



**GULF STATES UTILITIES COMPANY**

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January 24, 1985

RBG- 19,971

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-Unit 1  
Docket No. 50-458

Enclosed is a revision to Chapters 13.1, 13.2, 13.4 and 13.5 of Gulf States Utilities Company (GSU) River Bend Station (RBS) Final Safety Analysis Report (FSAR). These revisions are the reflection of the organizational changes effective December 10, 1985 and will be incorporated into the next FSAR Amendment.

Attachment 1 summarizes and justifies the major revisions contained within the revised text. This latter information will be utilized in the development and revision to Section 6.0 of the Technical Specifications currently under development.

Finally, the resumes contained in FSAR Appendix 13A will be revised and updated by January 31, 1985 in response to Safety Evaluation Report (SER) Confirmatory Item No. 56.

Sincerely,

*J E Booker*

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

*WJL*  
JEB/WJR/ERG/JWL/je

Attachment (1)

Enclosure

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## ATTACHMENT 1

### Chapter 13.1 - Conduct of Operations

1. The titled position Project Engineer has been changed to Director-River Bend Projects. All duties and responsibilities remain the same.
2. The titled position Project Manager has been changed to Manager-Project Control. A new position of Manager-Projects Planning and Coordination has been created with responsibilities including the Director-River Bend Projects and his staff (Engineering) and the Director-Management System and his staff (Scheduling). These two responsibilities were formerly under the direction of the Project Manager. The duties associated with Startup and Test have been placed under the Plant Manager's organization. The duties of procurement have been placed under a new position, Assistant Plant Manager-Maintenance and Materials.
3. A new position of Director-Nuclear Fuels Design and Safety Analysis has been created and reports to the Manager-Engineering, Nuclear Fuels and Licensing. The duties of this new position include the Supervisor-Nuclear Fuels and his staff and the Supervisor-Engineering Analysis and his staff (formerly reporting to the Director-Nuclear Plant Engineering.)
4. The position of General Maintenance Supervisor has been eliminated. The three maintenance sections - Mechanical, Electrical and Instrumentation and Control - as well as Purchasing and Materials (now responsible for procurement) report to the new position titled Assistant Plant Manager - Maintenance and Materials.
5. The groups outside of River Bend Nuclear Group but still within Gulf States Utilities Company which are generally available for support have been merged together. The Power Plant Engineering and Design Group and the Department of Technical Services now exists as the Department of Engineering and Technical Services retaining all former responsibilities. In addition, the Manager-Design Engineering has replaced the Vice President-Power Plant Engineering and Design on the Nuclear Review Board.
6. Individuals now reporting to the Senior Vice President-River Bend Nuclear Group (RBNC) include:
  - A.) Vice President-RBNC
  - B.) Manager-Quality Assurance
  - C.) Manager-Project Control
  - D.) Vice President-Safety and Environment

7. The titled position Vice President-Administration has been changed to Vice President-Safety and Environment. The position of Manager-Administration has been created and the responsibilities include Emergency Planning (formerly under the direction of Manager-Engineering, Nuclear Fuels and Licensing,) Nuclear Training, Support Services and Plant Security (formerly under the direction of Vice President-Administration). The responsibility of Environmental Services is retained under the direction of Vice President-Safety and Environment. In addition, the Independent Safety Engineering Group (ISEG) (formerly under the Director-Nuclear Plant Engineering) reports to the Vice President-Safety and Environment who also serves as the Chairman of the Nuclear Review Board.
8. Individuals now reporting to the Vice President-RBNG include:
  - A.) Plant Manager
  - E.) Manager-Engineering, Nuclear Fuels and Licensing
  - C.) Manager-Projects Planning and Coordination
  - D.) Manager-Administration
9. Regarding the Plant Staff organization three Assistant Plant Managers (APMs) and the new position of Supervisor-Radiological Programs report directly to the Plant Manager. The Supervisor-Radiological Programs replaces the Radiation Protection/Chemistry Supervisor and retains all responsibilities except for sampling and analysis of plant fluid systems. The function becomes part of the Chemistry Section which along with Operations and Radwaste report to the APM-Operations, Radwaste and Chemistry. Still reporting to the APM-Technical Services is the Technical Staff and the Plant Services Group. This latter group replaces the Technical Materials and Plant Services Group and retains all responsibilities except for materials controls. Purchasing and materials duties are now under the direction of the Assistant Plant Manager - Maintenance and Materials along with general maintenance functions (see Item 4 above.)
10. The discussions pertaining to various supervisors on Plant Staff in Section 13.1.2.2 have been merged into the section descriptions (13.1.2.1) for which they are responsible. The discussion pertaining to various shift personnel in Section 13.1.2.2 have been merged into Section 13.1.2.3.

#### Chapter 13.2 - Training

1. The changes indicated are included for consistency with Chapter 13.1. Table 13.2-1 is being revised and will be included in the next FSAR Amendment.

#### Chapter 13.4 - Review and Audit

1. The definition of "Reportable Events" has been changed for consistency with Generic Letter 83-43 and the Technical Specifications.
2. The Facility Review Committee (FRC) membership has been expanded as indicated in Section 13.4.1.1. Other members of RBNG may attend if desired or required and would be classified as observers rather than non-voting members.
3. The following listing provides justifications for each corresponding change to Section 13.4.1.5, FRC responsibilities:
  - (1) The original Item 2 under Section 13.4.1.6 adequately addresses the deleted discussion.
  - (3) Further clarification of where review activities are directed. Appendix B Technical Specifications are not safety related and hence are the responsibility of the Environmental Services group not Plant Staff or the FRC (see 13.1.1.2.4 and 13.1.1.2.4.1).
  - (4) FRC is responsible for review of proposed permanent modifications to safety related items not all proposed changes that affect nuclear safety. All changes whether temporary or permanent would receive a 10CFR50.59 review to assure safety related systems are not affected.
  - (6) Conformance with Generic Letter 83-43 and the Technical Specifications (see Item 1 above).
  - (9) This responsibility is no longer Plant Staffs or the FRC but under the Manager-Administration (see 13.1.1.2.8.) In addition, the Nuclear Review Board (NRB) is responsible for this review (see 13.4.2.6 Item 2 and its supporting justification below) and yearly audit (see 13.4.2.7 Item 6.)
  - (10) See Item 9 above with the following NRB references (13.4.2.6 Item 2 and 13.4.2.7 Item 6).
  - (11) This responsibility is now contained within the context of Item 6 of Section 13.4.1.5 since the context of "All Reportable Events" includes "unplanned releases which require reporting".
  - (12) This responsibility is now contained within the context of Item 4 of Section 13.4.1.5.
  - (13) This responsibility is now contained within the context of Item 7 of Section 13.4.1.5.



- (14) This responsibility is now contained within the context of Item 8 of Section 13.4.1.5 and original Items 11 through 13 of Section 13.4.2.7.
4. The following listing provides justification for the corresponding changes to Section 13.4.1.6, FRC authority:
- (1) The authority is now contained within the context of Item 2 of Section 13.4.1.6.
  - (2) The actual nature of the 50.59 review (i.e. an unreview safety question determination) which requires FRC action requires such actions prior to implementation. In addition, those items in 13.4.1.5 which get a 50.59 FRC review (Items 1 through 4, 7 and 8) are in the "proposed" or unimplemented stage.
5. The Nuclear Review Board (NRB) membership has been expanded as detailed in Section 13.4.2.1. The Vice President-Safety and Environment has assumed the Chairmanship and the Vice President-Power Plant Engineering and Design retired and was replaced by the Manager-Design Engineering from the Technical Services Department.
6. Item 2 of Section 13.4.2.6 deleted the specific reference to a subcommittee since the NRB can perform its review responsibilities through established committees. These committees would have operational interface to assure changes or revisions to plans and procedures do not adversely impact other plant groups. In addition, the NRB has the Assistant Plant Manager-Operations, Radwaste and Chemistry and the Manager-Administration as members which can comment on their respective responsibilities (Operations and Security).
7. Item 7 of Section 13.4.2.6 has been revised to provide conformance with Generic Letter 83-43 and the Technical Specifications (see Item 1 above).
8. The original Items 8 through 10 of Section 13.4.2.7 have been merged as indicated on Insert 1 to Page 13.4-8.
9. The original Item 7 of Section 13.4.2.7 is now contained in the revised Item 12 of Section 13.4.2.7.
10. The revised Item 12 of Section 13.4.2.7 replaces original Item 15 since this responsibility is adequately covered by Items 1, 2 and 3 of Section 13.4.2.6 and Items 2 and 3 of Section 13.4.2.9.

#### Chapter 13.5 - Plant Procedures

1. This Chapter has been expanded to address the Station Support Manual in addition to the Station Operating Manual. The

Station Support Manual is utilized by all non-plant staff groups while the Station Operating Manual is for use by the Plant Staff.

2. Changes made to this Chapter nearly reflect the finalized listing and description of procedures for the River Bend Nuclear Group.
3. Section 13.5.1.2 addresses operating procedures while Section 13.5.1.3 addresses maintenance procedures. As specified in NUREG-0800, the Standard Review Plant (SRP), Section 13.5.2 Acceptance Criteria II.C and 10CFR50.34(b)(6)(iv), Chapter 13.5 need only specifically discuss Operating and Maintenance Procedures. Therefore the deletions on Pages 13.5-15 and 16 were made.

CHAPTER 13

CONDUCT OF OPERATIONS

13.1 ORGANIZATIONAL STRUCTURE OF APPLICANT

13.1.1 Management and Technical Support Organization

This section provides information relative to the corporate organization, its functions and responsibilities, and the number and qualifications of personnel participating in the facility design, design review, design approval, construction management, testing, and operation of River Bend Station.

13.1.1.1 Design and Operating Responsibilities

The following sections summarize the degree to which design, construction, and preoperational activities have been accomplished and describe the specific responsibilities and activities relative to technical support for operations.

13.1.1.1.1 Design and Construction Activities ~~(Project~~  
~~Phase)~~

13.1.1.1.1.1 Principal Site-Related Engineering Work

Meteorology

A preoperational meteorological monitoring program was established at the site on December 16, 1971, to provide those meteorological factors that bear upon plant design, operation, and safety. During the first two annual cycles, the meteorological systems were calibrated by Weather Measure Corporation personnel. In March 1977 the program changed in that Teledyne-Geotech supplied new meteorological instruments. This company checks the instruments every two months. In addition, SWEC site personnel checked the instrumentation five days a week. SWEC's meteorological group reviewed data obtained via this monitoring program. The systems have since been turned over to GSU personnel with the most recent calibration by Teledyne-Geotech occurring in April 1983. The monitoring program is discussed in Section 2.3.

Geology

Prior to the initiation of construction, site and regional geological investigations were conducted by geotechnical

## 13.1.1.1.1.2 Design of Plant and Ancillary Systems

December 26, 1984

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An evaluation of progress as of ~~October 31, 1983~~ indicated overall completion of Unit 1 at 80.0 percent with 79.2 percent of the construction completed. Activities are planned in accordance with a fuel load in April 1985 for Unit 1.

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## 13.1.1.1.1.3 Review and Approval of Plant Design Features

Design control and review of safety-related systems, components, and structures was performed in accordance with the Construction QA Program.

During the construction phase, the implementation of design control has been delegated to General Electric Company for the NSSS and to Stone & Webster Engineering Corporation for the BOP. While GSU does not design any safety-related components, ~~the Project Engineer~~ is responsible for review, analysis, and comment on proposed design changes or modifications. This design review is accomplished through written procedures in accordance with the QA Program. In addition, ~~the Project Manager~~ directs GSU interfaces with GE and SWEC Engineering, as well as arranging the necessary support for the construction process. Design control as applied to fire protection requires input from a qualified fire protection engineer.

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## 13.1.1.1.1.4 Site Layout with Respect to Environmental Effects and Security Provisions

The shield, turbine, radwaste, and auxiliary buildings have portions of their structures below station grade, thus giving a low profile to the station. The grounds in the immediate vicinity of the plant buildings will be attractively landscaped. Undisturbed portions of the site will be allowed to remain in their natural state, with provisions having been made for management of wildlife.

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Security provisions in accordance with applicable NRC regulations were incorporated into the overall site layout as described in Section 13.6.

## 13.1.1.1.1.5 Development of Safety Analysis Reports

Overall responsibility for preparation and updating of the FSAR rests with the GSU nuclear licensing section. Preparation of the individual sections was assigned to the cognizant technical groups within GSU, or to SWEC for

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Insert 1 for page 13.1-3

the estimated percentage of construction completed was 94.4%.

Insert 2 for page 13.1-3

Director - River Bend Projects

Insert 3 for page 13.1-3

Manager - Projects Planning and Coordination

provisions having been made for emergency

Security provisions in accordance with applicable NRC  
regulations were incorporated into the overall design and  
construction of the project.

13.1.1.1.1.5 Development of Safety Analysis Reports

RBS FSAR

balance of plant systems and GE for NSS systems.

13.1.1.1.1.6 Review and Approval of Material and Component Specifications

Safety-related project specifications were reviewed in accordance with the construction phase quality assurance program.

13.1.1.1.1.7 Procurement of Materials and Equipment

Procurement of safety-related materials, equipment and services is accomplished in accordance with construction phase QA programs.

Efficient procurement procedures and instructions are established to provide for plant needs in accordance with established GSU Quality Assurance and corporate requirements. Measures have been taken through revision of the GSU Corporate Purchasing Policy to ensure that procurement for nuclear requirements occurs under Quality Assurance policies and procedures.

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activity

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The Manager-Engineering, Nuclear Fuels, and Licensing is responsible for nuclear fuel procurement. This

~~responsibility has been delegated to the Supervisor Nuclear Fuels and his staff, which develops contracts regarding nuclear fuel procurement. During construction, the~~

~~remainder of contract management is the responsibility of the Project Manager. The Project Manager's duties include directing the monitoring of contracts and the procurement~~

~~efforts required for the construction of River Bend Station.~~

During operations, the remainder of contract management is the responsibility of the Vice President - Administration. The Vice President - Administration duties include procurement and accounting required for RBS operation.

13.1.1.1.1.8 Management and Review of Construction Activities

Commencing with the start of site preparation in September 1975, the following review activities have been performed at the construction site by the GSU construction group.

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1. The River Bend Project Manager delegates authority to a staff that has technical and administrative competence in Engineering; Contract Management; Accounting, Cost, and Scheduling; and Startup. During the construction phase, he reports to the Vice President - River Bend Nuclear Group.

Insert 1 for page 13.1-4

Director - Nuclear Fuels Design and Safety Analysis

Insert 2 for page 13.1-4

Manager - Project Control whose

Insert 3 for page 13.1-4

and operation

Insert 4 for page 13.1-4

The Manager - Project Control is responsible for project cost control, accounting, contract surveillance and budgeting. The Manager - Project Control reports to the Senior Vice President - River Bend Nuclear Group and has the following individuals and their staffs reporting to him:

1. Director - Contract Management is responsible for monitoring all onsite construction activities performed by SWEC and other contractors to ensure compliance with contractual obligations as well as monitoring project accounting.
2. Director - Task Projects supports the Manager - Project Controls by working on any special projects, including financial and contractual problems, arising during the construction of RBS and any subsequent construction during operations.

The Manager - Project Control maintains direct responsibility for cost control and accounting to ensure high level management attention in these critical areas.

The Manager - Projects Planning and Coordination is responsible for various River Bend projects, the GSU interface with SWEC and GE, management systems and for development of an outage management system. The Manager - Projects Planning and Coordination reports to the Vice President - River Bend Nuclear Groups and has the following individuals and their staffs reporting to him:

1. Director - River Bend Projects is responsible for review, analysis and comment on proposed design changes or modifications with a technical staff that has competence in nuclear, electrical, mechanical and civil/structural matters. In addition, General Electric has been assigned the responsibility for the design and procurement of the NSSS and

Insert 4 for page 13.1-4 (cont'd.)

nuclear fuels; while Stone & Webster Engineering Corporation has been assigned the responsibility for the design and procurement of the BOP. The Director - River Bend Projects monitors these assigned responsibilities.

2. Director - Management Systems has a staff of analysts and engineers that evaluate and control the construction costs and scheduling problems.



2. The River Bend Project Engineer delegates authority to a staff that has technical competence in nuclear, electrical, mechanical, and

civil/structural matters. During the construction phase, he reports to the Project Manager. In addition, General Electric has been delegated the responsibility for the design and procurement of the NSSS and nuclear fuel; and Stone & Webster Engineering Corporation has been delegated the responsibility for the design and procurement of the BOP.

3. Cost and scheduling personnel monitor the contractor's cost and schedule performance to keep the GSU construction group informed of project status.
4. The GSU Director of Contract Management has monitoring responsibility for all onsite construction activities performed by SWEC and other contractors to ensure compliance with contractual obligations.
5. The Director - Accounting, Cost, and Scheduling has a staff of analysts and engineers that evaluate and control the construction costs and scheduling problems. This person reports to the River Bend Project Manager.

#### 13.1.1.1.2 Preoperational Activities

##### 13.1.1.1.2.1 Development of Human Engineering Design Objectives and Design Phase Review of Proposed Control Room Layouts

The human engineering design objectives were developed jointly with GSU headquarters personnel, SWEC, and GE.

Features pertinent to making the main control room an environment conducive to shift operations include: the use of consistent color schemes providing visual relief and instrumentation coordination; floor layering yielding noise abatement; and lighting that minimizes strobing effects and operator disorientation (which can be caused with neon lamps).

The main control room control center area was arranged to be efficient in operation. Every effort was made to ensure compatibility of all indicating and alarm systems for ease of operator interface. Instrumentation was arranged to minimize personnel interference with control system dynamics and to provide ease of maintenance and calibration.

Administrative controls for the test program have been detailed and agreed upon, and an overall schedule for RBS-1 startup program was finalized in December 1982.

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The startup manual contains a general description of organizational responsibilities and of SWEC and GE interfaces regarding the startup program. Procedures for writing, reviewing, and implementing tests are given. Preoperational and initial test program policies are stated and the responsibilities of the Facility Review Committee (FRC) and Joint Test Group (JTG) are delineated regarding the performance of reviews. Startup procedure preparation has begun and will continue throughout the startup program. Preoperational, startup and test programs will incorporate operational staff as discussed in Section 13.2.1.2. The experience gained provides an improved working knowledge of the systems, components, and equipment at RBS.

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#### 13.1.1.1.2.4 Development of Plant Maintenance Programs

The maintenance programs are organized to ensure efficient maintenance while maintaining radiation exposure as low as is reasonably achievable. The organization of the resident maintenance forces is described in Section 13.1.2. The mechanics, electricians, and technicians report through their respective supervisors to the ~~general maintenance supervisors~~. RBS will employ qualified and experienced maintenance personnel prior to the initial fuel loading.

The RBS maintenance program ensures the safety of the public and plant personnel, provides reliable equipment, and satisfies the requirements of the regulatory agencies having jurisdiction. Those structures, systems, and components that prevent or mitigate the consequences of postulated accidents are maintained in accordance with the quality assurance program promulgated by GSU.

The maintenance staff is sized to perform the routine and preventive maintenance work load. The station staff is supplemented as necessary by GSU maintenance crews and outside contractors. Maintenance and repairs of safety-related equipment are performed under the direction of cognizant supervisors and in accordance with accepted procedures and work practices.

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The scope and frequency of the preventive maintenance is based on past experience with similar equipment, engineering judgment, and the manufacturer's recommendations. Suitable records are kept to establish, at the minimum, the maintenance history of major safety-related equipment.

Insert for page 13.1-7

Assistant Plant Manager - Maintenance and Materials.

The Assistant Plant Manager - Maintenance and Materials will be responsible for the overall maintenance and materials program of the plant. This includes the development and implementation of maintenance and materials policies and procedures, the supervision of maintenance and materials activities, and the coordination of maintenance and materials activities with other plant functions. The Assistant Plant Manager - Maintenance and Materials will also be responsible for the selection and supervision of maintenance and materials personnel, and for the procurement and management of maintenance and materials supplies.

The Assistant Plant Manager - Maintenance and Materials will also be responsible for the development and implementation of maintenance and materials programs for the plant's various units and systems. This includes the development and implementation of preventive maintenance programs, the development and implementation of repair and overhaul programs, and the development and implementation of materials management programs.



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Maintenance and repairs of safety-related equipment will be performed in accordance with written maintenance instructions, operating instructions, station ~~and division~~ orders, vendor technical manuals, and applicable codes and regulations. Except for emergencies, all maintenance work is preplanned.

The responsibility for development of Plant Maintenance Programs lies with Plant Staff. Recommendation for creating, modifying, or removing any programs or procedure which affect Plant Maintenance must be reviewed by the

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~~General Maintenance Supervisor, Assistant Plant Manager-Operations, and the Facility Review Committee~~ for forwarding to the Plant Manager for final approval. Should changes affect ~~either design or operation, the Technical Staff and/or Nuclear Plant Engineering~~ are notified for proper review and approval. During startup, any tests or experiments requiring changes to existing or proposed maintenance programs or procedures are reviewed by the Superintendent-Startup and Test and the ~~General Maintenance Supervisor~~ for resolution of potential problems.

## 13.1.1.1.3 Technical Support for Operations

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Management

RBNG

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Technical support for plant operations has been established and is in effect for RBS. Refer to Fig. 13.1-1 for the ~~RBS corporate~~ structure, Fig. 13.1-2 for the ~~RBS Plant~~ Administrative structure, and Fig. 13.1-6 for the RBS Plant Operations structure. The Engineering, Nuclear Fuels, and Licensing department provides technical support to RBS for the life of the plant (see Fig. 13.1-4). Safety-related design work for RBS is the responsibility of the Manager-Engineering, Nuclear Fuels, and Licensing. Performance of ~~safety-related~~ design work is delegated to the Director-Nuclear Plant Engineering and his staff ~~(both onsite and offsite)~~ with additional input available from Plant Staff or outside consultants. This ~~safety-related~~ design work, i.e., configuration management including drawing control (see Sections 13.1.2 and 17.2.5), is accomplished in accordance with procedures which have been reviewed by the Manager-QA or his designee. Departmental procedures reflect applicable regulatory requirements and stipulate proper preparation, review, approval and verification.

The Nuclear Licensing section coordinates and effects official communications with the NRC staff, develops documentation concerning the station facility licenses and permits, and provides recommendations on regulatory issues.

Insert 1 for page 13.1-8

Maintenance and Materials

Insert 2 for page 13.1-8

Should changes affect operations, the Technical Staff and/or Nuclear Plant Engineering are notified for proper review and approval.

Insert 3 for page 13.1-8

Assistant Plant Manager - Maintenance and Materials

Insert 4 for page 13.1-8

(and non-safety-related design work)

1. The Assistant Plant Manager - Maintenance and Materials shall be responsible for the review and approval of all design work submitted to him for review and approval. The Assistant Plant Manager - Maintenance and Materials shall be responsible for the review and approval of all design work submitted to him for review and approval. The Assistant Plant Manager - Maintenance and Materials shall be responsible for the review and approval of all design work submitted to him for review and approval.

The Assistant Plant Manager - Maintenance and Materials shall be responsible for the review and approval of all design work submitted to him for review and approval. The Assistant Plant Manager - Maintenance and Materials shall be responsible for the review and approval of all design work submitted to him for review and approval.

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.

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

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Insert 1 ~~The Department of Technical Services~~ provides operational drawing support to River Bend Nuclear Group when requested.

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plant 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 operations 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 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.

plant staff  
with exper-  
ience

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### 13.1.1.2 Organizational Arrangement

#### 13.1.1.2.1 General

Fig. 13.1-1 depicts an organization chart for the ~~RBS~~ <sup>RBNG</sup> corporate structure; Fig. 13.1-2 depicts an organization chart for ~~Plant Administration~~; Fig. 13.1-3 depicts an organization chart for ~~Project Management present only~~ <sup>during construction</sup>; Fig. 13.1-4 depicts an organization chart for ~~offsite~~ technical support; Fig. 13.1-5 depicts an organization chart for ~~unit shift staffing of Unit 1~~ during operations; and Fig. 13.1-6 depicts an organization chart for the Plant Operations structure.

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RBNG

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GSU is committed to providing the necessary fire protection for RBS during construction, startup, and operation. Administrative controls and procedures exist which ensure

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Insert 1 for page 13.1-9

Department of Engineering and Technical Services

Insert 2 for page 13.1-9

various other Project Management groups



11 | in FSAR Section 9.5.1 and Appendices 9A and 9B.

13 | 13.1.1.2.2 Senior Vice President - River Bend Nuclear Group

The ultimate responsibility for design, procurement, construction, testing, quality assurance, and operation of RBS rests with the Senior Vice President-River Bend Nuclear Group who reports to the Chairman of the Board. ~~During the construction phase, the Senior Vice President-River Bend Nuclear Group delegates authority to the Vice President-River Bend Nuclear Group,~~

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13 | 13.1.1.2.3 Vice President - River Bend Nuclear Group

11 | The Vice President-RBNG assists the Senior Vice President-RBNG with the executive direction and coordination of the RBNG. The Vice President-RBNG delegates authority to

13 | ~~the Vice President-Administration, the Plant Manager, the Project Manager, and the Manager-Engineering, Nuclear Fuels and Licensing,~~ who, with their respective staffs, provide technical support for plant design and construction.

Insert 2

13 | 13.1.1.2.4 Vice President - ~~Administration~~

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The Vice President - ~~Administration~~ reports to the <sup>Senior</sup> Vice President-RBNG. He is responsible for developing and maintaining the functions of emergency preparedness, site security, training, environmental monitoring, office services, records, procurement and accounting. Assistance is provided as indicated on Fig. 13.1-2. His principal accountabilities ~~during operations~~ are as follows:

13.1-3

1. Ensure that the River Bend Station has a properly trained and qualified, contract security force required to implement and maintain the RBS Physical Security Plan.
2. Direct the management of documentation and records management functions in compliance with regulatory requirements.
3. Direct the development of procedures and procedure manuals for all out of plant functions and activities and ensure the verification of procedures.

14. Ensure that the necessary environmental monitoring programs meet the plant's needs during construction and operation.

Insert 1 for page 13.1-10

the Vice President - Safety and Environment, the Manager - Quality Assurance, and the Manager - Project Control.

Insert 2 for page 13.1-10

the Manager - Administration, and the Manager - Projects Planning and Coordination

Insert 3 for page 13.1-10

Safety and Environment

Insert 4 for page 13.1-10

auditing and evaluating all programs concerning safety and reliability as well as environmental monitoring.

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- 2 ~~1~~. Ensure that regulatory requirements imposed by NRC  
and other agencies are implemented.  
└ on the Environmental Services group

Insert for page 13.1-11

3. Manage and utilize the Independent Safety Engineering Group to audit and evaluate all programs concerning safety and reliability.
4. Serve as Chairman of the Nuclear Review Board (see FSAR Section 13.4.2.)



6. Direct the emergency preparedness 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.

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#### 13.1.1.2.4.1 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 and 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 RO/SRO training courses. See Section 13.2 for a further description of the RBS Training Program.

#### 13.1.1.2.4.2 Director - Support Services

The Director-Support Services is responsible for Records Management so that sufficient records shall be maintained in accordance with 10CFR50 Appendix B, Criterion 17, and Document Control so that issuance of documents (instructions, procedures, and drawings) is in accordance with 10CFR50 Appendix B, Criterion 6. His additional responsibilities are as follows:

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1. 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.
2. Originating and maintaining out-of-plant procedures, including the review, comment, and approval of new or revised out-of-plant procedures.
3. Plant accounting and office administration.

#### 13.1.1.2.4.3 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

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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.

13.1.1.2.4.4 Plant Security Supervisor

The Plant Security Supervisor is responsible for the conduct and content of security programs. He is also responsible for a contracted security guard force which implements and maintains the RBS Physical Security Plan.

13.1.1.2.4.5 ~~Environmental Supervisor~~

The ~~Environmental Supervisor~~ is responsible for the development and direction of the environmental programs at River Bend Station. These programs will ensure regulatory compliance and fulfillment of licensing commitments. The ~~Environmental Supervisor~~ is responsible for the preparation or review of all environmental reports. These include the Radiological Environmental Operating Reports, quarterly Discharge Maintaining Reports, Manifest Quarterly Reports, and reports and letters associated with hazardous waste management requirements and the National Pollutant Discharge Elimination System. He also directs a staff and contractors engaged in environmental studies, sampling, and analyses.

non-radiologica

13.1.1.2.5 Manager-Engineering, Nuclear Fuels and Licensing

The Manager-Engineering, Nuclear Fuels and Licensing, is responsible for the administration of the Nuclear Licensing, Nuclear Fuels, and Nuclear Plant Engineering Sections. His supervision ensures that the necessary licenses are obtained in compliance with pertinent regulations; 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. During construction, he is also responsible for developing emergency plans that ensure the safety of the public and plant personnel, and meet GSU, NRC, state and local criteria. At the time of fuel load, the responsibility for emergency planning is transferred to the Vice President - Administration. His principal duties include:

1. Directly prepare and submit all supportive data for RBS nuclear licenses and permits and specifically

Insert 1 for page 13.1-11a

Supervisor - Environmental Services

Insert 2 for page 13.1-11a

13.1.1.2.4.2 Independent Safety Engineering Group

See the discussion of the Independent Safety Engineering Group (ISEG) in Section 13.4.3.

Insert 3 for page 13.1-11a

Design and Safety Analysis

RBS FSAR

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

- 13 | 11 | 5. During the construction phase, 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.

- 13 | 11 | 6. During the construction phase, develop and assist local (parish) emergency response programs and assist and interface with analogous state (Louisiana and Mississippi) groups to meet regulatory requirements.

- 11 | 5 <sup>7</sup>. 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 | 6 <sup>8</sup>. Develop nuclear fuel safeguards and incore fuel management programs.

- 7 <sup>9</sup>. Develop programs for disposal of spent fuels and high level wastes that will meet agency requirements and minimize GSU expenditures.

- 8 <sup>10</sup>. 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 | 9 <sup>11</sup>. Review analyses pertinent to safety as conducted in response to issues that raise regulatory and industry concern.

- 10 <sup>12</sup>. Coordinate and oversee technical support from the corporate engineers.

- 11 <sup>13</sup>. Oversee the yearly FSAR updates and other license documents.

13 | 13.1.1.2.5.1 Director - Nuclear Plant Engineering

The Director - Nuclear Plant Engineering (NuPE) is responsible for the mechanical, electrical, and nuclear



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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 onsite, 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.

### 13.1.1.2.5.2 Director - Nuclear Licensing

The Director-Nuclear Licensing coordinates and effects official communications with the NRC, ~~Staff and appropriate state and local officials~~. He also 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 preparing and updating of the FSAR and the ER-OLS and analysis of potential safety problems which may be reported to the NRC as significant deficiencies (10CFR50.55(e) or 10CFR21).

### 13.1.1.2.5.3 Supervisor - Emergency Planning

Until fuel load, the Supervisor-Emergency Planning reports to the Manager-Engineering, Nuclear Fuels, and Licensing and is responsible for developing a satisfactory emergency response plan for RBS that meets regulatory requirements to support the operating license application, and ensuring that the plan remains up-to-date and meets regulatory requirements. The Supervisor-Emergency Planning is also responsible for interface between local and state emergency response programs.

### 13.1.1.2.5.4 <sup>3</sup>Supervisor - Nuclear Fuels

The ~~Supervisor Nuclear Fuels~~ is responsible for developing and monitoring the contracts and activities for 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 Nuclear Materials Manager, responsible as the and is

Insert 1 for page 13.1-12a

Engineering and Technical Services

Insert 2 for page 13.1-12a

Director - Nuclear Fuels Design and Safety Analysis

Insert 3 for page 13.1-12a

Reporting directly to the Director - Nuclear Fuels Design and Safety Analysis,

13 | for the development and application of in-core fuels management programs.

13.1.1.2.6 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

ensure that River Bend Station is completed on schedule and budget; 2) Contract Management, which entails monitoring contracts and procurement for the station; 3) Project Engineering, which is responsible for directing the A/E and GSU engineering and construction activities, and; 4) Startup and Test, which includes preparation of procedures and startup and testing activities. His principal activities include:

1. Coordinating, accounting, budgeting, and scheduling activities to ensure adequacy of cost records and accomplishing completion of the River Bend Nuclear Station on schedule and within budgetary constraints.
2. Directing the monitoring of contracts and the procurement effort required for the construction of the River Bend Nuclear Station.
3. Directing the A/E and GSU engineering effort to ensure implementation of the plant design and arranging the necessary support of the design and construction process.
4. Ensuring the development of plans and procedures to accomplish objectives of the startup and test phase of the project and directing the startup and test program.

#### 13.1.1.2. <sup>6</sup> Plant Manager

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

#### 13.1.1.3 Qualifications of Headquarters Staff

##### 13.1.1.3.1 General

Members of the <sup>support</sup> ~~headquarters~~ staff (personnel in the ~~Engineering, Nuclear Fuels, and Licensing Departments~~) available for the technical support of RBS possess the education, experience, and skill that provide reasonable assurance that decisions and actions during the design, procurement, construction, testing, quality assurance, and



Insert 1 for page 13.1-13

In addition, he is responsible for the station preoperational and startup testing program.

Insert 2 for page 13.1-13

#### 13.1.1.2.7 Manager - Quality Assurance

The responsibilities, duties and support staff for the Manager - Quality Assurance are described in Section 17.2.

#### 13.1.1.2.8 Manager - Administration

The Manager - Administration is responsible for the departments of Nuclear Training, Plant Security, post-license Emergency Planning and Administrative Support as described below.

##### 13.1.1.2.8.1 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 and 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 RO/SRO training courses. See Section 13.2 for a further description of the RBS Training Program.

##### 13.1.1.2.8.2 Supervisor - Support Services

The Director-Support Services is responsible for Records Management so that sufficient records shall be maintained in accordance with 10CFR50 Appendix B, Criterion 17, and Document Control so that issuance of documents (instructions, procedures, and drawings) is in accordance with 10CFR50 Appendix B, Criterion 6. His additional responsibilities are as follows:

1. Originating and maintaining out-of-plant procedures, including the review, comment, and approval of new or revised out-of-plant procedures.
2. Plant accounting and office administration.

##### 13.1.1.2.8.3 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.

#### 13.1.1.2.8.4 Plant Security Supervisor

The Plant Security Supervisor is responsible for the conduct and content of security programs. He is also responsible for a contracted security guard force which implements and maintains the RBS Physical Security Plan.

#### 13.1.1.2.9 Manager - Projects Planning and Coordination

The responsibilities, duties and support staff for the Manager - Project Planning and Coordination are described in Section 13.1.1.1.1.8.

#### 13.1.1.2.10 Manager - Project Control

The responsibilities, duties and support staff for the Manager - Project Control are described in Section 13.1.1.1.1.8.

Insert 3 for page 13.1-13

at the corporate office and Nuclear Plant Engineering (NuPE) located at RBS.

RBS FSAR

operation of RBS do not constitute a hazard to the health and safety of the public.

The Nuclear Review Board (NRB), responsible for independent reviews, ~~primarily~~ has members who are not directly responsible for plant operations. Membership in the NRB

shall require a bachelor's degree in engineering or the physical sciences (or equivalent experience) as appropriate, and 3 yr of professional level experience in the field of

~~this specialty.~~ More details on the NRB can be found in Sections 13.4 and 16.6.5.2.

Insert 1 for page 13.1-13a

a majority of

Insert 2 for page 13.1-13a

FSAR Section 13.4.2 and Technical Specification 6.5.3.



## RBS FSAR

The educational background and experience of the ~~headquarters~~ staff meet or exceed the criteria presented in ANSI/ANS-3.1-1978. The qualifications for nuclear plant personnel are described in Section 13.1.3.

### 13.1.1.3.2 Resumes

The resumes of key headquarters personnel providing technical assistance for the construction and operation of RBS are presented in Appendix 13A.

### 13.1.2 Operations Organization

The operation of RBS is under the responsibility and authority of the Plant Manager.

11 | RBS instructions, procedures, and drawings used by the operation staff are reviewed by the QA Department in accordance with the GSU OQA Manual. Further discussion of drawing control is addressed in Section 17.2.5.

#### 13.1.2.1 Plant Organization

these figures | The plant organization for RBS-1 is shown in ~~Fig. 13.1-2~~ <sup>Figures 13.1-5 and 13.1-6</sup>. The number of personnel necessary to support plant operations and those plant positions requiring NRC licenses are indicated in ~~this figure~~. The functional positions in ~~Fig. 13.1-2~~ will be filled by the time of initial fuel loading. When additional personnel are required to augment the normal crews during outages, GSU plans to have plant personnel work overtime and use consultants and contractor personnel to handle the additional work load. Where the number of personnel in a duplicate position is increased for the second unit, these positions will be filled prior to the initial fuel loading of Unit 2.

#### Insert 1 13.1.2.1.1 ~~Operations Section~~

The operations section is responsible for fuel loading, startup, operation, and shutdown of all station equipment. It also provides the nucleus of the emergency and fire-fighting teams. The operations section is under the responsibility and authority of the Operations Supervisor who reports to the Assistant Plant Manager-Operations.

As shown, <sup>13.1-5</sup> ~~in addition, at least one~~ radiation protection technician, one chemistry technician, and one test technician - nuclear are on duty at all times.

Insert 1 for page 13.1-14

Operations, Radwaste and Chemistry Section

Insert 2 for page 13.1-14

General

Insert 3 for page 13.1-14

Radwaste and Chemistry. The General Operations Supervisor, an SRO, is responsible for the actual day-to-day operation of the plant and supervises a group of 42 operators and 13 supervisors. The General Operations Supervisor is responsible for issuing special orders to shift operations personnel. In the absence of the General Operations Supervisor, his responsibilities are assumed by the Assistant Operations Supervisor.

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

Insert 4 for page 13.1-14

Normally, a chemistry or radiation protection technician, but not both, and the test technician - nuclear are included in the make-up of the fire brigade. If sufficiently trained personnel are not available, then up to 2 other qualified fire brigade members from non-operations portions of Plant Staff will be on-shift.

Plant management and technical support is present or on call at all times. This shift composition provides adequate manpower to cover operating contingencies which can reasonably be expected to occur, and if necessary, implement the Emergency Plan.

13

Insert 1 →  
Insert 2 13.1.2.1.2 Maintenance Section

The maintenance section is responsible for all mechanical, electrical, and I&C maintenance activities in the plant. The maintenance section is under the responsibility and authority of ~~the General Maintenance Supervisor, who reports to~~ the Assistant Plant Manager.

Insert 3 The maintenance section also provides trained personnel and supervision to perform the tasks related to supplies and spare parts for the plant. 11

#### 13.1.2.1.3 Radiation Protection/Chemistry Section

The radiation protection section is responsible for establishing and implementing the RBS radiation protection program. ~~and is responsible for the sampling and analysis of plant fluid systems.~~ This includes ensuring that radiation exposure is kept as low as reasonably achievable (ALARA) and within the guidelines of 10CFR20. This section also ensures that all plant staff, contractors, and visitors to RBS have received proper radiation training and are monitored for radiation in accordance with the Radiation Protection Manual and NRC regulations. This section certifies that all radioactive material meets DOT, NRC, and receiver requirements prior to being removed from RBS. 11

Insert 4 The radiation protection/chemistry section is under the responsibility and authority of the ~~Radiation Protection/Chemistry Supervisor, who reports to the Assistant Plant Manager Operations.~~ 11

Insert 5 13.1.2.1.4 Technical Staff Section 13

Services  
DELETE AND REPLACE WITH INSERT 6 The technical staff section is responsible for all plant and reactor engineering activities at the plant. This section

Insert 1 for page 13.1-15

The chemistry section is responsible for all plant chemistry activities including sampling and analysis of radioactive and nonradioactive plant fluid systems; trend analysis of results; and recommendations for corrective action. The chemistry section is under responsibility and authority of the Chemistry Supervisor, who reports to the Assistant Plant Manager - Operations, Radwaste and Chemistry.

The radwaste section is responsible for developing the Process Control Plan and processing station liquid and solid radwaste. The radwaste section is under the responsibility and authority of the Radwaste Supervisor, who reports to the Assistant Plant Manager - Operations, Radwaste and Chemistry.

Insert 2 for page 13.1-15

and Materials

Insert 3 for page 13.1-5

Maintenance and Materials. Three supervisors, Electrical Maintenance Supervisor, Mechanical Maintenance Supervisor and Instrumentation and Controls Supervisor, are responsible for those specific maintenance duties which are applicable to their group.

As an example, the Instrumentation and Control Supervisor is directly responsible for all work performed by instruments and controls (I&C) foremen and technicians to maintain and/or repair any instruments or controls. His duties include coordination, development, and administration of the I&C section and personnel; development, scheduling, implementation, and review of appropriate procedures with proper record control; conformance to RBS OQA/QC Program; and adherence to RBS Operating Manual and applicable I&C Technical Specifications.

The Supervisor - Purchasing and Materials is responsible for the procurement and control related to the supplies and spare parts for the plant. This individual also reports to the Assistant Plant Manager - Maintenance and Materials.

Insert 4 for page 13.1-15

Supervisor - Radiological Programs



Insert 5 for page 13.1-15

The Supervisor - Radiological Programs is responsible for the management of the RBS radiation protection program and the direction of all radiation protection department personnel. He supervises the radiation and personnel monitoring programs, the ALARA program, the respiratory protection program, and the whole body counting program. He ensures that adequate radiation protection training has been given to all plant staff and emergency team members and that they have completed training and medical qualifications prior to working in radiation areas.

The normal backup to the Supervisor - Radiological Programs is the Radiation Protection Supervisor. The qualifications of both of these individuals are provided in Appendix 13A.

Insert 6 for page 13.1-15

comprised of the Technical Staff and Plant Services group. The Technical Staff includes the following four supervisors and their respective staffs: Process Systems Supervisor, Computer Systems Supervisor, Control Systems Supervisor and Reactor Engineering Supervisor. These individuals report to the Assistant Plant Manager - Technical Services and are responsible for plant systems engineering, performance evaluation, technical support and instrumentation and control engineering at RBS. In addition, the Technical Staff has the responsibility for development of the fire protection program, including assisting in the development of the fire protection-related training program, as well as maintaining, inspecting, and testing of all fire protection equipment (see Section 9A.3.2.1 for additional discussion).

The Plant Services group is under the direction of the Plant Services Supervisor who in turn reports to the Assistant Plant Manager - Technical Services. The Plant Services group directs station procedure preparation, coordinates the station corrective action program and coordinates station review of technical information supplied by various sources, including vendors, INPO, and the NRC. In addition, this section coordinates activities with offsite GSU administrative and licensing groups to ensure interface with plant administration.

11 is also responsible for technical support, plant systems engineering, instrumentation and control engineering, surveillance and outage planning, performance, reliability, and compliance and fire protection. This section is under the direction of the Assistant Plant Manager-Services.

#### 13 13.1.2.1.5 Technical Materials and Plant Services Section

The Technical Materials and Plant Services Section directs station procedure preparation, manages materials, and coordinates the station corrective action program, the NPRDS program, and station review of technical information supplied by various sources, including vendors, INPO, and the NRC. In addition, this section coordinates activities with offsite GSU administrative and licensing groups to ensure interface with plant administration.

#### 13.1.2.2 Plant Personnel Responsibilities and Authorities

Insert The functions, responsibilities, and authorities of key supervisory and technical positions in the RBS organization are briefly described in the following sections. Detailed ~~job descriptions~~ for these positions have been prepared in accordance with ANSI/ANS-3.1-1978, Selection and Training of Nuclear Power Plant Personnel.

##### 13.1.2.2.1 Plant Manager

11 The Plant Manager has overall responsibility for the safe, reliable, and efficient operation of the plant and training of the staff. He is responsible for maintaining compliance with the requirements of the operating license and technical specifications. It is his responsibility to maintain a staff of properly trained and licensed personnel to accomplish all the various plant functions. He reports directly to the Vice President-RBNG.

Insert for page 13.1-16

administrative procedures

Insert 1 for page 13.1-17

an Assistant Plant Manager or other qualified individual as described in the Station Administrative Procedures.

Insert 2 for page 13.1-17

supervisors

Insert 3 for page 13.1-17

, Radwaste and Chemistry

Insert 4 for page 13.1-17

1. General Operating Supervisor
2. Chemistry Supervisor
3. Radwaste Supervisor

Insert 5 for page 13.1.17

General

Insert 6 for page 13.1-17

The following supervisors report to the Assistant Plant Manager - Maintenance and Materials:

1. Supervisor - Electrical Maintenance
2. Supervisor - Instrumentation and Control
3. Supervisor - Mechanical Maintenance
4. Supervisor - Purchasing and Materials

In the absence of the Assistant Plant Manager - Maintenance and Materials, his responsibilities are assumed by a designated individual.



Insert 7 for page 13.1-17

Technical

Insert 8 for page 13.1-17

1. Process Systems Supervisor
2. Control Systems Supervisor
3. Computer Systems Supervisor
4. Reactor Engineering Supervisor
5. Plant Services Supervisor

Insert 9 for page 13.1-17

Process Systems Supervisor

Insert 10 for page 13.1-17

#### 13.1.2.2.3 Plant Staff Supervisors

The plant staff supervisors identified on Figure 13.1-6 have their duties and responsibilities defined in the section descriptions of Section 13.1.2.

Insert 11 for page 13.1-17

Either the Plant Manager or the Assistant Plant Manager - Operations, Radwaste and Chemistry will

The Plant Manager issues plant administrative procedures which clearly define the responsibilities and authorities of key plant personnel.

Insert 1 ~~During the absence of the Plant Manager, his responsibilities are assumed by the Assistant Plant Manager-Operations.~~

#### 13.1.2.2.2 Assistant Plant Managers

Insert 11 The Assistant Plant Managers report to the Plant Manager. They exercise managerial responsibility for the safe and efficient operation and maintenance of RBS. ~~They~~<sup>S</sup> have been trained to a level commensurate with a Senior Reactor Operator or have been previously certified or licensed as an SRO on a BWR power plant prior to commercial operation.

Insert 2 The following ~~section heads~~ report to the Assistant Plant Manager-Operations:

- Insert 3
- |  |
|--|
| 1. Operations Supervisor                     |
| 2. General Maintenance Supervisor            |
| 3. Radiation Protection/Chemistry Supervisor |
- DELETE AND REPLACE WITH → INSERT 4

Insert 3 In the absence of the Assistant Plant Manager-Operations his responsibilities are assumed by the Operations Supervisor or another designated individual.

Insert 2 The following ~~section heads~~ report to the Assistant Plant Manager-Services:

- DELETE AND REPLACE WITH → INSERT 8
- |  |
|--|
| 1. Technical Staff                                   |
| 2. Technical Materials and Plant Services Supervisor |

Insert 7 In the absence of the Assistant Plant Manager-Services, his responsibilities are assumed by the ~~Technical Materials and Plant Services Supervisor~~ or another designated individual.

Insert 10 →

### 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-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.

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

### 13.1.2.2.4 Assistant Operations Supervisor

11| The Assistant Operations Supervisor, an SRO, functions as the Operations Supervisor's Senior Shift Supervisor and is 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 responsibility 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 is onsite, in the main control room, when fuel is being moved or loaded.

### 13.1.2.2.6 Control Operating Foreman

13| 11| The Control Operating Foreman, an SRO, monitors 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.



## 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. 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.

## 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.



#### 13.1.2.2.10 Instrumentation and Controls Supervisor

The Instrumentation and Controls Supervisor reports to the General Maintenance Supervisor and is directly responsible for all work performed by instruments and controls (I&C) foreman and technicians to maintain and/or repair any instruments or controls. His duties include coordination, development, and administration of the I&C section and personnel; development, scheduling, implementation, and review of appropriate procedures with proper record control; conformance to RBS OQA/QC Program; and adherence to RBS Operating Manual and Applicable I&C Technical Specifications.

#### 13.1.2.2.11 Radiation Protection/Chemistry Supervisor

The Radiation Protection/Chemistry Supervisor is responsible for the management of the RBS radiation protection program, the direction of all radiation protection department personnel, and directing the sampling and analysis of plant fluid systems as well as evaluating and reporting the results. He supervises the radiation, environmental, and personnel monitoring programs, the ALARA program, the respiratory protection program, and the whole body counting program. He ensures that adequate radiation protection training has been given to all plant staff and emergency team members and that they have completed training and medical qualifications prior to working in radiation areas.

The Radiation Protection/Chemistry Supervisor reports to the Assistant Plant Manager-Operations, but has direct access to the Plant Manager on all radiation protection matters. The normal backup to the Radiation Protection/Chemistry Supervisor is the Radiation Protection Supervisor. The qualifications of this individual are provided in Section 13.1.3.2.

#### 13.1.2.2.12 Technical Staff

The Technical Staff report to the Assistant Plant Manager-Services and are responsible for all plant systems engineering, performance evaluation, technical support, and instrumentation and controls engineering at the plant. The Assistant Plant Manager-Services directs the work of the Process Systems Supervisor, Supervisor Computer Systems, Control Systems Supervisor, and Reactor Engineering Supervisor.

The Technical Staff also have the responsibility for development of the fire protection program, including

assisting in the development of the fire protection-related training program and maintaining, inspecting, and testing of all fire protection equipment (see Section 9A.3.2.1 for additional discussion).

11

#### 13.1.2.2.13<sup>4</sup> Operational Quality Assurance Supervisor

The OQAS is assigned responsibility for assuring implementation of the GSU QA program onsite, and additions or changes thereto at the station. He reports to the Director, QA, and maintains a working interface and communication with the Plant Manager and other members of the Plant Staff.

Insert 1

13

#### 13.1.2.2.14 Technical Materials and Plant Services Supervisor

The Technical Materials and Plant Services Supervisor reports to the Assistant Plant Manager - Services and directs the activities of the material supervisor, NPRDS coordinator, station procedures coordinator, and surveillance test coordinator.

#### 13.1.2.2.15<sup>5</sup> Contingency Responsibilities

During normal plant operations, the Plant Manager is responsible for overall plant operation. In the event of unexpected contingencies of a temporary nature, the following persons will be responsible in the order listed for all plant activities.

Insert 2

Insert 3

1. Plant Manager
2. Assistant Plant Manager-Operations, Radwaste and Chemistry
3. General Operations Supervisor
4. Assistant Operations Supervisor
5. Shift Supervisor.

11

11

Insert 4

Insert 1 for page 13.1-21  
Operations Quality Assurance

Insert 2 for page 13.1-21  
or whenever the Plant Manager is unavailable,

Insert 3 for page 13.1-21  
operational

Insert 4 for page 13.1-21

In the event of incidents which require the implementation of the RBS  
Emergency Plan, responsibilities will be as indicated therein (see Table  
13.3-4).

## 13.1.2.3 Operating Shift Crews

During normal operations, the licensed shift complement consists of one Shift Supervisor, holding a senior reactor operator license; one Control Operating Foreman, holding a senior reactor operator license; three Nuclear Control Operators, holding reactor operator licenses. In addition, each shift will include four nuclear equipment operators who are nonlicensed operators. ~~There is also a~~ qualified

Insert 1

~~Radiation Protection Technician~~ assigned to each shift to implement the radiation protection program, a Chemistry Technician to perform necessary sampling and analysis, and a Test Technician-Nuclear to troubleshoot ~~electrical~~ problems.

Insert 2

During refueling operations, any additional shift personnel requirements are filled by qualified personnel working overtime and utilizing relief shift personnel; however, any overtime which may be required will follow the guidelines of Generic Letter No. 82-12 as reprinted below:

1. An individual should not be permitted to work more than 16 hrs straight, excluding shift turnover time.
2. An individual should not be permitted to work more than 16 hrs in any 24-hr period, nor more than 24 hrs in any 48-hr period, nor more than 72 hrs in any 7-day period, all excluding shift turnover time.
3. A break of at least 8 hours should be allowed between work periods, including shift turnover time.
4. Except during extended shutdown periods, the use of overtime should be considered on an individual basis and not for the entire staff on a shift.

11

Any deviation from the above guidelines must be authorized by the Plant Manager, his assistants, or higher levels of management. Controls are included in the procedures such that individual overtime is reviewed monthly by the Plant Manager, or his designee, to ensure that excessive hours have not been assigned.

Insert 3



Insert 1 for page 13.1-22

are two

Insert 2 for page 13.1-22

instrumentation

Insert 3 for page 13.1-22

#### 13.1.2.3.1 Shift Supervisor

The Shift Supervisor, an SRO, is responsible to the General Operations Supervisor for all activities relating to station operation and safety during his assigned shift. This responsibility 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 is onsite, in the main control room, when fuel is being moved or loaded.

#### 13.1.2.3.2 Control Operating Foreman

The Control Operating Foreman, an SRO, monitors 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.

#### 13.1.2.3.3 Nuclear Control Operator

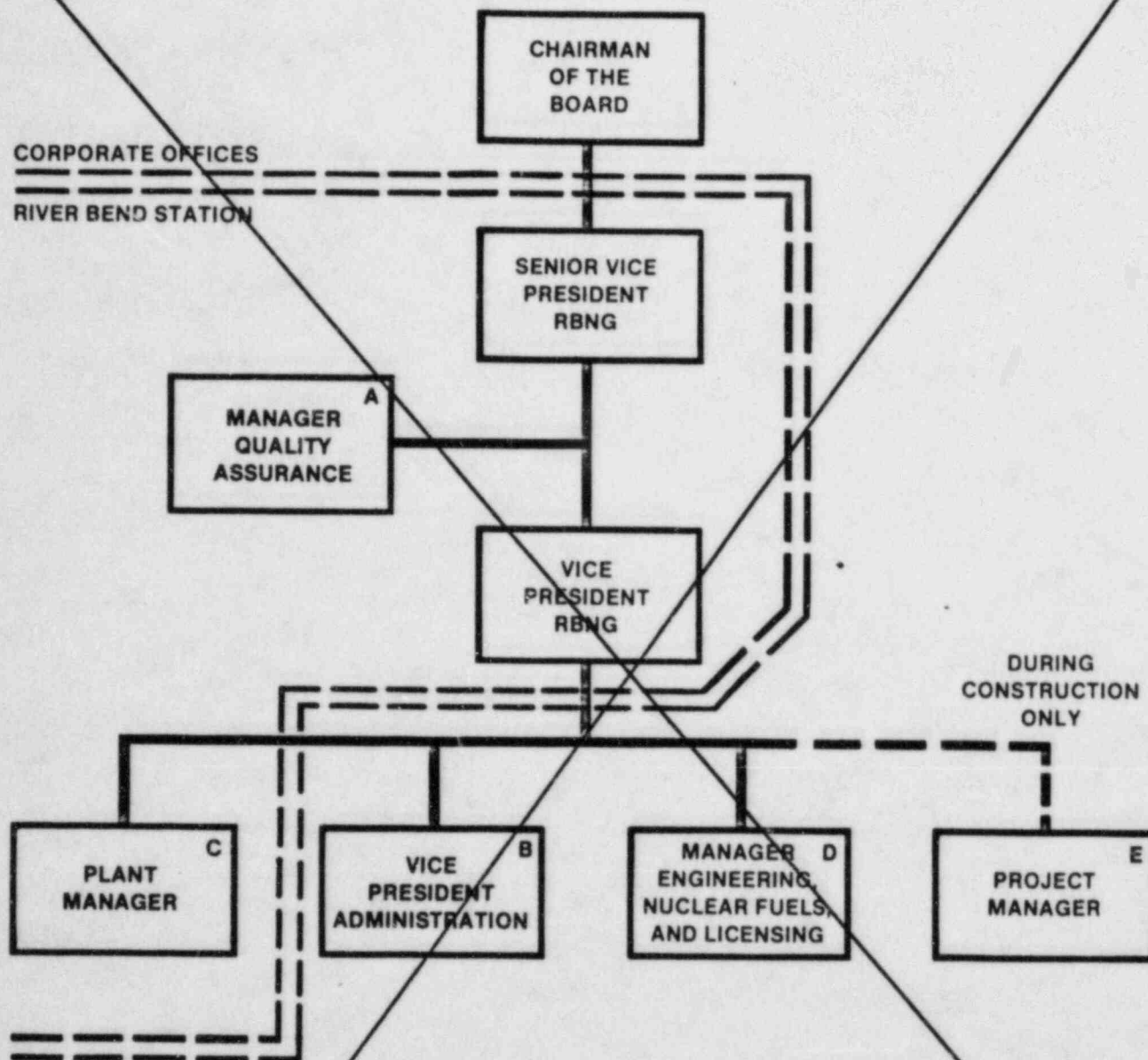
The Nuclear Control Operators, under the direction of the Control Operating Foreman or the Shift Supervisor, monitor and manipulate the reactor controls as well as other controls and plant auxiliary equipment. There are normally three Nuclear Control Operators assigned to each shift and at least one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

#### 13.1.2.3.4 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.

CORPORATE OFFICES  
RIVER BEND STATION



NOTES:  
A SEE FIGURE 17.2-1  
B SEE FIGURE 13.1-2  
C SEE FIGURE 13.1-6  
D SEE FIGURE 13.1-4  
E SEE FIGURE 13.1-3

DELETE AND  
REPLACE WITH  
REVISED FIGURE

FIGURE 13.1-1

~~CORPORATE STRUCTURE~~  
~~RIVER BEND STATION UNIT 1~~

RIVER BEND STATION  
FINAL SAFETY ANALYSIS REPORT

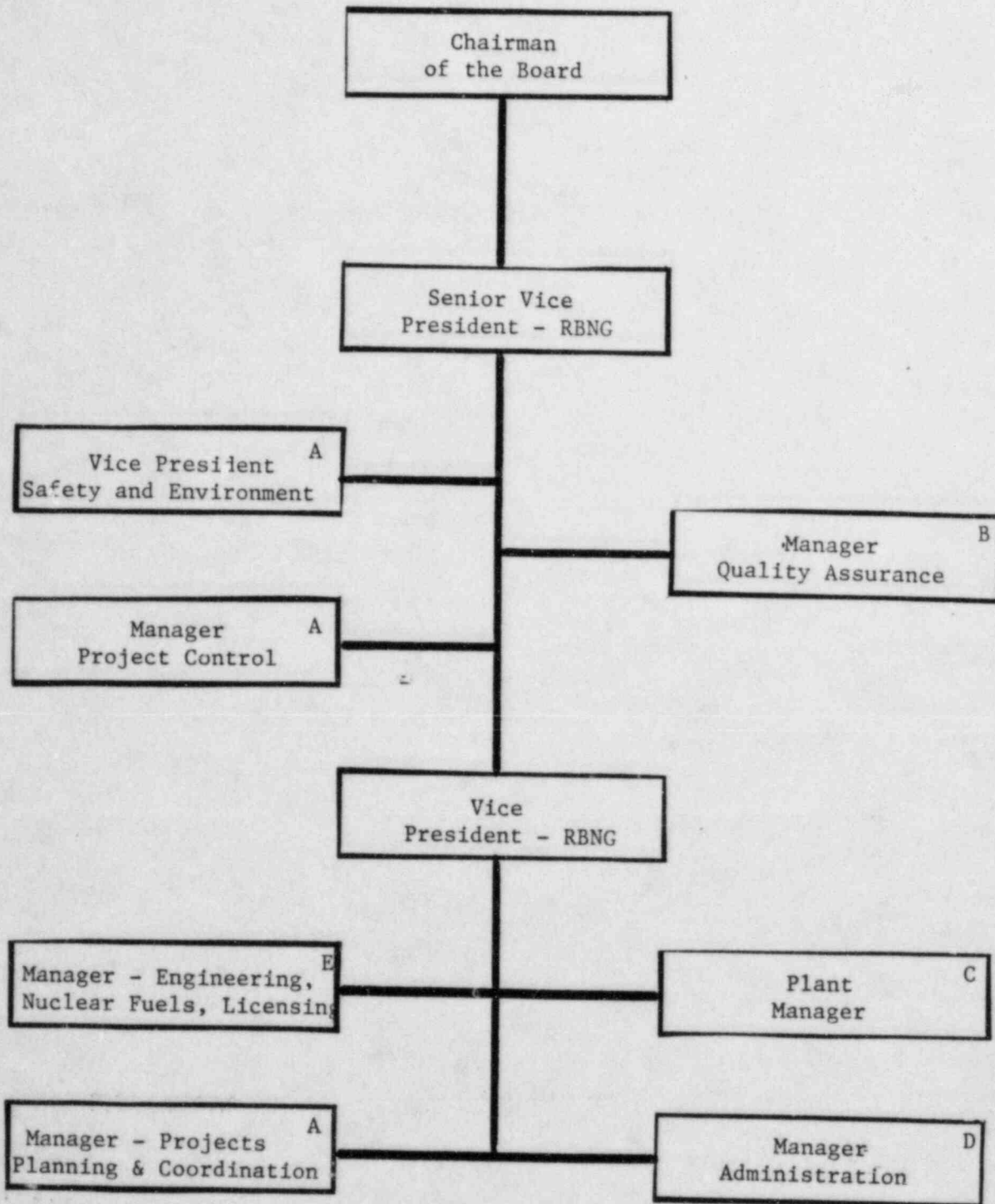


Figure 13.1-1  
River Bend Nuclear Group  
Management Structure

NOTES:

- A See Figure 13.1-3
- B See Figure 17.2-1
- C See Figure 13.1-6
- D See Figure 13.1-2
- E See Figure 13.1-4



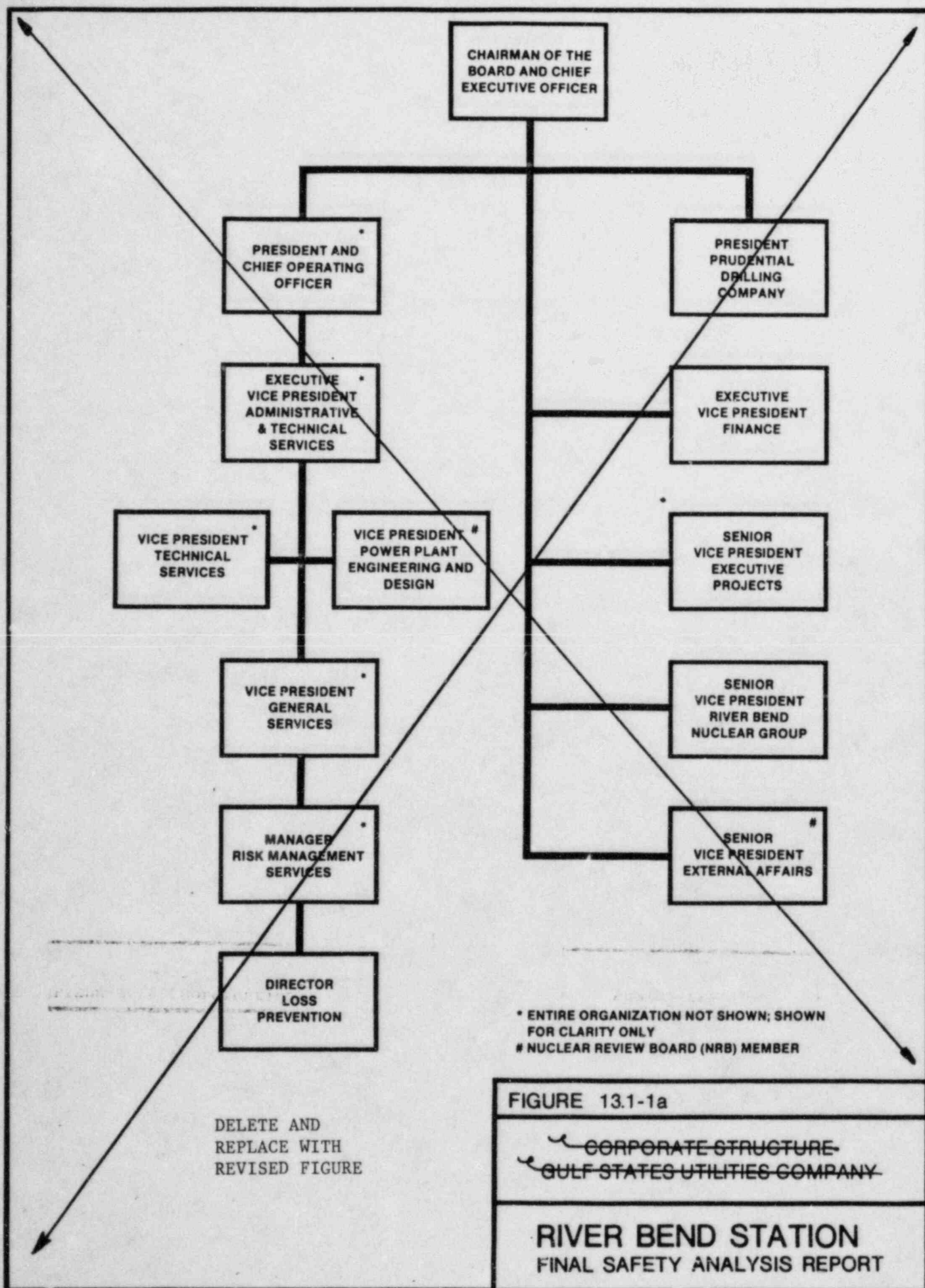


FIGURE 13.1-1a

~~CORPORATE STRUCTURE-~~  
~~GULF STATES UTILITIES COMPANY~~

**RIVER BEND STATION**  
**FINAL SAFETY ANALYSIS REPORT**

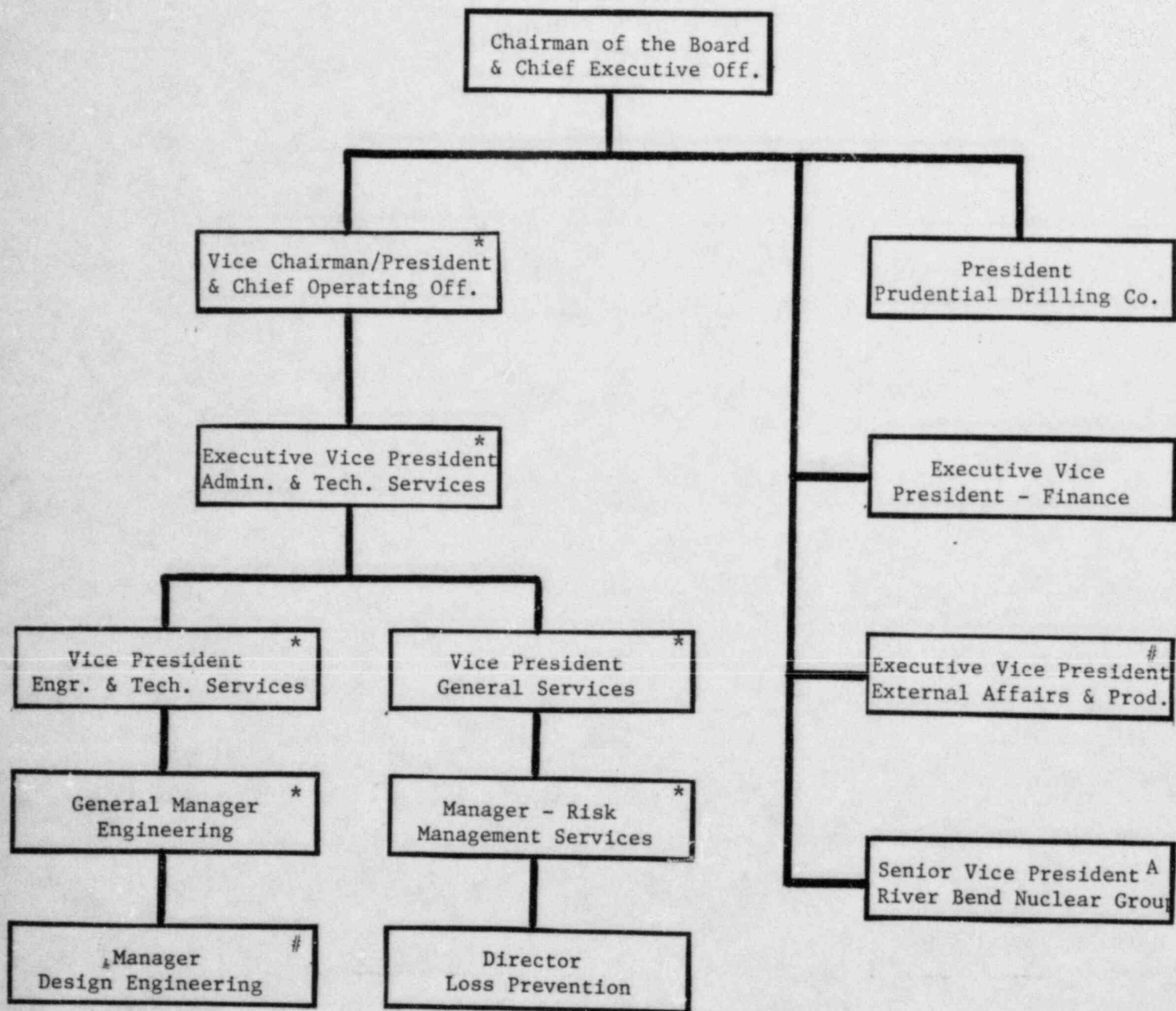


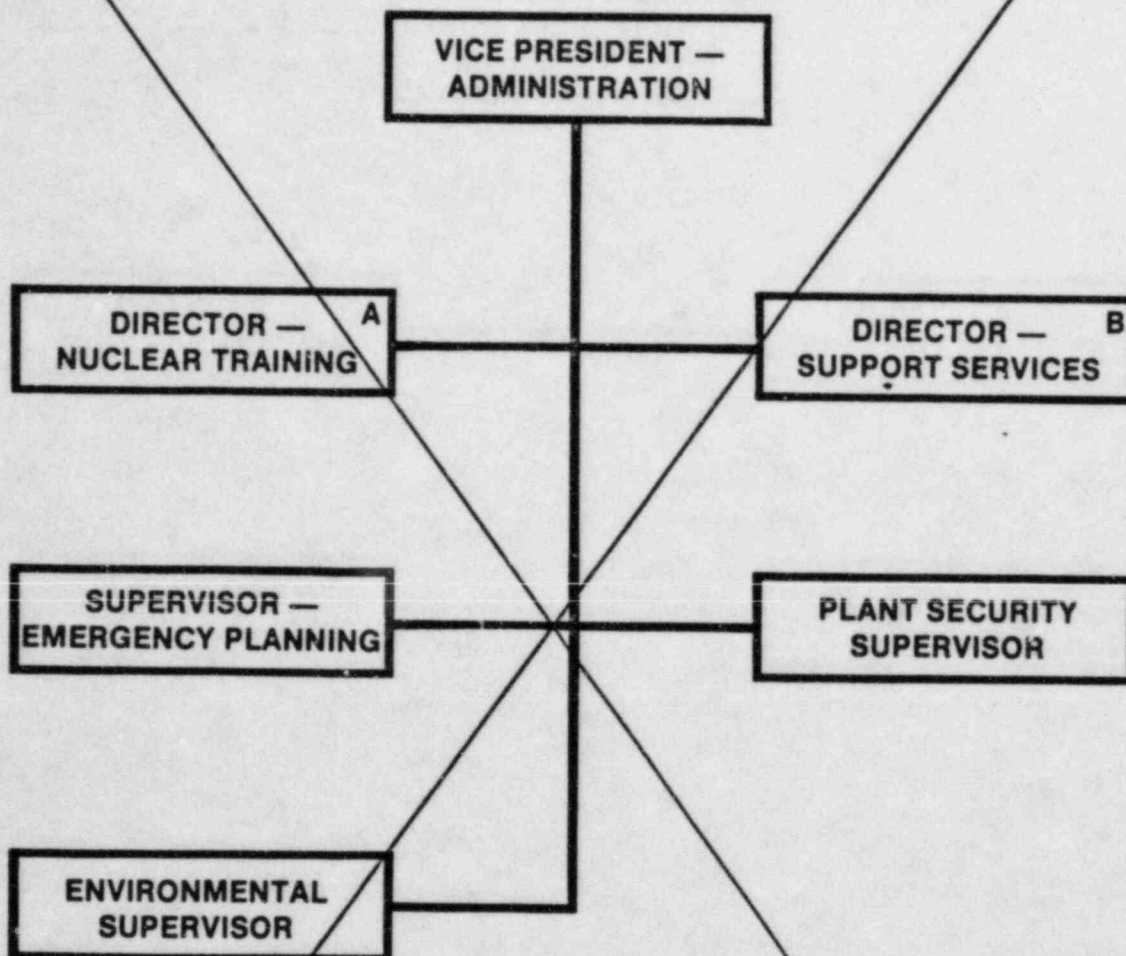
Figure 13.1-1a  
Gulf States Utilities Company  
Corporate Structure

NOTES:

A See Figure 13.1-1

\* Entire organization not shown; shown for clarity only

# Member of the Nuclear Review Board



NOTES:  
A SEE FIGURE 13.1-2b  
B SEE FIGURE 13.1-2a

DELETE AND  
REPLACE WITH  
REVISED FIGURE

FIGURE 13.1-2

~~PLANT ADMINISTRATIVE STRUCTURE —  
RIVER BEND STATION — UNIT 1~~

**RIVER BEND STATION**  
FINAL SAFETY ANALYSIS REPORT

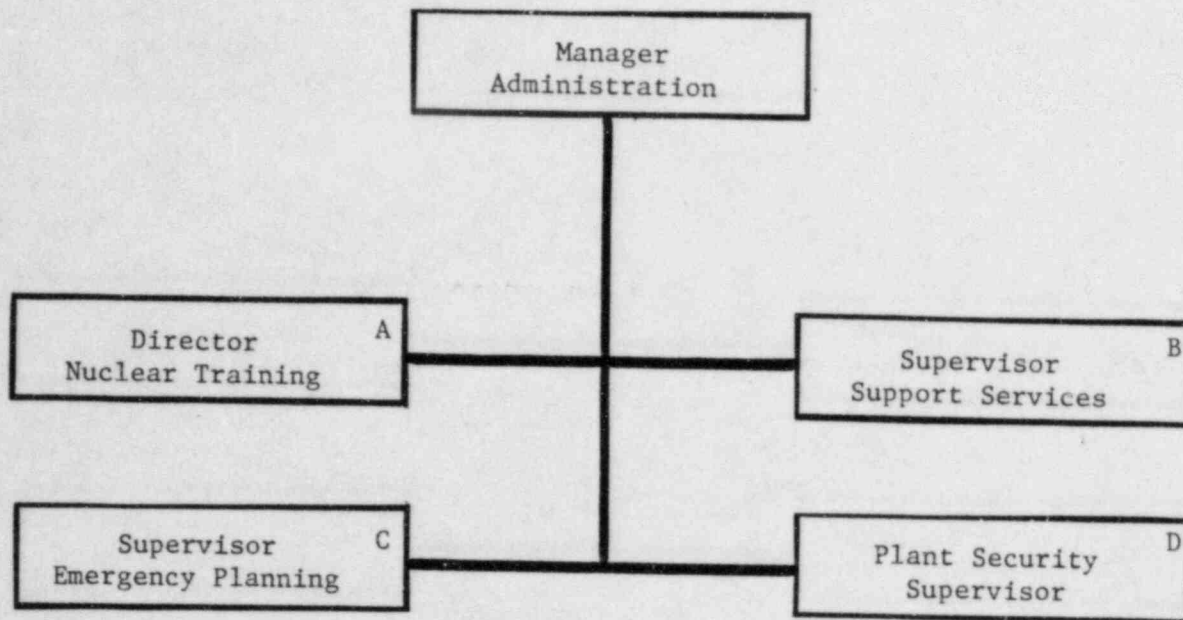
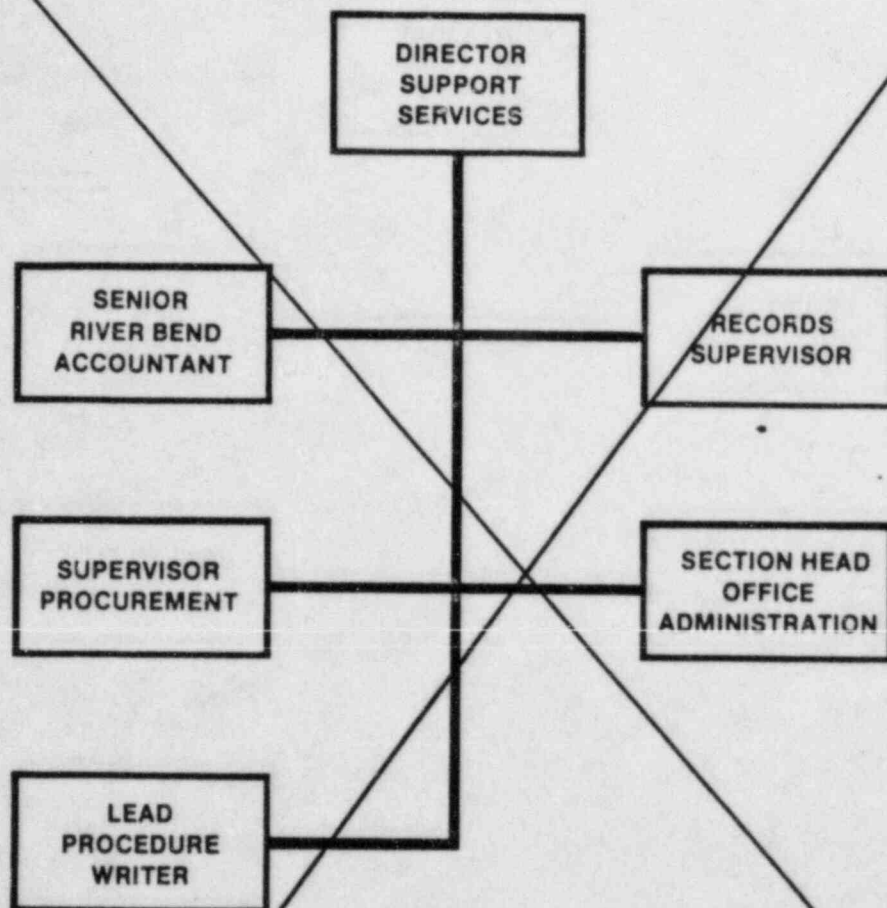


Figure 13.1-2  
River Bend Nuclear Group  
Administrative Structure

NOTES:

- A. See Figure 13.1-2b
- B See Figure 13.1-2a
- C See the Emergency Planning Volume of the FSAR (13.3)
- D See the Physical Security Plan Volume of the FSAR (13.6)





DELETE AND  
REPLACE WITH  
REVISED FIGURE

FIGURE 13.1-2a

~~PLANT ADMINISTRATIVE STRUCTURE~~  
~~SUPPORT SERVICES SECTION~~

**RIVER BEND STATION**  
FINAL SAFETY ANALYSIS REPORT

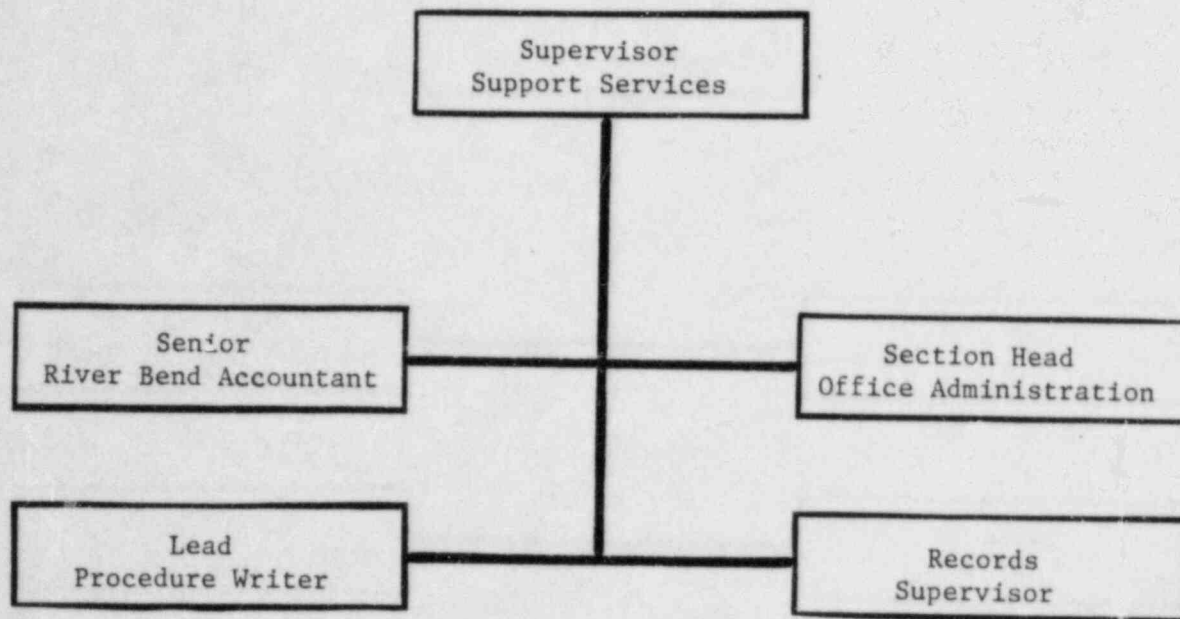
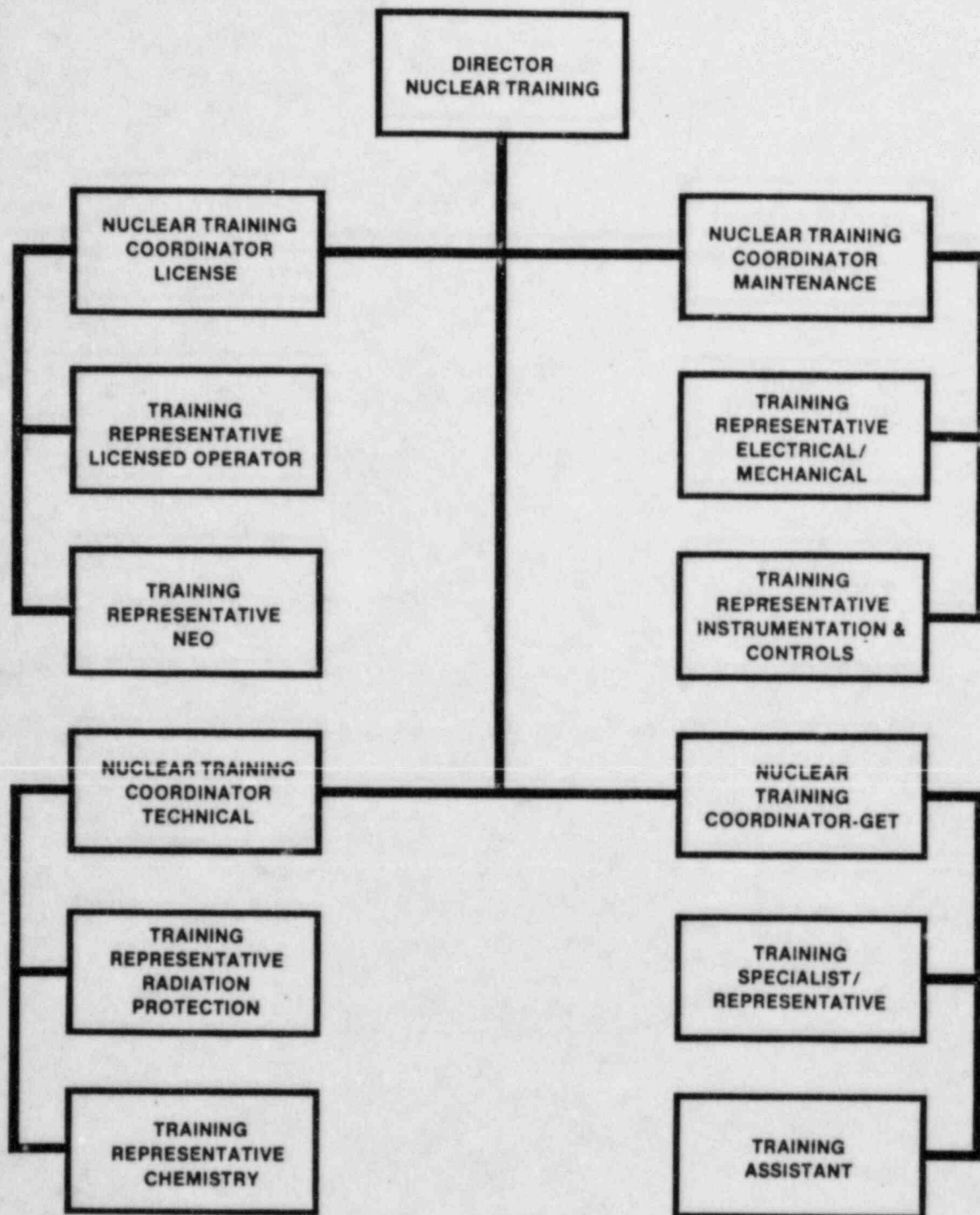


Figure 13.1-2a  
RBNG Administrative Structure  
Support Services Section

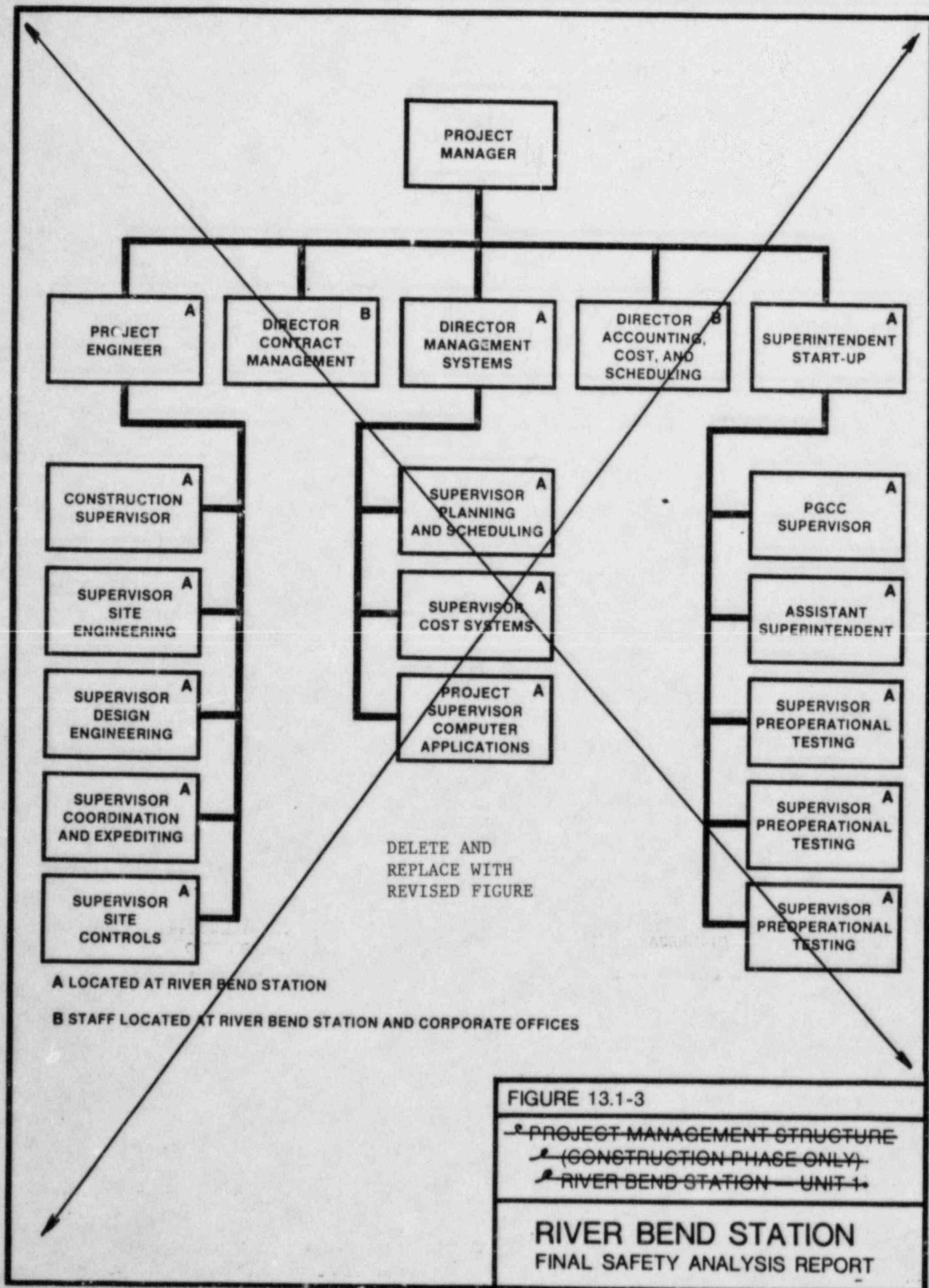


RBNG Administrative Structure  
Nuclear Training Section

FIGURE 13.1-2b

~~PLANT ADMINISTRATIVE STRUCTURE~~  
~~NUCLEAR TRAINING SECTION~~  
~~RIVER BEND STATION - UNIT 1~~

RIVER BEND STATION  
FINAL SAFETY ANALYSIS REPORT





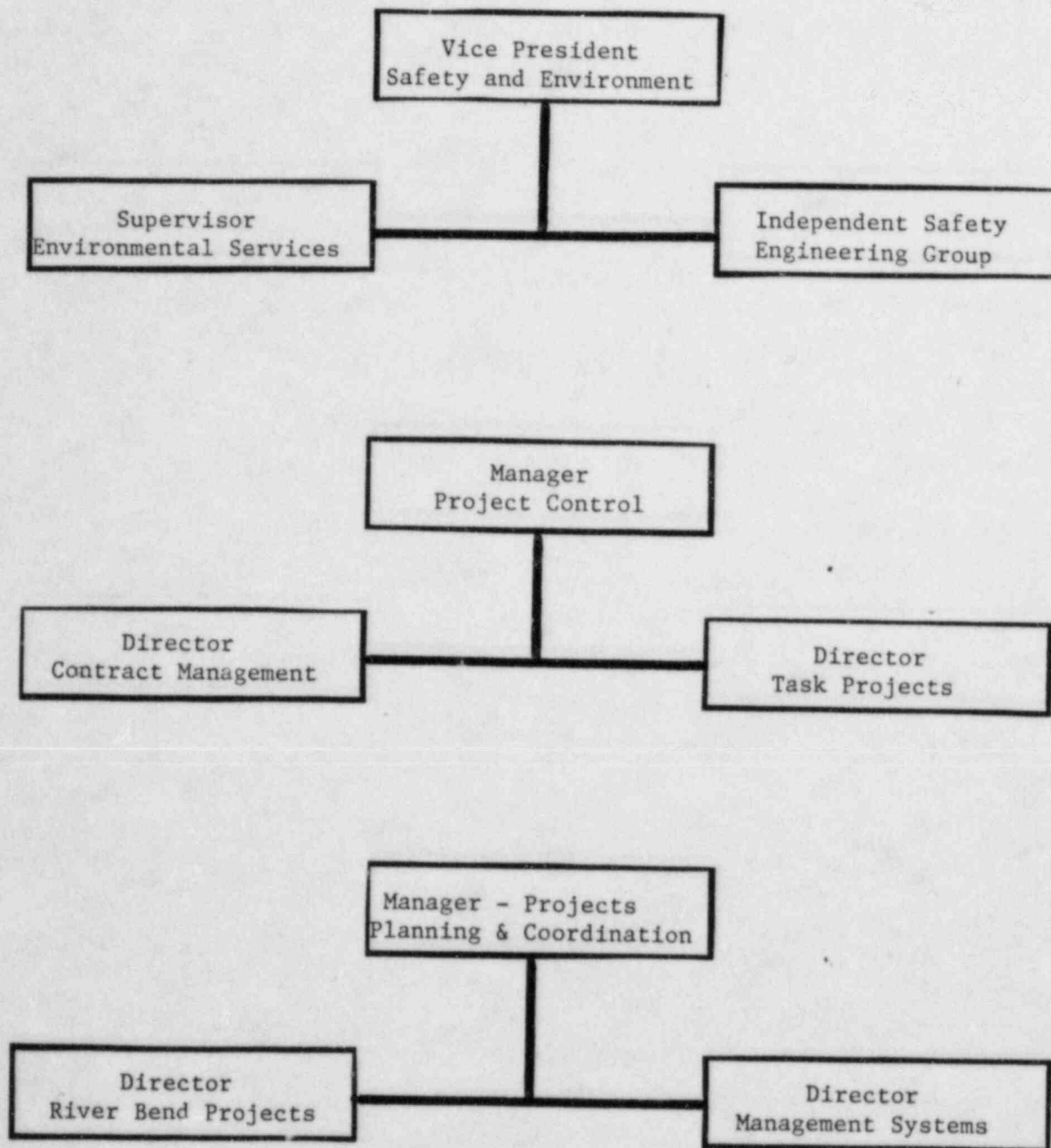
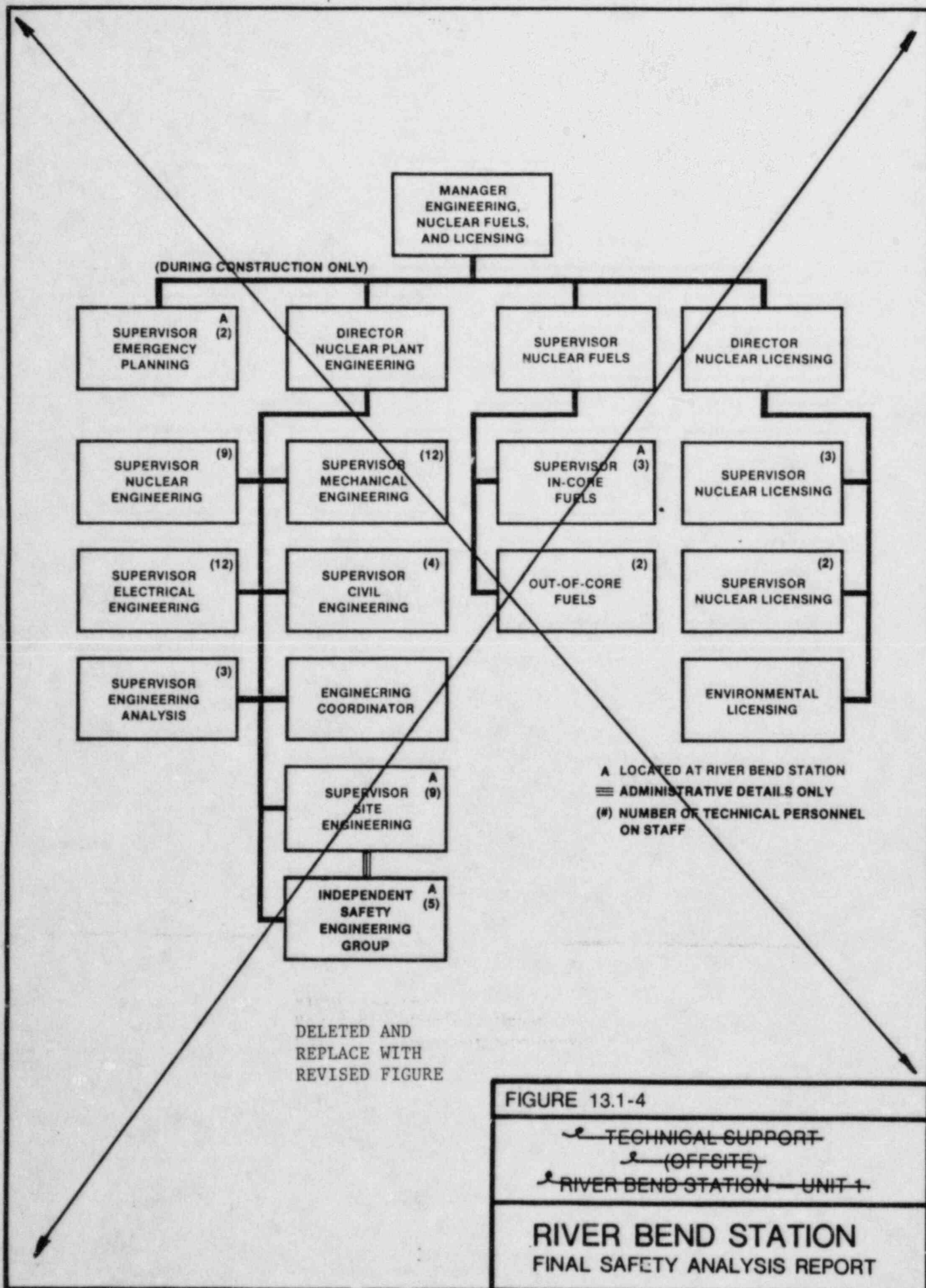


Figure 13.1-3  
River Bend Nuclear Group  
Project Management Structure



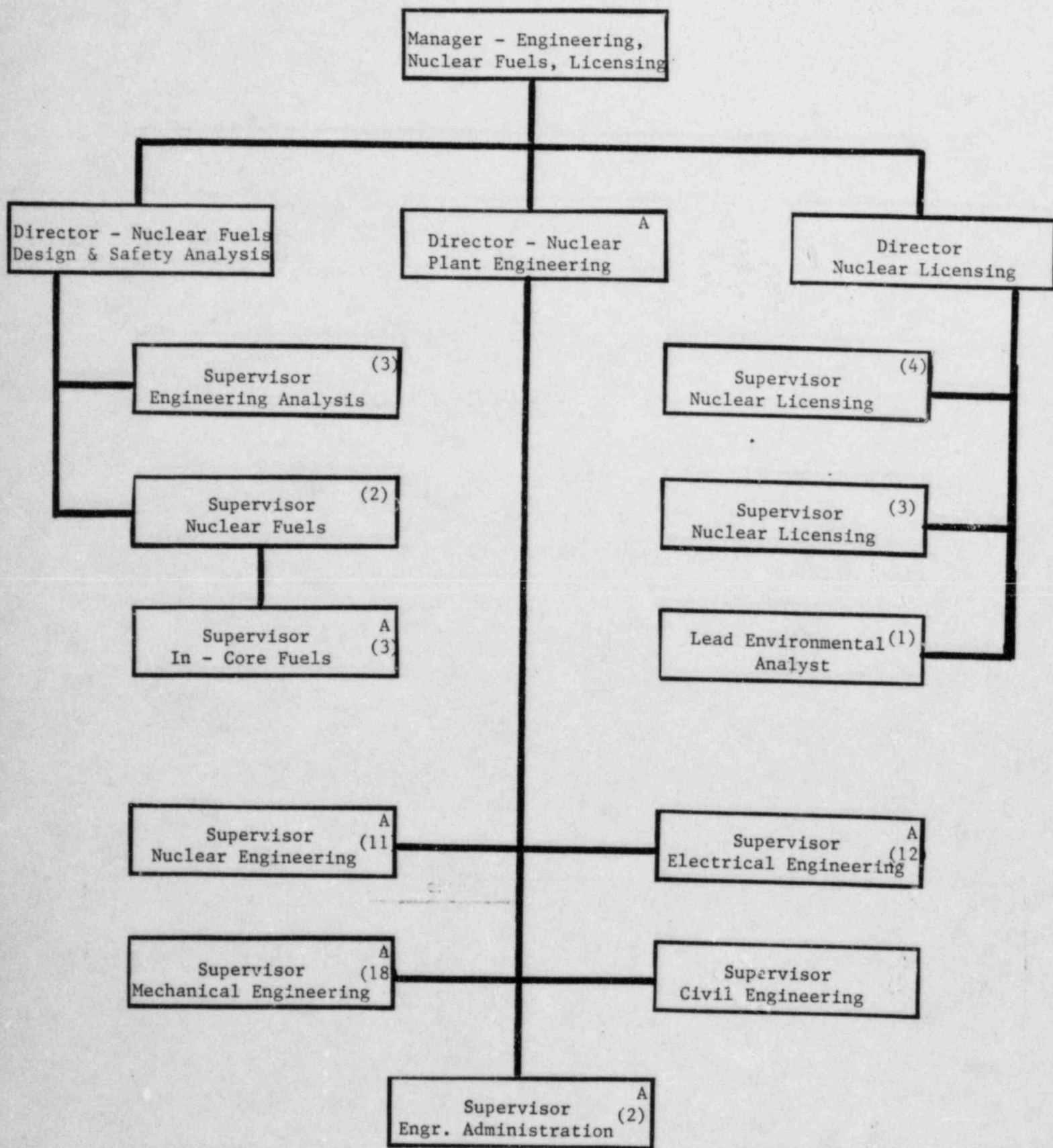
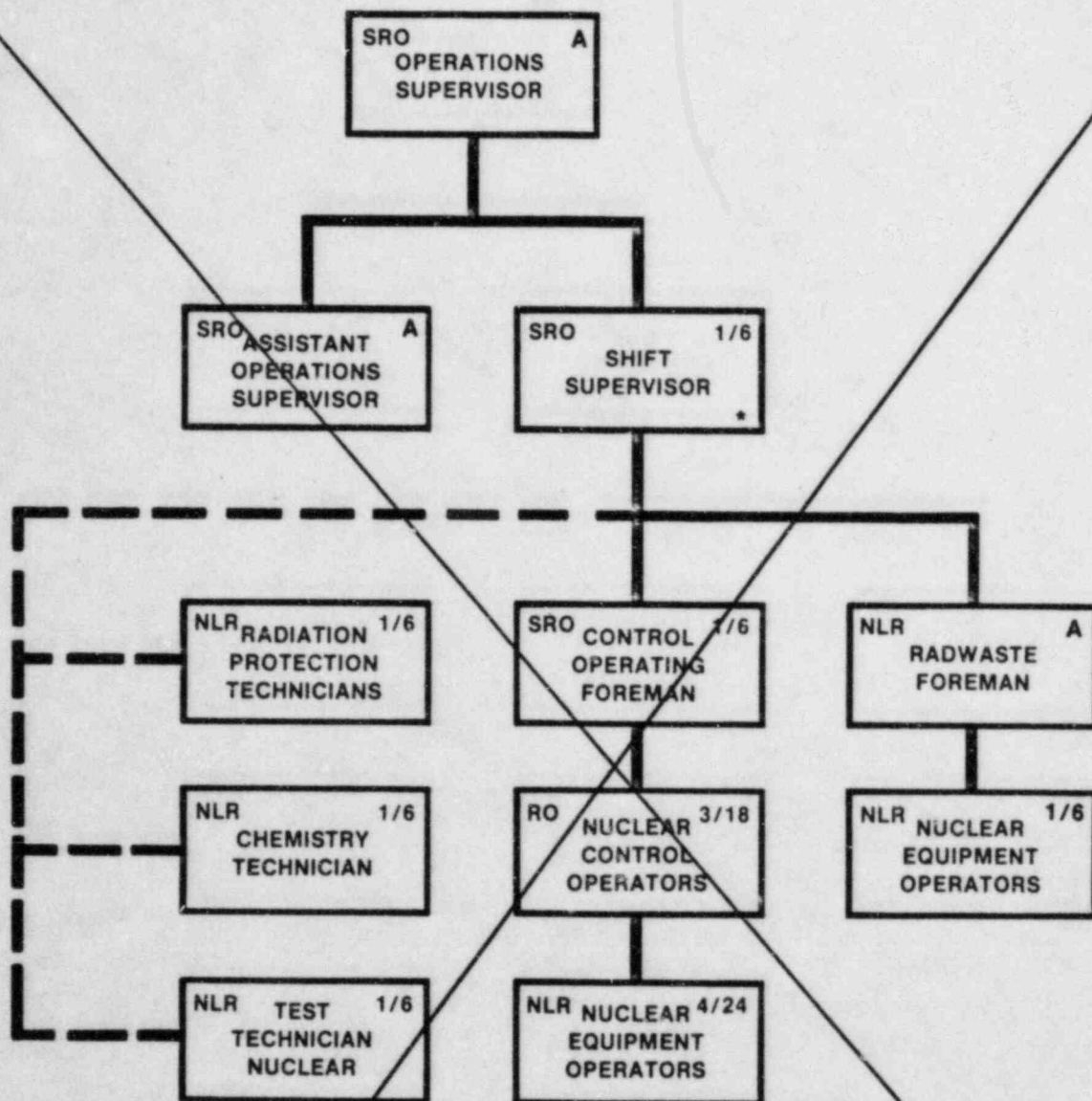


Figure 13.1-4  
River Bend Nuclear Group  
Technical Support Structure

NOTES:

A Located at River Bend Station  
(#) Number of technical personnel on staff



NLR NO LICENSE REQUIRED  
 SRO SENIOR REACTOR OPERATOR  
 RO REACTOR OPERATOR  
 x/y NUMBER PER SHIFT/TOTAL STAFF  
 \* TRAINED TO A LEVEL EQUIVALENT TO A SHIFT TECHNICAL ADVISOR (STA)  
 A NOT ON SHIFT; SHOWN FOR CLARITY ONLY

DELETE AND  
 REPLACE WITH  
 REVISED FIGURE

FIGURE 13.1-5

~~RIVER BEND SHIFT ORGANIZATION~~  
~~RIVER BEND STATION UNIT 1~~

RIVER BEND STATION  
 FINAL SAFETY ANALYSIS REPORT



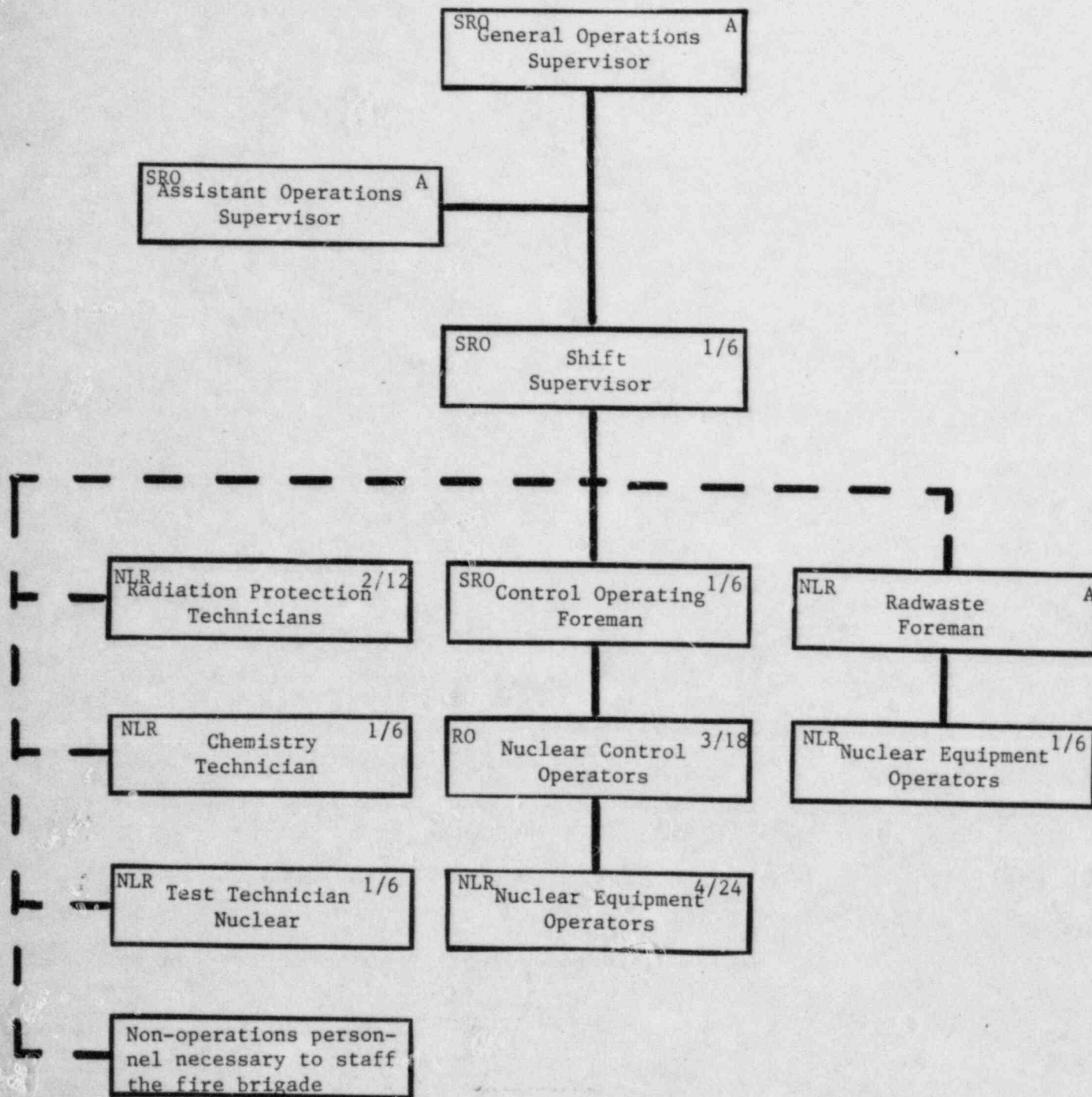


Figure 13.1-5

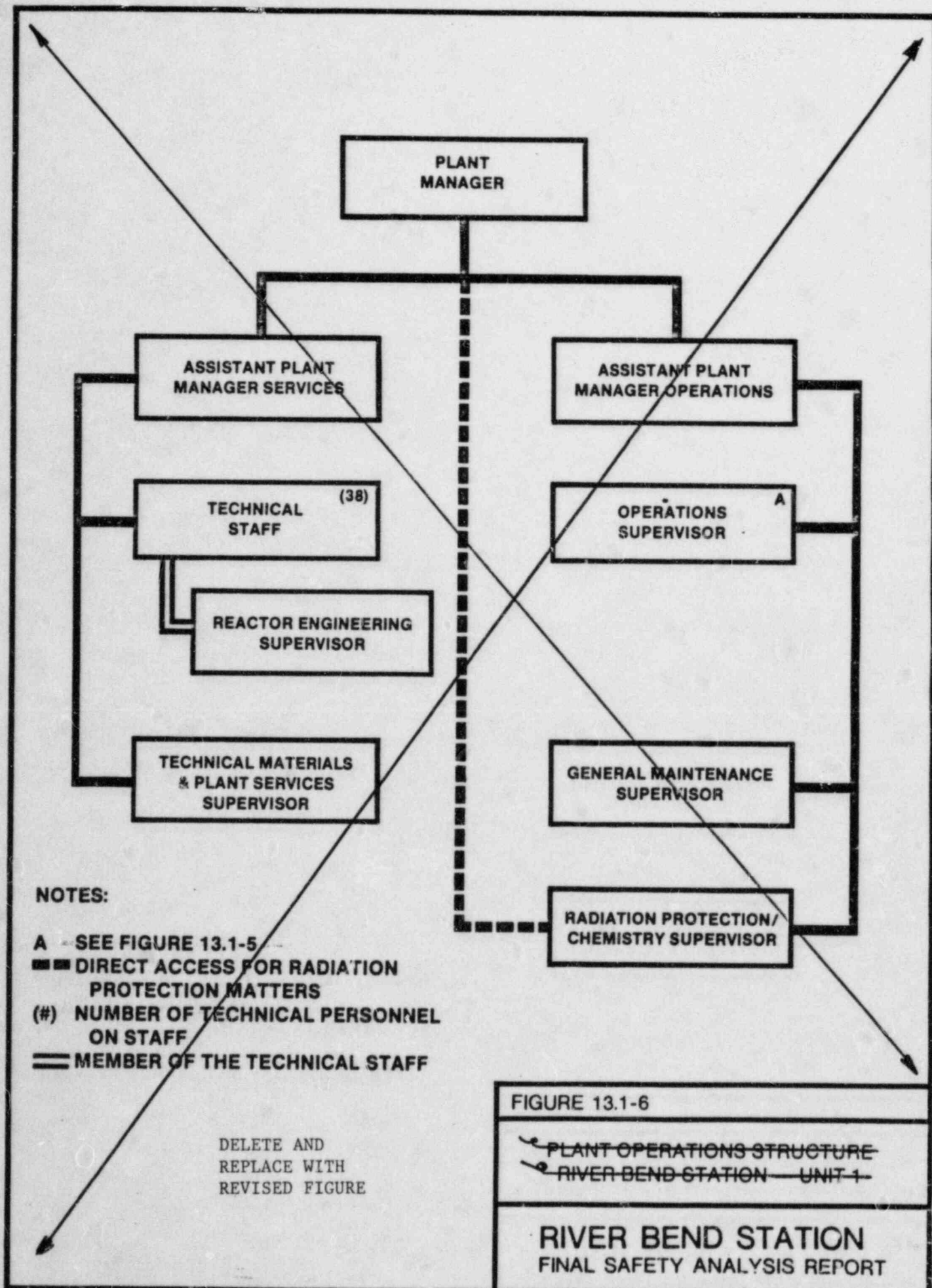
River Bend Station  
Shift Organization

NOTES:

- A Not on shift; Shown for clarity only
- \* Trained to a level equivalent to a Shift Technical Advisor (STA)

NOTES:

- SRO Senior Reactor Operator
- RO Reactor Operator
- NLR No license required
- x/y Number per shift/Total staff



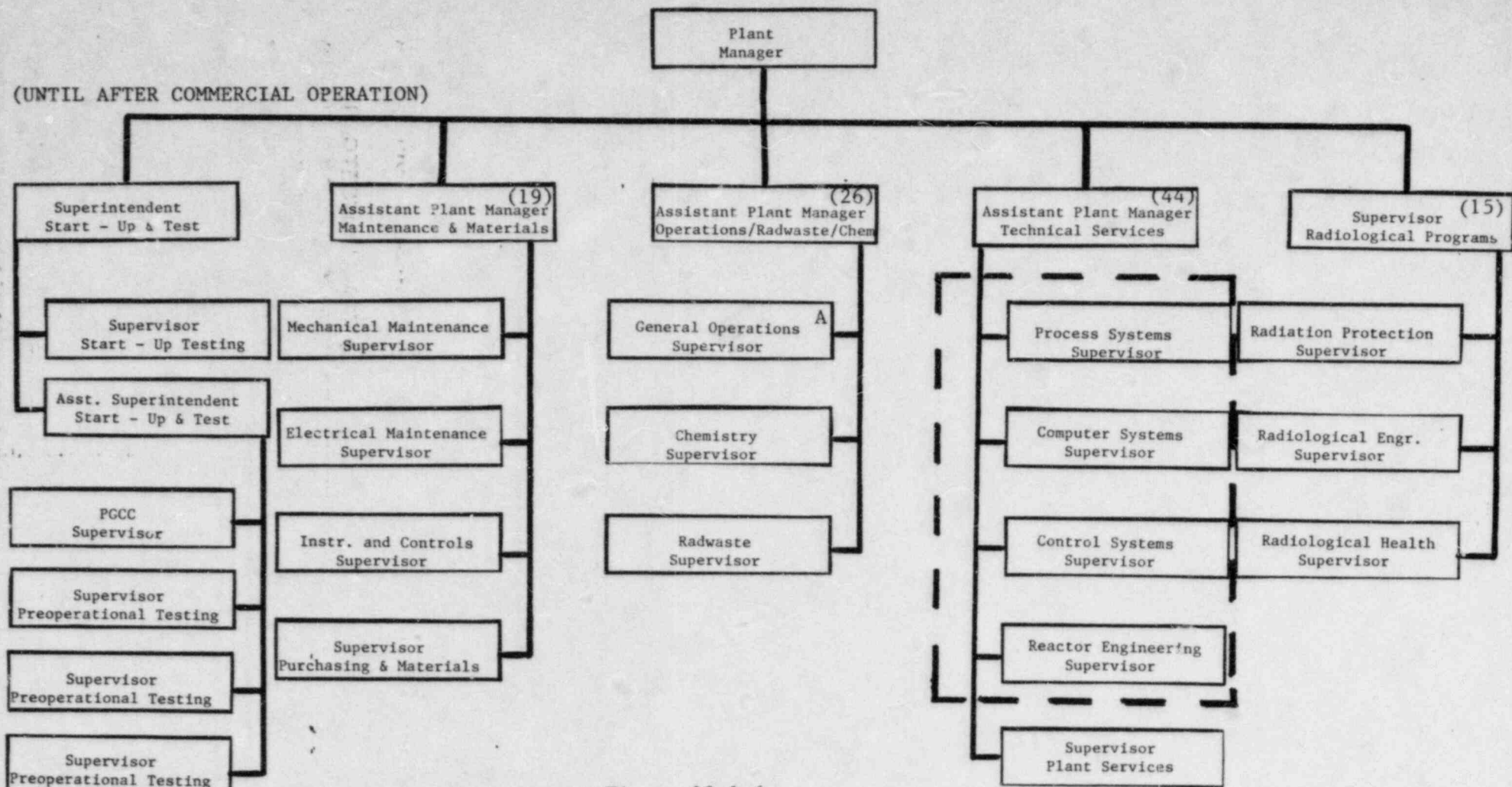


Figure 13.1-6  
River Bend Station  
Plant Operations Structure

NOTES:

A See Figure 13.1-5

(#) Number of technical personnel on staff

-- Collectively known as the Technical Staff



documentation retained in the training records system. Having not received all the identified training does not in itself disqualify an individual from performing duties associated with his or her job, so long as he or she is allowed to perform only those function(s) for which documented qualifications exist.

Subsequent training for plant staff will be the same as depicted on Fig. 13.2-1 with exceptions and/or deviations as noted. The frequency of presentation of this training will be sufficient to develop the proficiency required for safe, competent performance and supervision.

Insert 1 | The overall training program for the plant staff is the responsibility of the ~~Vice President Administration~~. The details of the training program(s) and the administration thereof are the responsibility of the ~~Training Director~~ or his designee.

Insert 2 | The ~~Training Director~~ delegates the responsibility for implementation of specific programs to individual discipline coordinators. The coordinators are responsible for the quality and adequacy of the program content, material development, presentation, examinations, performance evaluation, and documentation of each respective program.

13 | As of January 1984, there are 46 operations personnel on shift or in training, with 17 additional openings scheduled to be filled prior to fuel load. This staffing allows for a full six-shift complement with a 10-percent attrition rate. Those individuals applying for a license or license renewal will have certification complete pursuant to 10CFR Sections 55.10 (a)(6) and 55.33 (a)(4) and (a)(5) signed by the ~~Vice President Administration~~ and provided to the NRC on NRC Form 398. Section 12 of Form 398 will be a breakdown of the training received by each license candidate, including classroom training, specific River Bend simulator training, and training gained at any other operating facility.

#### 13.2.1.1 Program Description

The overall training program for River Bend Station (RBS) is designed to provide the initial plant staff training. The individual training programs comply with Regulatory Guide 1.8 through implementation of ANSI/ANS 3.1-1978. They are designed to utilize past training and/or experience coupled with the necessary site specific training to insure each position within the plant staff is manned by a competent, well qualified individual.



Insert 1 for page 13.2-2

Manager - Administration

Insert 2 for page 13.2-2

Director - Nuclear Training

Insert 3 for page 13.2-2

Senior Vice President - RBNG

The RBNG Training Program for Navy - Navy Officers, USN, is  
designed to provide the necessary training and education for  
individuals in training program, comply with Requirement  
Class 1 through implementation of initial stages of  
the program for initial stages of the program.

45. Service air system
46. Heating, ventilation, and air-conditioning system
47. Chilled water systems
48. Makeup water systems
49. Fire protection systems

A shortened systems training course will be taught for the hot license candidates, because these candidates will have had River Bend systems training or equivalent training/experience prior to attending license operator training.

11

As part of this systems training, candidates will go through a systems checkout program. This includes a walkdown to perform or simulate developed performance criteria.

Personnel attending this course include:

1. Operations Supervisor
2. Shift Supervisor
3. Control Operating Foreman
4. Nuclear Control Operator
5. Nuclear Equipment Operator
6. Other - Individuals pursuing NRC licenses will receive these courses or their equivalent prior to taking the NRC examination(s).

#### 13.2.1.1.4 Simulator Training (A5) - 5 Weeks

The simulator training course is designed to provide classroom as well as hands-on training for the operations staff who are or will be licensed as ROs and SROs including the SROs who will fill the dual role SRO/STA position. The simulator at the River Bend Training Center is a full-scope plant-referenced simulator that meets Regulatory Guide 1.149, including Section C.2 as it relates to plant malfunctions (see Section 1.8). The intent of this program is to provide these individuals with a requisite understanding of the integrated response of the plant during normal and off-normal conditions, the bases for this response, and the appropriate operator actions to maintain the plant in a safe condition with emphasis toward procedure

13

11

General

## e. Detection of inadequate core cooling

Final Examination (2 hr)

A final examination of 2 hours in length is scheduled to follow this course. The exam will cover each of the chapters presented during this program.

For hot license candidates, the duration of this portion of their training program will increase from approximately 1 week to approximately 2 weeks. This increase is provided to augment the reduction in simulator training and incorporate additional transient accident analysis training.

Although specific inclusion of a Primary Chemistry section does not exist, the concept developed in Enclosure 3 to H. R. Denton's March 28, 1980, letter is integrated into Chapter 5, Recognizing Core Damage, and Chapter 8, Radiation Hazards. The topic of gas generation is addressed in Chapter 6, Hydrogen Hazards, and also in Chapter 5.

Personnel attending this course will consist of:

- 11           1. Plant Manager
2. Assistant Plant Manager-Operations
- Insert 1   3. Operations Supervisor
- Insert 2   4. Assistant Operations Supervisor
5. Shift Supervisor
- 13           6. Control Operating Foreman
7. Nuclear Control Operator
8. Other (Supervisors, foremen, and technicians in the Instrumentation and Controls, Health Physics, and Radiation Protection/Chemistry sections of the operating staff will be provided with the mitigating core damage training commensurate with their responsibilities. Individuals pursuing NRC licenses will receive this course or its equivalent prior to taking the examination(s).)

## 13.2.1.1.8 Administrative Training (B1) - 1 Week



Insert 1 for page 13.2-22

, Radwaste and Chemistry

Insert 2 for page 13.2-22

General

OPERATING STAFF WILL BE PROVIDED WITH THE  
NECESSARY TRAINING AND INFORMATION TO  
LICENSEES WILL RECEIVE THIS COURSE OF IN-ADDITIONAL  
STAFF TO CONDUCT THE OPERATIONS

## RBS FSAR

1. Design and maintenance of fire detection, suppression, and extinguishing systems
2. Fire prevention techniques and procedures
3. Firefighting techniques and procedures for plant personnel and the fire brigades.
4. Hazards material identification and handling

Insert Specific courses to achieve the above training objectives will be provided for the ~~Performance Supervisor~~ and System Engineers assigned to the fire protection staff if they are not fully trained when hired. These courses are available from the Louisiana State University Fireman Training Center and will be attended as necessary by these individuals during 1984. Other training organizations may be used to provide this training on a case-by-case basis.

13

### 13.2.1.1.11.3 Offsite Fire Department Training (B6)

11

Training for offsite fire departments includes basic radiation principles and practices, typical radiation hazards that may be encountered, and procedures.

GSU plans to utilize General Physics Corporation (or other training organizations) to conduct this training. Specific course material has not been developed at this time, but will be provided in a future amendment.

11

### 13.2.1.2 Coordination with Preoperational Tests and Fuel Load

On-the-job training for plant staff personnel, including reactor and senior reactor operator license candidates, commences with the preoperational test program. During periods when members of the plant staff are not engaged in formal classroom exercises, they are utilized by the Startup and Test group, through their respective supervisor, for such operations as component testing, system flushing, system lineups and checkouts, functional tests, etc.

The RBS staff reviews operating procedures, system descriptions, emergency plans, etc.

Documentation of the participation of cold license candidates will be maintained in accordance with Training Department documentation procedures.

11

Insert for page 13.2-31

Process Systems Supervisor

System layout and objectives, functional tests, etc.  
The following are the major components of the system:  
descriptions, emergency plans, etc.

## 13.4 REVIEW AND AUDIT

GSU has developed a comprehensive program for reviews and audits of operating phase activities that are safety-related. This program has been developed from the guidance provided by NRC Regulatory Guide 1.33, Revision 2, which endorses ANSI N18.7-1976. | 11

A program for reviews, including in-plant and independent reviews, is established to accomplish the following:

1. Verify that activities affecting safety-related structures, systems, and components during the operational phase are performed in conformance with applicable codes and standards, company policy and rules, approved operating procedures, license provisions, and QA requirements. | 11
2. Review proposed plant changes to design, tests, and procedures that affect nuclear safety. | 11
- all ~~3. Verify that reportable events, which require reporting to NRC in writing within 24 hr, are promptly investigated and corrected in a manner which reduces the probability of such events recurring.~~
4. Detect trends which may not be apparent to a day-to-day observer.

To perform these reviews, GSU utilizes two committees and one permanent group. Reviews at the plant level are performed by the Facility Review Committee (FRC). Independent reviews are performed by the Nuclear Review Board (NRB), of which a majority of members are independent of direct responsibility for plant operations. In addition, an Independent Safety Engineering Group (ISEG) performs on-site independent review of plant operations with respect to unit, technical, industrial, and regulatory requirements as a method of providing additional, onsite, technical expertise for improving plant safety. These two committees and the ISEG are discussed in the following sections and in the Technical Specifications, Chapter 6. | 11

## 13.4.1 Onsite Review

The FRC is responsible for in-plant reviews. It will be established and functional at least 6 months prior to initial fuel loading. The committee is made up of management and technical personnel from the operating plant



11 | 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:

11 | Assistant Plant Manager, Operations - Chairman.

Operations Supervisor - Member.

13 | Assistant Plant Manager, Services - Member.

General Maintenance Supervisor - Member.

Reactor Engineering Supervisor - Member.

Radiation Protection/Chemistry Supervisor - Member.

11 | Operations Quality Assurance Supervisor - Non-Voting  
Member.

Nuclear Licensing Representative - Non-Voting Member.

Supervisor - Site Engineering - Non-Voting Member

13 | 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.

#### 13.4.1.2 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.

Insert for page 13.4-2

The FRC membership includes but is not limited to:

- Assistant Plant Manager - Operations, Radwaste and Chemistry - Chairman
- Assistant Plant Manager - Maintenance and Materials - Member
- Assistant Plant Manager - Technical Services - Member
- General Operations Supervisor - Member
- Reactor Engineering Supervisor - Member
- Supervisor - Radiological Programs - Member
- Director - Operations QA - Non-voting Member
- Plant Services Supervisor - Non-voting Secretary

Additional FRC members may be assigned by the Chairman. During the Initial Start-Up Phase, the FRC is augmented by the GE Operations Manager.

## 13.4.1.5 Responsibilities

The FRC is responsible for:

- Insert 1 — 1. Review of all general administrative plant procedures, and of any other proposed procedures, programs, and changes as determined by the Plant Manager which constitute an unreviewed safety question. 13
2. Review of all proposed tests and experiments that affect nuclear safety.
- Insert 2 — 3. Review of all proposed changes to the technical specifications. 11
- Delete and replace with Insert 3 — 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.
- Insert 4 — 6. Review of events requiring 24-hr written notification to the NRC.
7. Review of unit operations to detect potential nuclear safety hazards.
- Insert 5 — 8. Performance of special reviews, investigations or analyses, and ~~reporting on them~~ as requested by the Plant Manager or the NRB.
- Insert 6 — 9. Review of the Physical Security Plan and Implementing Procedures, and submittal of recommended changes to the NRB.
- Delete and replace with Insert 7 — 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

Insert 1 for page 13.4-3

, and changes thereto.

Insert 2 for page 13.4-3

Appendix "A"

Insert 3 for page 13.4-3

Review of all proposed permanent modifications to safety related structures, systems and components.

Insert 4 for page 13.4-3

all Reportable Events.

Insert 5 for page 13.4-3

Items included in this review are:

- a. NRC inspection reports
- b. QA audits/surveillance reports of operating and maintenance activities.
- c. NRB audit results
- d. American Nuclear Insurer inspection results

Insert 6 for page 13.4-3

reports thereon

Insert 7 for page 13.4-3

9. Review of initial start-up testing phase start-up procedures and revisions.



recurrence to the Vice President-Nuclear Operations and to members of the NRB.

12. Review of major changes to the radwaste system.
13. Review the following list of River Bend Station audit reports:
  - a. Nuclear Regulatory Commission
  - b. Quality Assurance
  - c. American Nuclear Insurers
  - d. Nuclear Review Board
14. Review the following programs and changes thereto:
  - a. Primary Coolant Systems Outside Containmentment
  - b. In-Plant Radiation Monitoring
  - c. Post-Accident Sampling
  - d. Process Control Program
  - e. Offsite Dose Calculation Manual

#### 13.4.1.6 Authority

The FRC's authority includes:

1. Recommend in writing to the Plant Manager approval or disapproval of Items 1 through 4 considered in Section 13.4.1.5 prior to implementation.

1. Rendering determinations in writing with regard to whether or not each item considered under ~~Items 1 through 5 of~~ Section 13.4.1.5 constitutes an unreviewed safety question. ~~prior to their implementation.~~

2. Providing written notification within 24 hr to the Vice President-Nuclear Operations<sup>2</sup> and the NRB Chairman of disagreement between the FRC and the Plant Manager; however, the Plant Manager has responsibility for resolution of such disagreements.

RBNG

Insert

1

Insert 1 for page 13.4-4

or his delegate during his absence

## 13.4.1.7 Records

Secretary 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

January 15, 1985

The NRB, which is responsible for independent reviews, <sup>was</sup> ~~will~~ be established and functional ~~at least 6 months prior to~~ <sup>initial fuel loading.</sup> 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.

Insert 1

Insert 2

Insert 3

## 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, Administration - Member.

Vice President, Power Plant Engineering and Design - Member.

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

Manager, Quality Assurance - Member.

RBS Plant Manager - Member.

Director, Nuclear Plant Engineering - Member.

Director, Nuclear Licensing - Member.

DELETE AND  
REPLACE WITH  
INSERT 4

Insert 1 for page 13.4-5

Vice President - Safety and Environment

Insert 2 for page 13.4-5

do not have line responsibility for the operation of RBS.

Insert 3 for page 13.4-5

licensing and regulatory affairs, and training.

Insert 4 for page 13.4-5

Vice President - Safety and Environment - Chairman  
Vice President - River Bend Nuclear Group - Vice Chairman and Member  
Executive Vice President - External Affairs and Production - Member  
Manager - Design Engineering, Technical Services Department - Member  
Manager - Engineering, Nuclear Fuels and Licensing - Member  
RBS Plant Manager - Member  
Assistant Plant Manager - Operations, Radwaste and Chemistry - Member  
Manager - Quality Assurance - Member  
Manager - Administration - Member  
Director - Nuclear Plant Engineering - Member  
Director - Nuclear Fuels Design and Safety Analysis - Member  
Director - Nuclear Licensing - Member



RBS FSAR

13

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.

## 13.4.2.2 Alternates

Alternate members are appointed in writing by the NRB Chairman to serve on a temporary basis; however, no more than two alternates participate as voting members in NRB activities at ~~any one~~ time.

the same

## 13.4.2.3 Consultants

Consultants are utilized as determined by the NRB Chairman to provide expert advice to the NRB.

## 13.4.2.4 Meeting Frequency

The NRB meets at least once per calendar quarter during the initial year of unit operation following fuel loading and at least once per 6 months thereafter.

## 13.4.2.5 Quorum

The minimum quorum of the NRB necessary for the performance of the review and audit functions consists of the Chairman, ~~or his designated alternate, and at least four~~ NRB members, including no more than two alternates. ~~No more than a minority of the minimum quorum may have line responsibility for operation of the unit.~~

Insert 1  
six

Insert 2  
11

RBS

## 13.4.2.6 Review

The NRB reviews:

1. Safety evaluations for changes to procedures, equipment, or systems, and for tests or experiments completed under the provision of 10CFR50.59 to verify that such actions did not constitute an unreviewed safety question.
2. Proposed changes to procedures, equipment, or systems which involve an unreviewed safety question as defined in 10CFR50.59. A subcommittee reviews the Security Plan and Implementing Procedures, with direct input from Nuclear Operators, to assure restricted access to safety-related areas does not present impediments to unit operation or safe shutdown.
3. Proposed tests or experiments which involve an unreviewed safety question as defined in 10CFR50.59.

11

Insert 1 for page 13.4-6

or the Vice Chairman

Insert 2 for page 13.4-6

Within the membership of a quorum

Insert 1 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.

DELETE AND  
REPLACE WITH  
INSERT 2

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

Insert 3 Audits of River Bend Station activities are performed by the <sup>11</sup>  
Quality Assurance Department. ~~under the cognizance of the~~  
~~NRC.~~ These audits encompass:

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 12 months.
6. Security Plan and Implementing Procedures at least once per ~~24~~ <sup>12</sup> months.



Insert 1 for page 13.4-7

The Operating License or

Insert 2 for page 13.4-7

all Reportable Events.

Insert 3 for page 13.4-7

NRB itself, through their committees, through audit teams/consultants from outside of GSU, or through organizations within GSU including the

RBS FSAR

11

7. Any other area of unit operation considered appropriate by the NRB or the Senior Vice President - River Bend Nuclear Group.

8. Fire Protection Program and Implementing Procedures at least once per 24 months.

9. Independent fire protection and loss prevention inspection and audit performed annually, utilizing either qualified offsite licensee personnel or an outside fire protection firm.

10. Inspection and audit of the fire protection and loss prevention program performed by an outside qualified fire consultant at intervals no greater than 3 yr.

DELETE AND  
REPLACE WITH  
INSERT 1

8 ~~11~~ The Radiological Environmental Monitoring Program and the results thereof at least once per 12 months.

9 ~~12~~ The Offsite Dose Calculation Manual and implementing procedures at least once per 24 months.

11

10 ~~13~~ The Process Control Program and Implementing Procedures at least once per 24 months.

11 ~~14~~ The performance of activities required by the Quality Assurance Program to meet the criteria of Regulatory Guide ~~1.33, Revision 2~~ at least once per 12 months. ~~4.15~~

DELETE AND  
REPLACE WITH  
INSERT 2

12 ~~15~~ The documentation of the 10CFR50.59 evaluations.

13.4.2.8 Authority

Insert 3

11

The NRB is chaired by the ~~Senior Vice President - External Affairs~~ and advised in those areas of responsibility specified in Sections 13.4.2.6 and 13.4.2.7.

13.4.2.9 Records

Records of NRB activities are prepared, approved, and distributed as follows:

1. Minutes of each NRB meeting are prepared, approved, and forwarded to the Senior Vice President - River Bend Nuclear Group within 14 days following each meeting.

11

Insert 1 for page 13.4-8

7. The fire protection programmatic controls including the implementing procedures at least once per 24 months by qualified licensee QA personnel. The fire protection equipment and program implementation at least once per 12 months utilizing either qualified offsite licensee personnel or an outside independent fire protection consultant. An outside independent fire protection consultant is utilized at least every third year.

Insert 2 for page 13.4-8

Any other area of unit operation considered appropriate by the NRB, Senior Vice President - RBNG or Plant Manager.

Insert 3 for page 13.4-8

Vice President - Safety and Environment

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.

Insert 1

The ISEG reports administratively to the Supervisor-Site Engineering located onsite; however, the group reports to the Director-Nuclear Plant Engineering (NuPE) located off-site on all technically oriented issues. Finally, the Director-Nuclear Plant Engineering informs the Manager-Engineering, Nuclear Fuels and Licensing of all ISEG activities and recommendations.

13

##### 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 2



Insert 1 for page 13.4-9

to the Vice President - Safety and Environment.

Insert 2 for page 13.4-9

Vice President - Safety and Environment

## 13.4.3.3 Responsibilities

The principal function of the ISEG is to examine plant operating characteristics, NRC Issuances, ~~Licensing~~ ~~Information Service Advisories~~, and other appropriate sources of plant design and operating experience information that may indicate areas for improving plant safety. The ISEG is to perform independent review and audits of plant activities including maintenance, modifications, operational problems, and operational analysis. The ISEG need not perform detailed audits of plant operations and is not responsible for signoff functions such that it becomes involved in the operating organization.

Another function of the ISEG is to maintain surveillance of plant operations and maintenance activities to provide independent verification that these activities are performed correctly and that human errors are reduced as far as practicable.

## 13.4.3.4 Authority

The ISEG has continued access to plant facilities and records and direct contact with operating personnel.

The ISEG will interface with Engineering Support Groups; however, the ISEG is not an integral part of the QA organization.

Where useful improvements can be achieved, the ISEG develops and presents detailed recommendations to the ~~Manager Engineering, Nuclear Fuels, and Licensing~~ for any of their responsibilities defined in Section 13.4.3.3. The ISEG also has the authority to advise GSU management on the overall quality and safety of operations.

## 13.4.3.5 Records

Records of activities performed by the ISEG are prepared, maintained, and forwarded each calendar month to the ~~Manager Engineering, Nuclear Fuels, and Licensing.~~

## 13.4.4 Audit Program

A comprehensive program of planned and periodic audits is established and implemented by the Quality Assurance Department under the direction of the ~~Director~~ Quality Assurance. The audit program is fully described in Section 17.2 and complies with the guidance in NRC Regulatory Guide 1.33, Revision 2. Audit results pertaining

Insert 1 for page 13.4-10

Vice President - Safety and Environment

Insert 2 for page 13.4-10

Manager

# RBS FSAR

## 13.5 PLANT PROCEDURES

### 13.5.1 Station Operating Manual

#### 13.5.1.1 Administrative Procedures

Management of the River Bend Station in a safe, productive, and efficient manner is assured through the use of administrative procedures. The responsibilities, assignments, methods used, and procedural action are defined in these procedures which are the top level documents within the station operating manual. All safety-related operations are conducted by detailed written, approved procedures.

Station Administrative procedures address procedure development and the organizations of administration, operation, maintenance, technical support, radiation protection, ~~radiation protection~~, chemistry, and training. These administrative procedures may have individual instruction in areas of significant safety or management administrative control. In addition specific plant sections include procedures in which the supervisor specifies section policies, practices and assigns responsibilities to section personnel.

Administrative procedures, as a minimum, cover such subjects as standing orders to shift operating personnel, senior reactor operator and reactor operator authority and responsibilities, responsibilities to meet 10CFR50.54 (i), (j), (k), (l), and (m) requirements, special orders of a transient nature, equipment control, maintenance and modification control, scheduling surveillance testing, temporary procedures, fire protection procedures, and a diagram of the control area indicating the area designated "at the controls."

#### 13.5.1.1.1 Conformance with Regulatory Guide 1.33

River Bend Station is operated according to documents such as the Technical Specifications and Station Operating Manual. Specific conformance with Regulatory Guide 1.33 is addressed in Section 1.8.

#### 13.5.1.2 Preparation of Procedures

Procedures for the River Bend Station Operations Manual are prepared by the plant staff and others under the direction of the Plant Manager. These procedures include the activities, systems, and subjects listed in Appendix A to the Regulatory Guide 1.33 which are applicable to the River Bend Station configuration. Administrative and technical aspects are addressed in these procedures.



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13 | Procedures are classified as safety-related or nonsafety-related and are reviewed and approved by qualified individuals in sections for which they apply. Approved plant procedures required to support fuel load will be completed at least 70 days prior to fuel load. Approved procedures may be changed in accordance with River Bend Station Operations Manual Administrative Procedures or applicable support department procedures. Revisions to safety-related procedures are reviewed for conformance to 10CFR50.59 by a qualified individual, while revisions to station administrative procedures are reviewed by the FRC and approved by the Plant Manager. [and checked out]

## 13.5.1.1.3 Procedures

1.3 index

11 | A procedures ~~status~~ list includes the procedure type, procedure number, procedure revision, and ~~responsible office~~ latest effective date for each procedure. These include:

1. ~~Station~~ 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~~ <sup>section</sup> procedures (CSP)
10. Radiation ~~protection~~ <sup>health</sup> procedures (RHP) ~~(RPP)~~
11. Fuel handling procedures (FHP)
12. Reactor engineering procedures (REP)
13. ~~Instrument control~~ <sup>Corrective maintenance</sup> procedures (CMP) ~~(ICP)~~
14. Plant procurement procedures (PPP)
- 14 15. Material handling procedures (MHP)
- 15 16. Plant engineering procedures (PEP)

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- ~~17. Plant security procedures (PSP)~~  
protection FPP
- 16-18. ~~Fire fighting procedures (FFP)~~
17. Chemistry operating procedures (COP)
  18. Radwaste section procedures (RWS)
  19. Material procurement procedures (MPP)
  20. Maintenance lifting procedures (MLP)
  21. Special process procedures (SPP)
  22. Maintenance calibration procedures (MCP)
  23. Maintenance section procedures (MSP)
  24. Operations section procedures (OSP)
  25. Preventive maintenance procedures (PMP)
  26. Radiation protection procedures (RPP)
  27. Radiation Protection section procedures (RSP)
  28. Technical Staff section procedures (TSP)
  29. Maintenance welding procedures (MWP)

- |  |
|--|
| 19. Training program procedures (TPP)            |
| 20. Emergency plan implementing procedures (EPP) |

13.5.1.3-1<sup>Station</sup> Administrative Procedures — ~~General~~

The general format for <sup>station</sup> administrative procedures is as follows:

1. Cover sheet
2. Later's page, if applicable
- ~~3. List of effective pages~~
- 3<sup>4</sup>. Table of contents
- 4<sup>5</sup>. Text pages - purpose, references, definitions, precautions, limitations and actions, procedures
- 5<sup>6</sup>. Other documents, attachments, or enclosures

Station Administrative procedures have been developed to provide administrative controls of a general nature and include, but are not limited to, the following:

1. Procedural Review and Approval
2. Equipment Control Procedures
3. Control of Maintenance and Modifications
4. Fire Protection <sup>Program</sup> ~~Procedures~~
5. Crane Operation Procedures
6. Temporary Changes to Procedures
7. Temporary Procedures
8. Special Orders of a Transient Self-Canceling Nature

Additional administrative procedures, of a specific nature, have been developed to define and provide control of plant staff operational activities. These procedures include, but are not limited to, the following:

1. Standing orders to shift personnel
2. Assignment of shift personnel to duty stations



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3. Shift relief and turnover
4. Control room access
5. Limitations on working hours
6. Feedback of operator experience
7. Shift supervisor administrative duties
8. Verification of correct performance of operating activities

13.5.1.3-2 Administrative Procedures - Initial Test Program  
1.3.2

The general format for these procedures is the same as for Administrative Procedures - General.

RBS has committed to providing administrative controls on procedures relating to the Initial Test Program in the RBS Startup Manual and references such in appropriate sections of the FSAR.

Control has been provided in, but not limited to, the following three areas of the initial test program:

1. Test Program Procedures - Preoperational Test Procedures (14.2.3.1) and Initial Startup Test Procedures (14.2.3.2) delineate Development, Review, and Approval Procedures. The Facility Review Committee (14.2.2.7 and 13.4.1), Joint Test Group (14.2.2.6), and GSU Startup and Test Department (14.2.2.1) responsibilities and functions are discussed as they pertain to the review and approval of Initial Test Procedures. Additional groups/individuals which participate in procedural review processes are described in Sections 14.2.2.3, 14.2.2.4, and 14.2.2.5 while Section 14.2.2.8 stipulates the minimum qualifications for any personnel responsible for developing, performing, and generating test procedures.

2. Conduct of Test Program - Conduct of Preoperational Phase Testing (14.2.4.1) and Initial Startup Phase Testing (14.2.4.2) addresses testing prerequisites and procedural adherence; while Section 14.2.4.3, GSU Work Request, discusses performance of modification and/or repair resulting from test program analysis and subsequent retesting.

Maintenance



3. Review, Evaluation, and Approval of Test Results - Section 14.2.5, Review, Evaluation, and Approval of Test Results, provides discussion of organizations involved in these processes (when acceptance criteria is met or not met), appropriate technical review by qualified groups, and assures prerequisites are met before advancing to the next scheduled test or phase of testing. Section 14.2.6, Test Records, provides proper documentation and permanent plant filing for each individual test and phase of the test program.

11

13.5.2 ~~Operating and Maintenance~~ Procedures

X

13.5.2.1 ~~Control Room Operating Procedures~~

X

13.5.2.1.1 ~~System Operating Procedures~~

X

The general format for system operating procedures (SOPs) is as follows:

X

1. Cover sheet
- ~~2. List of effective pages~~
- 2 ~~3~~. Table of contents
- 3 ~~4~~. Text pages - purpose, precautions and limitations, prerequisites, procedure, references.
- 4 ~~5~~. Other documents - attachments such as valve lineups, electrical lineups, data sheets, instrument lineups.

11

SOPs provide detailed operating instructions for specific plant systems and include off normal operations. SOPs include, but are not limited to, the following:

11

1. ~~Nuclear boiler system~~ instrumentation
2. ~~Control rod drive hydraulic system~~ operating procedures
3. Reactor recirculation system
4. Containment isolation system
5. ~~Bearing cooling water system~~
6. Circulating water, cooling towers, and vacuum priming system

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31.	Residual heat removal system	
32.	Low pressure core spray system	
33.	Drywell and containment leak detection systems	11
34.	MSIV sealing (positive leakage control) system	
35.	Reactor core isolation cooling system	
36.	<del>(Spare)</del> Fire detection supervision system	
37.	<del>(Spare)</del> Fire protection water system	11
38.	<del>(Spare)</del> Fire protection carbon dioxide system	
39.	<del>(Spare)</del> Fire protection halon system	
40.	Hydrogen mixing, purge, and recombiner	
41.	Penetration valve leakage control system	11
42.	Standby service water system	
43.	Standby gas treatment system	11
44.	(Spare)	11
45.	13.8-kV ac system	
46.	4,160-V ac system	
47.	480-V ac system	
48.	120-V ac system	
49.	125-V dc system	
50.	24-V and 48-V dc systems	
51.	Cathodic protection system	11
52.	High pressure core spray (HPCS) diesel generator and auxiliary system	
53.	<del>Emergency</del> Standby diesel generator and auxiliary system	
54.	Main generator operation	11
55.	Main and station transformers	

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56. Station lighting system
57. ~~Administration building heating, ventilation, and~~  
~~air conditioning (HVAC) system~~ (Spare)
58. Control building HVAC system
59. Containment HVAC system
60. Drywell cooling system
61. Diesel generator building HVAC system
62. Fuel building HVAC system
63. Radwaste building HVAC system
64. Turbine building HVAC system
65. Auxiliary building HVAC system
66. Plant and control building chilled water system
67. Isolation phase bus cooling system
68. Water treatment building HVAC system
69. Auxiliary boiler room HVAC system
70. Yard structure HVAC system
71. Rod control and information system
72. (Spare)
73. (Spare)
74. Reactor neutron monitoring system
75. (Spare)
76. (Spare)
77. ~~High pressure core spray (HPCS) system~~  
~~Traversing incore probe system~~ (Spare)
78. (Spare)
79. Reactor protection system



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80. Main turbine and electrohydraulic control (EHC) systems
81. (Spare)
82. Process radiation monitor system
83. (Spare)
84. Containment atmospheric ~~leakage~~ monitoring system
85. (Spare)
86. Digital radiation monitor system
87. (Spare)
88. (Spare)
89. (Spare)
90. Reactor water cleanup system
91. Fuel pool cleanup and cooling systems
92. Off gas systems
93. Condensate demineralizer system
94. Hypochlorination and chemical feed systems
95. Cooling tower makeup water and clarifier
96. Domestic water
97. ~~(Spare)~~ Suppression pool cleanup system (through the fuel pool cleanup system)
98. Makeup demineralizer system
99. Makeup water system
100. Waste oil disposal system
101. Liquid radwaste <sup>collection</sup> system
102. ~~Solid radwaste system~~ (spare)
103. ~~(Spare)~~ Plant sampling system
104. Floor and equipment drains system

11



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105. (Spare)

106. Sanitary sewage treatment

107. Waste water treatment

108. Liquid radwaste processing

13.5.2.1.2.1 Abnormal Operating Procedures  
1.2.1.2

Abnormal Operating Procedures (AOP) are provided to correct abnormal conditions which in themselves do not constitute an actual emergency condition, but which could degenerate into a true emergency in the absence of positive corrective action. These conditions include, but are not limited to, those events listed in Appendix A of Regulatory Guide 1.33.

The general format for Abnormal Operating Procedures is as follows:

1. Cover Sheet
2. Later's Page, if applicable
3. Table of Contents
4. Text Pages - purpose, symptoms, automatic actions, immediate operator actions, and subsequent operator actions
5. Other Documents - attachments such as charts, tables, etc, may be included as needed.

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

1. Reactor scram
2. Main turbine and generator trips
3. Automatic isolations
4. Loss of offsite power
5. Loss of main condenser vacuum
6. Loss of feedwater flow
7. Loss of feedwater heating
8. Loss of instrument air
9. Loss of normal service water
10. Loss of one or both Reactor Protection System (RPS) buses

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11. Loss of reactor plant component cooling water
12. Loss of turbine plant component cooling water
13. Loss of containment integrity
14. Loss of 125 V dc
15. Loss of drywell cooling
16. Loss of standby service water
17. Pressure regulator failure - increasing and decreasing
18. Fuel cladding failure
19. Resin intrusion of the reactor coolant system
20. ~~2(Spare)~~ Alternate shutdown cooling
21. ~~2(Spare)~~ Anticipated transient without a scram (ATWS)
22. ~~2(Spare)~~ Radioactive release control
23. Feedwater level control signal failure-maximum demand
24. Decrease in recirculation system flow rate  
Rod Position and Information
25. Loss of ~~Reactor Protection Isolation~~ System (RPIS)
26. Misaligned control rods
27. Fuel handling mishaps
28. ~~Earthquake~~ Seismic event
29. Severe weather operation
30. Control rod drive malfunctions
31. Shutdown from outside the main control room
32. ~~Refueling cavity water seal failure~~  
~~General employee response to fire~~
33. Reactor recirculation pump trip
34. Inadvertent initiation of an Emergency Core Cooling System (ECCS) or Reactor Core Isolation Cooling (RCIC) system

11

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- 11
35. Safety relief valve stuck open
  36. Single Main Steam Isolation Valve (MSIV) closure
  37. Condensate high conductivity
  38. Unexplained increase in reactor power
  39. Hydrogen explosion in the offgas system
  40. Operation with a limiting control rod pattern
  41. Main turbine bypass valve stuck open
  42. Instrument bus power failure
  43. Offgas system leak
  44. Main transformer cooling system malfunction
  45. Failure of <sup>Source</sup> ~~Short~~ Range Monitor (SRM) or  
Intermediate Range Monitor (IRM) detector to  
retract
  46. Offgas activity high
  47. Offsite gaseous releases
  48. Liquid radwaste system leak or failure
  49. Increase in recirculation system flow rate
  50. Station blackout
  51. (Spare)
  52. (Spare)

13.5.2.1.3 General Operating Procedures

1.2.1.3

General operating procedures (GOPs) are written to instruct operators in the conduct of major plant evolutions. In general, GOPs direct system alterations and lineups in accordance with the system SOP by direct reference.

The general format for General Operating Procedures is as follows:

- 11
1. Cover Sheet



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2. Later's Page, if <sup>applicable</sup> ~~necessary~~
  3. Table of Contents
  - ~~4. List of effective pages, if necessary~~
  - 4 <sup>5</sup>. Text-Purpose, references
  - 5 <sup>6</sup>. Enclosures
  - 6 <sup>7</sup>. Performance package - cover sheet, precautions, limitations and actions, prerequisites, procedure with step sign-off spaces, other attachments
- General operating procedures include, but are not limited to:

1. Plant startup to Low Power Alarm Point (LPAP) (35%)
2. Power Operations
3. Shutdown from LPAP to Hot Standby or Hot Shutdown
4. Shutdown from Hot Shutdown to Cold Shutdown
5. Startup from Hot <sup>Standby/</sup> Shutdown to LPAP
- ~~6. Startup from Hot Standby to LPAP~~ (spare)
7. Scram recovery
8. (Spare)
9. (Spare)
10. (Spare)

13.5.2-1.4-1 Emergency Operating Procedures  
1.2.1.4

Emergency operating procedures are provided to govern the plant operation during emergency conditions and specify operator actions to be taken to return the plant to a stable condition.

The general format of Emergency Operating Procedures is as follows:

1. Cover sheet
2. Later's Page, if applicable
3. Table of Contents



RBS FSAR

- 4 <sup>9</sup>2. Text - purpose, entry conditions and symptoms, operator actions (including instructions and contingency actions)

5. Other Documents - Attachments or Enclosures

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
- 11 ~~4. Radioactivity release control~~
- 4 <sup>8</sup>5. Level restoration
- ~~6. Emergency RPV depressurization~~
- ~~7. Steam cooling~~
- ~~8. Core cooling without level restoration~~
- ~~9. Alternate shutdown cooling~~
- 5 <sup>10</sup>10. RPV flooding
- ~~11. Level/power control~~

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

13.5.2.1.5 <sup>1</sup> Alarm Response Procedures

1.2.1.5

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.

- 11 Each Alarm Response Procedure contains at least the following information:

1. Alarm number

5. Alarm initiating devices
6. Automatic equipment actions that occur when the alarm is received
7. Immediate operator actions
8. Possible causes for the alarm condition
9. Subsequent operator actions.

11

#### 13.5.2.1.6 Temporary Procedures

Temporary procedures are procedures that may be used to direct operations during testing or maintenance that are not covered in any other plant procedure. Temporary procedures are of a self-cancelling nature, and are subject to the appropriate approval cycle described in the Administrative Procedures (Section 13.5.1.2).

#### 13.5.2.2 Other Procedures

##### 13.5.2.2.1 Radiation Protection Procedures

Radiation protection procedures are as described in Section 12.1.

##### 13.5.2.2.2 Radioactive Waste Management Procedures

Radioactive waste management procedures are as described in Section 12.1.

##### 13.5.2.2.3 Chemistry and Radiochemistry Procedures

Chemistry and radiochemistry procedures provide direction to technicians in the proper methods to obtain, analyze, and report required fluids systems samples.

##### 13.5.2.2.4 Plant Security Procedures

Plant security procedures are as described in Section 13.6.

##### 13.5.2.2.5 Emergency Plan Implementing Procedures

Emergency Plan implementing procedures are prepared under the direction of the Supervisor of Emergency Planning and approved by the Plant Manager. They contain instructions to plant staff personnel on the requirements and methods to implement the RBS Emergency Plan.

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WITH  
INSERT

#### 13.5.2.2.6 Instrument Control Procedures

Instrument control procedures are under the direction of the General Maintenance Supervisor. They provide instructions to the instrumentation and controls group for instrument calibration, test, and repair.

#### 13.5.2.2.7 General Maintenance Procedures

General maintenance procedures are under the direction of the General Maintenance Supervisor. Maintenance which affects the performance of safety-related equipment is performed by maintenance personnel in accordance with these written procedures.

#### 13.5.2.2.8 Material Control Procedures

Material control procedures are under the direction of the General Maintenance Supervisor. These procedures are followed by plant storeroom personnel to ensure proper handling and storage of spare parts.

#### 13.5.2.2.9 Fire Protection Procedures

Fire protection procedures are under the direction of the Technical Supervisor. These procedures are followed in the implementation of the fire protection program described in Section 9.5.1.

#### 13.5.2.2.10 Reactor Engineering Procedures

11 | Reactor engineering procedures are under the direction of the Technical Supervisor. They provide direction to the technical staff for implementation of core monitoring and reactor kinetics determinations.

#### 13.5.2.2.11 Plant Engineering Procedures

11 | Plant engineering procedures are under the direction of the Technical Supervisor. They provide direction to the plant staff in the implementation of engineering support to other staff sections.



Insert for page 13.5-15

### 13.5.1.3 Maintenance Procedures

All maintenance procedures are under the direction of and approved by the Assistant Plant Manager - Maintenance and Materials and as described below.

#### 13.5.1.3.1 General Maintenance Procedures

General maintenance procedures (GMPs) are utilized by maintenance personnel when performing maintenance on safety-related equipment.

#### 13.5.1.3.2 Maintenance Section Procedures

Maintenance section procedures (MSPs) describe the overall responsibilities for maintenance section supervisors when performing specified maintenance tasks.

#### 13.5.1.3.3 Preventive Maintenance Procedures

Preventive maintenance procedures (PMPs) govern the performance of preventive maintenance on equipment to keep the equipment in a safe, reliable condition.

#### 13.5.1.3.4 Corrective Maintenance Procedures

Corrective maintenance procedures (CMPs) described the step-by-step operations for correcting maintenance problems associated with equipment.

#### 13.5.1.3.5 Maintenance Calibration Procedures

Maintenance calibration procedures (MCPs) describe the performance of necessary calibration required to maintain equipment reliability at set frequencies.   
13.5.1.3.5.1 may provide direction to the plant staff in the implementation of engineering support to other

#### 13.5.1.3.6 Maintenance Lifting Procedures

Maintenance lifting procedures (MLPs) described the functions for heavy load lifting and rigging required to protect the safety of personnel and safety related equipment.



#### 13.5.1.3.7 Maintenance Welding Procedures

Maintenance welding procedures (MWPs) describe the welding process for specific operations.

#### 13.5.1.3.8 Special Process Procedures

Special process procedures (SPPs) describe the control of special processes related to any welding operations.

#### 13.5.1.4 Other Procedures

Other procedures (see Section 13.5.1.1.3) are reviewed and approved in accordance with approved station administrative procedures (ADMs) and describe special functions associated with or the duties of various plant staff sections.

### 13.5.2 Station Support Manual

#### 13.5.2.1 Purpose and Preparation of Station Support Manual Procedures

Station Support Manual procedures address activities for which primary responsibility for performance rests with departments that are internal to the River Bend Nuclear Group of Gulf States Utilities but are outside of the Plant Managers organization (see Section 13.5.2.2). Where groups other than the department responsible for the activity described in a procedure either must interface with or support that activity, they will be afforded the opportunity for review of both the initial and subsequent issues. Final approval of Station Support Manual procedure will be by the major department head (i.e., Manager - Administration, Manager - Engineering, Nuclear Fuels, and Licensing, etc.) over the area responsible for origination of the procedure(s) to be approved, except in the case of Emergency Implementing Procedures which are approved by the Vice President - River Bend Nuclear Group.

Procedures for the Station Support Manual are prepared by the departments responsible for the activities described under the direction of applicable department heads. Review coordination, obtaining approvals, distribution and control of procedures is the responsibility of Support Services Section (see Section 13.1.1.2.8.2). Administration and technical aspects are defined in the procedures. Procedures are classified as safety-related or non safety-related and are reviewed by qualified individuals in the departments requiring input to the procedures.

Station Support Manual procedures are originated, revised, reviewed, approved, and controlled in accordance with procedures contained in Section 1 of the manual. Reviews of revisions to previously approved procedures will be performed by those individuals, or departments performing the initial review, where possible. In all case, reviews after first revisions will be performed by personnel with similar qualifications to those performing the initial reviews.

Procedures in the Station Support Manual will be reviewed once a year at a minimum to ensure their ongoing accuracy. This review will be documented.

#### 13.5.2.2 Procedures

Procedures pertaining to responsibilities performed by the following groups are included in the Station Support Manual:

1. Nuclear Plant Engineering
2. Support Services
3. Plant Security
4. Nuclear Training
5. Emergency Planning
6. Environmental Services
7. Nuclear Fuels
8. Nuclear Licensing
9. Management Systems
10. Engineering Analysis

#### 13.5.2.2.1 Format

The general format of Station Support Manual procedures is as follows:

1. Cover Sheet for approvals, revision number, pages issued, and reason for revisions
2. Later's page, when applicable
3. Table of contents
4. Text - purpose, references, definitions, responsibilities, procedures, documentation
5. Attachments

The above format may be deviated from when it will allow for enhancement of the procedure(s). However, deviations will be kept to a minimum.

#### 15.5.2.2.2 Procedure Designations

The following procedure designations and manual sections apply to Station Support Manual procedures:

1. Support Services Procedures (SSP) - Section 1
2. Emergency Implementing Procedures (EIP) - Section 2
3. Nuclear Plant Engineering Procedure (NPE) - Section 3
4. Plant Security Procedures (PSP) - Section 4
5. Nuclear Training Procedures
  - 1) Training Administrative Procedures (TAP) - Section 5
  - 2) Training Methodology Procedure (TMP) - Section 6
  - 3) Training Program Procedures (TPP) - Section 7
6. Environmental Services Procedures (ESP) - Section 8
7. Fuel Management Procedures (FMP) - Section 9
8. Nuclear Licensing Procedures (NLP) - Section 10
9. Management System Procedures (MSP) - Section 11
10. Engineering Analysis Procedures (EAP) - Section 12

#### 13.5.2.2.3 Content of Procedures

##### 13.5.2.2.3.1 Support Services Procedures

Support Services Procedures are prepared under the direction of the Supervisor - Support Services. These procedures provide detailed instruction for document control, records management, and procedures control for Station Support Manual Procedures.

##### 13.5.2.2.3.2 Emergency Implementing Procedures

Emergency Implementing Procedures are prepared under the direction of the Supervisor - Emergency Planning. They provide the instruction needed by River Bend Station personnel to implement the River Bend Station Emergency Plan.

##### 13.5.2.2.3.3 Nuclear Plant Engineering Procedures

Nuclear Plant Engineering Procedures are prepared under the direction of the Director - Nuclear Plant Engineering. They provide detailed instructions for managing and controlling station design and for providing engineering support services to River Bend Station.

#### 13.5.2.2.3.4 Plant Security Procedures

Plant Security Procedures are described in Section 13.6.

#### 13.5.2.2.3.5 Nuclear Training Procedures

Nuclear Training Procedures are prepared under the direction of the Director - Nuclear Training. They provide information and instruction pertaining to conduct of the training program including methods used, administration of the program, and documentation of training given.

#### 13.5.2.2.3.6 Environmental Services Procedures

Environmental Services Procedures are prepared under the direction of the Supervisor - Environmental Services. Environmental Services Procedures provide instructions for monitoring and documenting the affect of River Bend Station on the Environmental Report commitments.

#### 13.5.2.2.3.7 Fuel Management Procedures

Fuel Management Procedures are prepared under the direction of the Director - Nuclear Fuels Design and Safety Analysis. Topics addressed include, but are not limited to, nuclear fuel management including cost and material accountability, special nuclear material control and reporting including fuel contract and material reporting, central office accountability and core components accountability.

#### 13.5.2.2.3.8 Nuclear Licensing Procedures

Nuclear Licensing Procedures are prepared under the direction of the Director - Nuclear Licensing. Topics addressed include, but are not limited to, reporting 10CFR50.55(e)/10CFR21, processing NRC correspondence, developing and revising controlled licensing documents including the Operating License, maintaining FSAR data base and identifying and tracking project commitments.

#### 13.5.2.2.3.9 Management Systems Procedures

Management Systems Procedures are prepared under the direction of the Director - Management Systems. Topics addressed include, but are not limited to, outage management, cost control, living schedule development, and planning/scheduling.

#### 13.5.2.2.3.10 Engineering Analysis Procedures

Engineering Analysis Procedures are prepared under the direction of the Director - Nuclear Fuels Design and Safety Analysis. Topics include, but are not limited to, the maintenance, application and benchmarking of safety related computer codes.



### 13.5.3 River Bend Nuclear Procedures

#### 13.5.3.1 Purpose of Procedures

River Bend Nuclear Procedures define the major responsibilities of and interfaces between the departments comprising the River Bend Nuclear Group. Their purpose is to assign responsibilities to a department(s) and generally outline the steps in meeting the responsibilities assigned. They are not working level procedures. Implementation of River Bend Nuclear Procedures requirements are through procedures contained in either the Station Operating Manual or the Station Support Manual.

#### 13.5.3.2 Preparation Approval and Control

River Bend Nuclear Procedures are prepared under the direction of the departments responsible for performance of activities described. They are approved by the originating department and the Senior Vice President - River Bend Nuclear Group. Procedures are controlled by Support Services Section in accordance with approved procedures within the manual which address procedure development.