GULF STATES UTILITIES COMPANY

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February 17, 1984
RBG- 17,067
File No. G9.5

Mr. Harold R. Denton, Director
Office of Nuclear Reactor Regulation
U. S. Nuclear Regulatory Commission
Washington, D. C. 20555

Dear Mr. Denton:

River Bend Station - Units 1 & 2
Docket Nos. 50-458/50/459

Enclosed are Gulf States Utilities Company's (GSU) responses to the informal questions raised by reviewers from the Licensee Qualification Branch (LQB-RIV) based upon their review of the December 2, 1983 docketed letter from Mr. Booker to Mr. Denton. As a result of meetings between GSU and LQB-RIV on January 6, 1984, further clarifications with regard to the Final Safety Analysis Report (FSAR), Chapter 13, were necessary to complete input to the Safety Evaluation Report (SER). Attachment 1 summarizes these clarifications and references where the response is provided. Enclosure 1 provides the changes to the FSAR which will be included in the next amendment.

Sincerely,

J. E. Booker

J. E. Booker
Manager - Engineering,
Nuclear Fuels & Licensing
River Bend Nuclear Group

JEB/ERG/JWL/je

Attachment

Enclosure

B001
1/40

Attachment 1

Item No. 1 Corporate Organization

The Staff requested a sufficiently detailed description of the corporate organization to understand the position of individuals and organizations which interface with or provide technical support for the nuclear group.

See revised Section 13.1.1.1.3 and Figure 13.1-1a.

Item No. 2 Nuclear Operations Organizations

The Staff requested FSAR organizational charts and text to fully described the Nuclear Operations organization, including the Training Staff's size and minimum qualifications.

See revised Section 13.1.1.2.1.3 and Figures 13.1-2a and 13.1-2b for descriptions of the Nuclear Operations organization; the Training Staff's minimum qualifications will be addressed in a future submittal.

Item No. 3 Radiation Protection Technician Qualifications

The Staff requested that the Radiation Protection Technicians meet the minimum requirements of the Radiological Assessment Branch.

The response to Question 471.21 on Page Q&R13.1-1 as contained in Amendment 11 stipulates the minimum qualifications for the Radiation Protection/Chemistry Supervisor and the Radiation Protection Supervisor (see Appendix 13A for the Radiation Protection/Chemistry Supervisor's resume - the posiiton or Radiation Protection Supervisor has not yet been filled.) GSU will attempt to hire ANSI qualified Radiation Protection Technicians, or technicians with 3 years of Radiation Protection experience as defined in ANSI/ANS 3.1-1978. In addition, GSU requires Radiation Protection Technicians to have 4 weeks of commercial power plant experience at greater than 20% power and refueling experience at a BWR. If these additional requirements are not met, GSU will send the technicians(s) to an operating BWR to obtain the necessary experience.

Item No. 4 Fire Brigade Leader

The Staff requested that another individual, knowledgeable in plant systems, other than the Control Operating Foreman, be designated Fire Brigade Leader.

See revised Sections 9B.4.8, 13.1.2.2.6, and 13.1.2.2.7.

Item No. 5 Technical Support

The Staff requested additional specificity with regard to the organization of corporate resources to provide technical support to the plant, including staffing levels, and minimum qualification requirements.

The off-site technical support for River Bend Station (RBS) is described in revised Section 13.1.1.1.3 with additional specificity provided in Sections 13.1.1.2.1.4.1 through 13.1.1.2.1.4.4. Operational staffing levels are included in revised Figure 13.1-4, while minimum qualification requirements are delineated in Section 13.1.1.3.1.

Item No. 6 Available Offsite Expertise

The Staff requested additional information concerning offsite technical expertise in the areas of chemistry/radiochemistry and health physics, further details regarding drawing update and revision support, and delineation of responsibilities regarding disposal of spent fuel and high level wastes.

See revised Sections 13.1.1.1.3 (Offsite Expertise and Drawing Support) 13.1.1.2.1.3.3 (Drawing Support) and 13.1.1.2.1.4.4 (Disposal of Spent Fuel and Wastes).

Item No. 7 Independent Safety Engineering Group

The staff requested that the Independent Safety Engineering Group (ISEG) be located onsite, but report directly offsite to a corporate official, holding a high level, technically oriented position not in the management chain for power production.

See revised Section 13.4.3.

Item No. 8 Quality Assurance Organization

The Staff requested an organization chart showing the numbers and types of QA personnel normally assigned onsite.

See the revised response to Question 260.1 and Figures 13.1-1 and 17.2-1.

Item No. 9 Minimum Qualification Requirements

The Staff requested that the minimum qualification requirements for classes of personnel responsible for the technical support of the plant be delineated.

Commitment to ANSI/ANS 3.1-1978 is provided in 13.1.1.3.1 and 13.1.3.1 for the offsite and onsite staffs respectively. The minimum qualifications for the Quality Assurance Department will be submitted to the Staff in a future submittal.

Item No. 10 Resumes

The Staff requested resumes for all principal members of the plant staff and of the corporate staff who provide technical support to the plant.

See revised FSAR Appendix 13A. Additional resumes for the Quality Assurance will be supplied to the Staff in a future submittal.

Item No. 11 Training Contact Hours

The Staff requested that GSU specify the minimum number of contact hours of training in heat transfer, thermodynamics, and fluid flow for license candidates.

GSU will submit this information in a future submittal.

Item No. 12 Adequacy of STA Training

The Staff requested information to confirm STA adequacy by providing:

a. The number of semester hours of college level instruction provided and the basis for selecting the course.

b. Confirmation that the training was conducted by an accredited institution and will be so conducted in the future.

GSU will submit this information in a future submittal.

Item No. 13 Research Reactor Training

The Staff requested an operator training program which either meet Appendix A to ANSI/ANS 3.1-1978 or provide acceptable justification for variations.

GSU will submit this information in a future submittal.

Item No. 14 Assistant Plant Managers' Training

The Staff requested better definition of the training and qualifications of the Assistant Plant Manager - Operations and the Assistant Plant Manager - Services.

GSU will submit this information in a future submittal.

Item No. 15 Fire Protection Training

The Staff requested a description of the training programs provided for the Fire Protection Staff and for the Offsite Fire Departments.

GSU will submit this information in a future submittal.

Item No. 16 STA Management Training

The Staff requested GSU show the equivalency of STA training in Management/Supervisory skills and Administration, or provide justification for difference.

GSU will submit this information in a future submittal.

itme No. 17 Radiation Protection Training

The Staff requested GSU define the training program for radiological protection, chemistry, and maintenance personnel.

GSU will submit this information in a future submittal.

Item No. 18 Procedures Training

The Staff requested GSU define a program covering training in job-related procedures and instruction.

GSU will submit this information in a future submittal.

Item No. 19 Conformance to Regulatory Guide 8.13.

The Staff requested a training program to indoctrinate female employees, their supervisors, and co-workers in the dangers of prenatal radiation exposure in accordance with Regulatory Guide 8.13.

GSU will submit this information in a future submittal.

Item No. 20 Facility Review Committee

The Staff requested instrumentation and controls expertise on the Facility Review Committee.

See revised Section 13.4.1.1.

Item No. 21 Nuclear Review Board

The Staff requested expertise in the areas of chemistry/radiochemistry and radiological controls on the Nuclear Review Board.

See revised Section 13.4.2.1.

Item No. 22 Emergency Preparedness Program

The Staff requested the emergency preparedness program be audited at least once every 12 months.

See revised Section 13.4.2.7.

taken to locate the compressor in areas free of dust and contaminants.

RIVER BEND STATION POSITION

The site fire brigade is trained and equipped to ensure an adequate manual fire fighting capability for protection of safety-related structures, systems, and components. Five members of each shift (the Control Operations Foreman, two Nuclear Equipment Operators, one Chemistry Technician, and one Test Technician-Nuclear) have fire brigade duties and are required to pass an annual physical examination. The Control Operations Foreman acts as fire brigade leader and informs the Shift Supervisor from the scene of the fire. The fire brigade leader understands the effects of fire and fire suppressants on safe shutdown capability (two additional brigade members possess similar knowledge).

DELETE AND REPLACE WITH INSERT 1

DELETE AND REPLACE WITH INSERT 2

Turnout coats, boots, gloves, hard hats, portable hand lights and extinguishers are provided for fire brigade members. Page party/public address (PP/PA) equipment is available for emergency communications. In the main control room 10 full-face, positive pressure, self-contained breathing apparatuses (SCBA), and 3 spare air bottles per SCBA are provided for fire brigade use. Each SCBA supplies one individual for 1 hour during moderate exertion. Routine replenishment is available through a casade system located onsite with offsite replenishment available through compressed gas suppliers in the Baton Rouge area.

9B.4.9 Fire Brigade Training (Item III.I of Appendix R)

The fire brigade training program shall ensure that the capability to fight potential fires is established and maintained. The program shall consist of an initial classroom instruction program followed by periodic classroom instruction, fire fighting practice, and fire drills.

1. Instruction

   a. The initial classroom instruction shall include:

Insert 1 for Page 9B.4-7

a Nuclear Control Operator, two Nuclear Equipment Operators or one Nuclear Control Operator and one Nuclear Equipment Operator depending on shift experience, one Test Technician - Nuclear, and one Chemistry Technician or Radiation Protection Technician but not both.

Insert 2 for Page 9B.4-7

Nuclear Control Operator

The Emergency Planning section directs the preparation of the necessary emergency plans for RBS to assure that the federal, state, and local regulatory requirements for licensing and operating the nuclear generating facility are met in a timely fashion.

The Nuclear Fuels section coordinates, monitors, and directs (1) GSU contracts and activities for procurement, conversion, enrichment, and fabrication of uranium fuels; (2) spent fuel, high level, and low level waste disposal programs; (3) material safeguards programs; and (4) incore fuels management programs. 11

The Power Plant Engineering and Design Group (supporting GSU's fossil plants) is an inhouse organization available to the River Bend Nuclear Group (Fig. 13.1-3). Whenever additional expertise or resources are required, GSU's Power Plant Engineering and Design Group or outside consultants are contacted. 1a

INSERT 1 →

Since GSU has only one nuclear project, the River Bend Nuclear Group (RBNG) was formed to concentrate the company's expertise on RBS. Therefore, there are no plans for offsite technical support in the areas of chemistry/radiochemistry, health physics, and fueling and refueling operational support. It is GSU's contention that these areas are capably handled by the onsite organization as delineated in Section 13.1.2. However, the Department of Nuclear Plant Engineering does have technical staff available for input in these areas as required. This support is available on an individual-problem area basis as specified by the Director-Nuclear Plant Engineering. 11

DELETE AND REPLACE WITH INSERT 2

13.1.1.2 Organizational Arrangement

13.1.1.2.1 General

Fig. 13.1-1 depicts an organization chart for the Corporate Structure; Fig. 13.1-2 depicts an organization chart for Plant Operations; Fig. 13.1-3 depicts an organization chart for Project Management present only during construction; Fig. 13.1-4 depicts an organization chart for additional technical support; and Fig. 13.1-5 depicts an organization chart for unit shift staffing of Unit 1 during operations. 11

GSU is committed to providing the necessary fire protection for RBS during construction, startup, and operation. Administrative controls and procedures exist which ensure safe, reliable activities at RBS. Additional details regarding fire protection at River Bend Station can be found

Insert 1 for Page 13.1-9

The Department of Technical Services provides operational drawing support to River Bend Nuclear Group when requested.

Insert 2 for Page 13.1-9

in these areas within the Department of Nuclear Plant Engineering on an individual-problem area basis, or available within other departments such as Emergency Planning and Nuclear Fuels. In addition, outside consulting organizations are available to support Nuclear Plant Engineering if required.

6. Direct the operations staff of the River Bend Station facility.

7. Direct contract management and procurement of materials, equipment, and services excluding nuclear fuel.

8. Direct Nuclear Training which plans, administers, and documents all nuclear-related training required for the startup and operation of River Bend Station. 11

INSERT →

13.1.1.2.1.4 Manager-Engineering, Nuclear Fuels and Licensing

Construction Organizational Structure

The Manager-Engineering, Nuclear Fuels and Licensing, is responsible for the administration of the Nuclear Licensing, Emergency Planning, Nuclear Fuels, and Nuclear Plant Engineering Sections. His supervision ensures that the necessary licenses are obtained in compliance with pertinent regulations; emergency plans are adequate, effective, and up-to-date to ensure the safety of the public and plant personnel; nuclear fuel procurements are made to support schedules; in-core fuel management programs are adequate; and engineering support for design, construction, and operations is available and commensurate with the changing needs of RBS. His principal duties include: 11

1. Directly prepare and submit all supportive data for RBS nuclear licenses and permits and specifically assure the collation and submission of data to support the application for the operating license.

2 Review and analyze proposed design changes (specifications and drawings) of the plant to ensure that the design meets GSU corporate requirements and the requirements of regulatory criteria (10CFR50.59, etc) and industry concerns. This includes investigation and suggestion of alternative designs if there is concern with the existing or proposed design. 11

3. Interface with other RBNG and parent GSU departments to assure availability of technical information, to project internal cost estimates and schedules, and to assure compliance with regulatory agency requirements and GSU policies.

Insert for Page 13.1-11

13.1.1.2.1.3.1 Director - Nuclear Training

The Director - Nuclear Training is responsible for the development, administration, and implementation of the nuclear training program to candidates for both licensed and non-licensed positions, as well as the training program for the remainder of the River Bend Station Staff and River Bend Nuclear Group personnel. He is also responsible for a full-scope, plant-referenced simulator used in the RO/SRO training courses. See Section 13.2 for a further description of the RBS Training Program.

13.1.1.2.1.3.2 Plant Manager

The Plant Manager is responsible for the overall safe, reliable, and efficient operation of River Bend Station; responsible for maintaining compliance with the requirements of the operating license and technical specifications; responsible for maintaining a properly trained and licensed operating staff; and responsible for maintaining River Bend Station security. Additional discussion is contained in Section 13.1.2.2.1.

13.1.1.2.1.3.3 Director - Support Services

The Director - Support Services is responsible for Records Management such that sufficient records shall be maintained in accordance with 10CFR50 Appendix B, Criterion 17 and Document Control such that issuance of documents (instructions, procedures, and drawings) is in accordance with 10CFR50 Appendix B, Criterion 6; responsible for the procurement process from receipt of an approved purchase requisition to the receipt of the purchased item at the plant, including the collection of all applicable documentation; responsible for originating and maintaining out-of-plant procedures, including the review, comment, and approval of new or revised out-of-plant procedures; and, responsible for plant budgeting, accounting, and office administration.

11 4. Maintain appropriate GSU corporate interface with the NRC and appropriate state and local officials.

11 5. Develop a satisfactory emergency response plan for RBS that meets regulatory requirements to support the operating license application and to ensure that such a plan remains up-to-date and cognizant of regulatory requirements.

11 6. Develop and assist local (parish) emergency response programs and assist and interface with analogous state (Louisiana and Mississippi) groups to meet regulatory requirements.

11 7. Coordinate, manage, and monitor contracts and activities for the procurement, conversion, enrichment, and fabrication of uranium fuels for RBS to meet the schedule of first core fuel loading by April 1985, to meet reload schedules as required, and to minimize financial impact on GSU.

11 8. Develop nuclear fuel safeguards and incore fuel management programs.

9. Develop programs for disposal of spent fuels and high level wastes that will meet agency requirements and minimize GSU expenditures.

10. Direct the analysis of potential safety problems which may need to be reported to the NRC as significant deficiencies (as defined by 10CFR50.55(e)) or substantial safety hazards (reportable under 10CFR21).

11 11. Review analyses pertinent to safety as conducted in response to issues that raise regulatory and industry concern.

12. Coordinate and oversee technical support from the corporate engineers.

13. Oversee the yearly FSAR updates and other license documents.

INSERT →

13.1.1.2.1.5 Project Manager

11 During the construction phase, the Project Manager assists the Vice President-RBNG through the direction and coordination of four areas: 1) Accounting, Cost and Scheduling, which involves managing monies and schedules to

Insert for Page 13.1-12

13.1.1.2.1.4.1 Director - Nuclear Plant Engineering

The Director - Nuclear Plant Engineering (NuPE) is responsible for the Mechanical, Electrical, and Nuclear Sections of Nuclear Plant Engineering and all changes to the design of equipment/systems during operation. He is also responsible for engineering support during design, construction, and operations such that RBS meets GSU corporate requirements, regulatory criteria, and industry concerns. The Independent Safety Engineering Group reports to the Director - NuPE on technical matters providing on-site, technical expertise and independent assessment of plant activities. In addition, the Director - Loss Prevention provides technical support in the area of Fire Protection as a consultant; the Department of Power Plant Engineering and Design provides technical support and the Department of Technical Services provides drawing support when requested; or outside consultants are contacted.

13.1.1.2.1.4.2 Director - Nuclear Licensing

The Director - Nuclear Licensing coordinates and effects official communications with the NRC Staff and appropriate state and local officials. Develops supporting documentation concerning the station facility licenses and permits, and provides recommendations on regulatory issues. In addition, the Director - Nuclear Licensing is responsible for preparation and updating of the Final Safety Analysis Report and the Environmental Report and analysis of potential safety problems which may be reported to the NRC as significant deficiencies (10CFR50.55(e) or 10CFR21).

13.1.1.2.1.4.3 Supervisor - Emergency Planning

The Supervisor - Emergency Planning is responsible for developing a satisfactory emergency response plan for RBS that meets regulatory requirements to support the operating license application, and ensure such a plan remains up-to-date and cognizant of regulatory requirements. He is also responsible for the interfaces between local and state emergency response programs.

13.1.1.2.1.4.4 Supervisor - Nuclear Fuels

The Supervisor - Nuclear Fuels is responsible for developing and monitoring the contracts and activities for the procurement, conversion enrichment and fabrication of uranium fuels for RBS first core and subsequent reloads, as well as execution and management of the DOE Spent Fuel and/or High Level Waste Disposal contract. In addition, the Supervisor - Nuclear Fuels is designated the "Nuclear Materials Manager" and is also responsible for the development and application of in-core fuels management programs.

13.1.2.2.3 Operations Supervisor

11 The Operations Supervisor, an SRO, is responsible for the actual day-to-day operation of the plant, including the radwaste system. He reports to the Assistant Plant Manager-
11 Operations. He supervises a group of approximately 48 operators and 14 supervisors including the Radwaste Foreman. The Operations Supervisor is responsible for issuing special orders to shift operations personnel.

In the absence of the Operations Supervisor, his
11 responsibilities are assumed by the Assistant Operations Supervisor.

13.1.2.2.4 Assistant Operations Supervisor

The Assistant Operations Supervisor, an SRO, functions as the Operations Supervisor's Senior Shift Supervisor and is
11 qualified to assume the Operations Supervisor's responsibilities and duties if necessary.

13.1.2.2.5 Shift Supervisor

11 The Shift Supervisor, an SRO, is responsible to the Operations Supervisor for all activities relating to station operation and safety during his assigned shift. This responsibilility includes compliance with applicable license and regulatory requirements, and the safety of plant personnel and equipment. In the event of an accident or emergency, the Shift Supervisor is responsible for determining the severity of the situation and directing the actions of the shift personnel until he is relieved. The Shift Supervisor has the responsibility to shut down the plant if, in his judgment, conditions warrant this action. There is one Shift Supervisor assigned to each shift, representing the senior management individual on shift, and
11 is onsite, in the main control room, when fuel is being moved or loaded.

13.1.2.2.6 Control Operating Foreman

11 The Control Operating Foreman, an SRO, monitors and manipulates the reactor controls, directs all core alterations, and directs the activities of the Nuclear Control Operators and Nuclear Equipment Operators. He reports to the Shift Supervisor and has the authority and responsibility to shut down the plant if, in his judgment, conditions warrant this action. There is at least one Control Operating Foreman assigned to each shift. The Control Operating Foreman will be the Fire Brigade Leader on

his assigned shift. FSAR Section 9B.4.8 describes fire brigade size and membership. Administrative provisions exist so that in the event that the Control Operating Foreman is temporarily acting as the Shift Supervisor at the time a fire breaks out, the Shift Supervisor or Assistant Operations Supervisor is notified immediately, thus allowing the Control Operating Foreman to assume his duties as Fire Brigade Leader. 11

13.1.2.2.7 Nuclear Control Operator

The Nuclear Control Operators, under the direction of the Control Operating Foreman or the Shift Supervisor, monitor and manipulate the reactor controls as well as other controls and plant auxiliary equipment. There are normally three Nuclear Control Operators assigned to each shift and at least one in the main control room at all times. 11

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13.1.2.2.8 Nuclear Equipment Operator

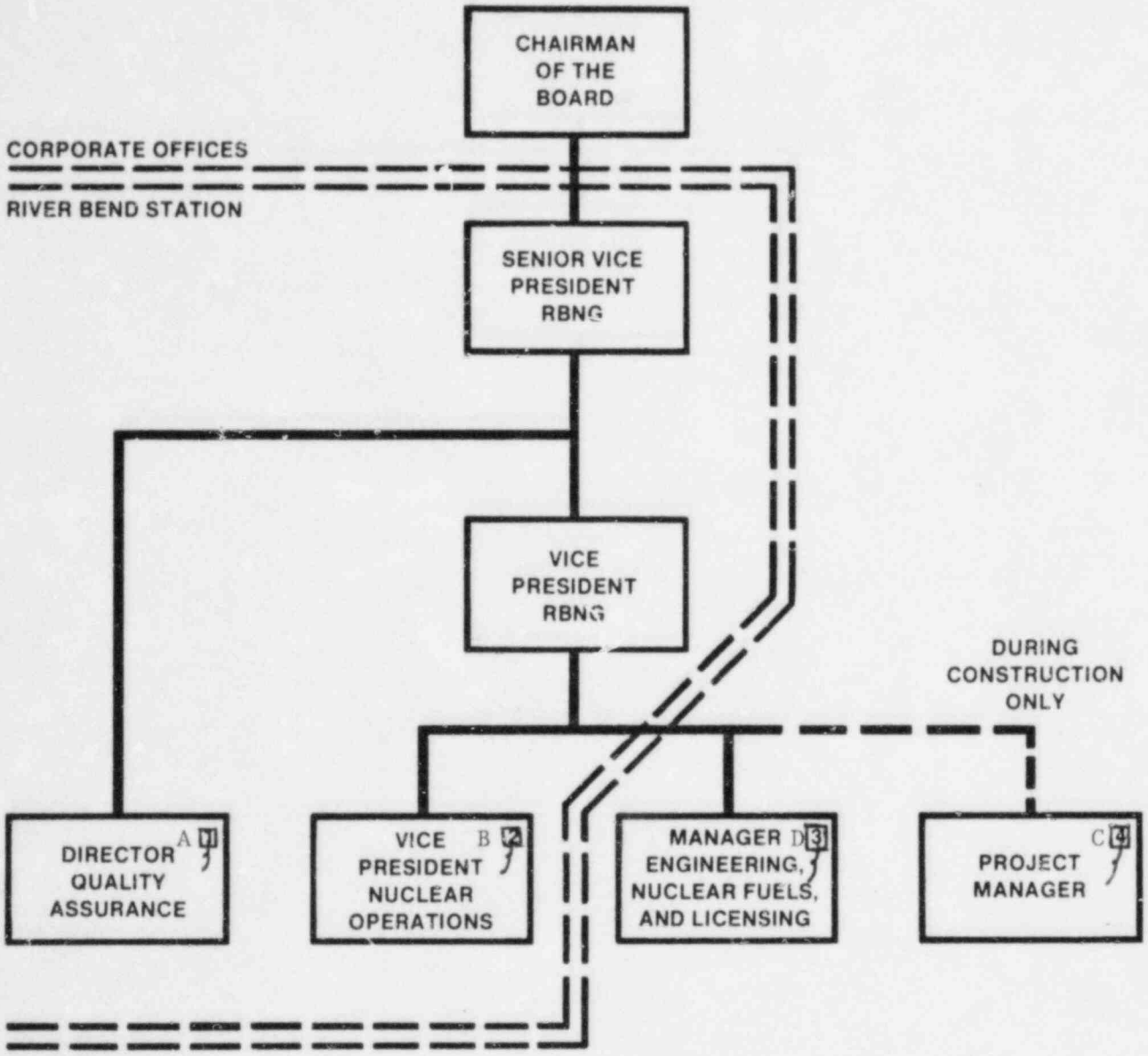
The Nuclear Equipment Operators, under the direction of the Control Operating Foreman or Shift Supervisor, operate the plant auxiliary equipment and the radwaste system. There are normally four Nuclear Equipment Operators assigned to each shift. They are non-licensed personnel.

13.1.2.2.9 General Maintenance Supervisor

The General Maintenance Supervisor is responsible for overall direction of electrical maintenance, mechanical maintenance, instrumentation and control maintenance, and spare parts supply at RBS. He reports to the Assistant Plant Manager-Operations and is responsible for compliance with technical specifications relating to maintenance. The General Maintenance Supervisor provides maintenance expertise and directs the work of the Mechanical Maintenance Supervisor, Electrical Maintenance Supervisor, Instrumentation and Controls Supervisor, Maintenance and Planning Coordinator, and the Building and Grounds Foreman. 11 11

Insert for Page 13.1-19

A Nuclear Control Operator, an RO, will be the Fire Brigade Leader on his/her assigned shift. Section 9B.4.8 describes fire brigade size and membership.



NOTES:

A 1. SEE FIGURE 17.2-1
B 2. SEE FIGURE 13.1-2
C 3. SEE FIGURE 13.1-3
D 4. SEE FIGURE 13.1-4

FIGURE 13.1-1

CORPORATE STRUCTURE
RIVER BEND STATION — UNIT 1

RIVER BEND STATION
FINAL SAFETY ANALYSIS REPORT

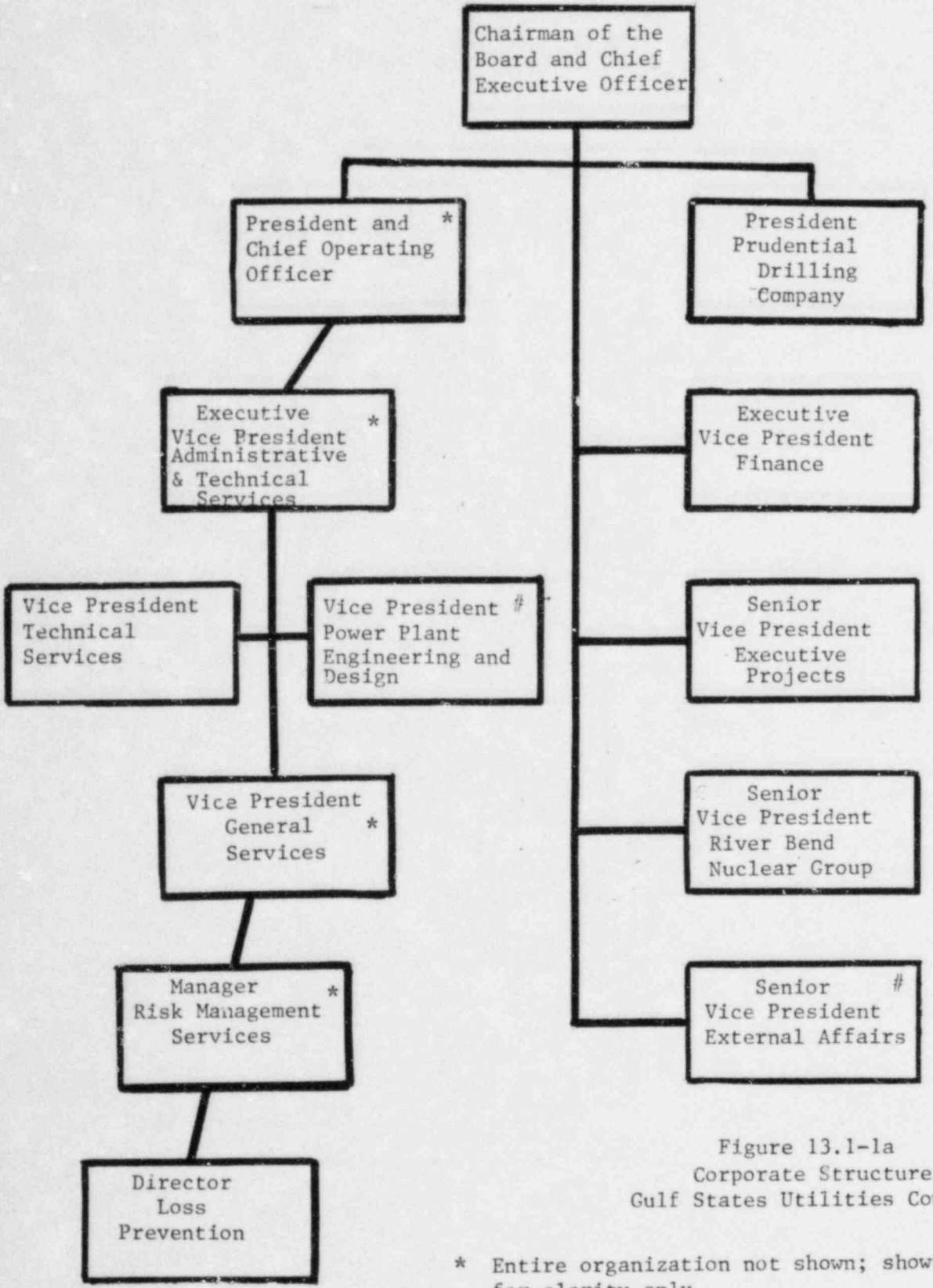
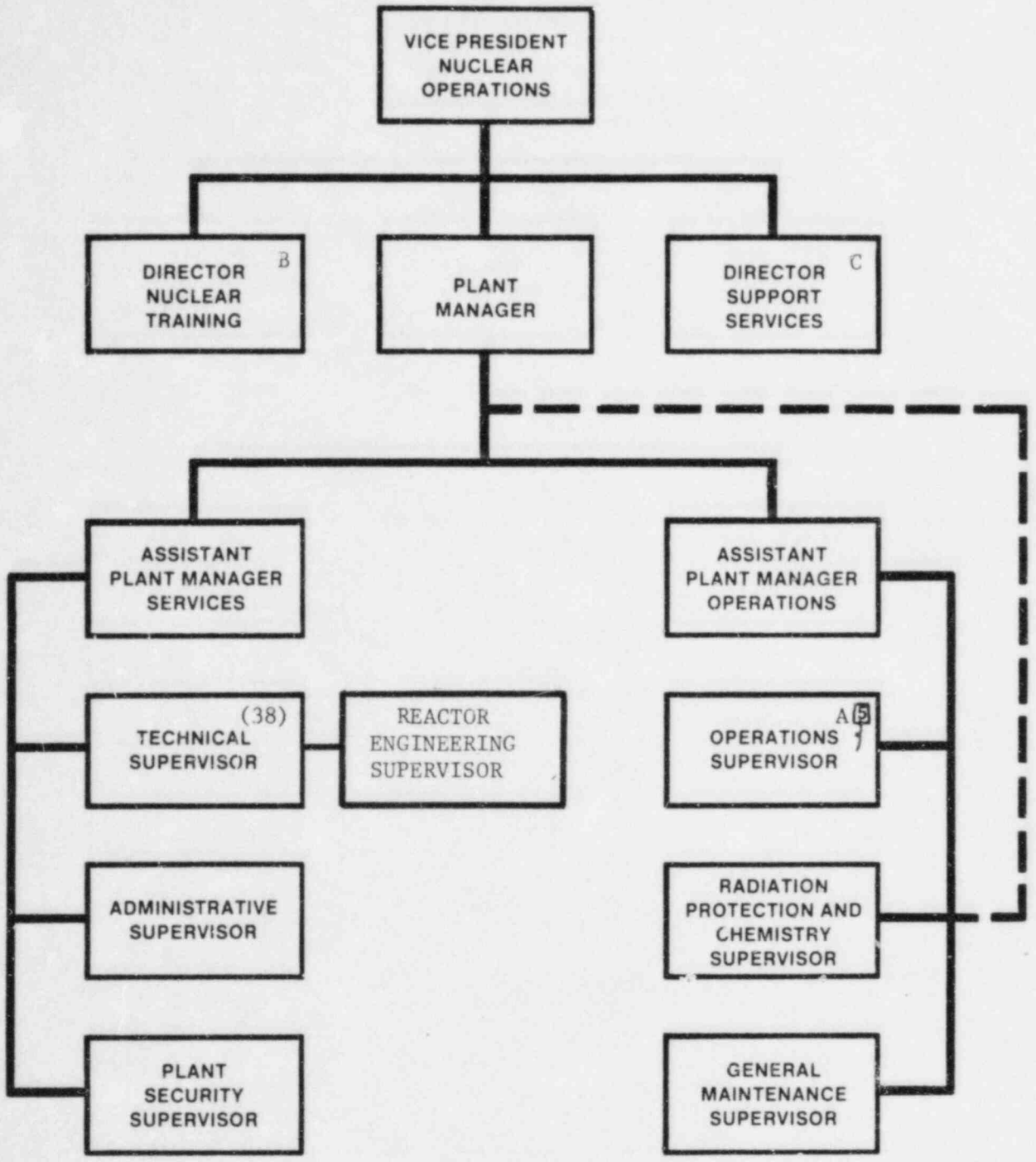


Figure 13.1-1a
Corporate Structure
Gulf States Utilities Company

* Entire organization not shown; shown for clarity only

\# Nuclear Review Board (NRB) member



DIRECT ACCESS FOR RADIATION PROTECTION MATTERS

(#) NUMBER OF TECHNICAL PERSONNEL ON STAFF

A SEE FIGURE 13.1-5

B SEE FIGURE 13.1-2b

C SEE FIGURE 13.1-2a

FIGURE 13.1-2

PLANT OPERATIONS STRUCTURE
RIVER BEND STATION — UNIT 1

RIVER BEND STATION
FINAL SAFETY ANALYSIS REPORT

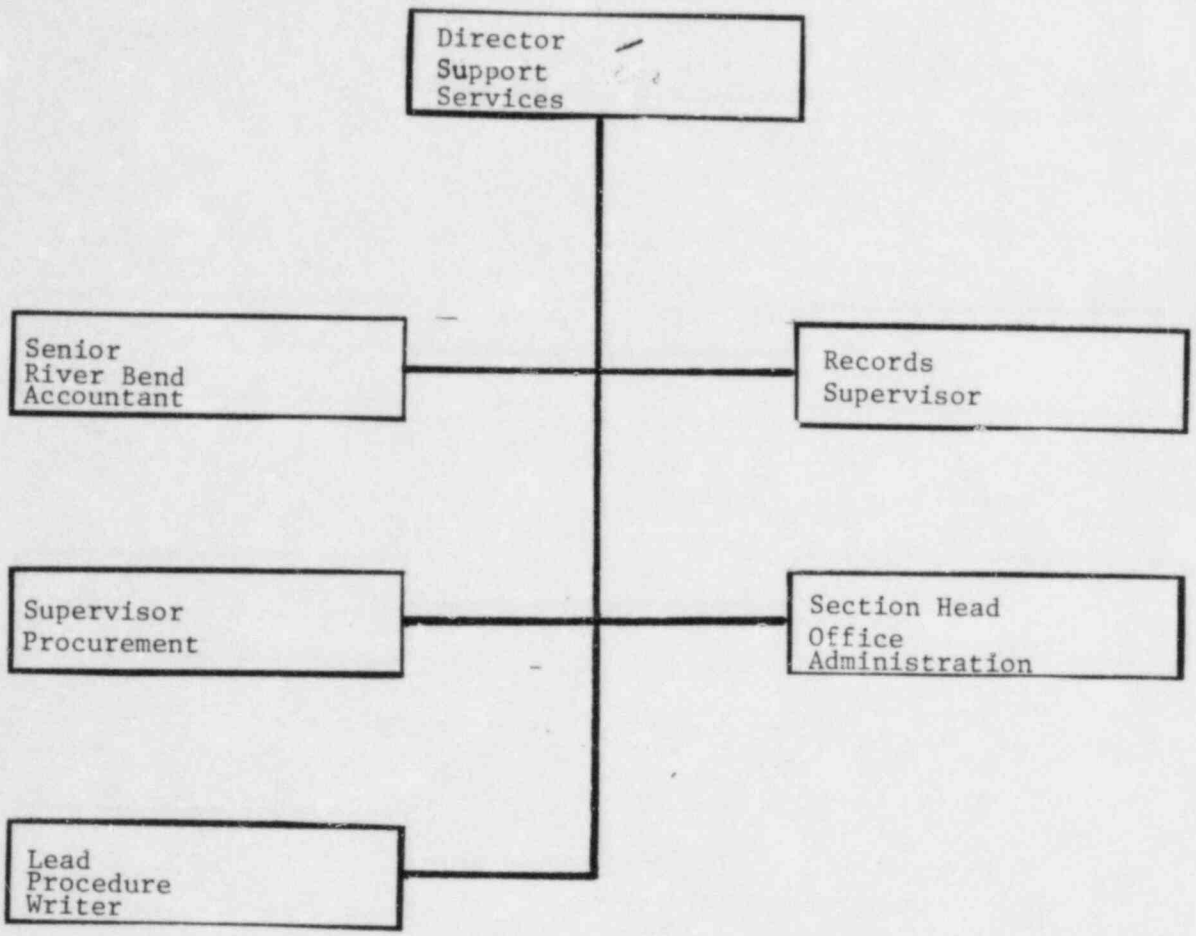


Figure 13.1-2a
Plant Operations Structure
Administrative Services Section
River Bend Station-Unit 1

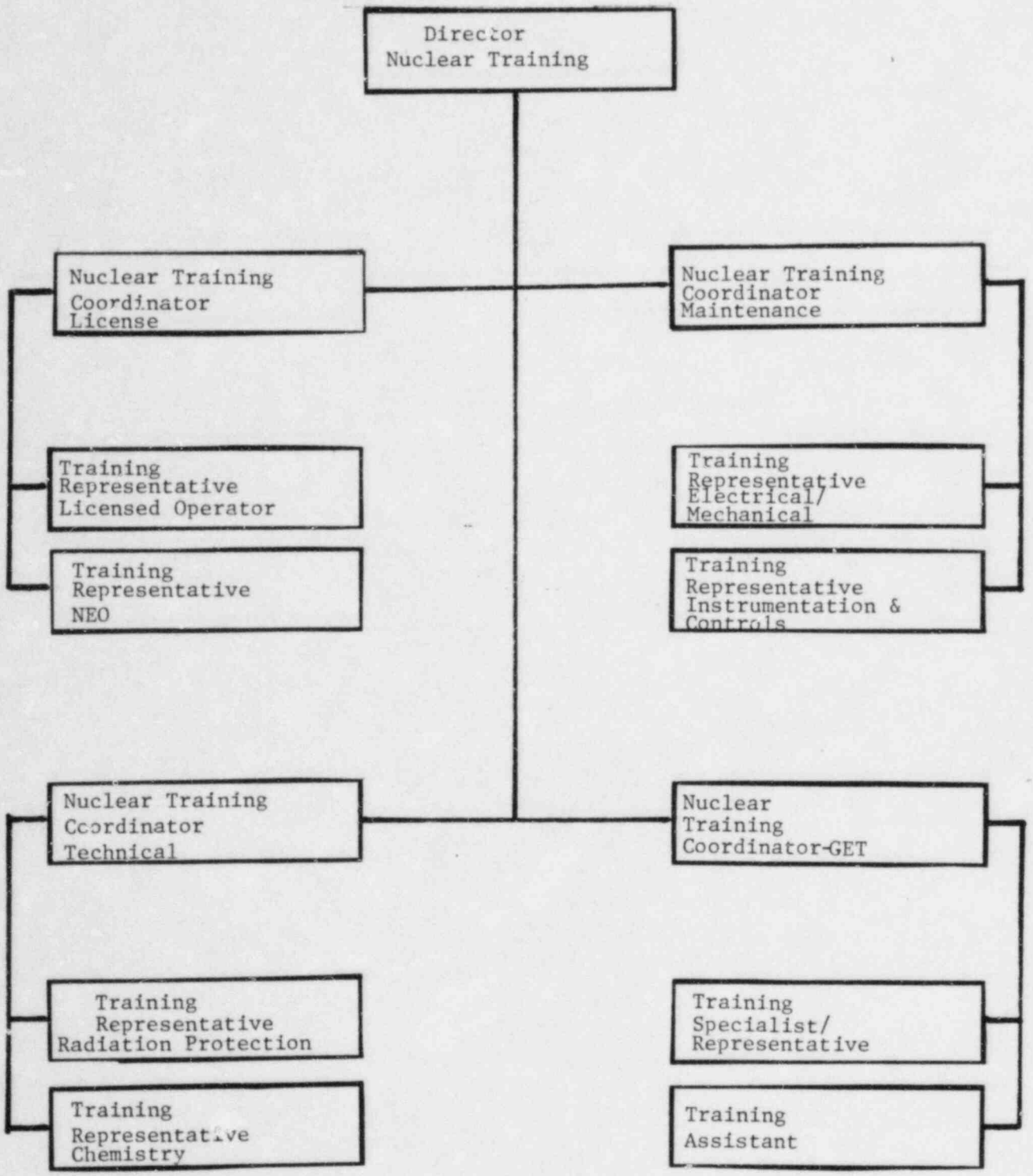


Figure 13.1-2b
Plant Operations Structure
Nuclear Training Section
River Bend Station-Unit 1

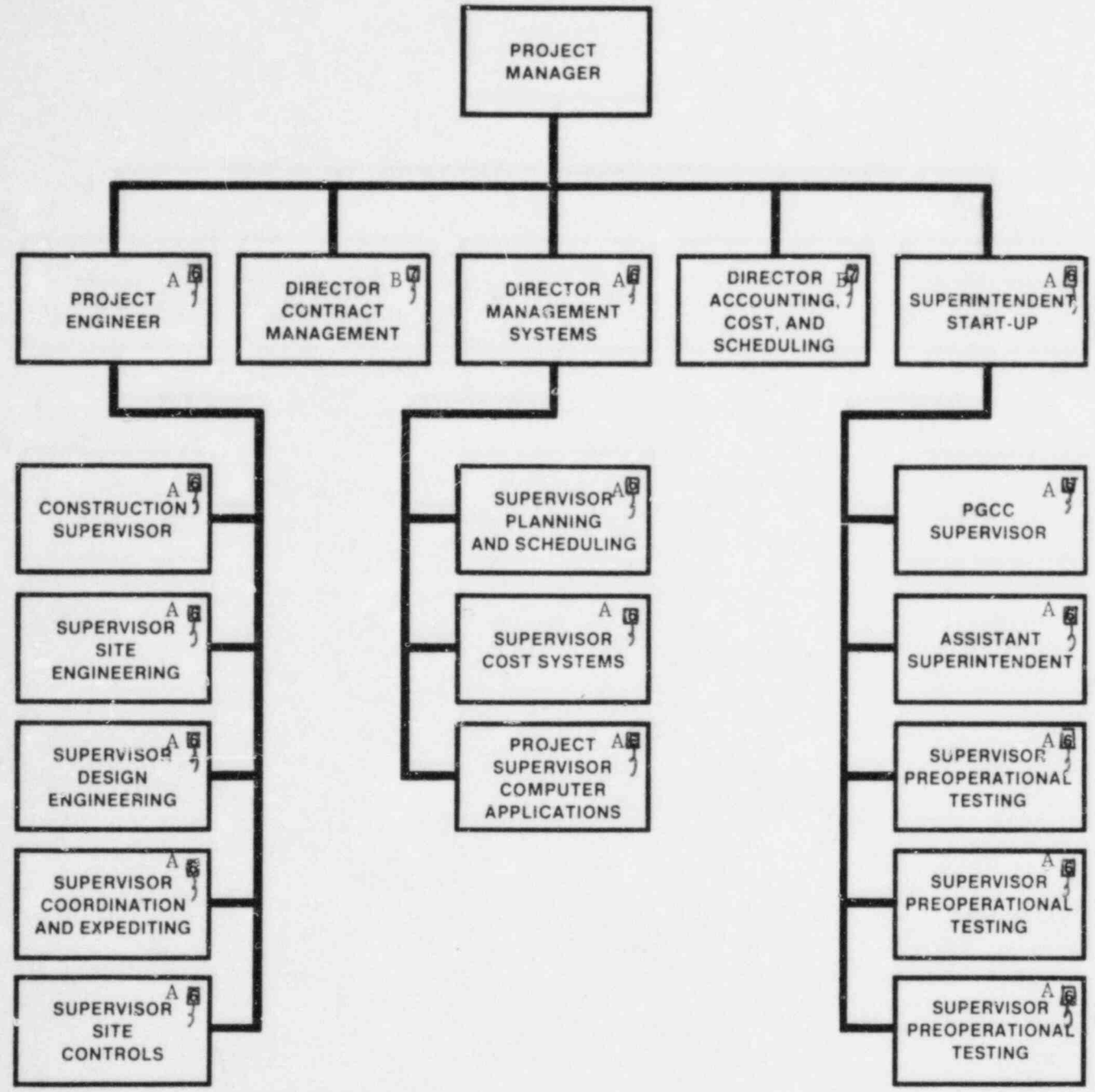


FIGURE 13.1-3

PROJECT MANAGEMENT STRUCTURE
(CONSTRUCTION PHASE ONLY)
RIVER BEND STATION — UNIT 1

RIVER BEND STATION
FINAL SAFETY ANALYSIS REPORT

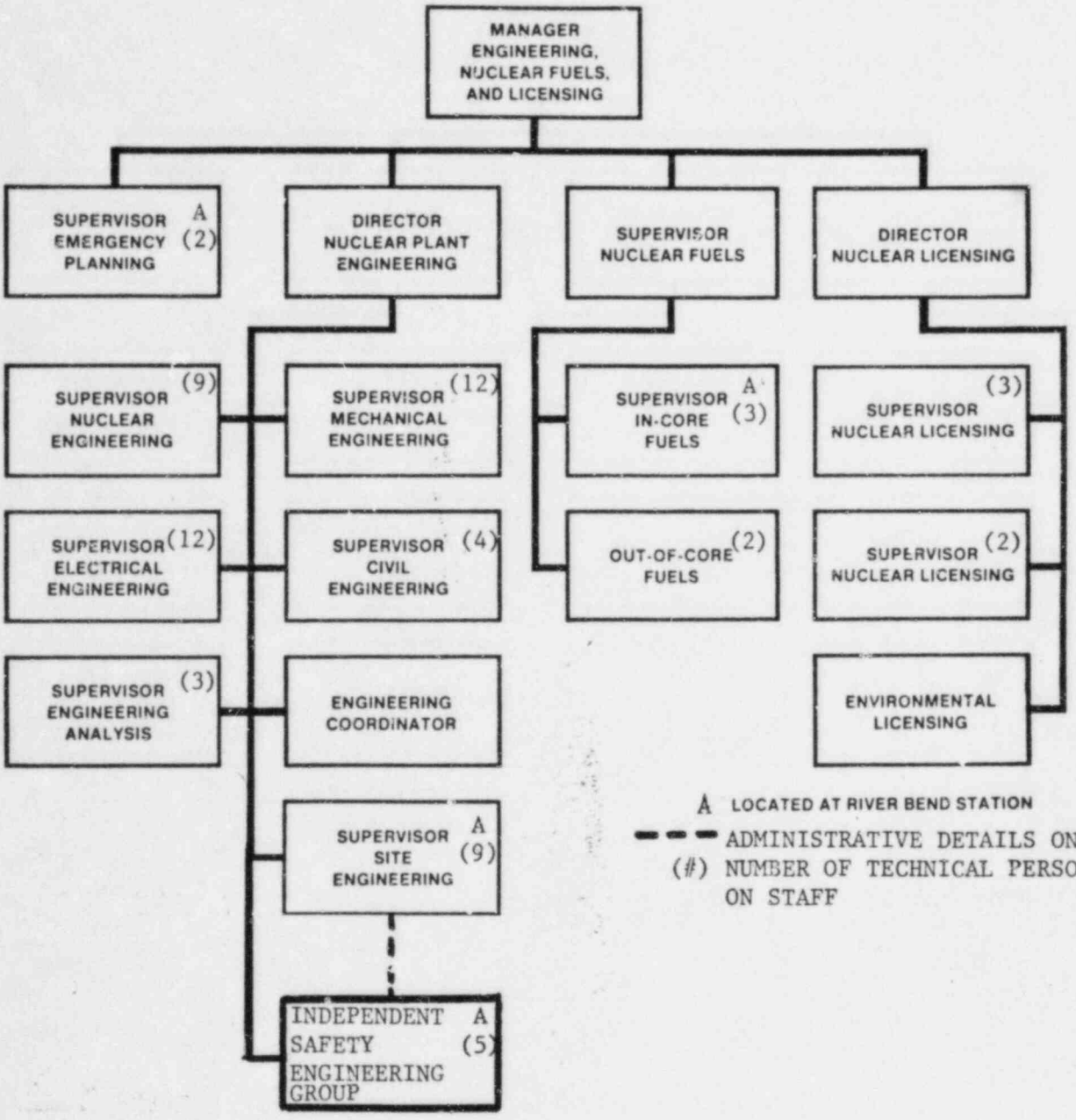
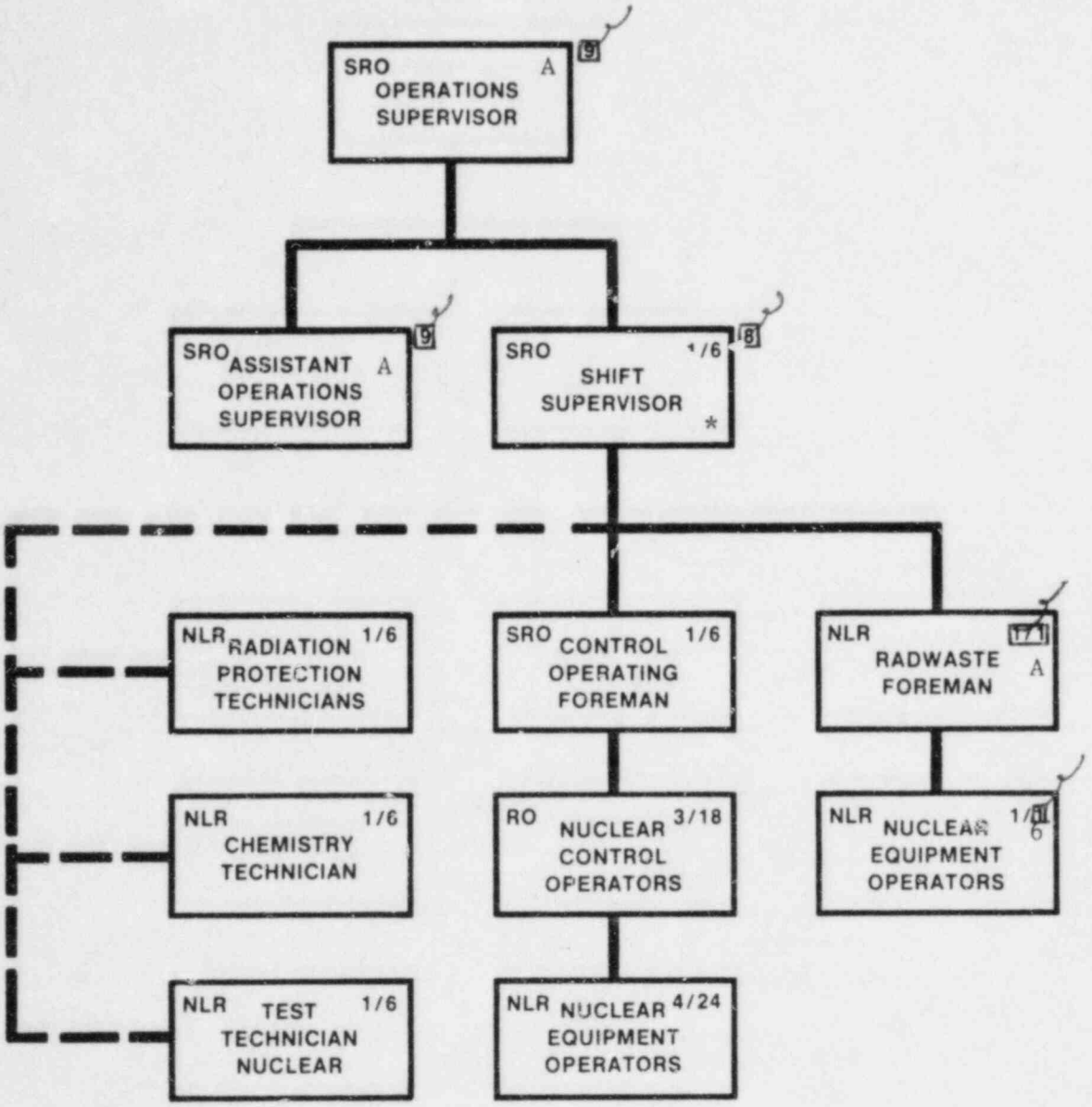


FIGURE 13.1-4

TECHNICAL SUPPORT
(OFFSITE)
RIVER BEND STATION — UNIT 1

RIVER BEND STATION
FINAL SAFETY ANALYSIS REPORT



NLR NO LICENSE REQUIRED

SRO SENIOR REACTOR OPERATOR

RO REACTOR OPERATOR

x/y NUMBER PER SHIFT/TOTAL STAFF

*8 TRAINED TO A LEVEL EQUIVALENT TO A SHIFT TECHNICAL ADVISOR (STA)

A9 NOT ON SHIFT; SHOWN FOR CLARITY ONLY

FIGURE 13.1-5

RIVER BEND SHIFT ORGANIZATION
RIVER BEND STATION — UNIT 1

RIVER BEND STATION
FINAL SAFETY ANALYSIS REPORT

staff and others as necessary, and functions to advise the Plant Manager on all matters related to nuclear safety. The FRC activities and membership are defined in a written administrative procedure.

13.4.1.1 Membership

The FRC membership is:

Assistant Plant Manager, Operations - Chairman.

Operations Supervisor - Member.

Technical Supervisor - Member.

General Maintenance Supervisor - Member.

Reactor Engineering Supervisor - Member.

Radiation Protection/Chemistry Supervisor - Member.

Operations Quality Assurance Supervisor - Non-Voting Member.

Nuclear Licensing Representative - Non-Voting Member.

INSERT →

13.4.1.2 Alternates

Alternate members are appointed in writing by the FRC chairman to serve on a temporary basis. An alternate has qualifications comparable to the absent permanent member. No more than two alternates participate as voting members in FRC activities at any one time.

13.4.1.3 Meeting Frequency

The FRC meets at least once per calendar month and as convened by the Chairman or his designated alternate.

13.4.1.4 Quorum

The minimum quorum necessary for the performance of the FRC responsibility and authority consists of the Chairman, or his designated alternate, and four members including no more than two voting alternates.

Insert for Page 13.4-2

Supervisor - Site Engineering - Non-Voting Member

Additional technical support is available from the Engineering Staff located at the site. This includes the areas of instrumentation and controls, health physics, radiochemistry, and refueling, as well as other technical areas in which the FRC would require consulting support.

13.4.1.5 Responsibilities

The FRC is responsible for:

1. Review of all general administrative plant procedures required by Technical Specification 6.8 and its changes, and of any other proposed procedures, programs, and changes as determined by the Plant Manager which constitute an unreviewed safety question. | 11

2. Review of all proposed tests and experiments that affect nuclear safety.

3. Review of all proposed changes to the technical specifications.

4. Review of all proposed changes or modifications to plant systems or equipment that affect nuclear safety.

5. Investigation of all violations of the technical specifications, including the preparation and forwarding of reports covering evaluation and recommendations to prevent recurrence to the Operations Supervisor and the NRB.

6. Review of events requiring 24-hr written notification to the NRC.

7. Review of unit operations to detect potential nuclear safety hazards.

8. Performance of special reviews, investigations or analyses, and reporting on them as requested by the Plant Manager or the NRB.

9. Review of the Physical Security Plan and Implementing Procedures, and submittal of recommended changes to the NRB.

10. Review of the Emergency and Fire Protection Plans and Implementing Procedures, and submittal of recommended changes to the NRB.

11. Review of unplanned releases, which require reporting, of radioactive material to the environs including the preparation and forwarding of reports covering evaluation, recommendations and disposition of the corrective action to prevent | 11

13.4.1.7 Records

The FRC maintains written minutes of each meeting that, at a minimum, document the results of all FRC activities performed under the responsibility and authority provisions of Section 13.4.1. Copies are provided to the Plant Manager and the NRB.

13.4.2 Independent Review

The NRB, which is responsible for independent reviews, will be established and functional at least 6 months prior to initial fuel loading. The NRB is chaired by the Senior Vice President - External Affairs and includes a majority of members who are not directly responsible for plant operations. The NRB functions to provide independent review and audit of designated activities in the areas of nuclear power plant operations, nuclear engineering, chemistry and radiochemistry, metallurgy, instrumentation and control, radiological safety, mechanical and electrical engineering, quality assurance practices, and any other appropriate fields associated with the unique characteristics of the nuclear power plant. 11

13.4.2.1 Membership

The NRB membership is:

Senior Vice President, External Affairs - Chairman.

Vice President, River Bend Nuclear Group - Alternate Chairman.

Vice President, Nuclear Operations - Member.

Vice President, Power Plant Engineering and Design - Member.

Manager, Engineering, Nuclear Fuels, and Licensing - Member. 11

Director, Quality Assurance - Member.

RBS Plant Manager - Member.

Director, Nuclear Plant Engineering - Member.

Director, Nuclear Licensing - Member.

INSERT ——→

Insert for Page 13.4-5

Additional technical support is available from the Nuclear Plant Engineering staff located off-site. This includes the areas of chemistry/radiochemistry, radiological controls, as well as other technical areas in which the NRB would require consulting support.

4. Proposed changes to Technical Specifications.

5. Violations of codes, regulations, orders, technical specifications, license requirements, or of internal procedures or instructions having nuclear safety significance.

6. Significant operating abnormalities or deviations from normal and expected performance of unit equipment that affect nuclear safety.

7. Events requiring 24-hr written notification to the NRC.

8. All recognized indications of an unanticipated deficiency in some aspect of design or operation of structures, systems, or components that could affect nuclear safety.

9. Reports and minutes of meetings of the FRC.

13.4.2.7 Audits

Audits of River Bend Station activities are performed by the Quality Assurance Department under the cognizance of the NRB. These audits encompass: | 11

1. Conformance of unit operation to provisions contained within the Technical Specifications and applicable license conditions at least once per 12 months.

2. Performance, training, and qualifications of the entire unit staff at least once per 12 months.

3. Results of actions taken to correct deficiencies occurring in unit equipment, structures, systems, or methods of operation that affect nuclear safety at least once per 6 months.

4. Performance of activities required by the Operational Quality Assurance Program to meet the criteria of Appendix B, 10CFR50, at least once per 24 months.

5. Emergency Plan and Implementing Procedures at least once per 24 months. 12

6. Security Plan and Implementing Procedures at least once per 24 months.

2. Reports of reviews encompassed by Section 13.4.2.6 are prepared, approved, and forwarded to the Senior Vice President - River Bend Nuclear Group within 14 days following completion of the review. | 11

3. Audit reports encompassed by Section 13.4.2.7 are forwarded to the Senior Vice President - River Bend Nuclear Group and to the management positions responsible for the areas audited within 30 days after completion of the audit. | 11

13.4.3 Independent Safety Engineering Group |

The ISEG is an onsite, technically oriented, independent review organization. This group will be established and functional at least 3 months prior to initial fuel load and physically located at River Bend Station. The function of the ISEG is to increase the available technical expertise located onsite and provide continuing, systematic, and independent assessment of plant activities.

DELETE AND REPLACE WITH INSERT

The ISEG reports to the Supervisor-Site Engineering onsite, who reports to the Director-Nuclear Plant Engineering. Finally, the Director-Nuclear Plant Engineering informs the Manager-Engineering, Nuclear Fuels and Licensing of all ISEG activities and recommendations.

13.4.3.1 Membership

The ISEG is composed of at least five, dedicated, full-time engineers located onsite. Each has as a minimum, a Bachelor's Degree in Engineering or a related science, and at least 2 years of professional level experience in their field, one of which must be in the nuclear field. 11

13.4.3.2 Meeting Frequency

As a full-time engineering group, the ISEG does not hold routinely specified meetings but interacts, instead, on a continuous basis with the technical staff, operational staff, quality assurance organizations, and engineering support groups in order to complete their responsibilities as defined in Section 13.4.3.3. Special meetings may be called for and announced by the Manager-Engineering, Nuclear Fuels, and Licensing in order to accommodate any abnormal occurrences or special problems.

Insert for Page 13.4-9

The ISEG reports administratively to the Supervisor - Site Engineering located on-site; however, the group reports to the Director - Nuclear Plant Engineering (NuPE) located off-site on all technically-oriented issues.

INSERT 1 Procedures are classified as safety-related or nonsafety-related and are reviewed by qualified individuals. Approved plant procedures required to support fuel load will be completed at least 70 days prior to fuel load. Approved 11 procedures may be changed in accordance with River Bend Station Operations Manual Administrative Procedures. These revisions to safety-related procedures are reviewed for conformance to 10CFR50.59 by a qualified individual.

13.5.1.3 Procedures

11 A procedures status list includes the procedure type, procedure number, and responsible office for each procedure. These include:

1. Administrative procedures (ADM)
2. Abnormal operating procedures (AOP)
3. System operating procedures (SOP)
4. General operating procedures (GOP)
5. Surveillance test procedures (STP)
6. General maintenance procedures (GMP)
7. Alarm response procedures (ARP)
8. Emergency operating procedures (EOP)
9. Chemistry and radiochemistry procedures (CRP)
10. Radiation protection procedures (RPP)
11. Fuel handling procedures (FHP)
12. Reactor engineering procedures (REP)
13. Instrument control procedures (ICP)
14. Plant procurement procedures (PPP)
15. Material handling procedures (MHP)
16. Plant engineering procedures (PEP)
17. Plant security procedures (PSP)
18. Fire fighting procedures (FFP)

Insert 1 for Page 13.5-2

and approved

Insert 2 for Page 13.5-2

in sections for which they apply.

Insert 3 for Page 13.5-2

or applicable support department procedures.

Insert 4 for Page 13.5-2

while revisions to administrative procedures are reviewed by the FRC and approved by the Plant Manager.

Insert 5 for Page 13.5-2

procedure revision,

2. Text - purpose, entry conditions and symptoms, operator actions (including instructions and contingency actions)

Licensed plant operators are required to know the entry conditions in the Emergency Operating Procedures.

Emergency Operating Procedures include, but are not limited to, the following:

1. Reactor Pressure Vessel (RPV) control
2. Primary containment control
3. Secondary containment control
4. Radioactivity release control
5. Level restoration
6. Emergency RPV depressurization
7. Steam cooling
8. Core cooling without level restoration
9. Alternate shutdown cooling
10. RPV flooding
11. Level/power control

INSERT →

13.5.2.1.5 Alarm Response Procedures

Each alarm response procedure (ARP) is composed of a group of individual alarm enclosures. These groups are normally by systems and are located near the panel that contains the alarms annunciator to provide timely reference by the operator.

Each Alarm Response Procedure contains at least the following information:

1. Alarm number
2. Alarm window/title
3. Alarm panel, sections, and grid numbers
4. Alarm set points

Insert for Page 13.5-14

The Emergency Operating Procedures were developed using the technical guidelines from the BWROG Emergency Procedure Guidelines (EPG), Revision 3. The EPG's were established in compliance with NUREG-0737, Item I.C.1.

APPENDIX 13A

This appendix contains resumes of key corporate personnel responsible for technical support, either directly or indirectly through the management of that support.

1. William J. Cahill, Jr.	Senior Vice President - River Bend Nuclear Group
2. James C. Deddens	Vice President - River Bend Nuclear Group
3. James G. Weigand	Vice President - Nuclear Operations
4. James E. Booker	Manager - Engineering, Nuclear Fuels, and Licensing
5. Randy W. Helmick	River Bend Project Engineer
6. James M. Glazar	Director - Nuclear Plant Engineering
7. William J. Reed, Jr.	Director - Nuclear Licensing
8. John G. Cadwallader	Supervisor - Emergency Planning
9. John E. Barry	Supervisor - Nuclear Fuels
10. Jim W. Wright	Supervisor - Mechanical Engineer
11. Erwin J. Zoch	Supervisor - Nuclear Engineer
12. Donald R. McCarter	Director - Loss Prevention
13. William J. Odell	Director - Nuclear Training
14. Ellery L. Hammond	Plant Manager
15. Phillip D. Graham	Assistant Plant Manager - Services
16. Peter E. Freehill	Superintendent - Startup and Test/ Assistant Plant Manager - Services

17.	Maxey F. Cassada	Radiation Protection/ Chemistry Supervisor
18.	Charles P. Bogolin	Operations Supervisor
19.	Joe L. Burton	General Maintenance Supervisor
20.	Lionel R. Thompson	Instrumentation and Controls Supervisor
21.	Craig H. Greene	Technical Supervisor
22.	Dan Williamson	Reactor Engineering Supervisor
23.	David L. Davenport	Plant Security Supervisor
24.	E. Linn Draper	Senior Vice President - External Affairs
25.	James H. Derr, Jr.	Vice President - Power Plant Engineering and Design

Resumes for the following positions will be supplied in a future submittal:

1. Director - Quality Assurance
2. Supervisor - Quality Engineering
3. Supervisor - Quality Systems
4. Supervisor - Operations QA
5. Supervisor - Quality Control
6. Director - Support Services
7. Administrative Supervisor
8. Radiation Protection Supervisor
9. Supervisor - Electrical Engineering
10. Supervisor - Civil Engineering
11. Supervisor - Engineering Analysis
12. Supervisor - Site Engineering

RESUME
WILLIAM J. CAHILL, JR.
SENIOR VICE PRESIDENT - RIVER BEND NUCLEAR GROUP

EDUCATION

School and Location	Major	Date	Degree
Polytechnic Institute Brooklyn, New York	Mechanical Engineering	1949	BS
	Mechanical Engineering	1949-1953	Graduate Work

EXPERIENCE

Gulf States Utilities Company

1. Senior Vice President - River Bend Nuclear Group - 8/80 to present

   Responsible for all aspects of the construction and operation of the River Bend Station.

Consolidated Edison Company

1. Vice President - Reporting to the President - 5/75 to 8/80

   In charge of licensing of nuclear plants, Quality Assurance Department, Research and Development Department, and Computer Applications Engineering.

2. Vice President - Reporting to the President - 8/71 to 5/75

   Responsible for administrative oversight and direction of the design licensing, construction, and operation of Indian Point Units 1, 2, and 3.

3. Vice President - 8/69 to 7/71

   Administrative management of the activities of Civil, General, and Mechanical Engineering Departments involved in active generation and transmission projects plus preliminary planning and design of future generating capacity.

4. Assistant Vice President - 1967 to 1969

   In administrative charge of Mechanical, Structural, and Nuclear Engineering Departments performing the engineering and design of Con Edison's power generation facilities.

5. Mechanical Plant Engineer - 1965 to 1967

   Responsible for engineering of nuclear and mechanical systems and equipment covering station improvement work on existing plants and the following new facilities; Indian Point No. 2 and No. 3 (1,000 MW nuclear units), and Arthur Kill No. 3 (a 500 MW coal-fired unit). Also, studies, evaluations, and preliminary design of future projects. In charge of Nuclear, Steam, Field, Turbine, and Control Division personnel.

6. Nuclear and Turbine Plant Engineer - 1963 to 1965

   Responsible for nuclear engineering and turbine plant engineering including turbine, condenser, and condensate systems for Ravenswood 1, 2, and 3 (1,800 MW oil and coal).

7. Division Engineer - 1961 to 1963

   In charge of Nuclear Engineering Division responsible for Indian Point Unit No. 1 and the proposed 1,000 MW Ravenswood Nuclear Plant.

8. Responsible for engineering design of primary coolant system of Indian Point Nuclear Unit - 9/57 to 9/60

Nuclear Development Associates, White Plains, N.Y.

1. Participated in design of water cooled-beryllium moderated research reactor for Mol, Belgium. Project Management for sodium cooled-heavy water moderated reactor proposed for Chugach, Alaska - 1/57 to 9/57.

Consolidated Edison Company

1. Resumed duties in engineering of power plant systems, including ash handling facilities for a 400 MW coal-fired generating unit and preliminary

engineering for the 275 MW Indian Point nuclear unit - 1956 to 1957.

Knolls Atomic Power Laboratory, Schenectady, NY

1. Consultant to the General Electric Company to participate in the design and operation of the prototype nuclear power plants for the submarines Sea Wolf and Triton - 1954 to 1956.

Consolidated Edison Company

1. Assigned to steam power plant engineering jobs, including coal-oil conversions, fuel oil supply and storage systems, combustion control systems, and the steam generator associated with an 1,800 psi, 1,000°F/1,000°F 200 coal-fired generating unit - 1949 to 1954.

PROFESSIONAL DATA

Board member of Empire State Electric Energy Research Corporation (ESEERCO)

Member of EEI Executive Advisory Committee on Nuclear Power

Vice Chairman of Westinghouse Owners' Group (for post-TMI generic responses)

Chairman of Electric Power Research Institute (EPRI) Nuclear Safety and Analysis Task Force

Past member of AEIC Power Generation Committee

Past Director of Atomic Power Development Associates

Past member of EEI Prime Movers Committee

American Society of Mechanical Engineers

American Nuclear Society

National Society of Professional Engineers

New York State Professional Engineers, License #30329, issued May 19, 1955

RESUME
JAMES C. DEDDENS
VICE PRESIDENT - RIVER BEND NUCLEAR GROUP

EDUCATION

School and Location	Major	Date	Degree
University of Louisville	Mechanical Engineering	1952	BS
University of Louisville	Mechanical Engineering	1953	MS
University of Louisville	Master of Engineering	1972	

Additional Courses or Training

Oak Ridge School of Reactor Technology - 1954
Northeastern University - Management Development Program.-1978

EXPERIENCE

Gulf States Utilities Company

1. Vice President - River Bend Nuclear Group - 1982 to present

   Assists the Senior Vice President - River Bend Nuclear Group with the executive direction and coordination of the River Bend Nuclear Group.

Babcock & Wilcox Company

1. Manager - Business Administration and Integration Department - 1980 to 1982

   Responsible for integrating the Nuclear Power Generating Division's business activities through the planning process and responsible for Employee and Public Relations and Purchasing Functions. Planned, marketed, and managed the Consumer Services Product Line.

2. Manager - Project Management Department - 1978 to 1980

   Responsible for managing the Company's Nuclear Steam Supply system and nuclear fuel contracts. Directed activities of project teams to schedule and deliver all of the Company manufactured and procured equipment and services provided under these contracts.

3. Manager - Engineering Department - 1974 to 1978

Responsible for the detailed design and licensing for all NSSS, fuel contracts, and development projects. Finalized the design of the standard B & W 1200 MWe NSSS and Mark C fuel assembly and obtained preliminary design approval under the NRC's standard plant program.

4. Manager - Service Section - 1966 to 1974

Responsible for all startup services including training startup engineers, furnishing operator and plant staff training programs, preparing startup and test procedures, preparing operating procedures, as well as preparing and evaluating plant test and test results.

5. Market Representative - 1963 to 1966

Responsible for providing proposals and marketing activities for NSSS and fuel to utility customers.

6. Startup Engineer - 1960 to 1963

On-site representative responsible for the B & W furnished startup services to Consolidated Edison Company for the startup and initial operation of Indian Point Unit Number 1.

7. 1954 to 1963

Various assignments on the Indian Point Unit Number 1 project including core design and project engineering for the NSSS contract.

PROFESSIONAL DATA

Registered Professional Engineer - Virginia and Lousiana

NSPE, Engineer of the Year - Virginia Section, 1978

Member of ASME, ANS, and AIF including participation in several committes and chairmanships

B & W Representative of the U. S. Committee for Energy Awareness

Holder of several patents and author of many technical papers and presentations

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RESUME
JAMES G. WEIGAND
VICE PRESIDENT - NUCLEAR OPERATIONS

EDUCATION

School and Location	Major	Date	Degree
U.S. Naval Academy Annapolis, Maryland	Marine Engineering	1958*	BS
University of Washington Seattle, Washington	Physical Oceanography	1962**	MS
University of Washington Seattle, Washington	Physical Oceanography	1964	PhD

*Graduated with distinction
**Elected to Sigma Xi - Scientific Honorary

Additional Courses or Training

Nuclear Power School - 12 month course in nuclear engineering at Mare Island, California and KAPL Laboratories, New York, 1966

Advanced Nuclear Engineering for Submarine Commanding Officers - 3 1/2 month course for submarine captains at the Naval Reactors offices under the direct supervision of Admiral H. G. Rickover, 1973

EXPERIENCE

Gulf States Utilities Company

1. Vice President - Nuclear Operations - 10/16/82 to present (see Section 13.1.1.2.1.3 for responsibilities)

2. Vice President - Nuclear Operations and Technical Systems - 5/1/80 to 10/15/82

3. Vice President - River Bend Operations and Technical Systems - 1/1/80 to 5/1/80

   Performed same duties as those of present position (see above), however since the River Bend Project grew in scope and complexity a corporate rearrangement was made in order to yield separate, individual attention on the operations and the

technical systems.

4. General Manager-Nuclear Projects - 1/1/79 to 1/1/80

Responsible for all aspects of GSU nuclear projects, specifically for the management of the construction of the River Bend Station located near St. Francisville, Louisiana.

5. Technical Assistant to the Chairman of the Board - 7/16/78 to 1/1/79

Responsible for managing the research and research support for the company, evaluating technological advances for company application, representing the Chairman's office as a member of the Strategic Planning Committee, and performing special projects as directed by the Chairman.

Office of Naval Education and Training

1. Staff Officer for the Chief - 10/76 to 7/16/78

2. Executive Assistant and Senior Aide to Vice Admiral James B. Wilson

Responsible for assigning and coordinating all administrative tasks for one of the Navy's largest commands with over 150,000 students and 20,000 staff.

Nuclear Powered Missile Submarine USSS Nathanael Green (SSBN 636)

1. Commanding Officer - 7/73 to 10/76

Completely responsible for the operation and maintenance of a half-billion dollar submarine.

Responsible for the training, leadership and performance of the officers and crew.

U.S. Navy

1. Executive Officer - 9/71 to 2/73 (Nuclear Powered Submarine)

Supervised the administration and training of a missile submarine crew.

As second in command, supervised and was responsible for all routine operations.

2. Officer - 7/66 to 8/71 (Several different nuclear submarines)

Served as department head in navigation, weapons, and operations departments.

PROFESSIONAL DATA

Four (4) research publications, as well as many classified publications for the U.S. Navy on oceanography and submarine sonar.

RBS FSAR
RESUME
JAMES E. BOOKER
MANAGER-ENGINEERING, NUCLEAR
FUELS, AND LICENSING

EDUCATION

School and Location	Major	Date	Degree
Lamar University, Beaumont, Texas	Industrial Engineering	1955	BS
	Mechanical Engineering	1956	BS

Additional Courses or Training

University of Michigan's Public Utility Executive Program - 1978

EXPERIENCE

Gulf States Utilities Company

1. Manager - Engineering, Nuclear Fuels, and Licensing - 10/16/82 to present

   In charge of Nuclear Licensing, Emergency Planning, Nuclear Plant Engineering, and Nuclear Fuels (see 13.1.1.2.1.4 for responsibilities)

2. Manager of Technical Programs - 5/1/80 to 10/15/82

   In charge of Nuclear Licensing, Emergency Planning, Out-of-Core Fuels

3. Manager of Technical Programs - 12/1/79 to 5/1/80

   In charge of Nuclear Licensing, Emergency Planning, Out-of-Core Fuels, and Project Engineering

4. Project Manager for River Bend Project - 12/1/78 to 12/1/79

   In charge of Project Engineering, Nuclear Licensing, and Administrative Services

5. In charge of licensing for River Bend Project and environmental licensing of fossil power plants - 11/1/77 to 12/1/78

6. In charge of licensing activities to two nuclear power plants - River Bend Project and Blue Hills - 9/1/72 to 11/1/77

7. Quality Assurance (QA) Department as QA Coordinator - 3/1/72 to 9/1/72

8. Supervisor of Administative Services - 1/1/71 to 3/1/72

In charge of Corporate Records Department, duplicating, microfilming, telephone services, stenographic services, library and mailroom facilities

9. System Power Plant Production Department - 8/1/62 to

   Various positions, such as Result Engineer conducting performance tests on gas-oil fired power plants, maintenance planning and scheduling, and Staff Engineer to Production Manager coordinating operations, maintenance and personnel requirements for six operating fossil power plants.

10. System Engineering Department - 6/1/56 to 8/1/62

    Involved in design and construction of transmission lines and substations, major electrical equipment and requirements, specifications and construction budgeting

PROFESSIONAL DATA

American Nuclear Society

The American Society of Mechanical Engineers

Atomic Industrial Forum, Inc.
- Committee on Reactor Licensing & Safety
- Committee on Environmental Projects
- Committee on Nuclear Regulations
- Committee on Near Term Operating Licensing
  - (Chairman on Regulations Subcommittee)

Edison Electric Institute (EEI)
- Nuclear Operations Committee

Registered Professional Engineer - State of Texas

RESUME
JAMES M. GLAZAR
DIRECTOR - NUCLEAR
PLANT ENGINEERING

EDUCATION

School and Location	Major	Date	Degree
Pennsylvania State University State College, Pennsylvania	Machine Design	1972	MSME
Newark College of Engineering Newark, New Jersey	Machine Design	1965	BSME

EXPERIENCE

Gulf States Utilities Company

1. Director - Nuclear Plant Engineering - 10/17/82 to present

   See Section 13.1.1.2.1.4.1 for responsibilities.

2. Project Engineer - River Bend Nuclear Group - 5/1/78 to 10/15/82

   Responsible for all design engineering activities associated with the River Bend Nuclear Project. Manage and control the efforts of the Architect/Engineer's (Stone & Webster) engineering organization, the Nuclear Steam Supply System Vendor (General Electric) and any other vendors as necessary to control the design of the plant.

Omaha Public Power District

1. Lead Mechanical Engineer in the Generating Stations Engineering Section - 2/1/76 to 5/1/78.

   Job duties included project engineering functions involved with: 1) site security (Fort Calhoun Nuclear Station), 2) CE/DOE/OPPD Refueling Outage Reduction Program (Fort Calhoun Nuclear Station), and 3) High-pressure feedwater heaters replacement project (North Omaha fossil station). Duties included design coordination, planning, scheduling, financial estimating, and liaison with architect/engineers, vendors, contractors and plant operating personnel during design, contract negotiations, installation, and material/labor procurements.

   Additional mechanical design responsibilities for modifications to District fossil and nuclear stations encompassing both in-house design

as well as design coordination with engineering consultants.

General Atomic Company

1. Cognizant Program Engineer for HTGR control rod drives - 1/1/74 to 12/1/75

   Responsibility for overall program planning, scheduling and budget administration, customer and vendor liaison, technical presentations, preparation of technical documents, and obtaining patents.

General Atomic Company

1. Design Engineer on Nuclear Reactor Control Mechanisms - 3/1/68 to 1/1/74

   Detail design, supervision of draftsman, design analysis, and engineering liaison of development and qualification test programs. Manufacturing and vendor liaison during fabrication of components for large nuclear power station. Responsible for publication of necessary fabrication, assembly, testing, packaging and shipping procedures including Operation and Maintenance Manual. Reponsibility for site/customer liaison, resolution of onsite problems, resulting design changes, and supervision of onsite repairs.

Johnson and Johnson

Eastern Surgical Dressing Plant

1. Equipment Design Engineer for Design, Fabrication, and Installation of Plant Production Machinery - 1965 to 1966.

   Primarily responsible for the design, development, and installation of new labeling lines.

2. Equipment Design Department - 1964

   Performed layout and detail drafting.

Also, research testing of new product concept to determine basic design parameters.

Bell Telephone Laboratories

1. Draftsman - 1959 to 1963

   Worked on Nike Missile System Projects, including both mechanical and electrical systems.

RESUME
WILLIAM J. REED, JR.
DIRECTOR - NUCLEAR LICENSING

EDUCATION

School and Location	Major	Date	Degree
University of Arkansas Fayetteville, Arkansas	Mechanical Engineering	1971	BS
University of Arkansas Fayetteville, Arkansas	Mechanical Engineering	1973	MS

Additional Courses or Training

Louisiana State University - Basic Health Physics Short Course, May 1975

Massachusetts Institute of Technology - Reactor Safety and Licensing Short Course, July 1977

EXPERIENCE

Gulf States Utilities Company

1. Director-Nuclear Licensing - 1/1/81 to present

   See Section 13.1.1.2.1.4.2 for responsibilities.

2. Supervisor-Nuclear Licensing - 7/15/78 to 1/1/81

   Responsibilities same as described above.

3. Engineer-Nuclear Licensing - 6/1/75 to 7/15/78 - Responsible for performing duties as directed relating to the issuance of River Bend Station Units 1 and 2 Construction Permits.

4. Engineer-Transmission and Distribution - 4/1/74 to 6/1/75 - Responsible for computer program maintenance and preparation related to the Distribution Estimating System.

5. Engineer-System Production - 10/25/73 to 4/1/74 - Responsible for preparing computer program for determining fossil unit heat rates. Program was used to determine plant efficiency with recommendations for plant improvement.

United States Army

1. 2nd Lieutenant - 7/73 to 10/73 - Attended and graduated from the U.S. Army Field Artillery School, Ft. Sill, Oklahoma

Pettit and Pettit Consulting Engineers

1. Engineer (Part-time while in college) - 9/72 to 5/73 - Reponsible for reporting field inspections of the installation of a Babcock and Wilcox boiler addition to the University of Arkansas Physical Plant.

PROFESSIONAL DATA

Member, American Nuclear Society - South Texas Section

RESUME
JOHN G. CADWALLADER
SUPERVISOR - EMERGENCY PLANNING

EDUCATION

School and Location	Major	Date	Degree
Louisiana State University	Zoology	1970	BS
Louisiana State University	Physiology	1978	MS

Additional Courses or Training

December 1975	Advanced Medical X-Ray Survey Course Bureau of Radiological Health Baylor College of Medicine Houston, Texas
May 1976	Medical X-Ray Survey Techniques Bureau of Radiological Health Fort Sam Houston, Texas
February 1977	Health Physics and Radiation Protection Course U.S. Nuclear Regulatory Commission Oak Ridge Associated Universities Oak Ridge, Tennessee
July 1977	Medical Use of Radionuclides for State Regulatory Personnel U.S. Nuclear Regulatory Commission Baylor College of Medicine Houston, Texas
January 1978	Industrial Radiography for State Regulatory Personnel U.S. Nuclear Regulatory Commission Baton Rouge, Louisiana
September 1978	Orientation Course in Regulatory Practices and Procedures U.S. Nuclear Regulatory Commission Silver Springs, Maryland

March 1979	Radiological Emergency Response Planning Course U.S. Nuclear Regulatory Commission Jackson, Mississippi
April 1979	Radiological Emergency Response Operations Training Course U.S. Nuclear Regulatory Commission Las Vegas and Mercury, Nevada
December 1979	Radiological Emergency Response Coordinators Course U.S. Nuclear Regulatory Commission Wildwood, Florida

EXPERIENCE

Gulf States Utilities Company

1. Supervisor-Emergency Planning - 11/80 to present

   Responsible for developing Emergency Response Plan for RBS. See Section 13.1.1.2.1.4.3 for additional description.

Louisiana Hazardous Waste Management Division

1. Hazardous Waste Specialist- 9/80 to 11/80

   Responsible for tracking shipments of hazardous waste and for developing emergency response system for waste spills.

Louisiana Nuclear Energy Division

1. Radiation Specialist- 7/77 to 9/80

   From September 9/78 to 9/80, responsible for the establishment and maintenance of environmental surveillance programs and for the development of the State Peacetime Radiological Response Plan and local parish plans. Worked with NRC, FEMA, and Louisiana Environmental Control Commission concerning emergency response planning for fixed nuclear facilities.

Louisiana Division of Radiation Control

1. Health Physicist - 9/75 to 7/77

   Responsible for the inspection of radioactive materials and X-ray units used and operated by various industries, educational institutions, and hospitals and for the evaluation of radiation protection programs. Accountable for maintenance of radiation detection instruments, emergency response to radioactive material accidents, and seminars on radiological health and safety.

United States Air Force

1. 1st Lieutenant-Weapons Controller - 9/70 to 12/73

Professional Data

Member, Health Physics Society

Member, Health Physics Society-Deep South Chapter

Member, Louisiana Nuclear Society

RESUME
JOHN E. BARRY
SUPERVISOR - NUCLEAR FUELS

EDUCATION

School and Location	Major	Date	Degree
Texas A&M University College Station, Texas	Nuclear Engineering	1970	BS
Lamar University, Beaumont, Texas	Engineering	1981	Masters

EXPERIENCE

Gulf States Utilities Company

1. Supervisor - Nuclear Fuels-10/15/82 to present (see Section 13.1.1.2.1.4.4 for responsibilities.)

2. Supervisor - Out-of-Core Fuels-1/1/80 to present (same duties as delineated in Section 13.1.1.1.3)

3. Nuclear Fuels Engineer - 10/1/77 to 1/1/80 (same duties as delineated in Section 13.1.1.1.3)

Governor's Energy Advisory Council

1. Nuclear Specialist - 1976 to 1977

   Responsible for writeup and coordination of task force input for the GEAC report on nuclear power. Responsible for evaluation of President Carter's Energy Proposals on nuclear power and electrical generation (e.g., mandatory interconnect, bulk sales, and hydro-generation). Other responsibilities included:

   Projection of Texas nuclear energy and uranium production.

   Monitoring nuclear generation, process heat, waste disposal, uranium mining and other projects in Texas.

   Provisions of liaison and assistance to federal agencies (e.g., the NRC, ERDA, FEA, and USGS) on matters of interest in Texas.

   Follow nuclear generation and uranium exploration and production technology in Texas and nationally.

City Public Service (San Antonio, TX)

1. Engineer - 1972 to 1976

Participated on a special study on fuels and conversion devices in Research and Planning. Later took engineering position in Nuclear Section of Energy Systems Planning. Undertook special review work on reactor vendor evaluation, training and other subjects pertaining to the South Texas Project as well as nuclear engineering R&D matters.

In the Nuclear Fuels Section of Nuclear and Environmental Division, aided in successful contracting of enrichment services for Unit 1 of STP II before the June contracting suspension. Helped formulate final NSSS and nuclear fuel bid specs for STP II for which CPS had project management.

In January 1975, after indefinite suspension of STP II, undertook high priority long-range uranium fuel procurement activities as well as those associated with other aspects of the nuclear fuel cycle.

Texas Employment Commission

1. Employment Interviewer - 1972

City of Houston

1. Laborer - 1971 to 1972

IBM-NASA

1. Computer Clerk (Temporary) 1971

Welex

1. Field Management Trainee - 1970 to 1971

Pacific Gas and Electric

1. Engineer - 1970

PROFESSIONAL DATA

Member, American Nuclear Society; Associate Member, Texas Society of Professional Engineers

RESUME
JAMES A. WRIGHT, JR.
SUPERVISOR - MECHANICAL ENGINEERING

EDUCATION

School and Location	Major	Date	Degree
North Carolina State University, Raleigh, North Carolina	Mechanical Engineering	1971	BS

EXPERIENCE

Gulf States Utilities Company

1. Supervisor - Mechanical Engineering - 6/82 to present

   Responsible for the Mechanical Engineering Section of Nuclear Plant Engineering, all mechanical equipment and systems at River Bend Station, all changes to the design of mechanical equipment and systems before and after commercial operation, and assuring current and future designs are operable and licensable.

Tennessee Valley Authority, Knoxville, Tennessee

1. Technical Supervisor - Mechanical Design Group - 9/79 to 5/82

   Responsible for all piping systems and regulating mechanical high-pressure piping for nuclear facilities. Thorough knowledge of all ASME codes and compliance requirements for govermental agencies. Approved all engineering drawings, coordinated all design work, and coordinated with all contractors for four separate units. Supervised 25 employees (including contract employees) and also served as Administrative Supervisor.

2. Mechanical Engineer - 1/72 to 8/79

   Engineer involved in the conception and design of the Bellefonte Nuclear Power Plant. Responsible for locating most of the major pieces of equipment related to the main turbogenerator, the feed pumps and turbine, and the main condenser equipment. Responsible for the design of all systems and design criteria related to this equipment. System engineer on the main feedwater systems, heater drains and vents, condensate demineralizer, miscellaneous connections to the turbogenerator, and feed pump injection ater.

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RESUME
ERWIN J. ZOCH
SUPERVISOR - NUCLEAR ENGINEERING

EDUCATION

School and Location	Major	Date	Degree
Texas A&M University College Station, TX	Nuclear Engineering	1972	BS

EXPERIENCE

Gulf States Utilities Company

1. Supervisor - Nuclear Engineering - 10/16/82 to present

   Responsible for the Nuclear Engineering Section of Nuclear Plant Engineering, all nuclear equipment and systems at River Bend Station, all changes to the design of nuclear equipment and systems before and after commercial operation, and assuring current and future designs are operable and licensable.

2. Lead Nuclear Engineer - 4/1/79 to 10/15/82

   Responsible for nuclear engineering aspects of the design of the River Bend Station.

3. Engineer - 7/2/73 to 4/1/79
   (Same responsibilities as above)

Texas Electric Service Company

1. Junior Engineer - 6/70 to 8/70

   Responsible for performance tests, and design projects, and reports.

PROFESSIONAL DATA

Membership in Texas Society of Professional Engineers
Membership in American Nuclear Society

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HAVE BEEN

DELETED

RESUME
SUPERVISOR - ELECTRICAL ENGINEERING

This position is

currently vacant.

A resume will

be furnished when

the position is

filled.

RESUME
DONALD R. McCARTER
DIRECTOR - LOSS PREVENTION

EDUCATION

Texas A & M Nuclear Science Center	Firefighting for Nuclear Power Plant Personnel
State of New York	Fire Investigation
Factory Insurance Association	Fire Protection Engineering

EXPERIENCE

Gulf States Utilities Company

1. Director - Loss Prevention - 12/81 to present

   Responsible for directing the development, implementation, and maintenance of effective loss control programs for existing facilities and construction projects. Reviews all fire protection specifications and drawings for nuclear, fossil and other power plants to ensure regulatory compliance and cost effectiveness.

2. Coordinator - Loss Prevention - 6/79 to 12/81

Factory Insurance Association/Industrial Risk Insurers

1. District Supervising Engineer - 2/75 to 6/79

   Controlled work assignments of Field Fire Protection Engineers, prepared specifications and designs for fire protection system application, conducted fire protection reviews, audits, and inspections of high hazard oil, chemical, and petrochemical facilities. Lectured new employees on fire protection and prevention and state-of-the-art equipment.

2. Fire Protection and Safety Engineer - 2/70 to 2/75

   Performed fire hazard and safety analysis of all types of large industrial complexes and prepared recommendations to ensure fire protection defense-in-depth.

United States Air Force - 12/49 to 1/70

Performed various fire protection and prevention duties including fire fighting and rescue, fire hazard analysis and fire protection program evaluation. From 1967 to 1970, Instructor/Instructior Supervisor at United States Air Force School of Fire Protection Engineering (Chanute AFB, Illinois).

PROFESSIONAL DATA

Member of the National Society of Fire Protection Engineers
Member of the National Fire Protection Association
Member of the Edison Electric Institute Fire Protection Committee

RESUME
WILLIAM J. ODELL
DIRECTOR-NUCLEAR TRAINING

EDUCATION

SCHOOL AND LOCATION	MAJOR	DATE	DEGREE
University of Nebraska, Lincoln, Nebraska	Physics and Mathematics	1965	BS

ADDITIONAL COURSES OR TRAINING

University of Virginia Management Development Series.
Enlisted and Officer Basic Submarine School, Nuclear Power School, Nuclear Plant Training
Additional Military training in intercommunications, leadership and management, and command.

EXPERIENCE

GULF STATES UTILITIES COMPANY

1. Director - Nuclear Training - 8/83 to Present

   Responsible for the development, administration, and implementation of the nuclear training program to candidates for both licensed and non-licensed positions, as well as the training program for the remainder of the River Bend Station Staff and River Bend Nuclear Group Personnel. Responsible for a full-scope, plant-referenced simulator used in the RO/SRO training courses.

BABCOCK AND WILCOX'S NUCLEAR GENERATING DIVISION

1. Manager - Instruction Services, Training Engineering, and the Lynchburg Training Center - 11/79 to 8/83.

   Responsibities included the operation of a training center that delivered nuclear plant operations training in the classroom and on a full-scope B&W nuclear power plant simulator, power plant technical training for engineers and technicians, and maintenance training. Also responsible for training program development including the production of specific lesson materials, training aids and instructor development.

UNITED STATES NAVY

1. Executive Officer - USS Lafayette Ballistic Submarine - 11/77 to 10/79.

Responsible for the overall administration of the ship including personnel, training, and nuclear weapons security.

2. Director - Enlisted Department Navy Nuclear Power School - 12/74 to 6/77.

   Responsible for the administration of a technical course of instruction to over 2,000 enlisted men per year. Supervised the curriculum and over 100 instructors. Evaluated and prepared technical material including textbooks.

3. Engineer Officer - USS Daniel Boone Fast Attack Submarine - 11/71 to 11/74.

   Responsible for the supervision, operation, and maintenance of the nuclear propulsion plant and related auxiliary equipment.

4. Staff Instructor/Assistant Training Officer - Navy Nuclear Power Prototype Training Unit - 10/69 to 10/71.

   Responsible for shift operation, training, and personnel management.

5. Supply, Weapons, and Electrical Officer - USS Permit Fast Attack Submarine - 6/67 to 7/69.

   Responsible for the supply, weapons, and electrical departments while preparing the ship for sea and conducting special operations.

RESUME
ELLERY L. HAMMOND
PLANT MANAGER

EDUCATION

SCHOOL AND LOCATION	MAJOR	DATE	DEGREE
Northeastern University Boston, Massachusetts	Mechanical Engineering	1959	BS
	Mechanical Engineering	1962	MS

ADDITIONAL COURSES OR TRAINING

Northeastern University - Graduate work in Business Administration.
Univac computer programming course.
Baily Meter Company turbine cycle course.
M.I.T. water cooled reactor safety course.
Yankee Atomic Electric Company RO course (RO License #2055 on October 26, 1966)
Duane Arnold Energy Center SRO course (SRO License #1987 on December 20, 1973)

EXPERIENCE

GULF STATES UTILITIES COMPANY

1. Plant Manager -11/80 to Present

See Section 13.1.1.2.1.4.1 for responsibilities.

IOWA ELECTRIC LIGHT AND POWER COMPANY

1. Chief Engineer - Duane Arnold Energy Center - 11/76 to 11/80.

Responsible for the operation of the Duane Arnold Energy Center; responsible for the hiring and supervision of all employees including management - union contract negotiation. Developed a new budget system, management control system, and a revised security plan.

2. Assistant Chief Engineer - Duane Arnold Nuclear Power Plant - 8/71 to 11/76

   Responsible for various aspects of operation, maintenance, and technical support of the 550 MWe BWR. Responsible for various aspects of plant organization and personnel selection. Additional responsibilities included Chairman of the Operations Review Committee, Emergency Director, Security Director, Training Director, Pre-Operational and Startup Test Coordinator, as well as being directly responsible for the operating plant quality assurance program.

3. Nuclear Design Engineer - Duane Arnold Nuclear Power Plant - 8/70 to 8/71.

   Responsible for assuring the design of nuclear oriented systems conformed to AEC standards, including review of P&ID's functional control diagrams, equipment specifications, and layout drawings. Also responsible for the primary containment leak rate test and detailed layouts of the NSSS main control room and radwaste control room panel.

PUBLIC SERVICE COMPANY OF NEW HAMPSHIRE

1. Staff Engineer - Seabrook Nuclear Station - 4/69 to 8/70.

   Responsible for liaison between Production and Engineering Departments ensuring proper operating and maintenance considerations would be incorporated into the design. Reviewed equipment specifications and drawings, involved in writing technical specifications and the inservice inspection program, participated in DRL meetings with AEC for the construction permit.

YANKEE ATOMIC ELECTRIC COMPANY

1. Plant Reactor Engineer - 2/65 to 4/69

   Responsible for all reactor and secondary plant performance calculations, special nuclear material accountability, writing of refueling procedures, and technical specifications and reactor component inspections. Conducted all photography work for maintenance records and reports and taught reactor theory to reactor operator candidates.

NEW ENGLAND POWER COMPANY

1. Technical Assistant to Superintendent of the Salem Harbor Generating Station - 1/62 to 2/65.

Responsible for three 125 MWe coal-fired plant performance tests and calculations, overhaul planning and execution, and Edison Electric Institute Plant performance reports.

CLEVITE CORPORATION

1. Mechanical Engineer in training - 3/61 to 1/62

   Worked on cost reduction in production, research, and quality control departments.

RAYTHEON CORPORATION

1. Mechanical Engineer - 9/59 to 3/61

   Involved in design and control of complex automatic machinery assembly.

RESUME
PHILIP D. GRAHAM
ASSISTANT PLANT MANAGER-SERVICES

EDUCATION

School and Location	Major	Date	Degree
Old Dominion University, Norfolk, Virginia	Electrical Engineering	1973	BS

Additional Courses or Training

Naval Nuclear Power Training School and Prototype - 1974
NRC BWR and PWR Technology Course, including simulator training -1979
Lead Auditor Training and Certification as a QA Lead Auditor - 1980
Training in Operational Quality Assurance Program - 1980
Probabilistic Risk Assessment Training - 1980
Procurement Quality Assurance Training - 1981
Effective Management Training - 1982

EXPERIENCE

Gulf States Utilities Company

1. Assistant Plant Manager - Services - 9/83 to present

   Responsible for the management of River Bend Station's Administrative, Technical, and Security sections of the plant staff.

2. Director - Quality Assurance - 5/81 to 8/83

   Responsible for QA activities at River Bend Station including the monitoring of Stone and Webster's QA program.

3. Technical/Administrative Assistant to the Senior Vice President of River Bend Nuclear Group - 1/81 to 5/81.

4. Operational QA Supervisor - 3/80 to 1/81

   Developed the Final Safety Analysis Report Section 17.2 - QA during Operations and the Operational QA Manual for River Bend Station Operation Phase.

U.S. Nuclear Regulatory Commission

1. Operations Inspector - 11/78 to 3/80

Performed various inspections in areas of pre-operational and startup testing, refueling, refueling startup, and Operations Maintenance.

U.S. Navy - 6/73 to 8/78

1. Qualified as Engineering Officer of the Watch, Engineering Duty Officer, Officer of the Deck and qualified in submarines. Spent 2½ years in a submarine refueling overhaul following the construciton and startup testing of systems.

RESUME
PETER E. FREEHILL
SUPERINTENDENT OF STARTUP
ASSISTANT PLANT MANAGER-OPERATIONS

EDUCATION

United States Navy Nuclear Power School, Nuclear Instrument School, Submarine School, and Submarine Electronics School
United States Navy S3G Reactor Prototype Training and Qualification as an S3G Naval Reactor Operator - 1961
United States Navy S5W Reactor Design School and Qualification as an S5G Naval Lead Reactor Operator - 1963
United States Navy S5G Reactor Design School and Qualification as an S5G naval Lead Reactor Operator - 1964
AEC Senior Reactor Operator License for SEFOR (1968), Senior Reactor Operator Certification at Fukushima II BWR (1972), Cooper BWR (1973), and Brunswick II BWR (1975)
M.I.T. Nuclear Power Reactor Safety Course - 1982.

EXPERIENCE

Gulf States Utilities Company

1. Superintendent-Startup and Test - 12/80 to present
   See Sections 13.1.1.1.2.3 and 14.2.2.1.1 for responsibilities.

   Assistant Plant Manager-Operations - 11/83 to present
   See Section 13.1.2.2.2 for responsibilities.

2. Acting Plant Manager - River Bend Station - 6/80 to 11/80

3. Operations Manager - River Bend Station - 12/79 to 6/80

GENERAL ELECTRIC COMPANY

1. Operations Manager - 9/77 to 12/79

   Responsible for the performance of preoperations and startup test programs at Fukushima VI for the NSSS and some BOP systems, scheduling and procedure preparation as well as design change preparation. Acted as the Resident Project Manager in his absense in the management of PCV, NSSS, and turbine construction activities and site administration.

2. Feedwater Sparger Projects Manager - 4/77 to 9/77

   Project Manager for the repair of feedwater nozzles and control rod drives and replacement of feedwater spargers at Fukushima I and II.

3. Operations Superintendent - 12/76 to 4/77

   Provided lead in problem solving during Brunswick I Test Program, scheduled startup tests, and directed the activities of four Shift Superintendents, five Shift Superintendents In-Training, and nine Preoperational Engineers. Acted for Operations Manager in his absence.

4. Startup Engineer - 4/72 to 11/76

   For Dresden II, Fukushima II, Brunswick, II, and Copper directed the performance of preoperation testing, initiated and implemented design changes, and provided on-shift technical direction to utility personnel during the Startup Test Programs through the 100 hours warranty runs. Certified as a Senior Reactor Operator at Fukushima II, Brunswick II, and Cooper.

5. Operations Analyst - 10/71 to 3/72

   Monitored SEFOR plant logs and records for trending and problems; assisted the Operations Manager in day-to-day reactor operation, acting as Operations Manager in his absence. Administered the Plant Surveillance Test Programs; designed the plant decommissioning sodium off loading piping and instrumentation.

6. Shift Supervisor - 1/69 to 9/71

   Supervised a crew of four SRO's in the initial fuel load, startup, and 3 year SEFOR Test Program. Authored special test procedures for system diagnostic tests, and plant design changes for both cost savings and reliability/functionability enhancement.

7. Senior Reactor Operator - 5/67 to 12/68

   Participated in the preoperational testing of SEFOR and received a Senior Reactor Operator's License on the facility. Authored complete nuclear and process instrumentation set point list; plant operating, casualty and emergency procedures and comprehensive breaker and controller index.

United States Navy - 12/59 to 5/67

1. Electronics Technician First Class/Reactor Operator on three naval submarine reactor plants. Last position was a Lead Reactor Operator of the S5G submarine prototype reactor.

PROFESSIONAL DATA

Member of the American Nuclear Society
Member of the Louisiana Nuclear Society

RESUME
MAXEY F. CASSADA
RADIATION PROTECTION/CHEMISTRY SUPERVISOR

EDUCATION

School and Location	Major	Date	Degree
University of Nebraska, Omaha, Nebraska	Business Administration	1980	Bachelor General Studies

Additional Courses or Training

Navy Nuclear Power Training Program - 1961/62
Advanced Health Physics - Rockwell International - 1976
Respiratory Protection Workshop - Los Alamos Scientific Laboratory - 1978
Radiological Health Physics Course - University of Lowell - 1979
Nuclear Electronics Technology Update - General Atomics - 1981
Radioactive Waste Management Workshop - ASME/EPRI - 1981/82
Radiation Protection Training - INPO - 1982
Radiation Issues for the Nuclear Industry - AIF Environmental Conference - 1982
Assessment of environmental releases of radioactivity - University of Washington at Seattle - 1982
Radiation Dosimetry Course - Louisiana State University - 1983
Chemistry Managers' Workshop - INPO - 1983
Industrial Water Treatment Seminar - Betz Laboratories - 1983
TLD Workshop - Panasonic - 1983
Fundamentals of Ground-Water Quality Protection Workshop - 1983

EXPERIENCE

Gulf States Utilities Company

1. Radiation Protection/Chemistry Supervisor - 5/80 to present

   Responsible for the development and management of the Radiation Protection, Environmental and Chemistry Programs (acquired Chemistry Program in March 1983) at River Bend Station to support the fuel loading, licensing and operation of the plant.

Omaha Public Power District

1. Plant Health Physicist - Fort Calhoun Nuclear Station - 10/72 to 4/80

Responsible for the development and direction of the Radiation Protection Program prior to fuel load and throughout seven years of operation.

U.S. Navy

1. Radiological Controls Officer - Nuclear Support Facilities in the Naval Nuclear Submarine Program - 10/65 to 9/72

   Management of the Radiation Protection, Radiochemistry, Environmental, Dosimetry and Training programs and staff at two nuclear support facilities which provided radiological support and systems repairs for 16 nuclear submarines.

2. Senior Engineering Laboratory Technician - USS George Washington Ballistic Submarine 6/62 to 9/65

   Responsible for the Radiation Protection, Radiochemistry, and Chemistry Program during two years of operating and one year of refueling and maintenance. Qualified on all nuclear plant watch stations including Engineering Duty Officer.

PROFESSIONAL DATA

Senior member of the Institute of Environmental Sciences
Member of the National Helath Physics Society (served on Public Information Committee from 1978 to 1982)
Member of the Deep South Chapter of the Health Physics Society
Member of the Louisiana Nuclear Society
GSU representative on the EEI Health Physics Committee, INPO, and EPRI

RESUME
CHARLES P. BOGOLIN
OPERATIONS SUPERVISOR

EDUCATION

School and Location	Major	Date	Degree
George C. Wallace Community College Dotham, Alabama	Arts	1959	AA
Louisiana State University, Baton Rouge, Louisiana	History	Presently classified a senior in the BA program	

Additional Courses or Training

Naval Submarine School - New London, Connecticut - 1961
Naval Nuclear Power School - Bainbridge, Maryland - 1963
Qualified on General Electric's D1g Land PWR and Westinghouse's S5w Submarine PWR.
Dairyland Power Cooperative RO Course (RO License #2442 in May 1968 and qualified on the LaCrosse Bwr)
Alabama Power Company SRO Course (SRO License #3134-1 in December 1977 and qualified on the Joseph Farley PWR.)
Westinghouse Nuclear Power Training Program and PWR Simulator Qualification - Zion, Illinois - 11/72 to 8/73
Currently undergoing SRO certification training program with Gulf States Utilities Company for River Bend Station

EXPERIENCE

Gulf States Utilities Company

1. Operations Supervisor - 8/81 to present

   See Section 13.1.2.2.3 for responsibilities

2. Senior Shift Supervisor - 1/81 to 8/81

   As assistant to the Operation Supervisor, the responsibilities of Senior Shift Supervisor included the execution of directives from the Operations Supervisor as well as being directly responsible for the operating staff (see Sections 13.1.2.2.4 and 13.1.2.2.5 for additional details.)

Alabama Power Company

1. Shift Supervisor - Joseph Farley Nuclear Power Plant - 10/77 to 1/81

   Responsibilities included lesson plan development in selected system, development of system operating and emergency operating procedures, and work in system valve and pipe ordering, tagging, and labeling activities. Completed hot license training. Received SRO license in December 1977 (Renewal in December 1979) and commenced shift work in 1978 on an 829 MWe PWR.

2. Shift Foreman - Joseph Farley Nuclear Power Plant - 6/75 to 10/77

   Assisted in startup testing and operations

3. Operations Department - Joseph Farley Nuclear Power Plant - 11/72 to 6/75

   Supported construction activities and completed Westinghouse Nuclear Power Training Program in Zion Illinois (11/72 to 8/73)

Dairyland Power Cooperative

1. Reactor Operator - LaCrosse Bwr Nuclear Power Plant - 1967 to 1972.

   Trained for a reactor operator's license on the LaCrosse 50 MWe Bwr Nuclear Power Plant (9 months). Worked as a licensed reactor operator at the LaCrosse Bwr, involved in operation of reactor controls turbine generator controls, and turbine and reactor auxillary systems. Also involved in all initial testing prior to servicing to the Dairyland Power Coop. grid.

United States Navy - 1959 to 1967

1. USS Carbon Arrow Diesel Submarine - 1961 to 1963.

2. USS John C. Calhoun Fast Attack Submarine - 1964 to 1967.

3. Remainder of naval service time was devoted to training and supporting qualifications to serve aboard submarines.

RESUME
JOE L. BURTON
GENERAL MAINTENANCE SUPERVISOR

EDUCATION

School and Location	Major	Date	Degree
Mississippi State University, Mississippi State, Mississippi	Nuclear Engineering	1973	BS
Louisiana State University, Baton Rouge, Louisiana	Nuclear Engineering	1979	MS

Additional Courses or Training

Combustion Engineering's PWR Course - 1973
NUS Corporation's Introduction to Nuclear Power Course - 1974
Louisiana State University's Improving Project Management (1977) and Maintenance Management (1979) Course in their MBA Program
American Management Association's Appraising Management Efficiency Course - 1982
Southern Methodist University's Assertiveness Training Course - 1983
GSU Personnel Training Courses in Management Skills, Productivity, Interviewing, Speech, and Communications
Computer Software Knowledge in Neutron Transport, Statistics, and Optimization Codes

EXPERIENCE

Gulf States Utilities Company

1. General Maintenance Supervisor - 2/84 to present.

   See Sections 13.1.1.1.2.4, 13.1.2.1.2 for maintenance section descriptions and 13.1.2.2.9 for responsibilities.

2. General Maintenance Supervisor - Louisiana Station - 7/79 to 2/83.

   Similar responsibilities as currently described at River Bend Station, except Louisiana Station consisted of 12 gas units.

3. Engineer - Power Plant Engineering and Design - 2/79 to 7/79.

Project Engineer responsible for developing co-generation projects with industrial consumers. Involved in conceptual designs, engineering, contractual/financial details, and licensing.

4. Engineer - Consumer Services - 8/77 to 2/79.

   Same responsibilities as in Power Plant Engineering and Design; however, as conceptual projects grew in size and approached completion, reorganization occurred.

5. Engineer - Power Plant Construction - 7/76 to 8/77.

   Involved in the initial site preparation of River Bend Station and environmental modifications required at Louisiana Station.

6. Engineer - Louisiana Station - 9/74 to 7/76.

   Staff Engineer providing station operations support.

7. Engineer - System Production - 6/73 to 9/74.

   Staff Engineer providing system operating support.

PROFFESSIONAL DATA

Professional Engineer in Texas (Nuclear) and Louisiana (Mechanical).
Master thesis publication entitled "An Analysis of Neutral Beam Injection Penetrations in Current Tokamak Designs."
ANS Summer 1980 Transactions publication entitled "Neutral Beam Injection Penetrations."

RESUME
LIONEL R. THOMPSON
INSTRUMENTATION AND CONTROLS SUPERVISOR

EDUCATION

Prait & Whitney Aircraft Company's Electronic Technician Apprentice Course - 1967
United States Air Force's Guidance System Mechanics School, Basic Electronics Program, and a variety of Technical Seminars
Bentley Nevada Corporation's Vibration Systems Seminar
University of Maine's Introduction to Microprocessors Course
Westinghouse Corporation's Electro-Hydraulic Governor System Seminar
Parker-Hannifin Corporation's Tube Fitting and Fabrication Seminar
Combustion Engineering Corporation's Reactor Protection System Seminar and Control Element Drive System Seminar
Analysis and Measurement Services' Industrial Thermometry Seminar and Sensor Response Time Testing Seminar
Gulf States Utilities Company's Computerized Plant Maintenance and Material Maintenance System Seminar, as well as courses in management, productivity, interviewing, and assessor/appraisal training
Southern Methodist University's Training for Manager's Course
American Management Associations' Improving Managerial Skills for the new or prospective manager course

EXPERIENCE

GULF STATES UTILITIES COMPANY

1. Instrumentation and Controls Supervisor - 11/81 to present.

   See Section 13.1.2.2.10 for responsibilities.

2. Instrumentation and Controls Foreman - 8/80 to 11/81.

   The acting Instrumentation and Controls Supervisor responsible for developing philosophies concerned with procedure development (surveillance, device, administration), spare parts evaluation, building layouts, FSAR review for compliance to NRC regulations and a primary standards laboratory traceable to the NBS. Also responsible for establishing hiring practices and interviewing staff personnel at all levels including the General Maintenance Supervisor and the Electrical Maintenance Supervisor.

Maine Yankee Atomic Power Company

1. Instrumentation and Controls Technician - 1970 to 1980.

   Responsible for assuring that the instruments installed were in accordance with specifications. Made loop checks of the equipment (both pneumatic and electrical) and corrected for errors when necessary. Completed initial calibrations of equipment for proper operation and control. Provided technical assistance during start-up of the plant maintenance equipment on a periodic and failure rate.

Pratt & Whitney Aircraft Company

1. Electronics Technician Instructor - 1967 to 1969.

   Upon successfully completing the company's 6,000 hour Electronic Technician Apprentice Course in November, 1967, was assigned as an Electronics Instructor with responsibility for educating two separate classes ranging in size to fifteen students each. Curriculum included virtually all phases of Electronics, including: Basic Mathematics, Physics and Electricity, with additional curriculum in: Hydraulics, Chassis Construction, Technical Report Writing, Numerical Controls, Reading and Interpretation of Blueprints and Schematics.

   Additional responsibilities included preparation of curriculum, training guides, and recommended texts (within established guidelines); Administration and Evaluation of examinations; Liaison with Foreman and Supervisors to monitor and evaluate student performance in shop assignments.

2. Electronics Technician Apprentice - 1964 to 1967.

   Concerned with electronic assignments including electrical construction and maintenance, electronics construction and maintenance, and design and development. Also worked with a variety of electronics shops and provided both internal and external liaisons when required.

United States Air Force - 1960 to 1964

1. Airman First Class/Guidance System Mechanic.

   Supervised eight Electronics Technicians concerned with checkout and maintenance of Falcon air-to-air missiles and associated supporting equipment for two Squadrons.

Olin Mathieson Chemical Corporation

1. Hot Roller - Nuclear Fuels Divisions - 1959 to 1960.

PROFESSIONAL DATA

Member of Stepney Lodge #133 A.F. & A.M., Bristol Lodge #74 A.F. & A.M.
Member of Lincoln Chapter #3 R.A.M.
Member of American Legion Post 54
Member of Indian Mound Jaycess
Member of Nuclear Power Plant Institute of Engineers

RESUME
CRAIG H. GREENE
TECHNICAL SUPERVISOR

EDUCATION

School and Location	Major	Date	Degree
Louisiana State University, Baton Rouge, Louisiana	Electrical Engineering	1973	BS
	Nuclear Engineering	1978	MS

EXPERIENCE

Gulf States Utilities

1. Technical Supervisor - 2/83 to present.

   See Section 13.1.2.1.4 for Technical Section escription and 13.1.2.2.12 for responsibilities.

2. Reactor Systems Supervisor - 1/80 to 2/83.

   Responsible for the engineering subsystems. Related to the NSSS. Acting Technical Supervisor from 8/80 to 2/83.

3. Electrical Engineer - 5/78 to 1/80.

   Technical Section, Electrical Staff Engineer. Acting Technical Supervisor .rom 11/78 to 2/80.

Los Angeles Department of Water and Power

1. Electrical Engineering Assistant - Power Design and Construction Division, Factory Inspection Section - 9/74 to 11/75.

   Responsible for the inspection of electrical machinery, equipment, and systems to the requirements of department procedures and specification, state and local codes, as well as engineering standards. Participated in the investigation of installation or performance of equipment in large projects in order to detect problems and recommend changes. Also participated in liason and field contract administration as well as assisting in new employee training.

Barbay Engineers, Inc.

1. Electrical Engineer - 7/73 to 9/74.

   Responsible for the design and layout of various electrical systems incorporated in sugar refineries. Participated in computer programming and debugging for electrical relay protection of motors, motor control centers, and transformers for Exxon Refinery in Baton Rouge including manual load calculation, coordination, plotting and analysis. Work also included fault calculations, one line diagramming, and physical layouts of motor control centers. Also coordinated with other disciplines involved in the design of such systems.

PROFESSIONAL DATA

Member of the American Nuclear Society
Louisiana State Radio and Television Technicians License

RESUME
DAN WILLIAMSON
REACTOR ENGINEERING SUPERVISOR

EDUCATION

School and Location	Major	Date	Degree
University of Florida, Gainesville, Florida	Nuclear Engineering	1978	BS

Additional Courses or Training

General Electric's STD&A (Startup & Test) Course - 1978
Honeywell's Process Computer School - 1980
General Physics STA Certification Course - 1980
Georgia Power Company's Middle Management School - 1981
Georgia Power Company's SRO Training - SRO
License SOT-20087 - 1983

EXPERIENCE

Gulf States Utilities Company

1. Reactor Engineering Supervisor - 2/84 to present

   Responsible for ensuring maximum fuel utilization for cost effective plant operations, and ensuring fuel warranty and NRC requirements are not violated during reactor maneuvers and operations.

Georgia Power Company

1. Reactor Engineer/Shift Technical Advisor

   Duties at the Hatch Nuclear Power Plant included training new engineers, writing group procedures, policies and practices, assisting the supervisor, coordinating special plant task groups. Also served as Assistant Site Computer Engineer.

RESUME
DAVID L. DAVENPORT
PLANT SECURITY SUPERVISOR

EDUCATION

School and Location	Major	Date	Degree
University of Nebraska Omaha, Nebraska	Law Enforcement and Corrections	1970	BS

Additional Courses or Training

South Carolina State Law Enforcement Division's Private Security Instructor's Course
ATF's Bombs and Explosives Seminar

EXPERIENCE

Gulf States Utilities Company

1. Plant Security Supervisor - 1980 to present.

   (See Section 13.1.2.1.6 and 13.1.2.2.15 for responsibilities.)

Sizemore Security International, Inc.

1. Director - Coastal Region - 1978 to 1980.

   Responsible for the development of the region, acquisition of new business and the hiring and training of personnel. Achieved a 1000 per cent growth rate over an 18 month period.

Georgia Power Company

1. Superintendent - Uniform Security - 1978.

   Supervised the activities of 240 uniformed security personnel through seven plant security supervisors at two nuclear and five hydro/fossil power plants. Member of planning group for development of security at the nuclear sites. Designed programs, established goals, and developed procedures.

2. Nuclear Plant Security Supervisor - Edwin I. Hatch Nuclear Power Plant - 1977 to 1978.

Supervised 74 proprietary security officers responsible for the protection of a nuclear plant with one operating reactor and one reactor under construction. Conducted daily liaison with plant management. Ensured compliance with all rules, regulations and procedures of the Nuclear Regulatory Commission as applied to security.

United States Army - 1957 to 1977

1. Commissioned from Infantry Officer Candidate School in 1963, as an Airborne Infantry Private. Final position (Military Police Corps -Major) was as commander of a Criminal Investigation Division District supervision 85 criminal investigators and support personnel. While in service, attained a top secret security clearance.

2. Additional work while in military service included:

   a. Instructor in Self Defense and Apprehension Techniques to two training classes of Georgia Power Company Security Officers.

   b. Instructor in Report Writing to Special Agents of the Georgia Office of Internal Revenue.

   c. Police Science Instructor, Central Texas College, Europe.

PROFESSIONAL DATA

Member of the American Society for Industrial Security
(Certified by the Society as a Protection Professional).
Member of the International Association of Chiefs of Police.

RESUME
E. LINN DRAPER, JR.
SENIOR VICE PRESIDENT - EXTERNAL AFFAIRS

EDUCATION

School and Location	Major	Date	Degree
Rice University Houston, Texas	---	1964	BA
Rice University Houston, Texas	Chemical Engineering	1965	BS
Cornell University Ithaca, New York	Nuclear Science & Engineering	1970	PhD

EXPERIENCE

Gulf States Utilities Company

1. Senior Vice President - External Affairs - 10/82 to present.

   Responsible for the Public Affairs, Legal Services, and Rates & Regulatory Affairs Departments of Gulf States Utilities Company. Chairman - Nuclear Review Board for River Bend Nuclear Group.

2. Senior Vice President - Engineering and Technical Services - 9/81 to 10/82

3. Vice President - Nuclear Technology - River Bend Nuclear Group - 5/80 to 9/81.

4. Vice President and Technical Assistant to the Chairman of the Board - 2/16/80 to 5/1/80.

   Responsible for managing the research and development budget and for keeping the Chairman up-to-date on alternate energy technologies, specializing in nuclear applications.

5. Technical Assistant to the Chairman of the Board - 2/1/79 to 2/16/80.

   Same as above.

TEACHING EXPERIENCE

1. The University of Texas at Austin - 1969 to 1979.

2. Cornell University - 1966 to 1968.

CONSULTING ACTIVITIES

NuTex Corporation
Lower Colorado River Authority
City of Austin
Texas Electric Service Company
Dallas Power and Light
Central Power and Light
Atomic Industrial Forum
E. R. Johnson Associates
Niagara Mohawk Power Corporation
Public Service Electric and Gas
Florida Power and Light
San Diego Gas and Electric
Rochester Gas and Electric
Public Service of Oklahoma
Wisconsin Electric Power
Consumers Power
"No on Propositon 15" Committee
Hill and Knowlton
Westinghouse Electric Corporation
Radiation Management Corporation
Leadership Foundation
American Nuclear Energy Council
Swiss Atomic Energy Agency
Future World
Ecological Analysis, Inc.
South Dakota Humanities Foundation
Argonne Universities Association
Oregonians Against the Ban
"No on 4-6"
National Science Foundation
City Public Service Board
Arbrook, Inc.
Freedom Forum
Pennsylvania Electric Association
West Associates

PROFESSIONAL DATA

Member of the American Nuclear Society (specializing in Nuclear Engineering)
Vice President/President - Elect of the American Nuclear Society - 1984/85.
Member of the American Physical Society (specializing in Fusion Engineering)
Member of the American Institute of Chemical Engineering (specializing in Neutron Physics)

Member of the Texas Association for Radiation Research
(specializing in Reactor Physics)
Registered Professional Engineer - State of Texas
Served as Expert Witness (7 occasions)
Published 2 books, 48 major publications, 13 minor publications

RESUME
JAMES H. DERR, JR.
VICE PRESIDENT - POWER PLANT
ENGINEERING AND DESIGN

EDUCATION

School and Location	Major	Date	Degree
Williamson Trade School Media, Pennsylvania	---	1940	Trade

ADDITIONAL COURSES OR TRAINING

Hays Combustion School correspondence course
McNeese University courses in Advanced Algebra
Louisiana State University courses in Electrical Fundamentals
University of Michigan course in Business Administration - 1966
Gas - Cooled Reactor course in San Diego, Calif. - 1968
Stone and Webster Management Training Course - 1976

EXPERIENCE

Gulf States Utilities

1. Vice President - Power Plant Engineering and Design - 9/77 to present.

   Responsible for fossil site selection for Gulf States Utilities as well as any site work necessary for construction permits. He is also responsible for providing engineering support to all fossil units, and RBS as requested by Nuclear Plant Engineering.

   Coordinates the fossil plant environmental programs, any support requested by RBNG; Gulf States Utilities Research and Design efforts into wind and solar power, coal gasefication, and hydrological/geothermal protects; as well as providing plant services and studies to all fossil units. Member of RBNG Nuclear Review Board (NRB).

2. Manager - Power Plant Engineering and Design - 1975 to 1977.

   Responsible for the engineering and design aspects of all fossil units as well as the nuclear units at River Bend Station and Blue Hills.

3. Manager - Construction - 1971 to 1975.

   Responsible for all Gulf States Utilities fossil and nuclear unit design, engineering, and construction. Involved in obtaining the construction permit for RBS.

4. Superintendent - Construction - 10/70 to 10/71.

5. Construction Engineer - Power Plant Construction - 1/65 to 10/70.

6. Maintenance Supervisor - Sabine Station - 6/61 to 1/65.

   Involved in 2 startups.

7. Test Supervisor - Nelson Station - 6/58 to 6/61.

   Involved in 3 startups.

8. Test Engineer - Riverside - 10/54 to 6/58.

9. Assistant to Superintendent - Louisiana Station - 1951 to 10/54.

10. Test Department - various jobs - 1/48 - 1951.

11. Office Engineer - 1/45 to 1/48.

12. Department Clerk - 1/43 - 1/45.

13. United States Navy, San Diego, Calif. - 11/41 to 1/43.

    Attached to the Seaman Guard responsible for Naval Base security.

14. Student Engineer - 7/40 to 11/41.

PROFESSIONAL DATA

Member of the Louisiana Engineering Society.

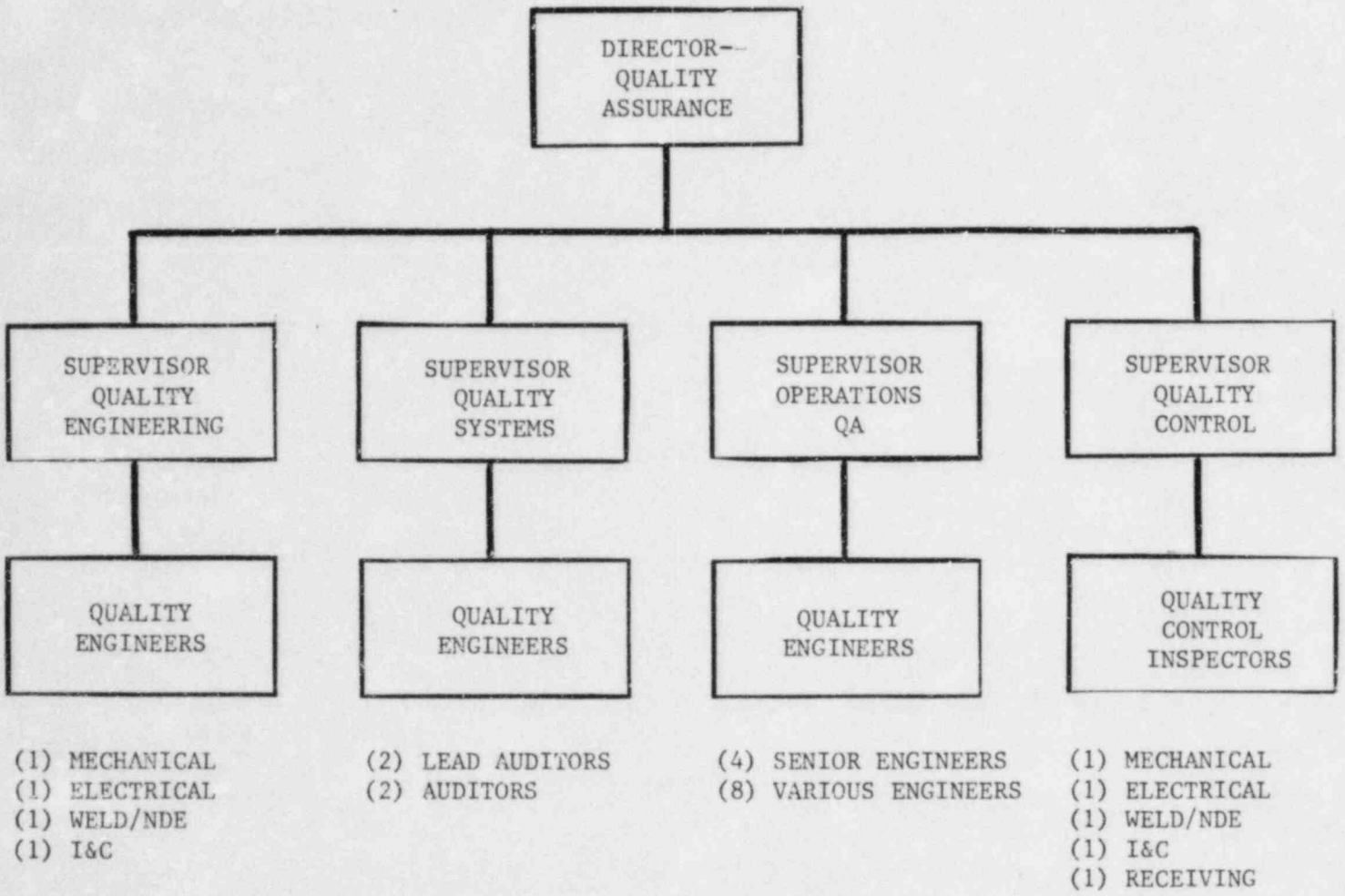

FIGURE 17.2-1
QUALITY ASSURANCE ORGANIZATION
RIVER BEND STATION - UNIT 1

QUESTION 260.1 (17.2)

Provide an organization chart which clearly identifies all major "onsite" and "offsite" organizational elements which function under the cognizance of the QA program (such as design, engineering, procurement, manufacturing, construction, inspection, test, instrumentation and control, nuclear engineering, etc.), and describe their responsibilities if not already identified in the SAR.

RESPONSE

Figures 13.1-1 and 17.2-1

Revised Fig. 13.1-2 identifies the organizational elements of GSU as either "onsite" or "offsite." A description of their responsibilities is provided in Sections 13.1 and 17.2.1.