.54(f) letter with regard to PTS screening criteria or PTS at Robinson 2?

ANSWER NO. 3-10. This interrogatory is addressed solely to the NRC Staff.

INTERROGATORY NO. 3-11. Is the NRC Staff considering issuing a 10 CFR 50.54(f) letter to CP & L with regard to PTS?

ANSWER NO. 3-11. This interrogatory is addressed solely to the NRC Staff.

INTERROGATORY NO. 3-12. 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.

ANSWER NO. 3-12. This interrogatory is addressed solely to the NRC Staff.

INTERROGATORY NO. 3-13. Describe in detail the low leakage core and the mechanisms whereby it reduces flux.

ANSWER NO. 3-13. The low leakage core installed in Cycle 9 achieves flux reduction by the placing of twice and thrice burned fuel on the periphery of the reactor core. The details of the core design are contained in CP&L's letters to the NRC of December 7, 1982 and February 9, 1983 (see response to Interrogatory 3-5 above).

INTERROGATORY NO. 3-14. 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 the future fuel cycles to which CP & L has committed to the NRC.

ANSWER NO. 3-14. As documented in CP&L's letter to the NRC of February 9, 1983, CP&L calculated the peak fluence at the critical weld to be $13.5 \times 10^{18} n/cm^2$ @ 7.48 Effective Full Power Years (EFPY) which corresponds to the end of Cycle 8. The peak fluence accumulation rate at the critical weld calculated for Cycle 9 is $1.05 \times 10^{18} n/cm^2$ per EFPY. The core design planned for Cycle 10 would have a peak fluence accumulation rate at the critical weld of $.21$ to $.23 \times 10^{18} n/cm^2$ per EFPY. Plate material within the H. B. Robinson Reactor Vessel is not limiting with respect to

Pressurized Thermal Shock.

INTERROGATORY NO. 3-15. 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 of your position.

ANSWER NO. 3-15. The response to Interrogatory 3-14 is based on CP&L's letter to the NRC of January 25, 1982 and CP&L's letters of February 9, 1983 and March 11, 1983.

INTERROGATORY NO. 3-16. 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?

ANSWER NO. 3-16. SECY-82-465 calculated the RT_{NDT} of the critical Circumferential Weld to be 281°F and the RT_{NDT} of the beltline Longitudinal Welds to be 154°F as of December 31, 1981. Using the same assumptions, Westinghouse calculated these values to be 277°F for the critical Circumferential Weld and 142°F for the beltline Longitudinal Welds. (Westinghouse letter WOG-83-108 dated January 24, 1983.) Due to the closeness of the two calculations, CP&L has elected to utilize the numbers documented in SECY-82-465.

The methodology utilized in SECY-82-465 for determining RT_{NDT} is utilized in the calculations discussed in Answers 3-1 through 3-5, 3-8, 3-9, 3-13, 3-14 and 3-15 above.

The methodology used in the above calculations also assumed worst case chemistry. If best estimate chemistry is assumed and the methods in Appendix E to SECY-82-465 are utilized, the RT_{NDT} of the critical Circumferential Weld would be 185°F at the end of Cycle 8 (7.48 EFPY). This is documented in a draft EPRI Study titled Robinson 2 Reactor Vessel Pressurized Thermal Shock Analysis for SBLOCA Transient Initiator, dated May 1983.

INTERROGATORY NO. 3-17. 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.

ANSWER NO. 3-17. The bases for Answer 3-16 are as indicated in the response.

INTERROGATORY NO. 3-18. Does the NRC Staff agree that the H.B. Robinson plant will not exceed the NRC Generic Screening Criteria until 1993?

ANSWER NO. 3-18. This interrogatory is addressed solely to the NRC Staff.

INTERROGATORY NO. 3-19. Identify all letters, memoranda, notes of telephone conversations, minutes of meetings, correspondence, or or [sic] 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.

ANSWER NO. 3-19. The principal communications and correspondence between the NRC and CP&L have been identified in Answers 3-1 through 3-5, 3-8, 3-9, 3-13 through 3-17. Other correspondence and communications are available in files contained at CP&L's General Office in Raleigh, North Carolina and may be inspected there.

INTERROGATORY NO. 3-19. Identify all reports, memoranda, studies or other documents prepared by or on behalf of the Office of Analyses and Evaluation of Operational Data of the NRC relating to PTS.

ANSWER NO. 3-19. This interrogatory is addressed solely to the NRC Staff.

INTERROGATORY NO. 3-20. 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.

ANSWER NO. 3-20. This interrogatory is addressed solely to the NRC Staff.

INTERROGATORY NO. 3-21. Do any NRC Staff members differ in any way from the Staff positions set forth in response to Interrogatories 1-18.

ANSWER NO. 3-21. This interrogatory is addressed solely to the NRC Staff.

INTERROGATORY NO. 3-22. If the answer to Interrogatory 3-21 is affirmative, identify each such NRC Staff member, including the person's title, address and telephone number.

ANSWER NO. 3-22. This interrogatory is addressed solely to the NRC Staff.

INTERROGATORY NO. 3-23. If the answer to Interrogatory 3-21 is affirmative, identify in detail the differences of each such identified Staff member with the NRC

Staff position and the bases for that difference.

ANSWER NO. 3-23. This interrogatory is addressed solely to the NRC Staff.

INTERROGATORY NO. 3-24. 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 vessels which have experienced levels of embrittlement from neutron bombardment.

ANSWER NO. 3-24. This interrogatory is addressed solely to the NRC Staff.

INTERROGATORY NO. 3-25. 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?

ANSWER NO. 3-25. In-Service Inspections indicate all other major reactor components (Reactor Coolant System) should operate to the plant design lifetime with normal maintenance and periodic reactor core refueling.

INTERROGATORY NO. 3-26. If the response to Interrogatory 25 is affirmative, identify each such component.

ANSWER NO. 3-26. Not applicable.

INTERROGATORY NO. 3-27. 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.

ANSWER NO. 3-27. The bases for the CP&L response to Interrogatories 3-25 and 3-26 are:

a. In-Service Inspection Report, Refueling Outage 1, March 1973, H. B. Robinson Nuclear Generating Plant Unit 2 by Westinghouse Nuclear Services Division.

b. In-Service Inspection Report, Refueling Outage 2, May 1974, H. B. Robinson Nuclear Generating Plant Unit 2 by Westinghouse Nuclear Services Division.

c. In-Service Inspection Report, Refueling Outage Core III-IV, November 1975, H. B. Robinson Nuclear Generating Plant Unit 2 by Westinghouse Nuclear Services Division.

d. In-Service Inspection Report, Outage Core IV-V, November 1976, H. B.

Robinson Nuclear Generating Plant Unit 2 by Westinghouse Nuclear Services Division.

e. In-Service Inspection Report, Class II and III Component Supports and R. V. Internals, February 1978, H. B. Robinson Nuclear Generating Plant Unit 2 by Westinghouse Nuclear Services Division.

f. In-Service Inspection Report, Refueling Outage Core VI-VIII, April 1979, H. B. Robinson Nuclear Generating Plant Unit 2 by Westinghouse Nuclear Services Division.

g. In-Service Inspection Report, Refueling Outage Core VII-VIII, October 1980, H. B. Robinson Nuclear Generating Plant Unit 2 by Westinghouse Nuclear Services Division.

h. 1982 Refueling/10-year In-Service Inspection Report, January 1983, H. B. Robinson Unit 2 by Carolina Power & Light Company.

INTERROGATORY NO. 3-28. 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 major repairs of the component;

c) when CP & L will be required to undertake replacement of the component;

d) what the estimated costs of repair and/or replacement will be.

ANSWER NO. 3-28. Not applicable.

INTERROGATORY NO. 3-29. What is the basis for your response to Interrogatory 28? Identify all documents, testimony or oral statements by any person upon which you rely.

ANSWER NO. 3-29. Not applicable.

INTERROGATORY NO. 3-30. Which operating reactors utilize the Westinghouse Model 44 steam generators?

ANSWER NO. 3-30. The operating reactors in the U.S. utilizing Westinghouse

Model 44 steam generators are: Ginna, Indian Point 2 & 3, Point Beach 1 & 2 and H. B. Robinson 2.

INTERROGATORY 3-31. How does the Model 44 F steam generator differ in design from other Model 44 steam generators?

ANSWER NO. 3-31. The major design differences between Model 44 and Model 44F are as follows:

1. 405 Stainless Steel support plate material
2. Quatrefoil tube support plate holes (broached)
3. Thermally treated Alloy 600 tubing
4. Flow distribution baffle
5. Additional blowdown capacity

INTERROGATORY NO. 3-32. Which operating reactors in the [sic] utilize the Westinghouse Model 44F steam generator?

ANSWER NO. 3-32. The only nuclear plants presently utilizing the Westinghouse Model 44F steam generators are Turkey Point Units 3 & 4.

INTERROGATORY NO. 3-33. 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.

ANSWER NO. 3-33. The response to Interrogatories 3-30 through 3-32 are based on NUREG-0886, Steam Generator Tube Experience (February 1982).

INTERROGATORY NO. 3-34. How many Westinghouse Model 44F steam generators have experienced significant degradation of tubes resulting in tube leaks?

ANSWER NO. 3-34. No Model 44F steam generators have experienced tube leaks.

INTERROGATORY NO. 3-35. Identify each reactor utilizing Westinghouse Model 44F steam generators which has experienced tube leaks.

ANSWER NO. 3-35. None.

INTERROGATORY NO. 3-36. 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.

ANSWER NO. 3-36. See Answer 3-35.

INTERROGATORY NO. 3-37. 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.

ANSWER NO. 3-37. The responses are based on information supplied by Westinghouse.

INTERROGATORY NO. 3-38. How many tube ruptures have occured at reactors employing Westinghouse Model 44F steam generators?

ANSWER NO. 3-38. No tube ruptures have occurred in the Model 44F steam generators.

INTERROGATORY NO. 3-39. 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?

ANSWER NO. 3-39. Turkey Point units both had tubes plugged prior to operation. Since operation began with the Model 44F steam generators, no tubes have been plugged. No Westinghouse Model 44F steam generators have been sleeved or have had the lower steam generator assemblies replaced.

INTERROGATORY NO. 3-40. 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.

ANSWER NO. 3-40. We are unaware of any plugging, sleeving or replacement anticipated in Model 44F steam generators.

INTERROGATORY NO. 3-41. 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.

ANSWER NO. 3-41. The responses are based on information supplied by Westinghouse.

INTERROGATORY NO. 3-42. How many of the tubes in each of the Robinson 2 steam generators is plugged?

ANSWER NO. 3-42. See objections of counsel.

INTERROGATORY NO. 3-43. What percentage of tubes in each of the Robinson steam generators is plugged?

ANSWER NO. 3-43. See objections of counsel.

INTERROGATORY NO. 3-44. What is the allowable number of plugged tubes in the Robinson 2 steam generators?

ANSWER NO. 3-44. See objections of counsel.

INTERROGATORY NO. 3-45. Describe in detail the bases for the number of plugged tubes allowed at Robinson 2.

ANSWER NO. 3-45. See objections of counsel.

INTERROGATORY NO. 3-46. Has that tube plugging margin been changed?

ANSWER NO. 3-46. See objections of counsel.

INTERROGATORY NO. 3-47. If the response to Interrogatory 46 is affirmative, describe in detail each such change, including the date of the change, the size of the change, and the technical basis for the change.

ANSWER NO. 3-47. See objections of counsel.

INTERROGATORY NO. 3-48. What are the bases for your responses to Interrogatories 42 - 47? Identify all documents, testimony or oral statements by any person upon which you rely in support of your position.

ANSWER NO. 3-48. See objections of counsel.

INTERROGATORY NO. 3-49. Has the Robinson 2 plant been derated as a result of tube degradation?

ANSWER NO. 3-49. See objections of counsel.

INTERROGATORY NO. 3-50. Has the Robinson 2 plant been derated as a result of tube plugging?

ANSWER NO. 3-50. See objections of counsel.

INTERROGATORY NO. 3-51. If the response to Interrogatory 49 or 50 is affirmative, to what level has the plant been derated?

ANSWER NO. 3-51. See objections of counsel.

INTERROGATORY NO. 3-52. Is the current level of rating the only derating which has occured?

ANSWER NO. 3-52. See objections of counsel.

INTERROGATORY NO. 3-53. If the answer to Interrogatory 52 is negative, describe each other derating, including the level to which derated, the date, and the reason for the derating.

ANSWER NO. 3-53. See objections of counsel.

INTERROGATORY NO. 3-54. Was the current derating required by the NRC?

ANSWER NO. 3-54. This interrogatory is addressed solely to the NRC Staff.

INTERROGATORY NO. 3-55. What is All Volatile Treatment (AVT)?

ANSWER NO. 3-55. All Volatile Treatment (AVT) is a method of secondary system chemistry control, whereby volatile treatment chemicals such as ammonia and hydrazine, in conjunction with stringent contaminant ingress control, are used to maintain the metallurgical integrity of the steam generators and the entire secondary system.

INTERROGATORY NO. 3-56. What are the bases for the statement at 2.1 of the Final Steam Generator Repair Report (FSGRR) that AVT is the "preferred method" of secondary system control?

ANSWER NO. 3-56. The bases for the statement in Section 2.1 of the Final Steam Generator Repair Report (FSGRR) that AVT is the "preferred method" of secondary system control are as follows:

a. The steam generator manufacturer's (Westinghouse Electric Corporation) recommendations, as provided in the Steam Side Water Chemistry Control Specifications of its Standard Information Package, dated January 1975 and periodically updated.

b. The PWR Secondary Water Chemistry Guidelines (EPRI HP-2704-SR) prepared by the Electric Power Research Institute (EPRI), dated October 1982.

c. The recommendations of CP&L's independent consultant, NUS CORPORATION.

INTERROGATORY NO. 3-57. Describe in detail the "operating experience at approximately seventy operating stations" which the FSGRR asserts to be the basis for preferring AVT. Identify all documents, testimony or oral statements by any person upon which you rely for support of your position.

ANSWER NO. 3-57. The recommendations and guidelines in the documents described in the response to Interrogatory 3-56 are summarized and are based upon the consensus of operating experience at the operating stations utilizing AVT. CP&L's position is based, as discussed above, on the manufacturer's recommendation and the supporting guidelines and recommendations provided by EPRI and NUS CORPORATION.

INTERROGATORY NO. 3-58. Has AVT eliminated tube cracking, thinning, and denting?

ANSWER NO. 3-58. AVT, in conjunction with stringent contaminant ingress control, has eliminated phosphate thinning and denting, and minimized or eliminated cracking in new design steam generators.

INTERROGATORY NO. 3-59. What does the FSGRR mean by "effectiveness" with regards to AVT treatment?

ANSWER NO. 3-59. By the "effectiveness" of AVT treatment, the FSGRR is referring to its ability, in conjunction with stringent contaminant ingress control, to eliminate thinning and denting and to minimize or eliminate cracking.

INTERROGATORY NO. 3-60. Has the employment of AVT treatment resulted in the occurance [sic] of other problems in steam generator tubes?

ANSWER NO. 3-60. AVT, in conjunction with stringent contaminant ingress control, has not resulted in other problems with the steam generator tubes.

INTERROGATORY NO. 3-61. If the response to Interrogatory 60 is affirmative, identify in detail what those problems are, where they have occured, and the extent to which they have resulted in the need to plug or sleeve steam generator tubes.

ANSWER NO. 3-61. Not applicable.

INTERROGATORY NO. 3-62. 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.

ANSWER NO. 3-62. The bases for the responses to Interrogatories 3-58 through 3-60 are as set forth in responses to Interrogatories 3-55 through 3-57.

INTERROGATORY NO. 3-63. For each of the "Design Requirements to Minimize Potential for Corrosion" described at Section 2.4.1 of the FSGRR,

a) describe in detail the basis for asserting that the design change will "minimize potential for corrosion";

b) identify every other application of this design feature to a Model 44F steam generator;

c) describe in detail the experience at each of those other applications of the design change in reducing corrosion, including a description of any systematic analyses of test or inspection data and the results thereof; and

d) identify all documents, testimony or oral statements by any person upon which you rely in support of your position.

ANSWER NO. 3-63.

a)	Design Change	Basis
	405 Stainless Steel tube support plates	This alloy evaluated in corrosion tests encompassing a variety of chemical corrodents normally found in boiler waters. Principal benefit is no tube denting, as shown by

	standardized experiments.
Quatrefoil tube support plate hole design (broached)	Controlled thermal and hydraulic testing demonstrated the effectiveness of this design to minimize the potential for accumulation of impurities at the juncture between the tube and the support plate. Extensive testing utilizing highly stressed 405 stainless steel U-bends exposed to caustic and chloride environments and heated crevice and model boiler tests utilizing actual broached quatrefoil samples have verified that 405 stainless steel, as fabricated, is not susceptible to stress corrosion cracking in the steam generator operating environment.
Thermally-treated Alloy 600 tubing	Additional resistance to corrosion demonstrated in high temperature environments with concentrated boiler water impurities. In addition, implants of thermally treated Alloy 600 tubing were installed in a domestic steam generator in operation in 1977. No indications of corrosion have been found.
Flow distribution baffle (FDB)	Verification of the effectiveness of the flow distribution baffle in enhancing horizontal sweeping velocities across the top of the tubesheet has been demonstrated in testing. Based on the computer analysis, CHARM, low

flow velocities are predicted off-center of the tube lane without a FDB. These predicted low flow areas correlate well with actual sludge height profiles as measured in the field. Based on the computer model, the FDB was designed with the objective of limiting the number of tubes exposed to low crossflow velocities and limiting the location of low crossflow velocities to near the blowdown system.

Full depth hydraulic tube expansion within tubesheet	The tube-to-tubesheet crevice has been identified in older units as a concentrating mechanism for impurities on the secondary side. Elimination of the crevice thereby minimizes the potential for corrosion at this location.
Offset feedwater distribution (80% hot leg, 20% cold leg)	Offset feedwater distribution suppresses hot leg boiling at the tubesheet, thus minimizing the potential for concentration of impurities. Highest steam quality at tubesheet is shifted toward center of bundle, nearer to the blowdown intake. Effectiveness of this change was verified by model boiler testing and thermal/hydraulic data from plants with this field modification, in the absence of a flow distribution baffle.

b) None.

c) Not applicable.

d) See FSGRR and Metals Handbook (9th Edition), Copyright 1980, American Society for Metals, Vol. 3.

INTERROGATORY NO. 3-64. Do you estimate that the design changes outlined in the FSGRR will eliminate tube leaks?

ANSWER NO. 3-64. This interrogatory cannot be answered definitively within the bounds of present technical knowledge and experience.

INTERROGATORY NO. 3-65. If the response to Interrogatory 64 is affirmative, what is the basis for your response? Identify all documents, testimony or oral statements by any person upon which you rely for support of your position.

ANSWER NO. 3-65. Not applicable.

INTERROGATORY NO. 3-66. 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.

ANSWER NO. 3-66. Not applicable.

INTERROGATORY NO. 3-67. What is 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.

ANSWER NO. 3-67. Not applicable.

INTERROGATORY NO. 3-68. Describe in detail the basis for the postulated 25 man-rem per year occupational exposure for inspection and repair set out at 3.4.8.1 of the FSGRR, including the assumptions, data and methodology employed to arrive at that result described with sufficient specificity to replicate the results.

ANSWER NO. 3-68. The basis for the postulated 25 man-rem per year occupational exposure for inspection and repair set out in 3.4.8.1 of the FSGRR are as follows:

1. One steam generator inspection per fuel cycle.
2. Improved secondary chemistry control.
3. Little or no steam generator tube plugging.
4. Minimum steam generator tube inspection.
5. New steam generator modifications.

Methodology for arriving at 25 man-rem per year is as follows:

One inspection per year with the following task being performed and the exposure associated with the task.

1. Remove manways and diaphrams

   6 x 3 men x 40 mrem/hr x 2 hrs = 1.440 rem

2. Radiation survey of each steam generator bowl

   6 x 2 men x 150 mrem/hr x 1/4 hour = 450 mrem

3. Set up blower and filters

   6 x 2 men x 40 mrem/hr x 1/2 hour = 240 mrem

4. Install nozzle covers

   6 x 1 man x 150 mrem/min x 1 min = 900 mrem

5. Set up Eddy Current (E/C) Equipment

   6 x 2 men x 150 mrem/min x 5 min = 9.000 rem

6. Remove E/C Equipment

   6 x 2 men x 150 mrem/min x 2 min = 3.600 rem

7. Remove nozzle covers

   6 x 1 man x 150 mrem/min x 3/4 min = 675 mrem

8. Remove blowers

   6 x 2 men x 40 mrem/hour x 1/2 hour = 240 mrem

9. Install diaphrams and manways

   6 x 3 men x 40 mrem/hour x 4 hours = 2.880 rem

10. HP Coverage

    5 hr x 2 men x 20 mr/hr x 6 1200

    163 hr x 1 man x 3 mr/hr x 3 1467

11. Platform Work

    5 hr x 2 men x 20 mr/hr x 6 1200

    163 hrs x 1 man x 3 mr/hr x 3 1467

24.759 rem

INTERROGATORY NO. 3-69. How much of that 25 man-rems is received in inspections each year?

ANSWER NO. 3-69. All.

INTERROGATORY NO. 3-70. Does the 25 man-rem per year exposure figure assume a constant repair program or does that exposure increase over time?

ANSWER NO. 3-70. The 25 man-rem per year exposure is based on the exposure rate now seen in the steam generators. It is assumed that the new generators will reach this exposure rate after 5 years of operation.

INTERROGATORY NO. 3-71. What are the bases for your responses to Interrogatories 69 - 70? Identify all documents, testimony or oral statements by any person upon which you rely for support for your position.

ANSWER NO. 3-71. Previous steam generator outage experience, taking into account modifications being made to the new generators. Outage Reports dated May 16, 1981 to June 10, 1981, July 30, 1981 to September 1, 1981 and February 27, 1982 to August 22, 1982.

INTERROGATORY NO. 3-72. Does Robinson 2 have loose parts monitors in the steam generators ?

ANSWER NO. 3-72. No.

INTERROGATORY NO. 3-73. What provisions does Robinson 2 have for dealing with loose parts in the steam generators?

ANSWER NO. 3-73. To insure that there are no loose parts in the steam generators at this time, secondary side inspections have been performed on all 3 steam generators. These inspections revealed no loose parts which could damage the steam generators. To insure that no loose parts enter into the steam generators as a result of modifications on the secondary side, controls will be implemented in each modification as appropriate. Each modification implementing procedure is reviewed by Quality Assurance personnel and two independent safety reviewers.

INTERROGATORY NO. 3-74. 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 Occurences, [sic] April - June 1982, NUREG 0090, Vol. 5, No. 2, pp. 18 - 19]

ANSWER NO. 3-74. Yes, the weld to rejoin the upper and lower steam generator assemblies is known as the girth weld.

INTERROGATORY NO. 3-75. 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?

ANSWER NO. 3-75. No.

INTERROGATORY NO. 3-76. If the response to Interrogatory 75 is negative, what is the likelihood of such a crack occuring in the weld at Robinson expressed in probabilistic terms?

ANSWER NO. 3-76. Probabilistic Risk Assessment study has not been performed; therefore, the potential for such cracks has not been established.

INTERROGATORY NO. 3-77. 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.

ANSWER NO. 3-77.

1. A meeting on June 10, 1982 - Westinghouse presentation to NRC on Indian Point 3 Steam Generator Girth Weld Indications.

2. Westinghouse letter number NS-EPR 2692, dated January 17, 1983 to the NRC, "Inspection of Welds at Plants Other Than Indian Point 3."

INTERROGATORY NO. 3-78. 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?

ANSWER NO. 3-78. Westinghouse and CP&L are not aware of any studies which examine the likelihood of steam generator degradation and tube leaks in Model 44F steam generators.

INTERROGATORY NO. 3-79. Identify all reports, memoranda, studies or other documents produced by or on behalf of the Office of Analyses and Evaluation of Operational Data relating to steam generator tube degradation in Westinghouse Model 44

steam generators.

ANSWER NO. 3-79. This interrogatory is addressed solely to the NRC Staff.

INTERROGATORY NO. 3-80. 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.

ANSWER NO. 3-80. This interrogatory is addressed solely to the NRC Staff.

INTERROGATORY NO. 3-81. Identify all internal memoranda of the Generic Issues Branch of the NRC relating to steam generator tube degradation in Westinghouse Model 44 steam generators.

ANSWER NO. 3-81. This interrogatory is addressed solely to the NRC Staff.

INTERROGATORY NO. 3-82. Do any 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?

ANSWER NO. 3-82. This interrogatory is addressed solely to the NRC Staff.

INTERROGATORY NO. 3-83. If the response to Interrogatory 82 is affirmative, identify each such Staff person, including the person's title, address and telephone number.

ANSWER NO. 3-83. This interrogatory is addressed solely to the NRC Staff.

INTERROGATORY NO. 3-84. If the answer to Interrogatory 82 is affirmative, identify in detail the differences of each such Staff person with the NRC Staff position and the bases for that difference.

ANSWER NO. 3-84. This interrogatory is addressed solely to the NRC Staff.

INTERROGATORY NO. 3-85. Identify in detail all regulatory guides or other informal or formal guides, standards, rules of thumb or screening criteria employed by the Staff in reviewing the adequacy of steam generator design and performance.

ANSWER NO. 3-85. This interrogatory is addressed solely to the NRC Staff.

INTERROGATORY NO. 3-86. Has the NRC Staff published or is it preparing any reports on steam generators subsequent to the "Steam Generator Status Report" of February 1982?

ANSWER NO. 3-86. This interrogatory is addressed solely to the NRC Staff.

INTERROGATORY NO. 3-87. If the answer to Interrogatory 86 is affirmative, identify each such document or draft document.

ANSWER NO. 3-87. This interrogatory is addressed solely to the NRC Staff.

INTERROGATORY NO. 3-88. If the steam generators are replaced, what will be the period during which the work will be undertaken?

ANSWER NO. 3-88. A 43 week period.

INTERROGATORY NO. 3-89. Please provide your estimates of monthly construction expenditures disaggregated into direct expenditures, AFUDC, and other overheads for replacing the steam generators.

ANSWER NO. 3-89. Provided on the next page are the estimates of monthly construction expenditures and AFUDC for replacing the steam generators. The data is not disaggregated into direct expenditures, AFUDC and other overheads because the definitions of direct expenditures and other overheads are not standard but are subject to interpretation. CP&L is providing the data as currently available.

INTERROGATORY NO. 3-90. What are you [sic] estimates of a) annual tax credits and b) normalized taxes associated with overheads during the construction period of replacing the SGLAs?

ANSWER NO. 3-90. Disaggregated estimates for the steam generator replacement are not available.

INTERROGATORY NO. 3-91. Please provide a schedule and the associated workpapers showing the annual required revenue impact of steam generator replacements disaggregated into the following items:

a) depreciation,

b) income tax,

c) deferred tax,

d) amortization of investment tax credits,

e) amortization of normalized tax credits associated with construction overheads,

f) returns to bond holders,

g) returns to preferred stock holders,

(continued on p. 63)

1983
BUDGET YEAR
($000'S)

ER #		Prior Years	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Total Year	1984	Total Project Cost
	Title																
656.09	HBR #2 Steam Generator Replacement																
*	GPA:	6,771	3,943	2,871	2,886	481	462	742	601	1,289	1,669	2,020	3,406	2,560	22,930	32,041	61,742
**	AFUDC:	212	74	97	120	134	138	144	151	159	172	187	210	235	1,821	3,640	5,673
	TOTAL:	6,983	4,017	2,968	3,006	615	600	886	752	1,448	1,841	2,207	3,616	2,795	24,751	35,681	67,415
656.13	HBR #2 Steam Generator Support System Modification																
	GPA:	1,456	317	490	491	906	3,874	1,159	1,418	4,112	1,941	4,410	6,797	2,612	28,527	4,938	34,921
	AFUDC:	40	13	16	20	26	44	64	75	97	121	147	191	229	1,043	2,254	3,337
	TOTAL:	1,496	330	506	511	932	3,918	1,223	1,493	4,209	2,062	4,557	6,988	2,841	29,570	7,192	38,258
	TOTAL																
	GPA:	8,227	4,260	3,361	3,377	1,387	4,336	1,901	2,019	5,401	3,610	6,430	10,203	5,172	51,457	36,979	96,663
	AFUDC:	252	87	113	140	160	182	208	226	256	293	334	401	464	2,864	5,894	9,010
	TOTAL:	8,479	4,347	3,474	3,517	1,547	4,518	2,109	2,245	5,657	3,903	6,764	10,604	5,636	54,321	42,873	105,673

Attachment 3-89

* GPA represents Gross Property Additions
** AFUDC represents Allowance for Funds Used During Construction

h) returns to common stockholders,

i) other taxes, and

j) other non-tax items.

ANSWER NO. 3-91. This information is not available. However, the cost/benefit analysis to be performed as set forth in objections of counsel will consider the annual revenue impact of steam generator replacement. Disaggregation of the estimates into the components specified above will not be part of the cost/benefit analysis; therefore, disaggregated estimates will not be available.

INTERROGATORY NO. 3-92. For the items described in Interrogatory 91, please either furnish a separate workpaper on each item or make such workpapers available to Hartsville for copying.

ANSWER NO. 3-92. Disaggregation of revenue requirements into the components specified in Interrogatory 3-91 is not available.

INTERROGATORY NO. 3-93. Please describe thoroughly what is included in the "other taxes" and "other non-tax items" provided in response to Interrogatory 92.

ANSWER NO. 3-93. This information is not available. See responses to Interrogatories 3-91 and 3-92.

INTERROGATORY NO. 3-94. Please provide a schedule and associated workpapers showing the annual revenue requirements associated with the undepreciated investment in the existing steam generators.

ANSWER NO. 3-94. This information is not presently available. The cost/benefit analysis to be performed as set forth in objections of counsel will include consideration of the undepreciated investment in the existing steam generators.

INTERROGATORY NO. 3-95. What are the bases for your responses to Interrogatories 88 - 94? Identify all documents, testimony or oral statements by any person upon which you rely in support of your position.

ANSWER NO. 3-95. The basis for the response to Interrogatory 3-89 is the estimate/cash flow as prepared for and submitted to CP&L's management for approval in CP&L's 1983 construction budget.

INTERROGATORY NO. 3-96. If CP & L were to choose the option of sleeving the tubes at Robinson 2, what would be the period during which the work would be carried out?

ANSWER NO. 3-96. See objections of counsel.

INTERROGATORY NO. 3-97. Please provide your estimates of monthly construction expenditures disaggregated into direct expenditures, AFUDC, and other overheads for replacing the steam generators.

ANSWER NO. 3-97. See objections of counsel.

INTERROGATORY NO. 3-98. What are your estimates of a) annual tax credits and b) normalized taxes associated with overheads during the construction period of sleeving the steam generator tubes?

ANSWER NO. 3-98. See objections of counsel.

INTERROGATORY NO. 3-99. Please provide a schedule and associated workpapers showing the annual required revenue impact of steam generator tube sleeving disaggregated into the following items:

a) depreciation,

b) income tax,

c) deferred tax,

d) amortization of investment tax credits,

e) amortization of normalized tax credits associated with construction overheads,

f) returns to bond holders,

g) returns to preferred stockholders,

h) returns to common stockholders,

i) other taxes, and

j) other non-tax items.

ANSWER NO. 3-99. See objections of counsel.

INTERROGATORY NO. 3-100. For the items described in Interrogatory 99, please either furnish a separate workpaper on each item or make such workpapers available to Hartsville for copying.

ANSWER NO. 3-100. See objections of counsel.

INTERROGATORY NO. 3-101. If the tubes at Robinson 2 were to be sleeved, please indicate whether further sleeving, resleeving and/or steam generator lower assembly replacement would be necessary at some future date.

ANSWER NO. 3-101. See objections of counsel.

INTERROGATORY NO. 3-102. If the answer to Interrogatory 101 is affirmative:

a) What further modifications or repairs are expected?

b) How much would those modifications or repairs cost?

c) What is the construction period during which those modifications or repairs would take place?

ANSWER NO. 3-102. See objections of counsel.

INTERROGATORY NO. 3-103. What are the bases for your responses to Interrogatories 96 - 102? Identify all documents, testimony or oral statements by any person upon which you rely for support of your position.

ANSWER NO. 3-103. See objections of counsel.

INTERROGATORY NO. 3-104. Please provide a schedule which shows expected annual plant output (in GWH) in each year at its remaining life assuming:

a) steam generator replacement;

b) sleeving of the tubes; or

c) neither steam generator replacement nor sleeving.

ANSWER NO. 3-104 a) and c). CP&L has not made estimates of the requested data for the remaining operating life of Robinson 2. However, the cost/benefit analysis to be performed as set forth in objections of counsel will include projections of annual plant output for a specified period of time.

b) See objections of counsel.

INTERROGATORY NO. 3-105. Please provide estimates of future operating costs, disaggregated into fuel and non-fuel costs, and annual fuel costs during the remainder of Robinson 2's life under each of the scenarios set out in Interrogatory 104.

ANSWER NO. 3-105a) and c). CP&L has not made estimates of the requested data for the remaining operating life of Robinson 2. However, the cost/benefit analysis to be

performed as set forth in objections of counsel will include projections of annual operating costs for a specified period of time.

b) See objections of counsel.

INTERROGATORY NO. 3-106. Please either furnish copies of all workpapers, assumptions and computer outputs employed in developing the schedule requested in Interrogatory 105 or make them available to Hartsville for copying.

ANSWER NO. 3-106. See Answer 3-105.

INTERROGATORY NO. 3-107. For each of the scenarios set out at Interrogatory 104, please provide estimates of future capital investments for the remainder of Robinson 2's life.

ANSWER NO. 3-107. For scenario 104a), rough estimates, including escalation, have been made for the years as follows. Estimates for scenarios 104b) & c) have not been made.

Year	Net Construction Cost ($000's)
1984	1680
1985	1831
1986	1995
1987	2174
1988	2377
1989	2584
1990	2829
1991	3075
1992	3359
1993	3656
1994	3992
1995	4354
1996	4742
1997	5168
1998	5633
1999	6150
2000	6693
2001	7295
2002	7952

INTERROGATORY NO. 3-108. Under each of the scenarios set out in Interrogatory 104, please provide a schedule and associated workpapers showing the impact of any future capital investments at Robinson 2 on annual required revenues for each year until they are fully depreciated.

ANSWER NO. 3-108. This information is not available for individual plant units and would require new calculations. However, the impact of future capital investments as provided in Answer 3-10 on Robinson 2's annual revenue requirements will be considered for a specified time period in the cost/benefit analysis, as set forth in objections of counsel.

INTERROGATORY NO. 3-109. Please provide the following plant related cost information for Robinson 2 at December 31, 1982, as well as the test year rate base for CP&L's current rate increase applications before the North Carolina Utility Commission (NCUC) and the South Carolina Public Service Commission (SCPSC):

a) Cost of (nuclear) Plant,

b) Accumulated Depreciation,

c) Accumulated deferred taxes (excluding investment tax credits and normalized taxes associated with construction overheads),

d) Unamortized investment tax credits, and

e) Unamortized normalized taxes associated with construction overheads.

ANSWER NO. 3-109.

a) Cost of Nuclear Plant $125,877,523

b) Accumulated Book Depreciation $ 48,190,011
Includes Decommissioning of $ 6,388,035

c)

		Accumulated Deferred Taxes		
		Deferral	Reversal	Net
Basis Differences: (EPIS)	Federal	(218,870)	91,047	(127,823)
	NC	(20,401)	1,580	(18,821)
	SC	(4,112)	863	(3,249)
Tax Depreciation:	Federal	(21,770,680)	6,002,180	(15,768,500)
	NC	(2,062,460)	644,037	(1,418,423)
	SC	(336,466)	100,253	(236,213)
Cost of Removal: (Excludes Decommissioning)	Federal	N/A	(35,371)	(35,371)
	NC	N/A	(4,090)	(4,090)
	SC	N/A	(818)	(818)
Salvage:	Federal	N/A	41,835	41,835

	NC	N/A	4,838	4,838
	SC	N/A	968	968
Repair Allowance:	Federal	(15,509)	4,300	(11,209)
	NC	(1,700)	471	(1,229)
	SC	-	-	-
Decommissioning:	Federal	3,080,500	-	3,080,500
	NC	356,211	-	356,211
	SC	71,242	-	71,242

(d) This information is not available for individual plant units and would require extensive new calculations.

(e)

Basis Differences: (CWIP)	Federal	(89,953)	-	(89,953)
	NC	(10,402)	-	(10,402)
	SC	(2,080)	-	(2,080)

The cost of nuclear plant and the accumulated book depreciation included in the Company's rate increase application before the NCUC is $122,608,495 and $40,602,642 respectively, based on a test period ending September 30, 1982. The amounts for these items included in the Company's rate increase application before the South Carolina Public Service Commission are $125,877,523 for cost of nuclear plant and $41,801,976 for accumulated book depreciation based on a test period ending December 31, 1982. The remaining rate base components included in these applications are not available for individual plant units and would require extensive new calculations.

INTERROGATORY NO. 3-110. Please provide the actual or estimated values for the following Robinson 2 related expenses for 1982, for the test years in each of the current rate application proceedings before the NCUC and the SCPSC, and each year in the remaining plant life:

a) book depreciation,

b) deferred taxes,

c) amortization of investment tax credits,

d) amortization of normalized taxes, associated with construction overhead,

e) property taxes, and

f) other taxes.

ANSWER NO. 3-110. The book depreciation, deferred taxes and amortization of normalized taxes associated with construction overhead are provided below for the year ending December 31, 1982. The test year for the current South Carolina Rate Case is the calendar year ending December 31, 1982. The values used in the proceeding before the SCPSC are the same as provided below for the year ending December 31, 1982. Amortization of investment tax credits and property taxes are not available for individual plant units and would require extensive new calculations. Other taxes are not applicable.

The book depreciation expense included in the rate application before the NCUC based on a test period ending September 30, 1982 is $4,443,395. The amounts included in the NCUC rate application for Items 110(b) through (e) for Robinson 2 are not available for individual plant units and would require extensive new calculations.

Projections of Items a) through f) have not been made for the remaining life of Robinson 2. However, the cost/benefit analysis to be performed as set forth in objections of counsel will include consideration of these items as they apply.

Robinson Unit No. 2
12 Months Ended December 31, 1982
(000's)

a) 1982 Book Depreciation Expense: $8,809
(includes Decommissioning of $4,046)

b) and d)

1982 Deferred Income Tax Expense:		Federal	NC	SC
Tax Depreciation:	Deferral	2,312	267	51
	Reversal	(1,163)	(134)	(25)
Basis Difference:	Deferral (CWIP)	119	14	3
	Reversal (EPIS)	(46)	(5)	(1)
Cost of Removal:	Deferral	(1,730)	(200)	(40)
	Reversal	35	4	1

c) This information is not available for individual plant units and would require extensive new calculations.

e) This information is not available for individual plant units and would require new calculations.

f) Not applicable.

INTERROGATORY NO. 3-111. What is your estimate of decommissioning Robinson 2?

ANSWER NO. 3-111. The cost estimates for decommissioning Robinson Unit 2 are contained in the DECOMMISSIONING STUDY (July 1979) referenced in Answer 3-112.

INTERROGATORY NO. 3-112. What is the basis for your response to Interrogatory 111? Please furnish or make available to Hartsville for copying any studies, workpapers or other documents employed in developing this estimate.

ANSWER NO. 3-112. DECOMMISSIONING STUDY of the H. B. Robinson Steam Electric Plant Unit 2 prepared for the Carolina Power & Light Company by Nuclear Energy Services (Document No. 81A0603, Rev. 1). A copy of this study is attached hereto and designated DECOMMISSIONING STUDY (July 1979) Attachment.

INTERROGATORY NO. 3-113. Is CP & L currently collecting revenues to recover decommissioning costs?

ANSWER NO. 3-113. Yes.

INTERROGATORY NO. 3-114. If the response to Interrogatory 113 is affirmative, describe the manner and the basis upon which these costs are collected.

ANSWER NO. 3-114. The basis upon which decommissioning costs are currently collected is described in CP&L's response to Interrogatory 3-115.

INTERROGATORY NO. 3-115. If the response to Interrogatory 113 is affirmative, please provide a schedule showing, for each year from 1982 through decommissioning, the year end balance of the fund, the the annual contribution from ratepayers, any resultant income taxes, and any interest accrued by the fund.

ANSWER NO. 3-115. See the REVISED DECOMMISSIONING STUDY (October 1982) Attachment.

INTERROGATORY NO. 3-116. If the Company expects any change in or imposition of collection of decommissioning costs, please describe those expected changes and provide a schedule similar to that requested in Interrogatory 115.

ANSWER NO. 3-116. CP&L anticipates no change in the method, as described in Answers 3-114 and 3-115, of collecting decommissioning costs. However, the actual dollar amount collected in any given year will vary as the capital structure and rates of return allowed by the regulatory commissions vary. There is no way to anticipate what these changes and the resulting decommissioning cost recovery will be.

INTERROGATORY NO. 3-117. Please provide an estimate of the costs of disposing of a) spent fuel and b) other radioactive waste annually for the remainder of Robinson 2's plant life.

ANSWER NO. 3-117 a) The Nuclear Waste Policy Act of 1982 established a 1 mil/kilowatt hour fee for the transportation and storage of spent fuel effective April 7, 1983. This fee may be adjusted by DOE to cover expenses. CP&L is projecting this fee to increase with the rate of inflation.

b) The annual cost of disposing of radioactive waste other than spent fuel is estimated to be $660,000 in 1983 dollars.

INTERROGATORY NO. 3-118. Please provide a list of capital investments in Robinson 2 since the date of commercial operation. For each investment, please indicate the date it was completed, the direct construction cost, the cost of AFUDC, and the cost of other overheads.

ANSWER NO. 3-118. The attachment hereto entitled HISTORICAL CAPITAL COST DATA Attachment is a list of capital investments in Robinson 2, including the initial construction cost, through December 1982. The cost provided is the total capital cost, including direct and indirect construction cost, AFUDC and overheads. A breakdown of these components is not available and would require extensive research and calculations.

For clarification, the date listed under the column labeled "In-Service Dates" is the month and year the project was completed, ready for service, or placed in service - whichever occurred first. The projects with no tabulated in-service dates are still under

construction.

INTERROGATORY NO. 3-119. Please provide a schedule and associated workpapers which shows the impact of any capital investments described in response to Interrogatory 118 on annual revenue requirements.

ANSWER NO. 3-119. This information is not available.

INTERROGATORY NO. 3-120. Please show the year end balance of Robinson 2's contribution to each applicable Plant in Service Account of the Uniform System of Accounts for each year from commercial operation through 1982. Show how each investment referred to in Interrogatory 118 is reflected in those accounts and explain any and all changes in the year end balances not fully accounted for by the investments mentioned in Interrogatory 118.

ANSWER NO. 3-120. The table on the next page provides the year ending balance of Robinson 2's contribution to each applicable Plant in Service Account for each year from commercial operation through 1982. The requested comparison of this data with the data from CP&L's response to Interrogatory 3-118 has not been performed, and the information for such a comparison is not available. The costs and dates provided in response to Interrogatory 3-118 are those based on project completion and not necessarily those at the time the project was transferred to plant in service.

CAROLINA POWER & LIGHT COMPANY

Robinson Unit No. 2
Plant-In-Service Balance
by FERC Account
At Year-End 1971 - 1982

YEAR	320	321	322	323	324	325	TOTAL
1971	$	$19,875,212	$23,850,317	$24,090,588	$ 7,949,826	$1,987,501	$77,753,444
1972		20,946,896	25,136,376	25,442,858	8,378,494	2,094,661	81,999,285
1973		20,955,201	25,213,944	25,450,401	8,381,817	2,111,232	82,112,595
1974		20,988,213	25,616,150	25,918,696	8,574,379	2,174,831	83,272,269
1975		21,223,431	26,281,940	25,775,025	8,883,414	2,818,305	84,982,115
1976		21,246,449	26,466,841	25,711,010	8,883,553	2,926,487	85,234,340
1977		21,266,085	30,720,319	25,623,415	8,884,926	3,045,011	89,539,756
1978		22,240,399	32,697,076	25,639,511	9,462,488	3,370,072	93,409,546
1979		28,005,159	33,163,038	25,648,805	10,649,609	3,786,760	101,253,371
1980		33,088,872	35,568,144	25,671,433	11,744,539	3,951,898	110,024,886
1981		35,383,864	36,564,780	25,677,274	12,055,521	4,176,114	113,857,553
1982	5,301	35,783,212	39,249,645	33,408,349	12,115,430	5,315,586	125,877,523

Attachment 3-120

INTERROGATORY NO. 3-121. Please provide or make available to Hartsville for copying any long range financial forecasts of CP & L financial statements, such as the output of the Company's computerized financial forecasting model.

ANSWER NO. 3-121. See objections of counsel.

INTERROGATORY NO. 3-122. For the forecasts provided in response to Interrogatory 121, please supply the input data employed in developing the forecast, all available support for the data values chosen, a description of the input data format sufficient to allow complete understanding of the input data file, and a description of the program employed to make the forecast.

ANSWER NO. 3-122. See objections of counsel.

INTERROGATORY NO. 3-123. Please provide copies of the Company's FERC Form 1 for each of the years 1978 through 1982.

ANSWER NO. 3-123. The requested FERC Form 1's are available to the public at FERC, South Carolina Public Service Commission, or CP&L's General Office for inspection and copying.

INTERROGATORY NO. 3-124. Please provide the Company's latest long-range load forecast (both peak demand and energy sales) and supporting documentation.

ANSWER NO. 3-124. Attached hereto are copies of CP&L's ENERGY FORECAST Attachment and LOAD FORECAST Attachment. These reports provide forecasted values and a description of the methodology used.

INTERROGATORY NO. 3-125. Please provide annual peak demand and energy sales for 1973 through 1982.

ANSWER NO. 3-125.

Year	Energy Sales (MWH)	Peak Demand MW	Date
1973	24,081,319	4,711	August 29, 1973
1974	24,076,446	4,771	August 28, 1974
1975	24,118,233	5,060	August 25, 1975
1976	26,176,379	5,121	July 29, 1976
1977	27,316,727	5,597	July 20, 1977

1978	27,993,572	5,605	February 7, 1978
1979	28,667,879	5,207	August 9, 1979
1980	30,282,302	6,139	August 5, 1980
1981	30,486,734	6,402	January 13, 1981
1982	30,482,816*	6,602**	January 11, 1982

*Net of Power Agency

**The 1982 peak occurred before Power Agency closing in April 1982.

INTERROGATORY NO. 3-126. Please provide the Company's most recent supply demand documents, including year by year power plant dispatch and production costing results. These should include, for each power plant in the Company's system:

a) maximum dependable capacity,

b) heat rate,

c) maximum availability,

d) projected capacity factor and net generation,

e) operating and maintenance costs, and

f) fuel costs.

ANSWER NO. 3-126. ATTACHMENT 3-126 provides responses to the requested data, based on a June 1983 Long-Range Projection of Fuel and Purchased Power Requirements. Also included is a copy of the 1984-98 Loads, Resouces, and Reserves. Projections of this type are based on numerous assumptions of such variables as load and energy forecasts, various fuel prices, purchased power availability and cost, and outage scheduling. All of these assumptions are subject to change, which could affect the results of the projections.

INTERROGATORY NO. 3-127. Please provide all inputs and outputs to the computer models(s) used to produce the dispatch/production costing results.

ANSWER NO. 3-127. COMPUTER MODEL INPUTS AND OUTPUTS ATTACHMENT attached hereto provides the response to this interrogatory.

INTERROGATORY NO. 3-128. What are the projected annual amounts and costs of purchased power and of power sold to other utilities?

ANSWER NO. 3-128. The data given below provides projections of total purchased power based on the Company's June 1983 projections of fuel and purchased power. The total purchased power figures include firm and nonfirm purchases. No inter-utility sales were considered in the projections.

TOTAL PURCHASED POWER

YEAR	GWH	K$
1984	614.1	25912.6
1985	366.7	13832.8
1986	454.4	23525.3
1987	391.3	17619.1
1988	543.1	33928.3
1989	371.8	19783.9
1990	428.7	27318.5
1991	751.1	72872.0
1992	447.0	27587.2
1993	569.5	38322.2
1994	835.2	67386.9
1995	1536.1	121881.0
1996	2314.4	173728.0
1997	3356.7	243420.0
1998	4110.5	301263.0

INTERROGATORY NO. 3-129. What are the firm purchases and/or sales of capacity?

ANSWER NO. 3-129. The Company's June 1983 projection of total purchased power includes a firm transaction involving the Southeastern Power Administration (SEPA). The Company receives approximately one-third of the capacity and energy from the John H. Kerr Dam and Reservoir for delivery to preference customers of the United States Government. Thus, the Company receives 75 megawatts of capacity each month and projects the receipt of approximately 128,000 megawatt-hours each year during the period 1984 through 1998. No energy costs are involved in this transaction. No other firm purchases or firm sales of power were projected.

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NOTE: The following Interrogatories 3-130 through 3-167 have been taken almost verbatim and without attribution from interrogatories to CP&L filed by the North Carolina Attorney General on April 23, 1983 in a pending rate hearing (Docket No. E-2, Sub 461) before the North Carolina Utilities Commission. (In some instances, a designated one-numbered series of questions of the Attorney General has been serially numbered.) CP&L questions the relevancy of these particular interrogatories. However, since answers to the identical questions have been provided by CP&L to the Attorney General and are a matter of public record, CP&L hereto attaches said Attorney General's interrogatories and CP&L's answers thereto (hereinafter referred to as "AG Attachment"). Nevertheless, CP&L's response is without prejudice to its right to object to any further related interrogatories.

INTERROGATORY NO. 3-130. Please furnish a copy of or make available to Hartsville for copying the power interchange agreements filed with FERC as identified at Testimony of Mr. Eury, NCUC Docket E-2, Sub 461 (Eury Testimony), page 9, line 3.

ANSWER NO. 3-130. See Answer to Attorney General Interrogatory No. 11 in AG Attachment, p. AG-2.

INTERROGATORY 3-131. Describe the process whereby a decision is made to enter into a power exchange.

ANSWER NO. 3-131. See Answer to Attorney General Interrogatory No. 11 in AG Attachment, p. AG-2.

INTERROGATORY NO. 3-132. Describe in detail how the cost of exchange power is determined.

ANSWER NO. 3-132. See Answer to Attorney General Interrogatory No. 11 in AG Attachment, p. AG-2.

INTERROGATORY NO. 3-133. How are split-savings modelled?

ANSWER NO. 3-133. See Answer to Attorney General Interrogatory No. 11 in AG

Attachment, p. AG-2.

INTERROGATORY NO. 3-134. What determines the type of power exchanged?

ANSWER NO. 3-134. See Answer to Attorney General Interrogatory No. 11 in AG Attachment, p. AG-2.

INTERROGATORY NO. 3-135. Please provide the amount of energy and cost of each type of CP & L power interchange for each utility from January 1980 until the present month, separating the fuel from the fixed or demand charge.

ANSWER NO. 3-135. See Answer to Attorney General Interrogatory No. 12 in AG Attachment, p. AG-3.

INTERROGATORY NO. 3-136. Please furnish or make available to Hartsville for copying any forecasts of CP & L's power transactions, including the forecasted costs of these transactions by type for each utility source by month.

ANSWER NO. 3-136. See Answer to Attorney General Interrogatory No. 13 in AG Attachment, p. AG-51.

INTERROGATORY NO. 3-137. What forecasts of capacity purchases are available to CP & L. Please furnish copies of any such forecasts or make them available to Hartsville for copying.

ANSWER NO. 3-137. See Answer to Attorney General Interrogatory No. 13 in AG Attachment, p. AG-51.

INTERROGATORY NO. 3-138. Please describe in detail the survey of the industry conducted in October and November of 1981 to determine what capacity purchases would be available during the Summer of 1982 referred to at Eury Testimony, page 11, line 15.

ANSWER NO. 3-138. See Answer to Attorney General Interrogatory No. 15 in AG Attachment, p. AG-55.

INTERROGATORY NO. 3-139. Please furnish a copy of any documents resulting from the survey referenced in Interrogatory 138 or make them available to Hartsville for copying.

ANSWER NO. 3-139. See Answer to Attorney General Interrogatory No. 15 in AG Attachment, p. AG-55.

INTERROGATORY NO. 3-140. What is the basis of your conclusion at Eury Testimony, page 11, that the 225 MW from TVA was the most economical purchase available?

ANSWER NO. 3-140. See Answer to Attorney General Interrogatory No. 15 in AG Attachment, p. AG-55.

INTERROGATORY NO. 3-141. Please describe in detail the cost-benefit studies conducted to investigate the savings to be realized by purchasing capacity as a replacement for higher cost IC and fossil generation. Please furnish or make available to Hartsville for copying any documents resulting from these studies.

ANSWER NO. 3-141. See Answer to Attorney General Interrogatory No. 17 in AG Attachment, p. AG-65.

INTERROGATORY NO. 3-142. Please define the term "Comparable Units" used in Tables 3 and 4 of Eury Testimony.

ANSWER NO. 3-142. See Answer to Attorney General Interrogatory No. 18 in AG Attachment, p. AG-79.

INTERROGATORY NO. 3-143. Please provide the data used to compute the capacity factors and availability factors for both Robinson 2 and "Comparable Units" in Tables 3 and 4 of Eury Testimony for each year during the period 1977 - 1981.

ANSWER NO. 3-143. See Answer to Attorney General Interrogatory No. 18 in AG Attachment, p. AG-79.

INTERROGATORY NO. 3-144. Please define the term "Comparable Units" as used in Tables 5 and 6 of Eury Testimony and provide the names of the units included.

ANSWER NO. 3-144. See Answer to Attorney General Interrogatory No. 19 in AG Attachment, p. AG-81.

INTERROGATORY NO. 3-145. Please supply the data employed to compute the capacity factors and availability factors in Tables 5 and 6 of Eury Testimony for Brunswick 1, Brunswick 2, and "Comparable Units" for each year during the period 1977 - 1981.

ANSWER NO. 3-145. See Answer to Attorney General Interrogatory No. 19 in AG Attachment, p. AG-81.

INTERROGATORY NO. 3-146. What data documents your achievement of better maintenance and improved performance of plant systems and equipment at the Brunswick facilities resulting from your maintenance? Please provide that data.

ANSWER NO. 3-146. See Answer to Attorney General Interrogatory No. 20 in AG Attachment, p. AG-84.

INTERROGATORY NO. 3-147. Please provide documentation for the improvements in the Brunswick plant's availability and capacity factors resulting from "the more significant plant modifications" described at pages 21 - 26 of Eury Testimony.

ANSWER NO. 3-147. See Answer to Attorney General Interrogatory No. 21 in AG Attachment, p. AG-85.

INTERROGATORY NO. 3-148. For those modifications to Brunswicj [sic] uncompleted at this time, please provide your estimate of the improvement in capacity and availability factors resulting from these modifications and an estimate of their costs.

ANSWER NO. 3-148. See Answer to Attorney General Interrogatory No. 21 in AG Attachment, p. AG-85.

INTERROGATORY NO. 3-149. What documentation do you have supporting the improved control of Radwaste Systems operations resulting from the establishment of a separate group responsible for all radwaste operations. Please provide that documentation.

ANSWER NO. 3-149. See Answer to Attorney General Interrogatory No. 22 in AG Attachment, p. AG-87.

INTERROGATORY NO. 3-150. Please document for each fossil-fired and nuclear unit the outages occuring between January 1979 and the present time, including the date of the outage, its duration, and cause, broken down by forced and planned outages.

ANSWER NO. 3-150. See Answer to Attorney General Interrogatory No. 23 in AG Attachment, p. AG-88.

INTERROGATORY NO. 3-151. What are your forecasts of future outages which indicate their predicted date, duration and cause?

ANSWER NO. 3-151. See Answer to Attorney General Interrogatory No. 23 in AG Attachment, p. AG-88.

INTERROGATORY NO. 3-152. What was the actual average CP & L cost of coal and oil as burned for each month from January 1980 to the present?

ANSWER NO. 3-152. See Answer to Attorney General Interrogatory No. 28 in AG Attachment, p. AG-109.

INTERROGATORY NO. 3-153. If the "as burned" price of coal and oil are not available, what was the actual average CP & L cost of coal and oil as purchased for each month from January 1980 to the present?

ANSWER NO. 3-153. See Answer to Attorney General Interrogatory No. 28 in AG Attachment, p. AG-109.

INTERROGATORY NO. 3-154. What are the data applicable to Robinson 2 unit for capital additions, past and future, as reported for Brunswick on page 28, lines 8-11, of Eury Testimony. For both Brunswick and Robinson 2, please break the expenditures down by year incurred or expected to incur.

ANSWER NO. 3-154. See Answer to Attorney General Interrogatory No. 30 in AG Attachment, p. AG-110.

INTERROGATORY NO. 3-155. What are your capacity factor forecasts for all CP & L nuclear units for each year into the future for which they have been developed starting for 1983?

ANSWER NO. 3-155. See Answer to Attorney General Interrogatory No. 31 in AG Attachment, p. AG-112.

INTERROGATORY NO. 3-156. Do you expect that Robinson 2 will have to be further derated?

ANSWER NO. 3-156. See Answer to Attorney General Interrogatory No. 32 in AG Attachment, p. AG-113.

INTERROGATORY NO. 3-157. If the answer to Interrogatory 157 is affirmative, when and how much?

ANSWER NO. 3-157. See Answer to Attorney General Interrogatory No. 32 in AG Attachment, p. AG-113.

INTERROGATORY NO. 3-158. Please provide a complete description of the PROMOD model referenced at Testimony of Mr. Nevil, NCUC Docket E-2, Sub 461

(Nevil Testimony), page 9, including definitions of all variables.

ANSWER NO. 3-158. See Answer to Attorney General Interrogatory No. 33 in AG Attachment, p. AG-114.

INTERROGATORY NO. 3-159. Please describe PROMOD's treatment of power interchanges as used by CP & L.

ANSWER NO. 3-159. See Answer to Attorney General Interrogatory No. 33 in AG Attachment, p. AG-114.

INTERROGATORY NO. 3-160. Please furnish or make available for copying by Hartsville instructions for PROMOD's use.

ANSWER NO. 3-160. See Answer to Attorney General Interrogatory No. 33 in AG Attachment, p. AG-114.

INTERROGATORY NO. 3-161. Please furnish a computer generated copy and description of the input and output data from the PROMOD run used to recreate the test year as it actually occured and that appears in Nevil Testimony, Exh. #2, p. 1.

ANSWER NO. 3-161. See Answer to Attorney General Interrogatory No. 34 in AG Attachment, p. AG-122.

INTERROGATORY NO. 3-162. Please describe how the changes in the generation mix due to the addition of Mayo Unit 1, kwh sales adjustments, and fossil fuel price levels expected as of June 1983 were added to the recreated test year simulation as per Nevil Testimony at page 10, line 5. Please furnish a computer generated copy and description of all of the input and output for the PROMOD fully adjusted test year run that appears in Nevil Testimony, Exhibit 2, page 1.

ANSWER NO. 3-162. See Answer to Attorney General Interrogatory No. 35 in AG Attachment, p. AG-142.

INTERROGATORY NO. 3-163. Please provide all workpapers and calculations that lead to the derivation of the numbers in columns (3) and (4) of Nevil Testimony, Exhibit 3, p. 1. Provide a detailed narrative explanation of these calculations.

ANSWER NO. 3-163. See Answer to Attorney General Interrogatory No. 36 in AG Attachment, p. AG-162.

INTERROGATORY NO. 3-164. What power supplies from the CP & L system are available and plan to be used by the North Carolina Municipal Power Agency? Please include the names of the plants, the fractions owned by the Power Agency and all agreements as to how the costs of plant operation will be shared.

ANSWER NO. 3-164. See Answer to Attorney General Interrogatory No. 37 in AG Attachment, p. AG-189.

INTERROGATORY NO. 3-165. Describe in detail all the supplementary power that was sold to the Power Agency during the test year and its Cost (both fuel and fixed charges).

ANSWER NO. 3-165. See Answer to Attorney General Interrogatory No. 37 in AG Attachment, p. AG-189.

INTERROGATORY NO. 3-166. Describe the same data requested in Interrogatory 165 for data used for adjusting the test year power supply assumptions, as in the PROMOD run for the adjusted recreated test year as described at Nevil Testimony, p. 11, lines 12-15.

ANSWER NO. 3-166. See Answer to Attorney General Interrogatory No. 37 in AG Attachment, p. AG-189.

INTERROGATORY NO. 3-167. Describe the "additional Power Agency loads" mentioned at Nevil Testimony, p. 10, line 26 and their relevance.

ANSWER NO. 3-167. See Answer to Attorney General Interrogatory No. 37 in AG Attachment, p. AG-189.

E. ANSWERS TO INTERROGATORIES ON CONTENTION 8

INTERROGATORY NO. 8-1. Describe in detail the design of the building in which the replaced steam generator lower assemblies (SGLAs) will be stored, including but not limited to:

a. the dimensions of the building;

b. the materials to be used to construct the several component parts of the building; and

c. any and all code requirements which are to be met and how they will be met.

ANSWER NO. 8-1.

a. The SGLA vault will be 49' long, 44' wide, and 18' high.

b. The foundation, walls and roof of the vault will consist of reinforced concrete.

c. Concrete design will be in accordance with ACI-301, "Specifications for Structural Concrete for Buildings," and ACI-318, "Building Code Requirements for Reinforced Concrete," latest editions. Concrete reinforcing will be in accordance with ASTM A615, "Deformed and Plain Billet-Steel Bars for Concrete Reinforcement," latest edition.

INTERROGATORY NO. 8-2. What are the bases for your responses to Interrogatory 1? Identify all documents, testimony or oral statements by any person on which you rely in support of your position.

ANSWER NO. 8-2. The bases for the response to Interrogatory 8-1 are the project design drawings prepared by CP&L for the H. B. Robinson Steam Generator Storage Building.

INTERROGATORY NO. 8-3. Describe in detail the floor to be used in the SGLA storage tomb.

ANSWER NO. 8-3. The top of the 3' reinforced concrete foundation slab serves as the floor. The slab is 53' x 48', sloped to drain into a 2' square sump pit. The floor is scheduled to receive a steel trowel finish. Six runway plates are scheduled to be embedded into the slab to facilitate loading the SGLAs.

INTERROGATORY NO. 8-4. What code requirements will the floor be built to meet, if any?

ANSWER NO. 8-4. The same code requirements stated in response to Interrogatory 8-1 c. apply to the floor of the vault.

INTERROGATORY NO. 8-5. What is the basis for your response to Interrogatories 3 and 4. Identify all documents, testimony or oral statements by any person on which you rely in support of your position.

ANSWER NO. 8-5. The bases for the response to Interrogatories 8-3 and 8-4 are the project design drawings prepared by CP&L.

INTERROGATORY NO. 8-6. Describe in detail the access ports which will be installed in the the SGLA tomb, including, but not limited to, the design basis for the access ports, the dimensions, the materials to be used, and any code requirements which must be met.

ANSWER NO. 8-6. The access port will consist of a 3' x 7' shielded opening in the west wall for a metal door for personnel access to the vault area. Three tilt-up reinforced concrete panels for the east wall are removable to permit future removal of the SGLAs.

INTERROGATORY NO. 8-7. What is the basis for your response to Interrogatory 6? Identify all documents, testimony or oral statements person on which you rely for support for your position.

ANSWER NO. 8-7. The bases for the response to Interrogatory 8-6 are the project design drawings prepared by CP&L.

INTERROGATORY NO. 8-8. How will the design of the SGLA vault differ from that employed by Florida Power & Light Company at Turkey Point?

ANSWER NO. 8-8. Florida Power & Light Company at Turkey Point utilized entry through the roof rather than through a side wall for loading of the SGLAs. FP&L's vault is 130' x 42'-4" compared to 49' x 44' for the CP&L vault. FP&L's vault accommodates six SGLAs as opposed to only three required for CP&L. FP&L's vault roof is 8" thick precast concrete. CP&L's vault roof will be 2' thick reinforced concrete. FP&L's foundation is a series of 2'-6" thick grade beams with 8" concrete floor while CP&L's foundation is 3' thick reinforced concrete slab.

INTERROGATORY NO. 8-9. How will the design of the SGLA vault differ from that employed by Virginia Electric Power Company at Surrey?

ANSWER NO. 8-9. The Virginia Electric Power Company's vault at Surry is 109' x 55'-3" to accommodate six SGLAs. CP&L's vault is 49' x 44' to accommodate three SGLAs. VEPCO's vault roof contains a personnel hatch. CP&L provides entry by a shielded entrance in the west wall of the building. VEPCO's SGLA vault foundation is a 3'-6" thick reinforced concrete slab while CP&L's is 3'-0" thick. Both vaults utilize loading of the SGLAs through a side wall; however, VEPCO's closure wall consisted of precast wall sections, while CP&L's closure wall consists of 2'-0" thick reinforced concrete tilt-up panels. The walls of VEPCO's vault vary in thickness from 2'-6" to 3'-0". CP&L's vault walls are a constant 2'-0" reinforced concrete.

INTERROGATORY NO. 8-10. 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.

ANSWER NO. 8-10. The basis for the response to Interrogatories 8-9 and 8-10 is a comparison of NUS Corporation's Drawing Nos. 40027-D-1-S through 4007-D-6-S of VEPCO's Surry Power Station Steam Generator Storage Facility and Bechtel's Drawing Nos. 5177-074-C-22, 5177-074-C-23, 5177-074-C-60, and 5177-074-A-39 of FP&L's Turkey Point Nuclear Unit Steam Generator Storage Compound with CP&L's Drawing Nos. D-2736 through D-2740 of the H. B. Robinson Steam Generator Storage Building prepared by CP&L.

INTERROGATORY NO. 8-11. What is the seismic design basis for the SGLA vault?

ANSWER NO. 8-11. None.

INTERROGATORY NO. 8-12. For the tectonic region in which the Robinson facility is located, what is the maximum historical earthquake?

ANSWER NO. 8-12. The Robinson facility is located within the Coastal Plain physiographic province. The largest earthquake in this region occurred at Charleston,

South Carolina in August 1886 about 120 miles south of the plant site. This event had a Modified Mercalli Intensity of approximately IX - X and an estimated Richter magnitude of about 6-1/2 to 7.

INTERROGATORY NO. 8-13. What would be the effect on the SGLA vault of the near-site occurence of an earthquake of Modified Mercalli Intensity X and Magnitude 7?

ANSWER NO. 8-13. This information is not available and would require extensive calculations.

INTERROGATORY NO. 8-14. What is the basis for your responses to Interrogatories 11 - 13? Identify all documents, testimony or oral statements by any person on which you rely for support of your position.

ANSWER NO. 8-14. The bases for the response to Interrogatory 8-11 are the project design drawings. H. B. Robinson Plant updated FSAR is the basis for the CP&L's response to Interrogatory 8-12.

INTERROGATORY NO. 8-15. What is the normal water table level for the site of the proposed SGLA vault?

ANSWER NO. 8-15. The normal water level at the site of the SGLA vault is 226' msl. $\pm$ 1.0', approximately 9' below the SGLA vault finish floor elevation of 235' msl.

INTERROGATORY NO. 8-16. What is the maximum water table level for the site of the proposed SGLA vault?

ANSWER NO. 8-16. No observations have been made to determine the maximum water table level for the site of the proposed SGLA vault. The water table level for the entire plant area is primarily influenced by the level of Lake Robinson. Since the variation in the maximum level of Lake Robinson is small, the maximum water table level is essentially the same as the normal water table level.

INTERROGATORY NO. 8-17. Has the site of the proposed SGLA vault ever flooded? If so, what is the maximum flood level reached at that site and what is the recurrence interval for flooding?

ANSWER NO. 8-17. No.

INTERROGATORY NO. 8-18. If the answer to Interrogatory 17 is negative, have studies been conducted of the likely occurence of flooding at the site? If so, describe in detail any such studies and their results.

ANSWER NO. 8-18. Studies have been conducted of the likely occurrence of flooding at the site. Maximum flood water level is identified in the HBR-2 Updated FSAR, Section 2.4.4.

INTERROGATORY NO. 8-19. What would be the effect on the SGLA vault and the stored SGLAs if there were a flood at the site of the vault?

ANSWER NO. 8-19. No structural effect on the vault or stored SGALs.

INTERROGATORY NO. 8-20. What are the bases for your responses to Interrogatories 15 - 19? Identify all documents, testimony or oral statements by any person on which you rely for support of your positions?

ANSWER NO. 8-20. The bases for the response for Interrogatories 8-15 through 8-19 are the Final Safety Analysis Report for H. B. Robinson Unit 2 and the project design drawings for the H. B. Robinson Steam Generator Storage Building.

INTERROGATORY NO. 8-21. What will be the dose immediately adjacent to the SGLA vault?

ANSWER NO. 8-21. The maximum dose rate immediately adjacent to the SGLA vault is estimated to be 0.25 mR/hr at the time of initial storage.

INTERROGATORY NO. 8-22. What will be the dose to workers from transfer, shipping and storage of the SGLAs to the SGLA vault?

ANSWER NO. 8-22. As outlined in Section 3.5.7 of the FSGRR, the estimated man-rem to workers for long-term intact on-site storage will be 10-20 man-rem.

INTERROGATORY NO. 8-23. Describe in detail the methods used to arrive at the responses to Interrogatories 21 and 22, including a description of the methodology, assumptions and data with sufficient specificity and particularity to replicate the results.

ANSWER NO. 8-23. Answer 8-21 is based on exposure rate on contact with the steam generators as given in Section 3.5.2.1 of the FSGRR and transmission factors for Co-60 through concrete. Answer 8-22 is based on CP&L's exposure estimates and actual

exposure results from the Surry and Turkey Point projects.

INTERROGATORY NO. 8-24. What will be the dose to the general public from the on-site storage of the SGLAs?

ANSWER NO. 8-24. The maximum possible instantaneous exposure rate to an individual of the general public from the on-site storage of the SGLA is estimated to be 0.005 mR/hr. This value is within the range of variation for natural background radiation in the United States.

INTERROGATORY NO. 8-25. Describe in detail the methods, assumptions and data employed to arrive at the response to Interrogatory 24 with sufficient specificity to permit replication of the result.

ANSWER NO. 8-25. Answer 8-24 was based on the value given in response to Interrogatory 8-21. The exposure was calculated at the security gate which is located directly north of the access road which runs between the west CP&L and contractors parking lots. Reference data for the calculations were taken from the Radiological Health Handbook, Bureau of Radiological Health, Rockville, MD.

INTERROGATORY NO. 8-26. What are the bases for your responses to Interrogatories 21 - 25? Identify all documents, testimony or oral statements upon which you rely for support of your positions.

ANSWER NO. 8-26. The bases are as set forth in responses to said Interrogatories.

INTERROGATORY NO. 8-27. Is the on-site storage of the SGLAs the preferable option for disposal of the SGLAs?

ANSWER NO. 8-27. See objections of counsel.

INTERROGATORY NO. 8-28. What are the bases for your response to Interrogatory 27? Describe in detail the methodologies, assumptions and data employed to make comparisons among the available options with sufficient specificity to permit replication of the results and identify all documents, testimony or oral statements by any person upon which you rely for support of your position.

ANSWER NO. 8-28. See objections of counsel.

INTERROGATORY NO. 8-29. What methods and materials will be used to seal the SGLAs?

ANSWER NO. 8-29. All openings, including the top and bottom open ends, will be sealed with ASTM A36 material steel plates, which will be continuously seal welded around the entire opening prior to removal from containment.

INTERROGATORY NO. 8-30. How long are those seals designed to last?

ANSWER NO. 8-30. The seals do not have a design life specified. However, as a metal in a non-corrosive normal air environment, an indefinite life is expected.

INTERROGATORY NO. 8-31. What will be the source terms for the SGLAs before they are sealed?

ANSWER NO. 8-31. As stated in Section 3.5.2.1 of the FSGRR, the curie content of each steam generator is estimated to be approximately 300 Ci.

INTERROGATORY NO. 8-32. What will be the exposure to workers in sealing the SGLAs?

ANSWER NO. 8-32. As outlined in item #14 of Table 3.4-2 of the FSGRR, the estimated man-rem for welding the seals on the lower assemblies is 20 man-rem.

INTERROGATORY NO. 8-33. What will be the exposure from the sealed SGLAs before they are placed in the vault?

ANSWER NO. 8-33. The exposure rate at contact with the shell of the steam generator is expected to be approximately 200 mR/hr after sealing.

INTERROGATORY NO. 8-34. Will the seals on the SGLAs be periodically inspected? If so, how often and by what methods?

ANSWER NO. 8-34. No. The seals will not require periodic inspection.

INTERROGATORY NO. 8-35. What will be the effect on the contaminating film on the SGLAs of long-term dry storage in the vault?

ANSWER NO. 8-35. CP&L requests clarification of the information requested.

INTERROGATORY NO. 8-36. Will heat in the SGLA vault ever be sufficient to over-pressurize the sealed SGLAs? If so, what would be the effect?

ANSWER NO. 8-36. The storage building (vault) is a thick concrete building which

will not excessively heat up internally during the daytime. Thus, there will be no appreciable heat buildup and the sealed SGLAs will not be overpressurized.

INTERROGATORY NO. 8-37. What are the bases for your responses to Interrogatories 29 - 36. Identify all documents, testimony or oral statements by any person upon which you rely for support of your positions.

ANSWER NO. 8-37. Answer 8-29 is based on the design efforts being performed at EBASCO Services Incorporated; the Carolina Power and Light Company Criteria (Attachment A attached to letter No. EO-01150, dated April 25, 1983); and Carolina Power and Light Company Steam Generator Repair Report, revision 1, serial No. LAP-83-75, dated March 31, 1983, as amended by serial No. LAP-83-206, dated June 3, 1983, and LAP-83-177, dated May 23, 1983. The remaining responses are based on the FSGRR.

INTERROGATORY NO. 8-38. What are the highest historic wind speeds experienced in the vicinity of the Robinson site?

ANSWER NO. 8-38. An observation from the H. B. Robinson on-site meteorological station was made at 3:32 A.M. EST on February 2, 1981 during the passage of a frontal system indicating a wind velocity of approximately 100 miles per hour for one minute duration.

INTERROGATORY NO. 8-39. What winds speeds, including tornadoes, hurricanes, and other severe weather conditions, is the SGLA vault designed to withstand?

ANSWER NO. 8-39. The SGLA vault is designed to withstand a 110 mph wind speed.

INTERROGATORY NO. 8-40. What is the basis for your responses to Interrogatories 38 and 39? Identify all documents, testimony or oral statements from any person upon which you rely for support of your position.

ANSWER NO. 8-40. H. B. Robinson Plant (HBR) updated FSAR, Section 2.3.1.2.7, Extreme Winds, and HBR on-site meteorological station data are the bases for Answer 8-38. The basis for Answer 8-39 is the project design drawings for the H. B. Robinson Steam Generator Storage Building.

INTERROGATORY NO. 8-41. What is the basis for the determination that no cask

is needed for transporting the SGLAs from the Reactor Containment Building (RCB) to the SGLA vault?

ANSWER NO. 8-41. See objections of counsel.

INTERROGATORY NO. 8-42. What route will the truck take to haul the SGLAs from the RCB to the SGLA vault?

ANSWER NO. 8-42. See objections of counsel.

INTERROGATORY NO. 8-43. Describe in detail the design and construction of the special tractor trailer arrangement to be used to haul the SGLAs from the RCB to the SGLA vault?

ANSWER NO. 8-43. See objections of counsel.

INTERROGATORY NO. 8-44. Will permanent on-site storage of the SGLAs be a possibility?

ANSWER NO. 8-44. Permanent on-site storage of the SGLAs could be a possibility; however, the decision on their ultimate disposal will depend on the economic and ALARA considerations, along with the regulatory requirements in effect.

INTERROGATORY NO. 8-45. What is the basis for your response to Interrogatory 44? Identify all documents, testimony or oral statements by any person upon which you rely for support for your position.

ANSWER NO. 8-45. Letter from G. P. Beatty to: L. W. Eury, M. A. McDuffie and E. E. Utley 1/10/82, and the FSGRR.

INTERROGATORY NO. 8-46. Describe in detail the circumstances under which CP& L will seek to ship the SGLAs off-site prior to decommissioning of Unit 2.

ANSWER NO. 8-46. On-site storage of the SGLAs was chosen because of economic and ALARA considerations. The largest contributor to the external radiation field of the SGLAs is Co-60 which has a half-life of 5.2 years. Should the SGLAs be retained on-site until decommissioning the SGLAs' largest radioactivity contributor will have decayed greater than 4 half-lives, reducing the radiation levels to less than 1/16 of the level at the time of removal. The only reason that CP&L would consider shipping the SGLAs off-site prior to the decommissioning of units would be because of changing circumstances

(economic, ALARA or regulatory) which would invalidate parameters utilized in the original decision.

INTERROGATORY NO. 8-47. Describe in detail the passive ventilation system for the SGLA vault.

ANSWER NO. 8-47. The passive ventilation systems will consist of two 6" diameter Schedule 40 steel pipes located in the north and south walls of the vault to allow for expansion and contraction of air inside the vault. These vents will be filtered into two-way HEPA filters.

INTERROGATORY NO. 8-48. What is the basis for your response to Interrogatory 47? Identify all documents, tetimony [sic] or oral statements by any person upon which you rely for support of your position.

ANSWER NO. 8-48. The bases for the response to Interrogatory 8-47 are the project design drawings for the H. B. Robinson Steam Generator Storage Building prepared by CP&L.

INTERROGATORY NO. 8-49. What will be the total volume of the discarded SGLAs?

ANSWER NO. 8-49. The volume of three SGLAs is about 11,910ft^3.

INTERROGATORY NO. 8-50. What will be the curie content of the discarded SGLAs:

a. immediately;
b. after one year;
c. after 5 years; and
d. at the expected decommissioning date for Robinson, Unit 2.

ANSWER NO. 8-50. The curie content of the discarded SGLA's:

a. Immediately - 290.6 Ci

b. After one year - 111.8 Ci

c. After five years - 62.7 Ci

d. At the expected decommissioning date for

H. B. Robinson, Unit 2 - 5.12 Ci.

INTERROGATORY NO. 8-51. What is the basis for your response to Interrogatory 50? Identify any documents, testimony or oral statements by any person upon which you rely for support for your position.

ANSWER NO. 8-51. Initial curie content was derived as outlined in Section 3.4.8.2 a) of the FSGRR and as given in Table 3.4-4. Responses b. - d. were based on the initial activities given in Table 3.4-4, the basis decay equation $A=A_o e^{-\lambda t}$, and half-lives as given in the chart of the nuclides.

INTERROGATORY NO. 8-52. In evaluating the safety of disposal of the SGLAs, what standards will the NRC Staff employ?

ANSWER NO. 8-52. This interrogatory is addressed solely to the NRC Staff.

INTERROGATORY NO. 8-53. 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.

ANSWER NO. 8-53. This interrogatory is addressed solely to the NRC Staff.

INTERROGATORY NO. 8-54. Do any NRC Staff members differ in any way from the Staff position on Contention 8 in this procedding [sic]?

ANSWER NO. 8-54. This interrogatory is addressed solely to the NRC Staff.

INTERROGATORY NO. 8-55. If the answer to Interrogatory 54 is affirmative, identify each such NRC Staff member, including the person's title, address and telephone number.

ANSWER NO. 8-55. This interrogatory is addressed solely to the NRC Staff.

INTERROGATORY NO. 8-56. 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.

ANSWER NO. 8-56. This interrogatory is addressed solely to the NRC Staff.

INTERROGATORY NO. 8-57. 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.

ANSWER NO. 8-57. This interrogatory is addressed solely to the NRC Staff.

INTERROGATORY NO. 8-58. Identify any reports, memoranda, draft reports, studies, comments or other documents prepared by or on behalf of the Office of Analyses and Evaluation of Operational Data (OAEOD) 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.

ANSWER NO. 8-58. This interrogatory is addressed solely to the NRC Staff.

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-OLA
	)	
(H. B. Robinson Steam Electric Plant, Unit 2)	)	ASLBP No. 83-484-03LA

AFFIDAVIT OF RONNIE M. COATS

WAKE COUNTY)
)
NORTH CAROLINA)

Ronnie M. Coats, being duly sworn according to law, deposes and says that he is Assistant to Group Executive with Carolina Power & Light Company; that the Answers to Interrogatories 1-1 through 1-5 contained in Applicant's Answers to The Hartsville Group First Set of Interrogatories to Applicant, Carolina Power & Light Company, are true and correct to the best of his knowledge, information and belief, and that the sources of his information are officers, employees, agents and contractors of Carolina Power & Light Company.

Ronnie M. Coats
Ronnie M. Coats

Sworn to and subscribed before me this 30th day of June, 1983.

Marilyn B. Lee
Notary Public

My commission expires: 11/15/87

MARILYN B. LEE
NOTARY
***
PUBLIC
JOHNSTON COUNTY, N. C.

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-OLA
	)	
(H. B. Robinson Steam Electric Plant, Unit 2)	)	ASLBP No. 83-484-03LA
	)	

AFFIDAVIT OF L. B. WILSON, JR.

WAKE COUNTY)
)
NORTH CAROLINA)

L. B. Wilson, Jr., being duly sworn according to law, deposes and says that he is Manager-Fossil Plant Engineering and Construction with Carolina Power & Light Company; that the Answers to Interrogatories 8-1 through 8-11, 8-13 through 8-20, 8-39, 8-40, 8-47 and 8-48 contained in Applicant's Answers to The Hartsville Group First Set of Interrogatories to Applicant, Carolina Power & Light Company, are true and correct to the best of his knowledge, information and belief, and that the sources of his information are officers, employees, agents and contractors of Carolina Power & Light Company.

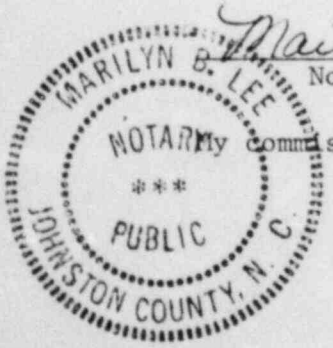
L. B. Wilson, Jr.

L. B. Wilson, Jr.

Sworn to and subscribed before me this 30th day of June, 1983.

Marilyn B. Lee
Notary Public

My commission expires: 11/15/87



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-OLA
	)	
(H. B. Robinson Steam Electric Plant, Unit 2)	)	ASLBP No. 83-484-03LA

AFFIDAVIT OF HAROLD R. BANKS

WAKE COUNTY)
)
NORTH CAROLINA)

Harold R. Banks, being duly sworn according to law, deposes and says that he is Manager-Corporate Quality Assurance with Carolina Power & Light Company; that Answer to Interrogatories 1-15 through 1-18 contained in Applicant's Answers to The Hartsville Group First Set of Interrogatories to Applicant, Carolina Power & Light Company, are true and correct to the best of his knowledge, information and belief, and that the sources of his information are officers, employees, agents and contractors of Carolina Power & Light Company.

Harold R. Banks

Sworn to and subscribed before me this 30th day of June, 1983.

Marilyn B. Lee
Notary Public

My Commission expires: 11/15/87

MARILYN B. LEE NOTARY *** PUBLIC JOHNSTON COUNTY, N. C.

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-OLA
	)	
(H. B. Robinson Steam Electric Plant, Unit 2)	)	ASLBP No. 83-484-03LA

AFFIDAVIT OF S. R. ZIMMERMAN

WAKE COUNTY)
)
NORTH CAROLINA)

S. R. Zimmerman, being duly sworn according to law, deposes and says that he is Manager-Licensing and Permits Section with Carolina Power & Light Company; that Answers to Interrogatories 1-27 through 1-33, 1-35, 1-36, 1-49, 1-50, 3-1 through 3-5, 3-8, 3-9, 3-13 through 3-17, 3-19 (first 3-19), 8-12 and 8-38 contained in Applicant's Answers to The Hartsville Group First Set of Interrogatories to Applicant, Carolina Power & Light Company, are true and correct to the best of his knowledge, information and belief, and that the sources of his information are officers, employees, agents and contractors of Carolina Power & Light Company.

S. R. Zimmerman

Sworn to and subscribed before me this 30th day of June, 1983.

Lisa M. Randall
Notary Public

My commission expires: 5/18/88

UNITED STATES OF AMERICA

NUCLEAR REGULATORY COMMISSION

BEFORE THE ATOMIC SAFETY AND LICENSING BOARD

In the Matter of	)	
	)	
CAROLINA POWER & LIGHT COMPANY	)	Docket No. 50-261-0LA
	)	
(H. B. Robinson Steam Electric Plant, Unit 2)	)	ASLBP No. 83-484-03LA

AFFIDAVIT OF MANLEY A. POPE

WAKE COUNTY)
)
NORTH CAROLINA)

Manley A. Pope, being duly sworn according to law, deposes and says that he is Manager-Personnel Relations-Nuclear Plants with Carolina Power & Light Company; that the Answers to Interrogatories 1-34, 1-36, 1-38 and 1-39 contained in Applicant's Answers to The Hartsville Group First Set of Interrogatories to Applicant, Carolina Power & Light Company, are true and correct to the best of his knowledge, information and belief, and that the sources of his information are officers, employees, agents and contractors of Carolina Power & Light Company.

Manley A. Pope

Sworn to and subscribed before me this 30th day of June, 1983.

Marilyn B. Lee
Notary Public

My commission expires: 11/15/87

MARILYN B. LEE
NOTARY PUBLIC
JOHNSTON COUNTY, N. C.

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-OLA
	)	
(H. B. Robinson Steam Electric Plant, Unit 2)	)	ASLBP No. 83-484-03LA

AFFIDAVIT OF RICHARD E. LUMSDEN

WAKE COUNTY)
)
NORTH CAROLINA)

Richard E. Lumsden, being duly sworn according to law, deposes and says that he is Acting Assistant to Vice President-Nuclear Operations with Carolina Power & Light Company; that Answers to Interrogatories 3-25 through 3-29 contained in Applicant's Answers to The Hartsville Group First Set of Interrogatories to Applicant, Carolina Power & Light Company, are true and correct to the best of his knowledge, information and belief, and that the sources of his information are officers, employees, agents and contractors of Carolina Power & Light Company.

Richard E. Lumsden

Sworn to and subscribed before me this 30th day of June, 1983.

Marilyn B. Lee
Notary Public

My commission expires: 11/15/87

MARILYN B. LEE NOTARY *** PUBLIC JOHNSTON COUNTY, N. C.

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-OLA
	)	
(H. B. Robinson Steam Electric Plant, Unit 2)	)	ASLBP No. 83-484-03LA

AFFIDAVIT OF W. PARKER TOMLINSON

WAKE COUNTY)
)
NORTH CAROLINA)

W. Parker Tomlinson, being duly sworn according to law, deposes and says that he is Principal Engineer-Mechanical with Carolina Power & Light Company; that Answers to Interrogatories 3-30 through 3-41, and 3-63 through 3-67, and 3-74 through 3-78, and 8-29, 8-30, 8-34, and 8-36 contained in Applicant's Answers to The Hartsville Group First Set of Interrogatories to Applicant, Carolina Power & Light Company, are true and correct to the best of his knowledge, information and belief, and that the sources of his information are officers, employees, agents and contractors of Carolina Power & Light Company.

W. Parker Tomlinson

Sworn to and subscribed before
me this 30th day of June, 1983.

Marilyn B. Lee
Notary Public

My commission expires: 11/15/87

MARILYN B. LEE NOTARY PUBLIC *** JOHNSTON COUNTY, N. C.

UNITED STATES OF AMERICA

NUCLEAR REGULATORY COMMISSION

BEFORE THE ATOMIC SAFETY AND LICENSING BOARD

In the Matter of	)	
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CAROLINA POWER & LIGHT COMPANY	)	Docket No. 50-261-OLA
	)	
(H. B. Robinson Steam Electric Plant, Unit 2)	)	ASLBP No. 83-484-03LA

AFFIDAVIT OF J. R. BOHANNON

WAKE COUNTY)
)
NORTH CAROLINA)

J. R. Bohannon, being duly sworn according to law, deposes and says that he is Manager-Nuclear Training Section with Carolina Power & Light Company; that the Answers to Interrogatories 1-19 and 1-20 contained in Applicant's Answers to The Hartsville Group First Set of Interrogatories to Applicant, Carolina Power & Light Company, are true and correct to the best of his knowledge, information and belief, and that the sources of his information are officers, employees, agents and contractors of Carolina Power & Light Company.

J. R. Bohannon

Sworn to and subscribed before me this 30th day of June, 1983.

Marilyn B. Lee
Notary Public

My commission expires: 11/15/87

MARILYN B. LEE
NOTARY
PUBLIC
JOHNSTON COUNTY, N. C.

UNITED STATES OF AMERICA

NUCLEAR REGULATORY COMMISSION

BEFORE THE ATOMIC SAFETY AND LICENSING BOARD

In the Matter of	)	
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CAROLINA POWER & LIGHT COMPANY	)	Docket No. 50-261-OLA
	)	
(H. B. Robinson Steam Electric Plant, Unit 2)	)	ASLBP No. 83-484-03LA

AFFIDAVIT OF MIKE McDOWELL

WAKE COUNTY)
)
NORTH CAROLINA)

Mike McDowell, being duly sworn according to law, deposes and says that he is Principal Specialist-Chemistry with Carolina Power & Light Company; that the Answers to Interrogatories 3-55 through 3-62 contained in Applicant's Answers to The Hartsville Group First Set of Interrogatories to Applicant, Carolina Power & Light Company, are true and correct to the best of his knowledge, information and belief, and that the sources of his information are officers, employees, agents and contractors of Carolina Power & Light Company.

Mike McDowell

Sworn to and subscribed before
me this 29th day of June, 1983.

Marilyn B. Lee
Notary Public

My commission expires: My Commission Expires 11-15-87

MARILYN B. LEE
NOTARY
PUBLIC
JOHNSTON COUNTY, N. C.

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-OLA
	)	
(H. B. Robinson Steam Electric Plant, Unit 2)	)	ASLBP No. 83-484-03LA

AFFIDAVIT OF ROBERT E. HALLIBURTON

WAKE COUNTY)
)
NORTH CAROLINA)

Robert E. Halliburton, being duly sworn according to law, deposes and says that he is Project Specialist-Health Physics with Carolina Power & Light Company; that Answers to Interrogatories 8-21 through 8-26, and 8-31 through 8-33, 8-37, 8-50 and 8-51 contained in Applicant's Answers to The Hartsville Group First Set of Interrogatories to Applicant, Carolina Power & Light Company, are true and correct to the best of his knowledge, information and belief, and that the sources of his information are officers, employees, agents and contractors of Carolina Power & Light Company.

Robert E. Halliburton

Robert E. Halliburton

Sworn to and subscribed before
me this 29th day of June, 1983.

Marilyn B. Lee

Notary Public

My commission expires: _____

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-OLA
	)	
(H. B. Robinson Steam Electric Plant, Unit 2)	)	ASLBP No. 83-484-03LA

AFFIDAVIT OF G. P. BEATTY, JR.

WAKE COUNTY)
)
NORTH CAROLINA)

G. P. Beatty, Jr., being duly sworn according to law, deposes and says that he is Manager-Special Projects with Carolina Power & Light Company; that Answer to Interrogatories 1-8, 1-9, 3-88, and 8-44 through 8-46 contained in Applicant's Answers to The Hartsville Group First Set of Interrogatories to Applicant, Carolina Power & Light Company, are true and correct to the best of his knowledge, information and belief, and that the sources of his information are officers, employees, agents and contractors of Carolina Power & Light Company.

G. P. Beatty, Jr.

Sworn to and subscribed before me this 29th day of June, 1983.

Marilyn B. Lee
Notary Public

My commission expires: 11/15/87

MARILYN B. LEE
NOTARY
PUBLIC
JOHNSTON COUNTY, N. C.

UNITED STATES OF AMERICA

NUCLEAR REGULATORY COMMISSION

BEFORE THE ATOMIC SAFETY AND LICENSING BOARD

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CAROLINA POWER & LIGHT COMPANY	)	Docket No. 50-261-OLA
	)	
(H. B. Robinson Steam Electric Plant, Unit 2)	)	ASLBP No. 83-484-03LA

AFFIDAVIT OF R. L. MAYTON, JR.

WAKE COUNTY)
)
NORTH CAROLINA)

R. L. Mayton, Jr., being duly sworn according to law, deposes and says that he is Manager-Corporate Health Physics with Carolina Power & Light Company; that the Answers to Interrogatories 1-6, 1-10, 1-11, 1-12, 1-13 and 1-14 contained in Applicant's Answers to The Hartsville Group First Set of Interrogatories to Applicant, Carolina Power & Light Company, are true and correct to the best of his knowledge, information and belief, and that the sources of his information are officers, employees, agents and contractors of Carolina Power & Light Company.

R. L. Mayton, Jr.
R. L. Mayton, Jr.

Sworn to and subscribed before me this 29th day of June, 1983.

Marilyn B. Lee
Notary Public

My commission expires: 11/15/87

MARILYN B. LEE
NOTARY
***
PUBLIC
JOHNSTON COUNTY, N. C.

UNITED STATES OF AMERICA

NUCLEAR REGULATORY COMMISSION

BEFORE THE ATOMIC SAFETY AND LICENSING BOARD

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CAROLINA POWER & LIGHT COMPANY	)	Docket No. 50-261-OLA
	)	
(H. B. Robinson Steam Electric Plant, Unit 2)	)	ASLBP No. 83-484-03LA

AFFIDAVIT OF B. M. WILLIAMS

WAKE COUNTY)
)
NORTH CAROLINA)

B. M. Williams, being duly sworn according to law, deposes and says that he is Director-Staff Services with Carolina Power & Light Company; that Answers to Interrogatories 3-89 through 3-95, and 3-104 through 3-120, and 3-123 through 3-129 contained in Applicant's Answers to The Hartsville Group First Set of Interrogatories to Applicant, Carolina Power & Light Company, are true and correct to the best of his knowledge, information and belief, and that the sources of his information are officers, employees, agents and contractors of Carolina Power & Light Company.

B M Williams
B. M. Williams

Sworn to and subscribed before me this 30th day of June, 1983.

Marilyn B. Lee
Notary Public

My Commission expires: 11/15/87

MARILYN B. LEE NOTARY *** PUBLIC JOHNSTON COUNTY, N. C.

UNITED STATES OF AMERICA

NUCLEAR REGULATORY COMMISSION

BEFORE THE ATOMIC SAFETY AND LICENSING BOARD

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	)	
CAROLINA POWER & LIGHT COMPANY	)	Docket No. 50-261-OLA
	)	
(H. B. Robinson Steam Electric Plant, Unit 2)	)	ASLBP No. 83-484-03LA

AFFIDAVIT OF J. HENRY OEHMANN, III

WAKE COUNTY)
)
NORTH CAROLINA)

J. Henry Oehmann, III, being duly sworn according to law, deposes and says that he is Manager-Planning and Administrative Support with Carolina Power & Light Company; that the Answers to Interrogatories 1-19 and 1-20 contained in Applicant's Answers to The Hartsville Group First Set of Interrogatories to Applicant, Carolina Power & Light Company, are true and correct to the best of his knowledge, information and belief, and that the sources of his information are officers, employees, agents and contractors of Carolina Power & Light Company.

J. Henry Oehmann III

J. Henry Oehmann, III

Sworn to and subscribed before me this 30th day of June, 1983.

Marilyn B. Lee

Notary Public

My commission expires: 11/15/87

MARILYN B. LEE NOTARY *** PUBLIC JOHNSTON COUNTY, N. C.

UNITED STATES OF AMERICA

NUCLEAR REGULATORY COMMISSION

BEFORE THE ATOMIC SAFETY AND LICENSING BOARD

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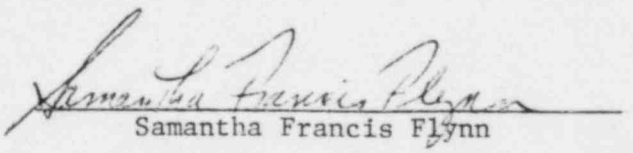
CAROLINA POWER & LIGHT COMPANY	)	Docket No. 50-261-OLA
	)	
(H. B. Robinson Steam Electric Plant, Unit 2)	)	ASLBP No. 83-484-03LA

CERTIFICATE OF SERVICE

I hereby certify that copies of "APPLICANT'S ANSWERS TO THE HARTSVILLE GROUP FIRST SET OF INTERROGATORIES AND REQUEST TO PRODUCE" were served this 30th day of June, 1983 by depositing in the United States mail, first class, postage prepaid, to the parties on the attached SERVICE LIST. Copies of ATTACHMENTS referred to in said ANSWERS are attached only to Mr. Matthews' copy, Dr. Ruoff's copy, and Mr. Karman's copy. The affidavit of R. B. Starkey, Jr., an individual identified in ANSWER NO. G-1, is not attached to said ANSWERS and will be provided.



Samantha Francis Flynn

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

BEFORE THE ATOMIC SAFETY AND LICENSING BOARD

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	)	
CAROLINA POWER & LIGHT COMPANY	)	Docket No. 50-261-OLA
	)	
(H. B. Robinson Steam Electric Plant, Unit 2)	)	ASLBP No. 83-484-03LA
	)	
	)	
	)	

SERVICE LIST

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

Administrative Judge Jerry R. Kline
Atomic Safety and Licensing Board
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

Administrative Judge David L. Hetrick
Atomic Safety and Licensing Board
Professor of Nuclear Engineering
University of Arizona
Tucson, Arizona 85721

Docketing & Service Section (3)
Office of the Secretary
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

Myron Karman, Esquire
Office of Executive Legal Director
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

Atomic Safety and Licensing Board Panel
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

Atomic Safety and Licensing Appeal Board Panel
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

B. A. Matthews
Hartsville Group
P. O. Box 1089
Hartsville, South Carolina 29550

Dr. John C. Ruoff
P. O. Box 96
Jenkinsville, South Carolina 29065