Georgia Power Company
Route 2, Box 299A
Waynesboro, Georgia 30830
Telephone 404 554-9961
404 724-8114

Southern Company Services, Inc
Post Office Box 2625
Birmingham, Alabama 35202
Telephone 205 870-6011

I-113

DOCKETED
USNRC

GN-88-35

NUCLEAR REGULATORY COMMISSION

'95 JAN 30 P3:18

50-424-OLA-3

Docket No. 50-424-OLA-3 Official Exh. No. 113
In the matter of GA Power Units 1+2
Staff ____ IDENTIFIED ____
Applicant ____ RECEIVED ✓
Intervenor ✓ REJECTED ____
Cont'g Off'r ____
Contractor ____ DATE 1-12-95
Other ____ Witness ____
Reporter C. Riner

OFFICE OF SECRETARY
DOCKETING & SERVICE
BRANCH

Vogtle Project

March 30, 1988

U. S. Nuclear Regulatory Commission
ATTN: Document Control Desk
Washington, D. C. 20555

File: X7N00.0-35
X7N17.1
Log: GN-1440

NRC DOCKET NUMBERS 50-424 and 50-425
OPERATING LICENSE NPF-68
CONSTRUCTION PERMIT NUMBER CPPR-109
VOGTLE ELECTRIC GENERATING PLANT - UNITS 1 AND 2
FSAR AMENDMENT NUMBER 35

Gentlemen:

Georgia Power Company, acting on its own behalf and as agent for Oglethorpe Power Corporation, Municipal Electric Authority of Georgia, and the City of Dalton, Georgia, hereby submits Amendment 35 to the Vogtle Electric Generating Plant (VEGP) Final Safety Analysis Report (FSAR).

The changes resulting from this amendment are identified in the Attachment. These changes are applicable to both Units 1 and 2. All substantive changes, for Unit 1, were evaluated as required by Title 10 CFR 50.59. The only exceptions are those items identified in the Attachment as editorial corrections or the incorporation of licensing correspondence which has been reviewed and approved by our staff.

This amendment also includes changes to Section 17.1, Quality Assurance During Design and Construction. These changes have been reviewed and it has been concluded that, in accordance with Title 10 CFR 50.55(f), they do not adversely affect the technical or quality controls and do not reduce the commitments of the Quality Program.

In accordance with the requirements of Title 10 CFR 50.30(f) and Title 10 CFR 50.4(b), one (1) signed original and thirty-seven (37) copies of Amendment 35 are submitted for your use. Also in accordance with the requirements of Title 10 CFR 50.4(b), copies of Amendment 35 are being sent to the NRC Regional office and the NRC Resident Inspector.

92 PROJECT
072183

Should you have any questions on the enclosed submittals, do not hesitate to contact me.

Yours truly,

P. D. Rice

P. D. Rice

SWORN AND SUBSCRIBED BEFORE ME, THIS

24th DAY OF March, 1987.

Joan B. Lundquist
Notary Public

Notary Public, Richmond County, Georgia
My Commission expires June 16, 1990.

PDR/lg
Enclosure
cc: NRC Regional Administrator
NRC Resident Inspector
FSAR Distribution List

1411V

92 PROJECT
072184

Attachment

Amendment 35 Changes

FSAR Section	Category*	Reason for Change
1.2.2	3	More detailed description of program to control Unit 1 and Unit 2 interface activities during Unit 2 construction
Table 1.3.1-2	2	Deletion of electrical penetration filters, Miller to O'Reilly, dated 8/19/87
1.9.21	2	Expanded discussion to include Technical Specification and ODCM information
1.9.32, 1.9.129	2	Expanded discussion to include battery testing in accordance with IEEE 450-1975 and the Technical Specifications
1.9.52	1	Editorial change to correct ANSI reference
1.9.63	3	Expanded discussion of $^{X}/R$ ratios used in calculating faults
3.2.2 and Table 3.3.2-1	1, 2, & 3	1) Include Fire Protection QA Program 2) Reflect BIT deletion for Unit 2 3) Reflect resolution of Readiness Review Module 18A 4) Conformitory change to reflect Q210.45 and 3.9.B.3 5) Reflect deletion of electrical penetration filters, Miller to O'Reilly, dated 8/19/87
3.7.B.3	2	Limitation on use of multiple response spectrum with Code Case N-411, SSER-5
3.9.B.1, 3B	3	Reflect use of computer code BSAP, CE-217
3.9.B.2	2	Conformitory change to reflect Q210.40
Table 3.9.B.3-9	3	Reflect addition of mini-flow line to NSCW pump discharge
Table 3.11.N.1-1	3	Reflect removal of BIT from Unit 2
Table 5.4.7-4	2, 3	1) Remove A-34 change to require operator action of gate valve. Miller to GPC, dated 11/20/87 2) Reflect removal of BIT from Unit 2

FSAR Section	Category*	Reason for Change
6.1.1	2	Deletion of electrical penetration filters, Miller to O'Reilly, dated 8/19/87
Tables 6.2.1-8, 6.2.1-23 and 6.2.1-28	1	Added change bar from A-34, T6.2.1-8, 23 and corrected title block for T6.2.1-28
6.2.2	3	As built condition of drain pipe, only one end blind flanged
Table 6.2.2-1, 2	1	Reflect resolution of Readiness Review Module 18A
6.2.4, Figure 6.2.4-1, Table 6.2.4-1, 6.2.6 and Figure 6.2.6-1	2	Flow and pressure sensing penetrations blind flanged as described in ILRT Test Report, Bailey to Youngblood, GN-1225, dated 12/12/87
6.2.4	2	Deletion of containment isolation on high radiation. Amendment 1 to operating license dated 6/23/87
6.3.1, 6.3.2, 6.3.3 and 6.3.5	3	Reflect removal of BIT from Unit 2
6.3.4	2	Incorporate SL-3696, Gucwa to NRC dated 12/04/87; ECCS surveillance testing
6.4, 6.5	2	Reflect resolution of Readiness Review Module 18A
7.3.1	3	Changed to clarify text, correct text and tables to reflect design and to make wording consistent with the Technical Specifications
7.3.3	2	Clarify the containment post LOCA purge description and conform with Figure 9.4.6-2
Table 7.3.9-1 and Figure 7.3.9-1	3	Include logic description of NSCW discharge and blowdown valves added as part of NSCW water hammer design
Table 7.4.2-1	3	Reflect removal of BIT from Unit 2
7.5, 11.5.2, 11.5.3, 12.3.4, Q260.61	1, 2, 3	PERMS/PAMS update and editorial corrections to reflect the as-built condition. In conformance to R.G.1.97 as reviewed and approved for the VEGP. Includes information resulting from PSMS V&V Program, GN-1373, 6/1/87 and Amendment 1 to the operating license. 6/23/87

FSAR Section	Category*	Reason for Change
7.6 and Figure 7.6.1-1	3	Reflect as-built condition of control power supply system
Table 8.3.1-3 and 4; Figures 8.3.1-1, 2, 5, 6 and 8	2, 3	1) Reflect as-built condition of the onsite power distribution system 2) Justification of zero separation of fire detection "Protecto" wire in class 1E cable trays 3) Note design detail differences between Units 1 and 2 4) Deletion of BIT from Unit 2
9.2.7	3	Update to Reflect NSSS standard for reactor make up water system
Table 9.2.9-1	3	Reflect resolution of Readiness Review Module 18A
9.2.10	5	Update to reflect as-built of the turbine cooling water system
9.3.3	1	Correct cross reference, "9.3.3.1.2.B" to "9.3.3.1.2.C"
9.4.1, 9.4.2, 9.4.3, 9.4.5 9.4.6	2, 3	1) Reflect resolution of Readiness Review Module 18A 2) Deletion of electrical penetration filters, Miller to O'Reilly, 8/19/87 3) Reflect addition of TSC preabsorber 4) Clarification of control room pressurization
9.5.1, 9A, 9B	1, 2, 3	1) Unit 2 design changes as approved in Miller to O'Reilly, 10/26/87 2) Update equipment listings in Fire Hazards Analysis (FHA) as verified by walkdowns 3) Update to reflect Fire Protection QA program 4) Include description of manual suppression system 5) Update of emergency lighting and safe and alternate shutdown considerations in the FHA 6) Clarify nonfire rating of stairwells and elevator shafts in containment 7) Unit 2 charcoal filter deluge system 8) Installation of new control room carpet 9) Clarify requirements of fire pump operability
9.5.2	2	Update to communication system. Bailey to NRC, GN-1415, 11/23/87

FSAR Section	Category*	Reason for Change
9.5.3, 9.5.4	1	Correct change bars from A-34
10.4.8	5	Setpoint for SG blowdown isolation changed from 170°F to 147.5°F
10.4.9	3	1) Design detail changes to reflect as-built condition for AFW turbine pump runout flowrate 2) Provide information for "minimum allowable" flow rate for motor driven AFW pump as requested in SL-3831, 2/14/88
11.2	3	Reflect use of hot shower waste monitor tank for processing floor drain tank contents to enhance system operational flexibility
13.1, 13.4	2, 3	Changes to reflect current organization and staffing at corporate and plant locations
13.2	2	Change to training program to reflect revision to 10 CFR 55 and Regulatory Guide 1.149, Rev. 1
14.2.1, 14.2.2 Table 14.2.1-1 and 2	2, 3	1) Conform index to text 2) Identify Unit 1 - Unit 2 interface and procedures for preoperational test program 3) Revise test procedures to take credit for Unit 1 tests
14.2.8.1.15	3	Allow for portions of test to be performed prior to hot functional testing
14.2.8.1.82	3	Credit taken for vendor qualification testing
14.2.8.1.83	3	Prerequisite change, ERF not required to be operational
14.2.8.1.88	3	Vendor manual used rather than NSSS startup manual
14.2.8.1.89	2	Revised acceptance criteria to conform to previously changed, A-25, prerequisite
14.2.8.1.90	1	Correct "motor operator " to "motor generator"
14.2.8.1.106	1	Reference should be to preoperation rather than operational test progran

FSAR Section	Category*	Reason for Change
14.2.8.1.109	3	Clarification of calibration of analog inputs
14.2.8.2.26	2	SL-2581, 6/15/87, change test plateau
14.2.8.2.28	2	SL-2444 /21/87; PERMS test change
14.2.8.2.30	2	SL-2644, .19/87; change flux mapping to 100% power level
14.2.8.2.54	2	Miller to O'Reilly, 10/08/87; test deleted
14.2.8.2.57	2	SL 2695, /19/87; clarify test method use of plant computer inputs
14.2.8.2.60	3	Deletion of UHS test for Unit 2, credit taken for Unit 1
15.4.6	2	Reflect reanalysis which was basis of Technical Specification change as documented in Amendment 1 to the operating license, 6/23/87
15.5	3	Reflect BIT deletion for Unit 2
Table 16.3-2	2	Deletion of containment isolation on high radiation. Amendment 1 to operating license dated 6/23/87
17.1, 17C	3	1) Identify changes to the QA Program - design and construction stage 2) Reflect corporate organizational changes
17.2	3	1) Reflect change in reporting responsibility of the QC Superintendent 2) Change A/E responsibility to SCS 3) Reflect corporate organizational changes
0210.45	2	GN-1262, 12/23/86; allowable stress values for emergency and faulted conditions
0410.15	2	Miller to O'Reilly, 8/14/87; pipe break criteria for flooding analysis
0410.39	2	Design update to reflect a 340,000 gallon CST capacity, conform response to Section 9.2.6
Q430.35	1	Clarification, lube oil fill location markings
0430.61	3	Changed to reflect data from actual test report

FSAR Section	Category*	Reason for Change
Q430.68	2	SL-2110, 3/09/87; reflect results of degraded voltage test
Q430.69	3	Reflect as-built condition of plant for electrical components
Q430.75	2	Revised to reflect Wyle test results, SSER-4
Q430.81	3	Changed electrical penetration elevation for flooding analysis from center line to bottom of penetration
Q640.14	1	Corrected test abstract number and provided cross reference

* Category:
1. Editorial changes and/or corrections
2. Conforming changes and/or changes previously notified to the NRC
3. Same licensing criteria; different implementation
4. Change in licensing criteria
5. Non-safety description changes

13.0 CONDUCT OF OPERATIONS

13.1 ORGANIZATIONAL STRUCTURE OF APPLICANT

13.1.1 MANAGEMENT AND TECHNICAL SUPPORT ORGANIZATION

This section provides information concerning corporate organization, functions, and responsibilities, participation in the facility design, design review, design approval, construction management, testing, and operation of the plant. GPC nuclear operations' corporate and plant organizations are responsible for directing activities at VEGP. The organizations described in chapter 13 support and report to nuclear operations for assigned activities.

13.1.1.1 Design and Operating Responsibilities

The following paragraphs 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. Principal site-related work such as meteorology, geology, seismology, hydrology, and demography has been developed and is described in chapter 2. The VEGP preoperational monitoring program is described in the environmental report; this program establishes a preoperational baseline from which to evaluate future monitoring of environmental effects.

13.1.1.1.1.2 Design of Plant and Auxiliary Systems. Unit 1 engineering and construction are complete. As of January 1988, Unit 2 was 77.8 percent complete.

13.1.1.1.1.3 Site Layout with Respect to Environmental Effects and Security Provisions. Site layout with respect to environmental effects is described in chapter 2. Site security with respect to plant geographical layout and equipment is described in the security plan.

92 PROJECT
072191

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 VEGP control room was designed using a reduced size control board and GPC operator input into the control board control configurations. The design incorporated the human factor design criteria at that time. An independent evaluation on human factor design has been performed on a mockup of the control room. A detailed discussion of control room design review and human engineering factors is described in chapter 18.

Design recommendations based on the mockup review were incorporated in the control board design or deferred for further evaluation. A detail design review was conducted on the as-built control room and utilized the plant simulator.

13.1.1.1.2.2 Development and Implementation of Staff Recruiting and Training Programs. The operating staff is described in subsection 13.1.2. Recruiting of personnel to fill these positions started in 1977. Unit 1 is essentially fully staffed. Training programs have been developed for this facility and are described in section 13.2.

13.1.1.1.2.3 Development of Plans for Initial Testing. The general manager-Vogtle nuclear operations (GMVNO) is responsible for all aspects of the initial test program of the VEGP. As part of his responsibilities, the GMVNO (or his designee) will direct the development of the startup manual.

The startup manual defines the startup organization, defines the responsibilities of involved organizations and personnel, delineates the qualifications necessary for startup personnel, and contains the administrative controls necessary for the implementation of the initial test program. Also, refer to paragraph 13.1.2.2.5 for a discussion of the initial test program.

The administrative controls, qualification for testing personnel, and other required procedures for conducting that part of the initial test program after fuel load will be included in the plant procedure manual or startup test procedures manual.

In fulfillment of these responsibilities of GPC nuclear operations, the GPC nuclear operations services organization interfaces directly with, obtains services from, and holds SCS accountable for various assigned support activities which normally include the following:

A. Architect-engineering services required for the design-engineering of plant modifications, including maintenance-related design changes, plant improvement-related design changes, and design changes or major plant additions as a result of new regulatory requirements and commitments. These services include both conceptual and detail design, issue and maintenance of design drawings and specifications, review/approval of design change requests, incorporation of as-built notices, procurement, related Quality Assurance functions, etc.

B. Design-related safety evaluation and analysis.

C. Safety evaluation and analysis which are not directly related to design, i.e., operational requirements, technical specification changes, etc.

D. Inservice inspection and testing (both planning and actual implementation).

E. Nuclear fuel procurement.

F. Nuclear fuel core analysis.

G. Generic safety evaluations on prospective licensing issues.

SCS currently has an organization in place for its "project phase" (Standard Review Plan terminology) scope of responsibility in support of the design, construction and licensing of the VEGP. This organization has both home office and onsite responsibilities and capabilities which are being converted into a long-term operational support organization to provide the type support noted above. This organization will be inclusive of all major design disciplines and will have the capability to contract for outside specialty technical support where additional expertise is needed and for major surges in manpower needs.

13.1.1.1.3.1 Nuclear, Mechanical, Structural, Electrical, Thermal-Hydraulic, Metallurgy and Materials, and Instrumentation and Control Engineering. SCS will be the primary source of engineering in these disciplines. The engineering, maintenance, and outage planning section of the GPC

The Nuclear Operations Department will be responsible for operation of VEGP. The nuclear operations department consists of the senior vice president, the plant Vogtle operating staff, the plant Hatch operating staff, and the nuclear operations services department in the general office. The Nuclear Operations Services Department provides support in the areas of safety and licensing, radiological safety, nuclear support services, training and emergency preparedness, and engineering, maintenance, and outage planning.

Engineering support during plant operation will be provided primarily by the SCS Nuclear Plant Support Department. The SCS Nuclear Safety and Fuel Department will provide nuclear fuel contract administrative services, reload licensing, and operating licensing support.

13.1.1.2.2 Nuclear Operations Department

The Nuclear Operations Department, under the supervision of the senior vice president, has direct responsibility for the operation and maintenance of GPC's nuclear plants. The Nuclear Operations Services Department, in the general office, is responsible for technical and administrative support activities. Technical, engineering, and administrative personnel of the General Office staff consisted of 97 persons as of March 17, 1988. The structure of the General Office organization is shown in figures 13.1.1-2 and 13.1.1-3 and is described in the following paragraphs.

13.1.1.2.2.1 Senior Vice President. The senior vice president is responsible to a senior executive vice president for the safe, reliable, and efficient operation and maintenance of all nuclear generating plants in the GPC system. These responsibilities are carried out in the following manner:

A. Direct the vice president - Plant Hatch and general manager - Plant Vogtle in the operation, maintenance, and modification of the GPC nuclear plants.

B. Interface with the general manager Vogtle nuclear operations and the vice president-Plant Hatch to ensure that work performed by the nuclear operations services organization is responsive to the needs of the operating plants and meets the applicable requirements of outside agencies.

C. Approve the plans and budget of the nuclear operation services department and make revisions as required.

D. Periodically assess the performance of the nuclear operations services department to ensure that plans and goals are achieved in a cost-effective manner.

E. Ensure that work done by the nuclear operations services department is of sufficient quality to ensure reliable service and to satisfy the applicable requirements of the Quality Assurance program.

13.1.1.2.2.3 Manager-Nuclear Safety and Licensing. The manager-nuclear safety and licensing reports to the general manager-nuclear operations services and has responsibility for licensing activity for the nuclear plants. Specific responsibilities of this individual include:

A. Review, evaluate, and analyze regulatory information. Recommend positions on applicable regulatory issues. Interpret and translate NRC requirements and commitments into company standards and position papers.

B. Maintain current knowledge and respond to nuclear industry issues through regular contact with owners groups, ad hoc groups, and architect/engineer (A/E) and nuclear steam supply system (NSSS) interfaces. Review applicable reports for industry experiences of concern to GPC plants and ensure appropriate preventive measures are taken.

L. Ensure that work done by and for the Nuclear Safety and Licensing Department is of sufficient quality to ensure reliable service and to satisfy applicable QA requirements.

Text moved and deleted

(This page has been intentionally left blank.)

92 PROJECT
072207

G. Ensure that the Security Plan is effective and consistent with NRC regulations, nuclear security organization, performance capabilities of the security department, and company policies and practices.

H. Ensure that nuclear security procedures implement NRC regulations, Security Plan requirements, and company commitments and are compatible with plant procedures.

I. Coordinate reviews of the effectiveness of the nuclear security organization. Ensure that nuclear security personnel perform at expected levels of professionalism and are properly trained, qualified, and equipped.

J. Coordinate logistical and support functions for security such as training, licensing, and equipment modifications.

K. Establish and implement plans and budgets for meeting the goals and objectives of the Nuclear Support Services Department.

L. Ensure that work done by and for the Nuclear Support Services staff is of sufficient quality to ensure reliable service and satisfies the applicable requirements of the QA program.

13.1.1.2.2.5 Manager-Training and Emergency Preparedness. The manager-training and emergency preparedness reports to the general manager-nuclear operations services and has the following responsibilities:

A. Prepare and conduct training programs at GPC nuclear plants, training centers, and corporate office to ensure that nuclear operations personnel have sufficient education, training, and skills to safely and efficiently operate, maintain, manage, and provide technical support for the plants. Ensure the establishment of appropriate training and qualification standards for temporary and transient workers.

B. Prepare and maintain corporate and plant emergency plans. Coordinate the planning and execution of emergency drills. Ensure that an effective training program exists for corporate emergency response personnel. Act as company interface with federal, state, and local authorities. Coordinate assessment and improvement of emergency plans. Develop and

(This page has been intentionally left blank.)

I. Assist in the development and implementation of the VEGP maintenance program.

J. Assist the plants in achieving excellence in outage management. This includes long-term planning for early identification of outage activities, identification of required resources, procurement of outage services, planning of pre-outage preparations, monitoring of outage progress and adjustment of outage plans, and evaluation of outage performance.

K. Assign project managers to direct and coordinate major and/or complex projects and programs. Evaluate the project scope and establish the bounds of authority of the project manager. Ensure that proper authorization of expenditures is obtained.

L. Staff the projects primarily with personnel from existing organizations. Obtain support from contractors if necessary.

M. Manage the project or program in accordance with its approved scope, ensuring adherence to schedule and budget.

N. Perform preliminary engineering and feasibility studies as directed by company management.

O. Direct the activities of the SCS manager - VEGP support to ensure that engineering design is performed to meet the requirements of the QA program and applicable codes and standards.

P. Direct all engineering support activities for VEGP.

Q. Review and evaluate industry information and experience, an incorporate lessons learned into engineering activities. Review plant and equipment performance trends.

R. Manage inservice inspection and inservice testing programs.

T. Establish and implement plans and budgets to meet the goals and objectives of the Engineering, Maintenance, and Outage Planning Department.

Text deleted and moved

13.1.1.3 Qualifications

Georgia Power Company operates electric generating plants with an aggregate capacity in excess of 14,000 MWe. The company has experience in the design, construction, startup testing, operating, and staffing of modern generating facilities, including Hatch Nuclear Plant, a nuclear power plant with two boiling water reactors.

TABLE 13.1.1-1 (SHEET 1 OF 15)

OFFSITE MANAGEMENT AND TECHNICAL SUPPORT

(NOTE: This table has been condensed for easier readability. Previous amendments that have affected this table are Amendments 3, 4, 7, 8, 16, 17, 19, 20, 24, 25, 26, 29, and 32.)

George F. Head, senior vice president

Responsibility and Authority

Responsible to the senior executive vice president for the design, construction, and operation of all fossil and hydro generation and for nuclear operations

Educational Background

Georgia Institute of Technology
B.S., mechanical engineering

Professional Experience and Training

Georgia Power Company

Senior vice president, general office, February 1988

Senior vice president-fossil and hydro power, general office, January 1984

Senior vice president-power generation, general office power generation, May 1981

Vice president and general manager-fossil and hydro generation, general office power generation, January 1980

General manager-fossil and hydro generation, general office power generation, November 1979

Deputy general manager-power generation, general office power generation, January 1978

Deputy general manager-production, general office production, May 1977

Manager-production, general office production, August 1975

Assistant manager-production, general office production, February 1973

TABLE 13.1.1-1 (SHEET 1A OF 15)

Superintendent-production, general office production, July 1969

Coordinator of engineering and construction for Plant Hatch, September 1968

Production engineer, general office production, July 1968

Assistant superintendent, Plant McDonough/Atkinson

Production engineer, general office production, August 1964

Southern Services, January 1964

Southern Services representative at Enrico Fermi Nuclear Plant for 6 years

Assigned APDA and PRDC, April 1958

Plant test engineer, Plant Yates, March 1956

Assistant plnat test engineer, Plant Hammond, March 1955.

Emsley F. Cobb, nuclear safety reviews manager

Responsibility and Authority

Responsible for management of the activities of the Safety Review Board to provide independent review and audit of designated activities at VEGP and Hatch Nuclear Plant.

Educational Background

Auburn University
B.S., electrical engineering

Professional Experience and Training

Georgia Power Company

Assistant to senior vice president and group executive-power supply and manager-nuclear planning and control.

92 PROJECT
072220

TABLE 13.1.1-1 (SHEET 1B OF 15)

U.S. Navy

Positions in the fossil propulsion plants of several fossil surface ships and assigned to various positions in three nuclear submarines, including commanding officer; provided direct nuclear training to eight nuclear submarines and coordination of nuclear repair efforts in the same submarines from the position of deputy squadron commander, having direct responsibility for these eight submarines, during the years 1955 to 1978.

Additional Training

Senior reactor operator certification on BWR
Pressurized water reactor orientation.

TABLE 13.1.1-1 (SHEET 2 OF 15)

Len T. Gucwa, manager-nuclear safety and licensing

Responsibility and Authority

Manages the nuclear safety and licensing department of Georgia Power Company's nuclear operations services organization involving nuclear safety nuclear fuel, and nuclear reactor regulation, October 1985-present.

Educational Background

University of Tennessee
B.S., nuclear engineering

Georgia Institute of Technology
M.S., nuclear engineering

Georgia State University
M.B.A

Professional engineer, State of Georgia

Certified senior reactor operator

Professional Experience and Training

Georgia Power Company

Since January 1971 in the safety engineering, regulatory, and operational support of Georgia Power Company's nuclear reactors, including reactor safety, radiological, and nuclear fuel cycle activities; in October 1985 named manager-nuclear safety and licensing department.

92 PROJECT
072222

TABLE 13.1.1-1 (SHEET 3 OF 15)

William E. Burns, nuclear licensing manager-Vogtle

Responsibility and Authority

Responsibilities center around management of the VEGP licensing group within the GPC Nuclear Safety and Licensing Department. Included in responsibilities are nuclear fuel and regulation.

Educational Background

Georgia Institute of Technology
B.S., mechanical engineering

Professional Experience and Training

Georgia Power Company

Worked in the nuclear engineering division of the power generation department and power supply and engineering services department in positions from design engineer to nuclear licensing manager-Vogtle, 1976-present.

U.S. Navy

Lead engineering officer of the watch and staff production training assistant at the S5G naval nuclear propulsion power plant prototype.

Engineering division officer onboard an S5W nuclear-powered submarine, 1971-1973.

92 PROJECT
072223

TABLE 13.1.1-1 (SHEET 4 OF 15)

Steven C. Ewald, manager-radiological safety

Responsibility and Authority

Responsible for nuclear facility environmental monitoring programs, and support of site health physics and chemistry programs.

Educational Background

Macalester College
B.A., physics with minor in mathematics and education

Michigan State University
M.S., physics with research in nuclear physics

Michigan State University
M.S., mechanical engineering with emphasis on analysis, modeling, and optimization systems

Professional Experience and Training

Georgia Power Company

Manager-health physics and chemistry, VEGP, May 1987-January 1988.

Manager-radiological safety, October 1985-May 1987.

Manager-nuclear chemistry and health physics, July 1983-October 1985.

Power generation engineer, October 1981-July 1983.

Supervisor-nuclear training, VEGP, June 1980-October 1981.

U.S. Nuclear Regulatory Commission, Region II

Radiation specialist, January 1977-June 1980.

Michigan State University

Nuclear reactor supervisor, division of engineering research, August 1973-January 1977.

Don M. Crowe, nuclear safety manager

92 PROJECT
072224

Responsibility and Authority

Responsible for fulfilling duties concerning generic licensing activities and nuclear regulation review.

TABLE 13.1.1-1 (SHEET 5 OF 15)

Educational Background

University of Tennessee
B.S., electrical engineering
M.S., electrical engineering

Auburn University
M.S., nuclear science

University of Alabama
M.B.A.

Professional Experience and Training

Georgia Power Company

Functioning in the capacity of nuclear safety manager in the nuclear operations department.

Southern Company Services

Manager nuclear analysis section and generic licensing section 1976-1985. Engineer, nuclear system department, 1971-1976.

TABLE 13.1.1-1 (SHEET 6 OF 15)

Jerome P. Kane, manager-engineering, maintenance and outage planning

Responsibility and Authority

Responsible for the A/E engineering support, the maintenance programs, and outage management programs within GPC's nuclear operations organization August 1987-present.

Educational Background

University of South Florida
B.S., materials engineering

Certified senior reactor operator (Westinghouse PWR)

Professional Experience and Training

Georgia Power Company

Since January 1986 performed as manager-Hatch engineering and projects and as maintenance and outage planning (M&OP) specialist. As manager-Hatch engineering and projects, directed all offsite engineering support, as well as engineering and capital project managers. As M&OP specialist was project manager of refueling outage contractor at Plant Hatch, performed as INPO maintenance peer evaluator.

Engineering, Planning & Management, Inc.

Regional manager for engineering consulting firm specializing in areas of fire protection, Appendix R compliance, equipment qualification, and computer engineering applications (2 years).

92 PROJECT
072226

TABLE 13.1.1-1 (SHEET 7 OF 15)

Impell Corporation

Division manager of project management division. Responsible for directing project managers and engineers for all nuclear utility client projects; included the full spectrum of engineering, operations, and maintenance support activities (2 years).

Catalytic Inc.

Home office projects manager responsible for the management of maintenance support contracts at four 2-unit generating nuclear plants (Salem, Calvert Cliffs, Grand Gulf, and Three Mile Island) and a construction management project for a radwaste processing and storage facility at Nine Mile Point 1 (4 years).

NUS Corporation

Manager-operating plant services department, responsible for providing health physics consulting services and field engineering services to the operations and maintenance groups at operating nuclear plants. Also was project manager responsible for managing design engineering modification projects at H.B. Robinson II and Indian Point 2 (4 years).

Westinghouse Electric Corporation

Senior engineer in Tampa Division responsible for all field service work for Westinghouse on nuclear steam generators and pressurizers. Responsible for field erection of 27 2-piece steam generators at 11 nuclear plants. Received two patent awards for improved nuclear steam generator designs. Certified as senior reactor operator on Zion 1 (7 years).

Stephen H. Chesnut, manager-engineering and projects-Vogtle

Responsibility and Authority

Responsible for directing all projects and engineering for Plant Vogtle. Responsibilities include engineering, technical and safety evaluations, plant modifications and design, and operational support engineering.

92 PROJECT
072227

TABLE 13.1.1-1 (SHEET 8 OF 15)

Educational Background

U.S. Naval Academy
B.S., mechanical engineering

George Washington University
MBA

Professional Experience and Training

Georgia Power Company

Nuclear generation engineer involved in engineering, safety, and licensing in the nuclear operations department.

U.S. Nuclear Regulatory Commission

Nuclear engineer; senior licensing project manager; technical assistant to assistant director for Licensing Nuclear Reactor Regulation; assistant to Commissioner. Positions of increasing responsibility involving inspection, emergency preparedness, licensing, and technical regulatory matters related to construction and operation of nuclear facilities (1980 - 1985).

Booz Allen Hamilton Applied Research

Senior engineering consultant to U.S. Navy, involved in testing, evaluation, and construction of engineering systems for Trident Submarine Project.

United States Navy

Nuclear power training; electrical officer; machinery division officer; quality assurance officer; auxiliary division officer; engineering officer of watch. Certified chief engineer officer responsible for supervision, operations, maintenance, and training aboard nuclear submarine.

E. Morris Howard, manager nuclear operations services

Responsibility and Authority

Responsible for administrative and technical support to GPC's operating nuclear plants provided by the nuclear operations services department.

92 PROJECT
072228

TABLE 13.1.1-1 (SHEET 9 OF 15)

Educational Background

B.S.
University of Chattanooga

Catholic University Graduate School Nuclear Science and Engineering
No degree

Registered Professional Engineer - Electrical and Nuclear

Professional Experience and Training

U.S. Tennessee Valley Authority

Electrical engineer in various divisions of power system operations, including substations, electric lab and test as a trainee and engineering support to power dispatching developing operating procedures and diagrams. Completed the TVA Graduate Engineer Training Program, 1952-1962.

Federal Power Commission

Senior electrical engineer responsible for evaluation of extra-high-voltage lines in conjunction with the National Power Survey, 1963.

U.S. Army Engineer Reactor Group

Senior electrical engineer with responsibility for review of malfunctions and modifications and engineering support for five operating reactors. Director-Operation Department with responsibility for nuclear reactor safety including modifications. Certified by examination and board as a nuclear power plant engineer, 1963-1966.

Naval Facilities Engineering Command

Supervisory electronics engineer responsible for development of specifications for a nuclear instrumentation system using state-of-the-art technology;

TABLE 13.1.1-1 (SHEET 10 OF 15)

director-Technical Support Department, responsible for all technical and safety matters relating to the Antartica-based nuclear power plant, 1966-1968.

U.S. Nuclear Regulatory Commission

Senior reactor engineer; inspector, Chief Construction and Engineering Support Branch; Director, Region IV; and Division Director, Office of Inspection and Enforcement. Positions of increasing responsibility involving all phases of regulation of construction and operation of nuclear facilities, 1968-1980.

KMC, Inc.

Senior associate, providing consulting services to utilities on a variety of nuclear issues.

Florida Power Corporation

Director, site nuclear operations, with responsibility for operations, training, administration and support activities such as emergency planning, security, and ALARA.

John J. Badgett, manager-training and emergency preparedness

Responsibility and Authority

Responsible for the development, monitoring, and coordinating of the nuclear operations, health physics/chemistry, and maintenance training programs.

Educational Background

United States Naval Academy
B.S.

Professional Experience

Georgia Power Company

Superintendent of training, Vogtle Electric Generating Plant, November 1981-July 1983.

92 PROJECT
072230

Amend. 35 3/88

TABLE 13.1.1-1 (SHEET 11 OF 15)

General Physics Corporation

Instructor nuclear power plant operations, September 1980-November 1981.

United States Navy

Navy Nuclear Power School, commanded two nuclear-powered submarines.

Commanded a division of nuclear submarines. Commanded a nuclear submarine repair ship. Commanded a fleet ballistic missile submarine training center and was inspector general for the chief of naval technical training.

Involved with all aspects of supervision of operations, maintenance, and repair of nuclear power plants including training of personnel for operations maintenance and repair activities.

Larry A. Hill, nuclear emergency preparedness manager

Responsibility and Authority

Responsible for managing the activities of the corporate nuclear emergency preparedness organization to ensure that implementation of the nuclear emergency program is consistently administered, is in regulatory compliance, and is coordinated among the Georgia Power Company nuclear power facilities.

Educational Background

Florida Junior College
A.A., premedicine

University of North Florida
B.A., natural sciences

Professional Experience and Training

Georgia Power Company

Nuclear emergency preparedness manager, September 1986-present.

92 PROJECT
072231

TABLE 13.1.1-1 (SHEET 12 OF 15)

Florida Power Corporation

Manager-site nuclear services, July 1982-September 1986

Assistant manager-nuclear support services, August 1981-July 1982.

Licensing specialist-environmental & nuclear services, November 1979-August 1981.

Nuclear compliance auditor, October 1978-November 1979.

Non-Nuclear Experience

Union Carbide Corporation

Environmental and occupational health technician, January 1978-October 1978.

Logan Diving & Salvage

Medical deep sea diving technican, September 1977-December 1977.

U.S. Navy Reserve

Medical deep sea diving technician schools, January 1977-August 1977.

University of North Florida

Laboratory technican II, September 1975-January 1977.

Military Experience

U. S. Navy

Hospital corpman, operating room technican.

Thomas J. McHenry, manager-nuclear support services

Responsibility and Authority

Overall responsibility for planning and implementing policies, procedures, and practices relative to Nuclear Operations requirements for procurement, human resources,

contract administration, budget/finance, records management, industrial safety, and security in ways that effectively support the Nuclear Operations organization's mission and purpose.

Educational Background

Troy State University
B.S., physical science

Professional Experience and Training

Institute of Nuclear Power Operations
Assistant to the president and secretary of the corporation, February 1980-June 1985.

U.S. Nuclear Regulatory Commission

Reactor inspector, March 1978-February 1980.

Alabama Power Company

Assistant operations supervisor, September 1972-March 1978.

U.S. Navy

Electronic technician, November 1965-June 1972.

Bruce K. McLeod, manager-maintenance and outage planning liaison

Responsibility and Authority

Responsible for the continuing evaluation of plant maintenance programs, to identify needed improvements and track their implementation, review and evaluation of trends, assist in the development and implementation of the VEGP maintenance programs and assist in achieving excellence in outage management.

Educational Background

High school

TABLE 13.1.1-1 (SHEET 14 OF 15)

Professional Experience and Training

Washington Public Power Supply Systems, 1974 to present

Manager, power generation services.
Manager, test and startup programs.
Manager, quality assurance.
Manager, power generation training.
Manager, construction and modifications.
Plant superintendent, WNP 1 and 4.

U.S. Atomic Energy Commission (now U.S. Nuclear Regulatory Commission)

Manager, nuclear and industrial services, 1973-1974.

United Nuclear Corporation

Principal reactor inspector, 1971-1973.

General Electric Company, 1965-1971

Shift supervisor, nuclear safety engineer, and shift operations manager on a 860-MWe nuclear power plant.

U.S. Navy Naval Reactors Program, 1959-1965

Reactor operator and reactor control technician.

John F. Lukehart, Nuclear Security Manager

Responsibility and Authority

Responsible for nuclear facility security as designated by the manager-nuclear support services.

Educational Background

Indiana University of Pennsylvania
B.A., liberal arts

92 PROJECT
072234

TABLE 13.1.1-1 (SHEET 15 OF 15)

Professional Experience and Training

Georgia Power Company

Nuclear security manager, June 1986 to present.

Duquesne Light Company

Director of security, Beaver Valley Power Station, December 1981 to June 1986.

Crucible, Inc.

Chief of Security 1978-1981.

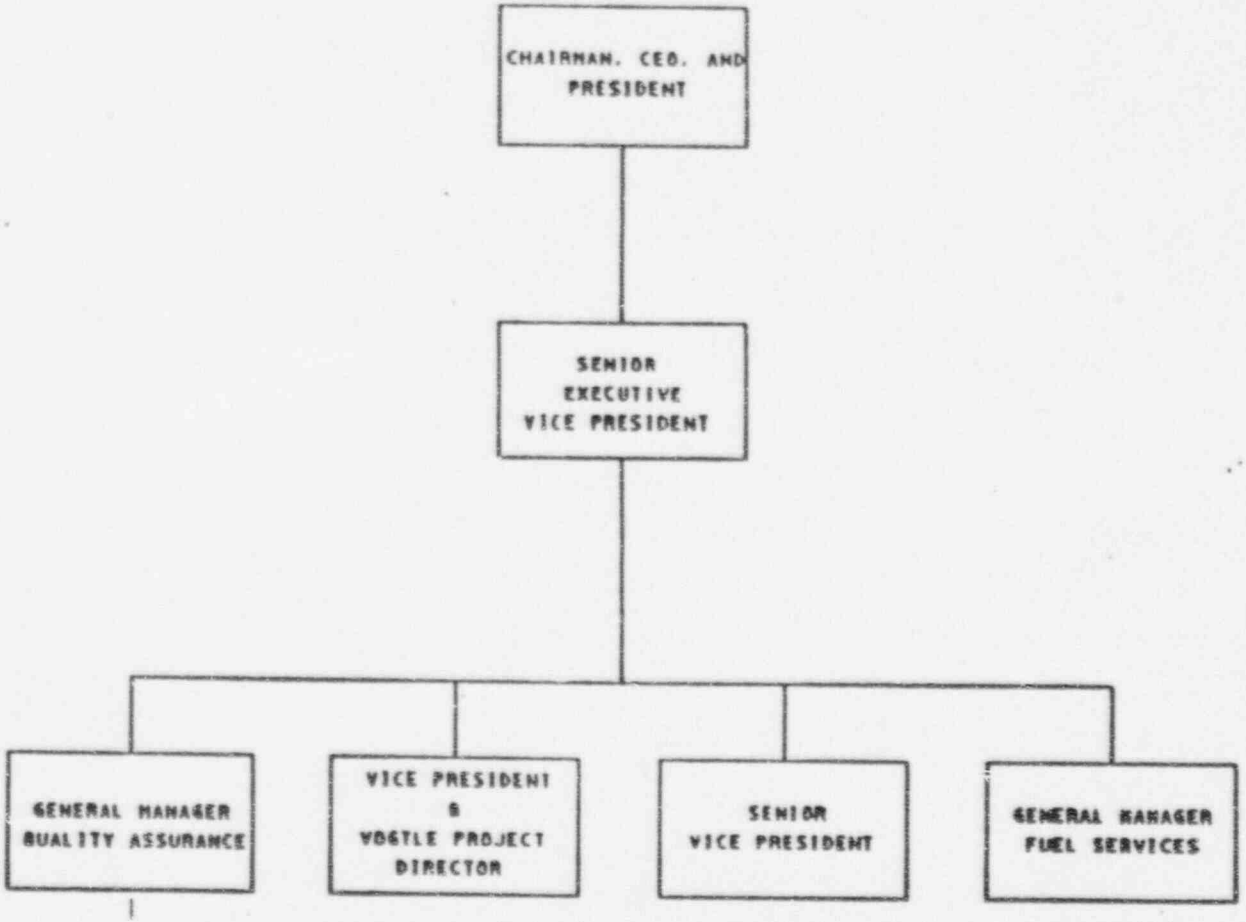
Cerro, Inc.

Supervisor, safety and security, 1976 - 1978.

Babcock and Wilcox, Nuclear Materials Division

Division Security Chief.
Licensing officer.
Internal compliance officer 1969-1976.

92 PROJECT
072235



Amend. 3 1/84
Amend. 16 4/85
Amend. 24 6/86
Amend. 25 9/86
Amend. 26 10/86
Amend. 35 3/88

Georgia Power

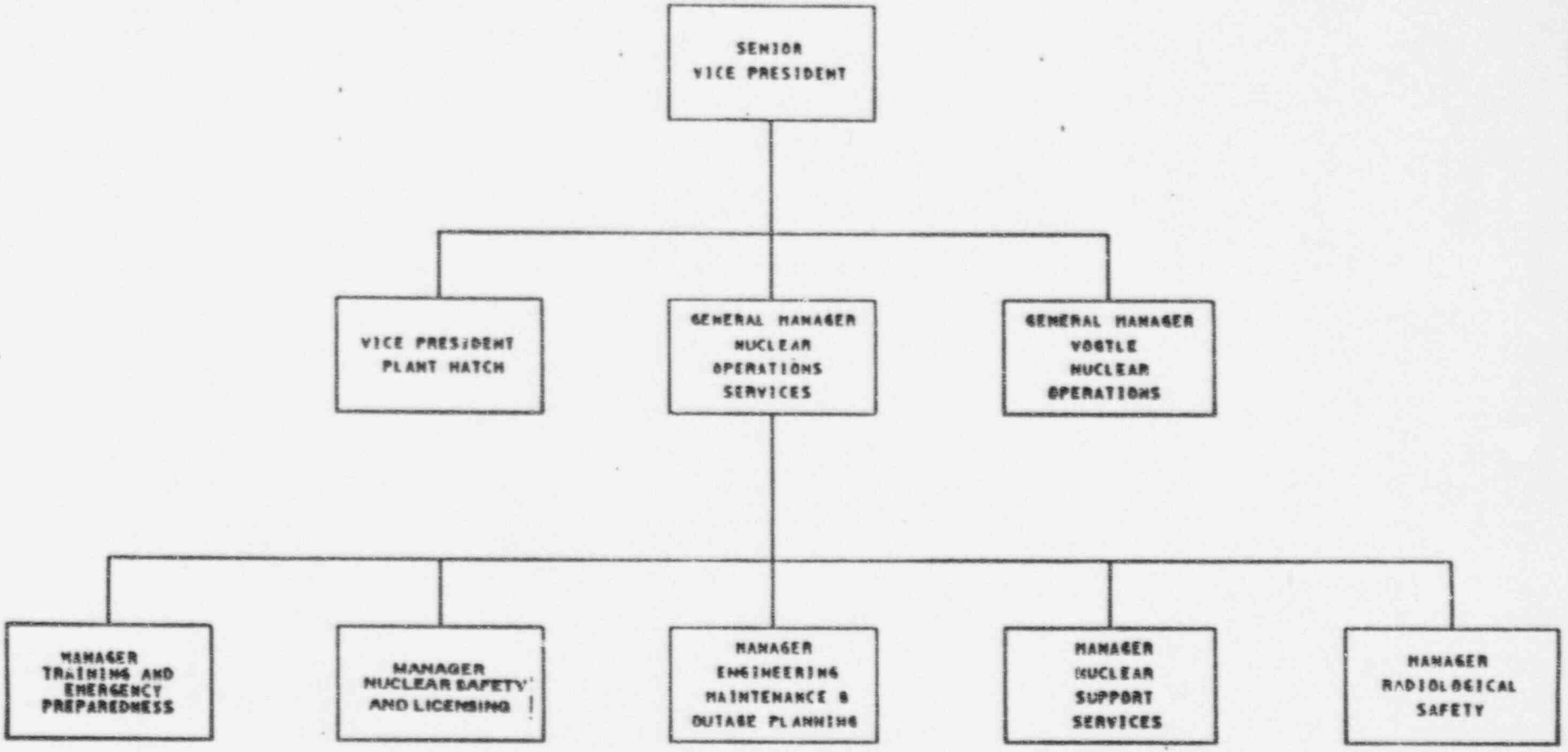
VOGTLE ELECTRIC GENERATING PLANT UNIT 2

CORPORATE ORGANIZATION VEGP UNITS 1 AND 2

FIGURE 13.1.1-1

92 PROJECT
072236

Exhibit 113, page 40 of 86



Amend. 16 4/85
Amend. 24 6/86
Amend. 25 9/86
Amend. 26 10/86
Amend. 29 11/86
Amend. 35 3/88

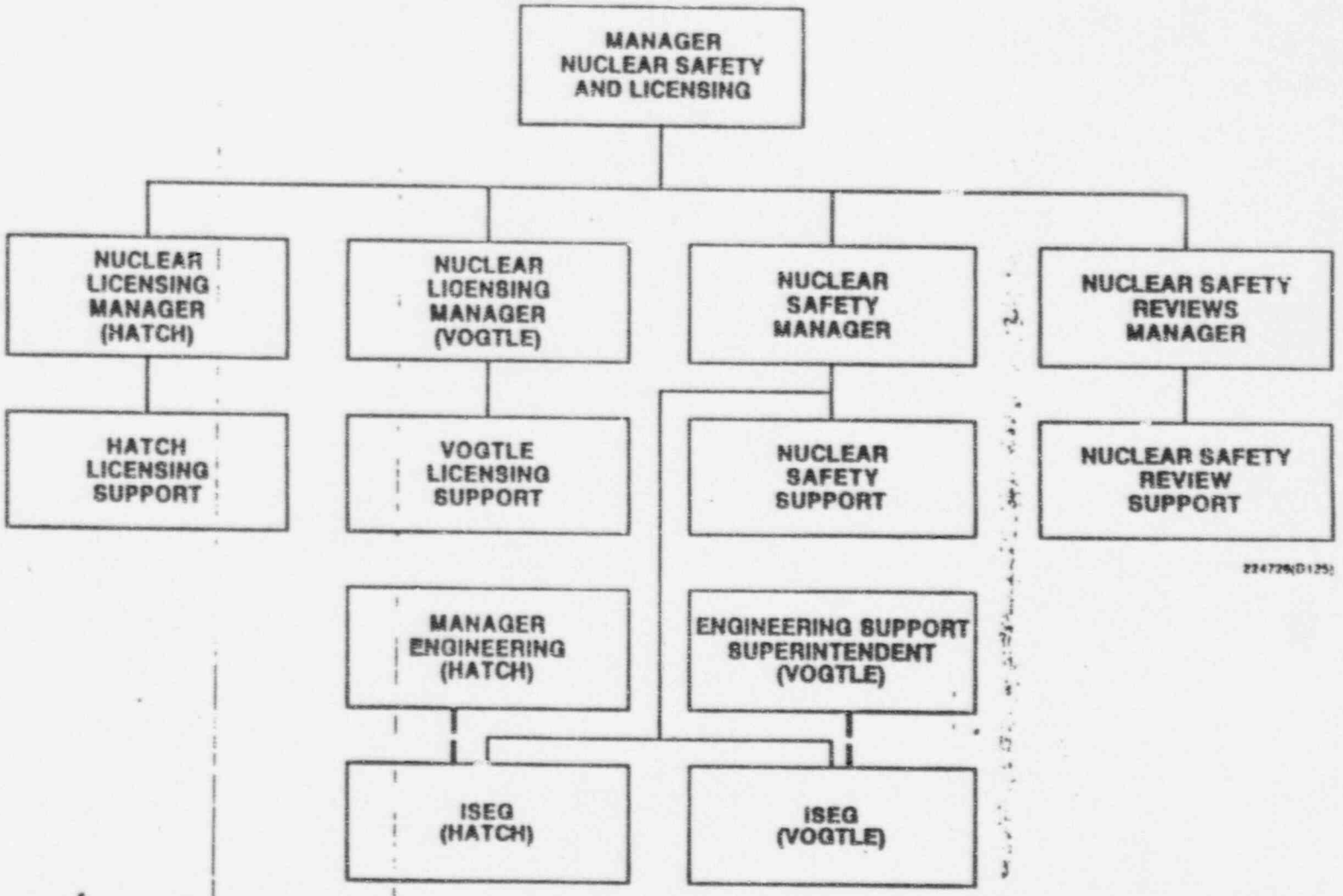
Georgia Power

VOGTLE
ELECTRIC GENERATING PLANT
UNIT 1 AND UNIT 2

NUCLEAR OPERATIONS ORGANIZATION

92 PROJECT
072237

Exhibit LL3, page 47 of 56



92 PROJECT
072239

Georgia Power

VOGTLE
GENERATING PLANT
UNIT 2

TECHNICAL SUPPORT ORGANIZATION

FIGURE 13.1.1-3 (SHEET 2 OF 5)

Exhibit 113, page 43 of 81

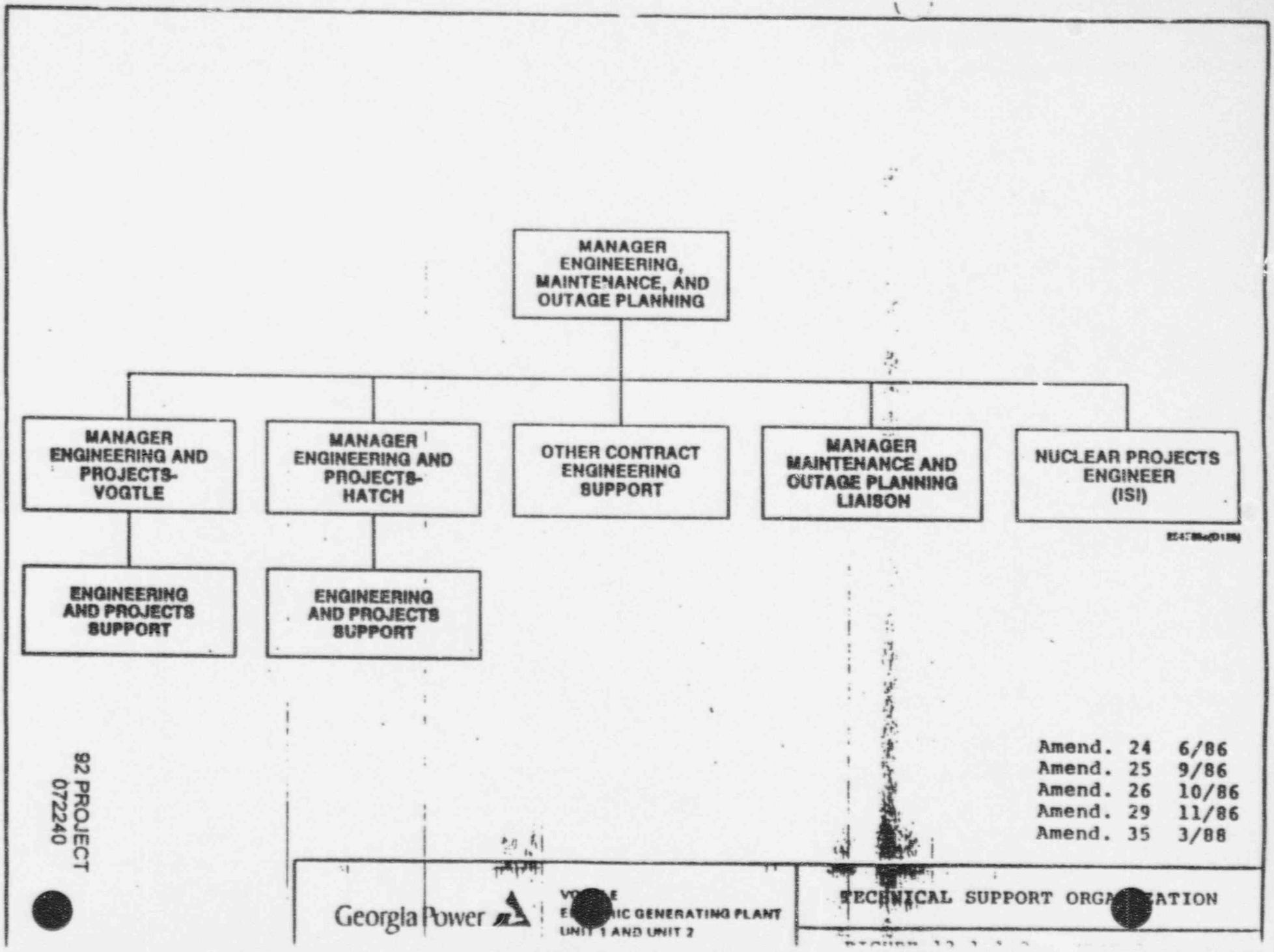
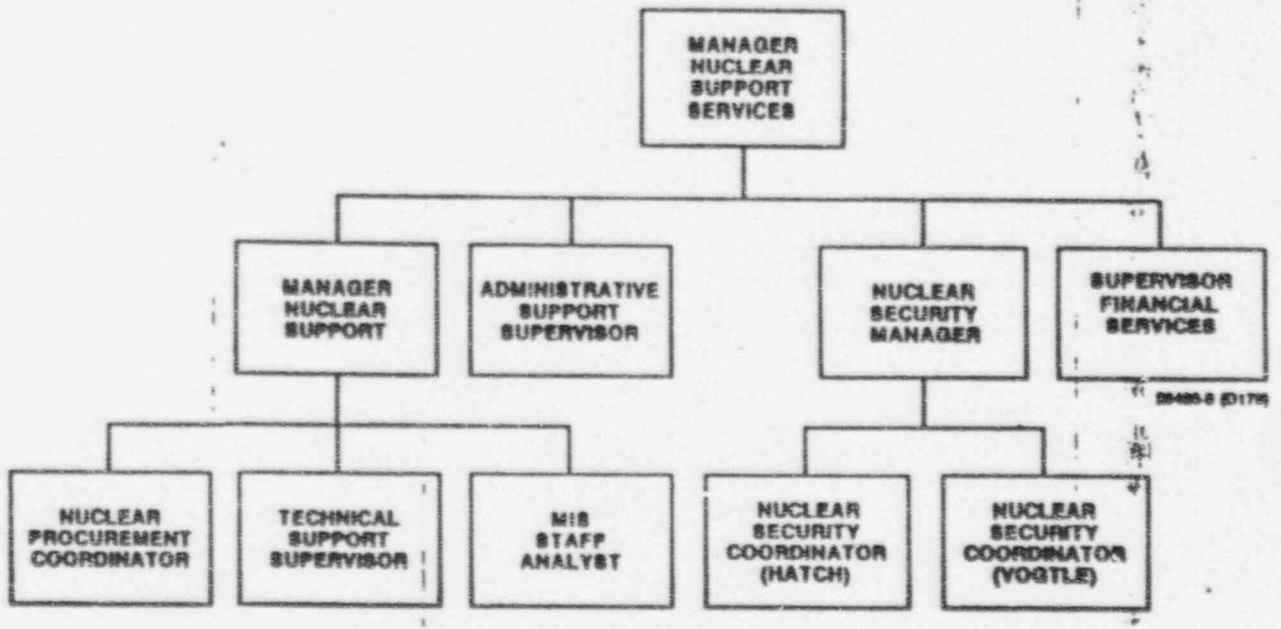


Exhibit 113, page 44 of -



Georgia Power

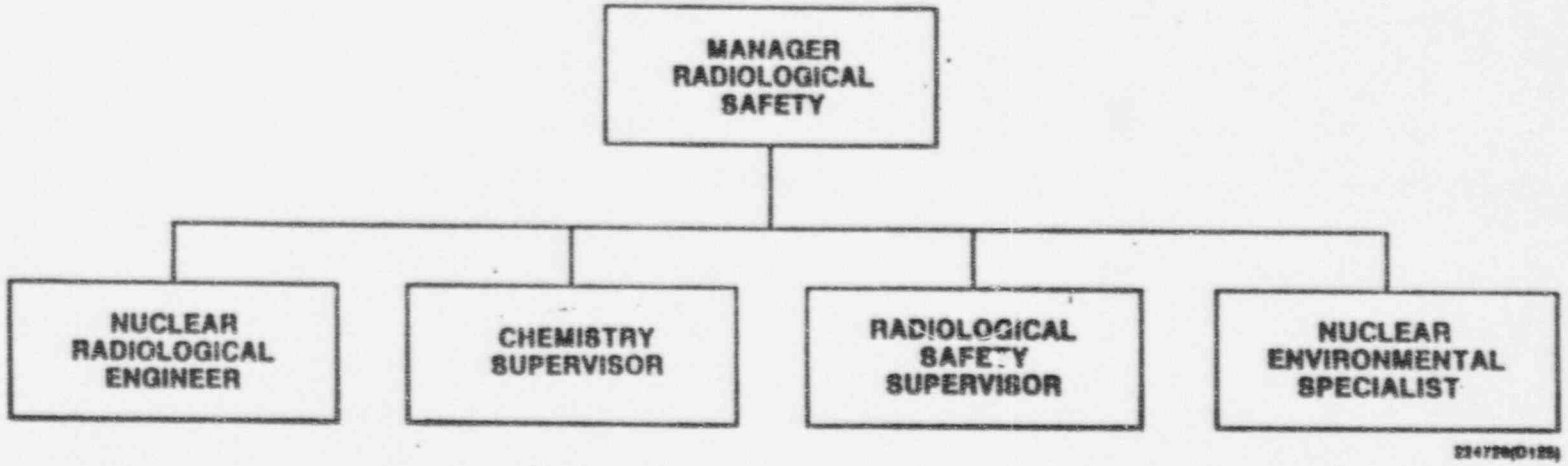
VOGTLE
TRIC GENERATING PLANT
1 AND UNIT 2

TECHNICAL SUPPORT ORGANIZATION

FIGURE 13.1.1-3 (SHEET 4 OF 5)

92 PROJECT
072241

Exhibit 113, page 45 of 84



Amend. 29 11/86
Amend. 35 3/88

Georgia Power

VOGTLE
ELECTRIC GENERATING PLANT
UNIT 1 AND UNIT 2

TECHNICAL SUPPORT ORGANIZATION

FIGURE 13.1.1-2 (SHEET 5 OF 5)

92 PROJECT
072242

Exhibit 13, page 44 of 44

13.1.2 OPERATING ORGANIZATION

13.1.2.1 Plant Organization

The VEGP consists of two nearly identical nuclear generating units. The plant organization applicable when Unit 1 is operational and Unit 2 is being completed is shown in figure 13.1.2-1. The plant staff will consist of approximately 600 full-time employees.

13.1.2.2 Plant Personnel Responsibilities and Authorities

13.1.2.2.1 Overall Plant Management

The general manager-Vogtle nuclear operation (GMVNO) is responsible for direct management of the plant, including industrial relations, planning, coordination, direction of operation, training, maintenance, refueling, and technical activities. The GMVNO is responsible for compliance with the requirements of the operating license, technical specifications, and quality assurance program. In the GMVNO's absence, the plant manager assumes responsibility for Unit 1, and the plant support manager assumes responsibiility for Unit 2. The GMVNO will designate in writing other qualified personnel to assume overall plant responsibility in his absence. (See paragraph 13.1.2.2.2 for succession of responsibility for overall plant operation for Unit 1.)

The GMVNO reports to the senior vice president nuclear operations. The GMVNO has access to the advice and services of technical specialists within Georgia Power Company (GPC), Southern Company Services (SCS) nuclear support, and outside expertise as necessary.

The line organizations reporting to the GMVNO are:

A. The plant manager who is responsible for the operation of Unit 1 and supplying operations resources for testing the unit to be licensed. Reporting to the plant manager are the manager operations, the maintenance manager, and the manager of health physics and chemistry.

92 PROJECT
072243

Amend. 16 4/85
Amend. 17 7/85
Amend. 24 6/86
Amend. 26 10/86
Amend. 35 3/88

B. The plant support manager who is responsible for supporting Unit 1 and testing of Unit 2. Reporting to the plant support manager are the assistant plant support manager, the assistant plant startup manager, and the outages and planning manager. Reporting to the assistant plant support manager are the engineering support

Amend. 16 4/85
Amend. 24 6/86
Amend. 26 10/86
Amend. 35 3/88

(This page has been intentionally left blank.)

superintendent, the manager-general support, the nuclear security manager and the quality control superintendent. Reporting to the assistant plant startup manager are the test engineering superintendent, the maintenance superintendent (startup), the startup planning superintendent, and the procedure superintendent. Reporting to the outages and planning manager are the outage and scheduling superintendent, the work planning and controls superintendent, and the modifications and outage support group superintendent.

C. The nuclear safety and compliance manager who is responsible for advising plant management on matters concerning compliance with regulatory requirements and providing assistance on matters involving regulatory considerations.

D. The plant training and emergency preparedness manager who is responsible for implementation of the training and retraining programs for VEGP. The plant training and emergency preparedness manager is also responsible for administering use of the training simulator and managing the onsite emergency preparedness effort.

Responsibilities of the groups reporting to the plant manager are:

E. The manager operations is responsible for operating the plant safely and efficiently.

F. The maintenance manager is responsible for performance of preventive maintenance and repair of plant equipment.

G. The manager of health physics and chemistry is responsible for the radiation protection program and radiochemical activities at VEGP.

Responsibilities of the groups reporting to the plant support manager through the assistant plant support manager, the assistant plant startup manager, and the outages and planning manager are:

H. The engineering support superintendent is responsible for design change and modifications, systems engineering, discipline engineering, and reactor engineering.

I. The nuclear security manager is responsible for implementing the plant security plan.

J. The manager general support is responsible for materials management, buildings and grounds upkeep, and administration.

K. The test engineering superintendent is responsible for the daily control of preoperational testing activities of Unit 2.

L. The maintenance superintendent (startup) is responsible for supporting the initial test program of Unit 2.

M. The startup planning superintendent is responsible for the development and maintenance of initial test program schedules and scoping information.

N. The outage scheduling superintendent is responsible for scheduling outages and updating outage schedules.

O. The work planning and controls superintendent is responsible for planning, scheduling, and controlling work methods.

P. The modifications and outage support group superintendent is responsible for modification work order implementation, constructability walkdowns, and field maintenance support activities.

Q. The quality control superintendent is responsible for administration and implementation of an effective quality control inspection program at VEGP.

(This page has intentionally been left blank.)

The work experience and educational background requirements for department heads and selected personnel are described in subsection 13.1.3. The resumes of selected plant staff members are provided in table 13.1.2-1.

13.1.2.2.2 Operations Supervision and Shift Organization

The manager operations is responsible to plant management for the operation of Unit 1. The manager operations shall possess a senior reactor operator's license.

Reporting to the manager operations are the deputy manager operations, operations superintendent, the operations superintendent (support), and the operations superintendent (waste management). The deputy manager operations and the operations superintendent shall possess a senior reactor operator's license.

The deputy manager operations assists the manager operations in his duties and assumes the manager operations responsibilities in his absence. The operations superintendent directs onshift operation of Unit 1. The operations superintendent (support) provides technical support and coordinates training of operations personnel. The operations superintendent (waste management) plans and supervises the processing of solid radioactive waste.

Reporting to the operations superintendent is the onshift operations supervisor who shall possess a senior reactor operator's license. The onshift operations supervisor is responsible for seeing that unit operations are conducted in accordance with approprite standing orders, unit operating procedures, and technical specifications. The onshift operations supervisor's principal responsibility is ensuring safe operation of Unit 1 during his assigned shift as addressed in the requirements of item I.A.1.2 of NUREG-0737.

A shift supervisor for each unit is under the supervision of the onshift operations supervisor.

Each shift supervisor shall possess a senior reactor operator's license. Each shift supervisor is responsible for the safe and efficient operation of the unit. The shift supervisor for each unit keeps a record of shift activities and establishes unit load as requested by the load dispatcher or as emergency conditions dictate.

Reporting to the shift supervisors are the plant operators, assistant plant operators, and plant equipment operators.

Amend. 3 1/84
Amend. 7 5/84
Amend. 16 4/85
Amend. 17 7/85
Amend. 26 10/86
Amend. 35 3/88

A shift technical advisor for each unit reports to the shift supervisor for that unit. The shift technical advisor acts to provide perspectives in assessment of plant conditions and evaluation of the safety of the plant.

The shift technical advisor position meets the intent of NUREG-0660, as clarified by NUREG-0737, item I.A.1.1. The shift technical advisor position may be eliminated if the qualifications of the onshift operations supervisor or shift

(This page has intentionally been left blank.)

supervisor meet the requirements of the shift technical advisor position. Section 13.2 describes shift technical advisor training, and subsection 13.1.3 describes shift technical advisor qualifications.

Plant operators and assistant plant operators monitor the plant status and operate equipment as needed to maintain control of the various plant processes. Most of their duties are located in the control room, although they may perform inspections in other areas of the plant. The operating crew may make radiation and contamination surveys within the plant. (In addition to the control room personnel, a radiochemical technician is on duty during plant operations.) The Technical Specifications state the shift manning requirements for all modes of operation.

The succession to responsibility for overall operation of Unit 1 and the authority to issue operating instructions or special orders, in the event of absences, incapacitation of personnel, or other emergencies, shall be as follows:

A. General manager-Vogtle nuclear operations (GMVNO).

B. Plant manager.

C. Manager operations.

D. Deputy manager operations.

E. Licensed superintendent designated by GMVNO.

F. Onshift operations supervisor (SRO).

G. Shift supervisor (SRO).

13.1.2.2.3 Engineering, Health Physics, Laboratory, and Maintenance Supervision

The engineering support superintendent reports to the assistant plant support manager and supervises the engineering staff. Reporting to him are the plant engineering supervisors and a fire protection specialist. (See subsection 9.5.1 for description of fire protection program.) The functions of his staff are to monitor plant performance, provide technical support for plant operation, provide writing support, and interface with other groups to ensure proper engineering support for plant operations.

Plant engineering supervisors reporting to the engineering support superintendent determine when to call consultants and contractors for dealing with complex problems beyond the scope of available capabilities. The engineering support superintendent corresponds closely to that identified as "engineer in charge" by ANSI 18.1-1971.

The health physics superintendent reports to the plant manager through the manager of health physics and chemistry and is responsible for the radiation protection program. He verifies that releases of radioactivity from the plant comply with federal, state, and local regulations. The responsibility for shipment of radioactive waste is as discussed in VEGP process control program. He also ensures that appropriate monitoring devices and protective clothing are available. He is responsible for radiation monitoring devices used by personnel entering the plant and for the maintenance of all required radiation exposure records of plant support and visiting personnel. Reporting to the health physics superintendent are the health physics supervisor, the laboratory supervisor (dosimetry), and plant engineering supervisors.

The chemistry superintendent reports to the plant manager through the manager of health physics and chemistry and is responsible for chemical and radiochemical activities at the plant. He is responsible for administrative control of effluent releases from the plant to ensure that the releases are maintained ALARA and within the limits of 10 CFR 20 and plant Technical Specifications.

The chemistry supervisors work under the direction of the chemistry superintendent and are responsible for performing chemical and radiochemical sample analyses, monitoring and maintaining the plant makeup water demineralizer to ensure proper water quality. Laboratory personnel advise operations staff on the operation of plant systems to maintain water quality within the specified limits.

The maintenance superintendent directs and plans maintenance activities with the assistance of other departments. He has reporting to him maintenance supervisors, plant engineering supervisors, and the instrumentation and controls superintendent. The maintenance superintendent, supervisors, and foremen direct electricians and mechanics in the upkeep of equipment.

The instrumentation and controls superintendent, supervisors, and foremen are responsible for directing technicians in testing, calibration, surveillance checks, and repair of plant instrumentation and control systems.

13.1.2.2.4 Quality Assurance and Quality Supervision

The GMVNO is responsible for the development and implementation of the quality assurance program with the exception of the controls assigned to the quality assurance department (chapter 17) during the initial test phase and operational phase of VEGP. Reporting to the assistant plant support manager, the quality control superintendent will be responsible for inspection activities required by the quality assurance program. The quality control superintendent or his representative, is involved in day-to-day safety-related activities including work planning, PRB, and routine staff meetings. Quality control personnel have procedural authority to stop work and to control further processing, use, or installation of nonconforming items.

The general manager-quality assurance, as described in section 17.2 of the FSAR, is responsible to the senior executive vice president for managing activities of the GPC quality assurance organization. The quality assurance organization will provide a comprehensive independent audit of safety-related activities to verify that they are in compliance with the quality assurance program. The quality assurance program during operations is discussed in section 17.2.

13.1.2.2.5 Initial Test Program Organization

The general manager - Vogtle nuclear operations (GMVNO) is responsible for the initial test program. The initial test program consists of two phases or programs, a preoperational test program, and a startup test program. The GMVNO designates the plant support manager to be responsible for the preoperational test program and the plant manager to be responsible for the startup test program. The structure of the initial test program is shown in figure 13.1.2-2.

The plant support manager is responsible for development and direction of the preoperational test program policies and procedures that are necessary to ensure a successful preoperational test program. The startup manual describes the preoperational test program organization, defines the responsibilities of involved organizations and personnel, delineates personnel qualification, and contains the necessary administrative controls.

The plant support manager is responsible for development and direction of the startup test program policies and procedures that are necessary to ensure a successful startup test program. The startup test procedures manual describes the startup test

program organization, defines the responsibilities of involved organizations and personnel, delineates personnel qualifications, and contains the necessary administrative controls.

Reporting to the plant support manager directly and indirectly are the following selected positions:

A. The assistant plant startup manager is responsible for ensuring the development and implementation of the preoperational test program and procedures that are necessary for controlled and timely completion of the initial test program.

B. The startup planning superintendent is responsible for the development and maintenance of initial test program schedules and scoping information.

The startup planning superintendent reports to the assistant plant startup manager.

The test scheduling supervisor is responsible for the development and update of schedules required to support the initial test program.

The test scheduling supervisor reports to the startup planning superintendent. The positions reporting to

(This page intentionally left blank.)

the test scheduling supervisor will be schedulers assigned to startup, both Georgia Power Company and contract.

The test scheduling supervisor will provide direction to the schedulers in the performance of their duties.

D. The test scoping supervisor is responsible for the development and maintenance of system scoping/subscoping information to support system turnover.

The test scoping supervisor reports to the startup planning superintendent.

The test scoping supervisor provides guidance as to scoping philosophy and technical assistance to the test supervisors.

E. The maintenance superintendent (startup) is responsible for the development and implementation of the construction acceptance test (CAT) program. 16

The maintenance superintendent (startup) reports to the assistant plant startup manager. The maintenance superintendent (startup) represents a single point of contact for all phases of the CAT program. He will utilize primarily maintenance personnel to complete CAT testing. 24

F. Maintenance supervisors reporting to the maintenance superintendent (startup) are responsible for ensuring that CATs are completed in a timely manner to support the startup summary schedule.

The three maintenance supervisors have responsibility divided according to discipline. The disciplines are electrical, mechanical, and instruments and controls.

G. The test engineering superintendent is responsible for the daily control and prioritization of preoperational testing activities. The test engineering

superintendent reports to the assistant plant startup manager.

The position reporting to the test engineering superintendent are lead test supervisors and field test supervisors.

H. Lead test supervisors are responsible for ensuring timely implementation of preoperational-phase testing and turnover activities so as to support initial test program objectives and milestones.

Lead test supervisors provide programmatic and technical assistance and direction to the test supervisors in the performance of turnover and testing activities.

I. Test supervisors are responsible for the conduct of the system turnover and testing activities to support the initial test program objectives and milestones.

Test supervisors report to the lead test supervisor.

J. The procedure superintendent is responsible for the development of the startup manual procedures and other procedures as required to support the initial test program. The procedure superintendent reports to the assistant plant startup manager.

Reporting to the plant manager directly and indirectly are the following selected positions:

A. The manager operations is responsible for the development and implementation of the startup testing program and procedures that are necessary for controlled and timely completion of the initial test program.

B. The operations superintendent (startup) is responsible for conducting the assigned tests and for directing the individuals providing the support for startup test activities.

C. The shift test director (STD) is appointed by the manager operations to serve on a rotating basis with other individuals so appointed. The STD works for the operations supervisor (startup) and provides the daily control and prioritization of startup testing activities.

D. Startup test supervisors report to the shift test director and are responsible for the conduct of startup testing activities.

E. Serving as review and advisory groups to the general manager - Vogtle nuclear operations, the test review board (TRB) and the plant review board (PRB) are responsible for reviewing and recommending preoperational and startup test procedures, respectively. The TRB and PRB also review and recommend revisions to procedures and the results of procedures for which the boards are responsible. The GMVNO designates the assistant plant startup manager to approve preoperational test procedures. The GMVNO designates the manager operations to approve startup test procedures.

The TRB consists of personnel from Georgia Power Company - nuclear operations, Bechtel Power Corporation, and Westinghouse Electric Corporation. TRB members are those persons recommended by the plant support manager and approved by the General Manager Vogtle Nuclear Operations (GMVNO). The chairman of the TRB is designated by the GMVNO. A quorum shall consist of the chairman or vice chairman and members from at least three different organizations.

The composition and functions of the PRB are discussed in subsection 13.4.1.

(This page has intentionally been left blank.)

13.1.2.2.5.1 Qualification of Initial Test Program Personnel

A. Initial test program managers and superintendents

Individuals performing these functions shall meet the following requirements:

1. A bachelor's degree in engineering or related science.

2. Four years experience in responsible positions related to power generation, of which 3 years shall be nuclear power.

B. Lead test supervisors, test scheduling supervisors, and test scoping supervisors

Individuals performing any of these functions shall have as a minimum,

1. A bachelor's degree in engineering or related science and 3 years of power plant experience, including 2 years nuclear power plant experience, or

2. A high school graduate plus 7 years power plant experience (experience acquired in the testing, operation, or maintenance of power generating facilities), including 4 years nuclear power plant experience.

C. Maintenance supervisors

Individuals who perform this function shall meet the following preoperational phase minimum requirements:

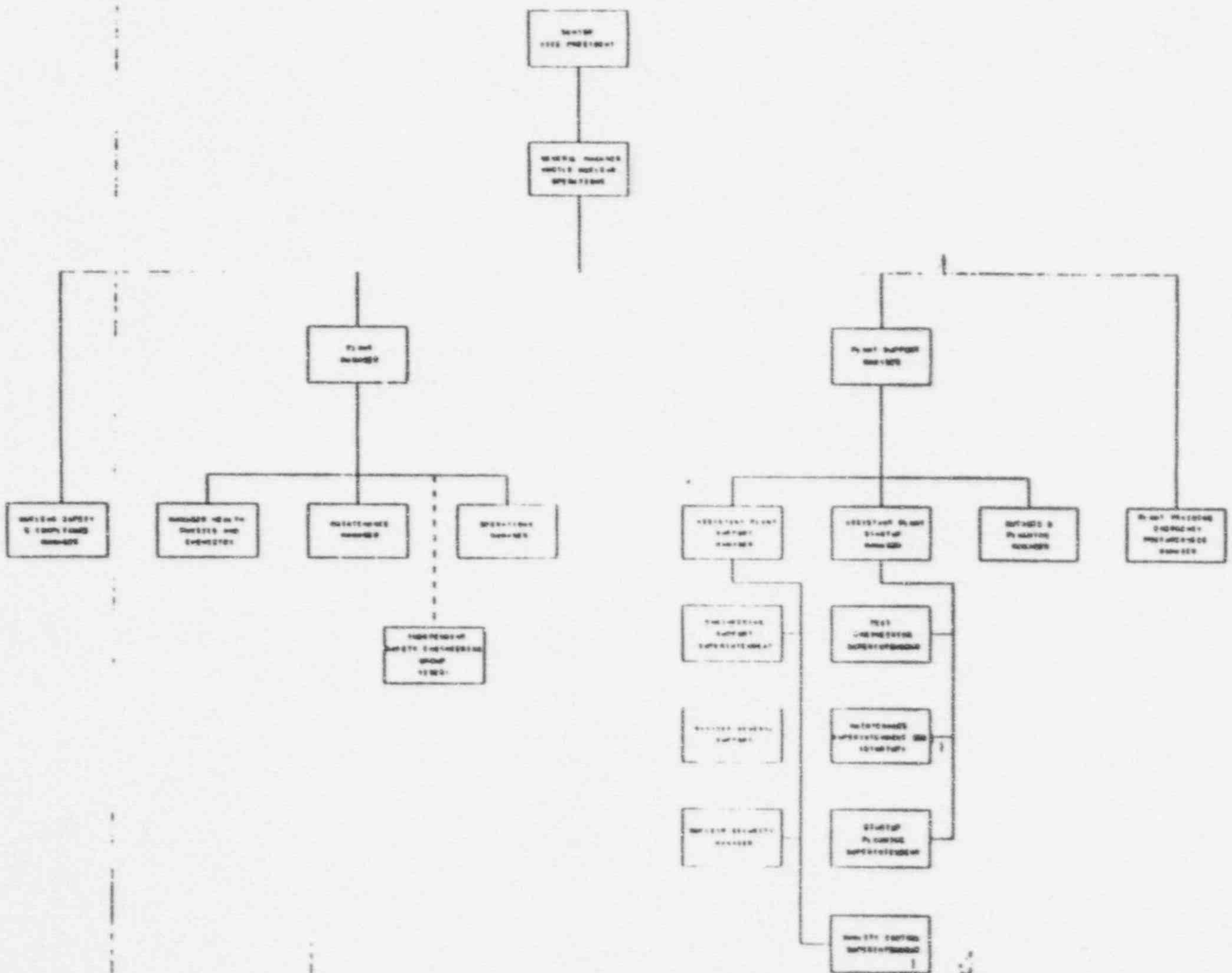
1. A high school diploma.

2. Four years experience in the craft or discipline he supervises, one year of which shall be nuclear power plant experience.

D. Test supervisors

Individuals performing as test supervisors during the preoperational phase shall satisfy the following minimum requirements:

1. Bachelor's degree in engineering or related science, and



92 PROJECT
072263

Amend. 26 10/86
Amend. 29 11/86
Amend. 35 3/88

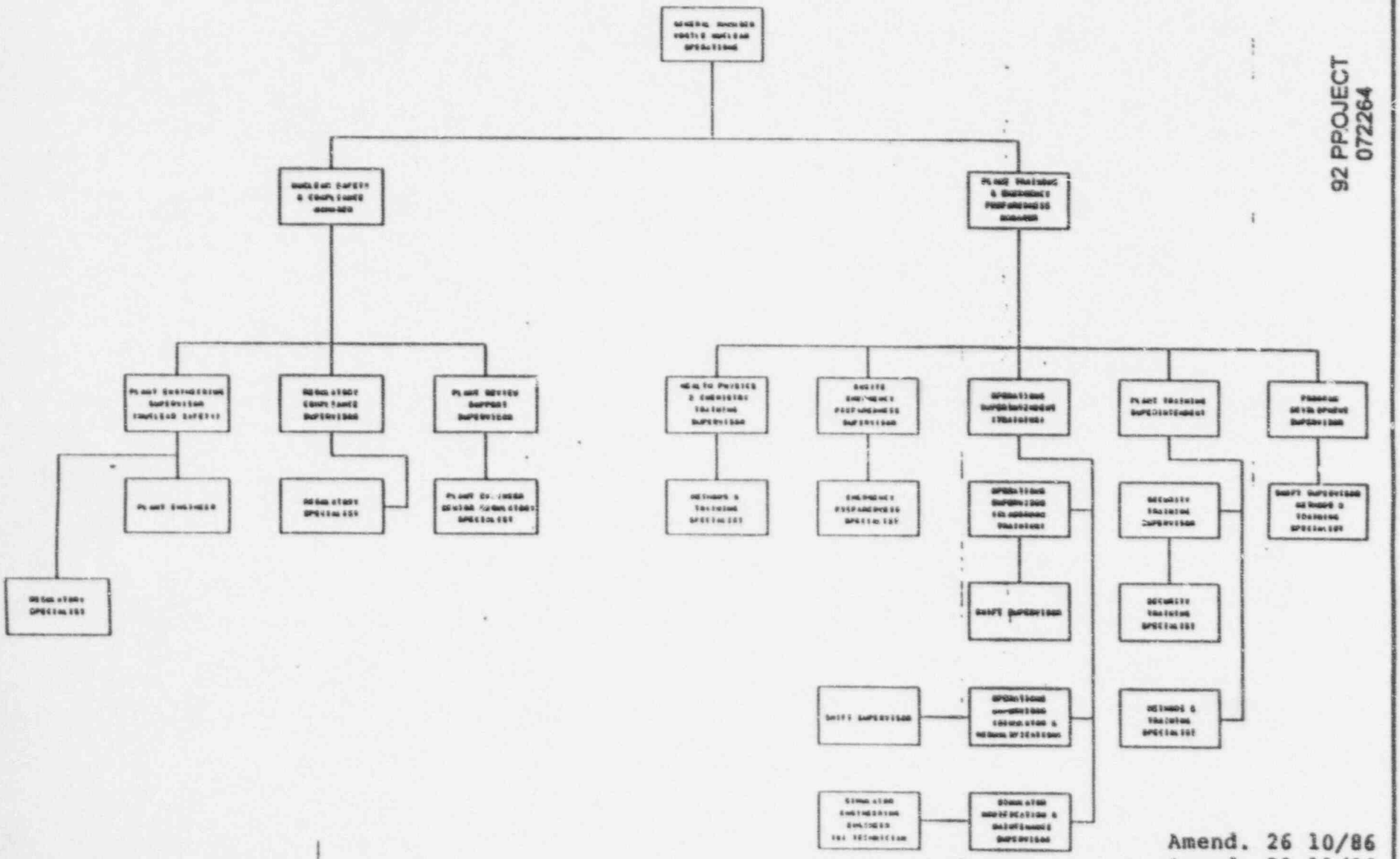
Georgia Power

VOGTLE
ELECTRIC GENERATING PLANT
UNIT 1 AND UNIT 2

PLANT ORGANIZATION

FIGURE 13.1.2-1 (SHEET [illegible] 5)

Exhibit 113, page 57 of 84



92 PPOJECT
072264

Amend. 26 10/86
Amend. 29 11/86
Amend. 35 3/88

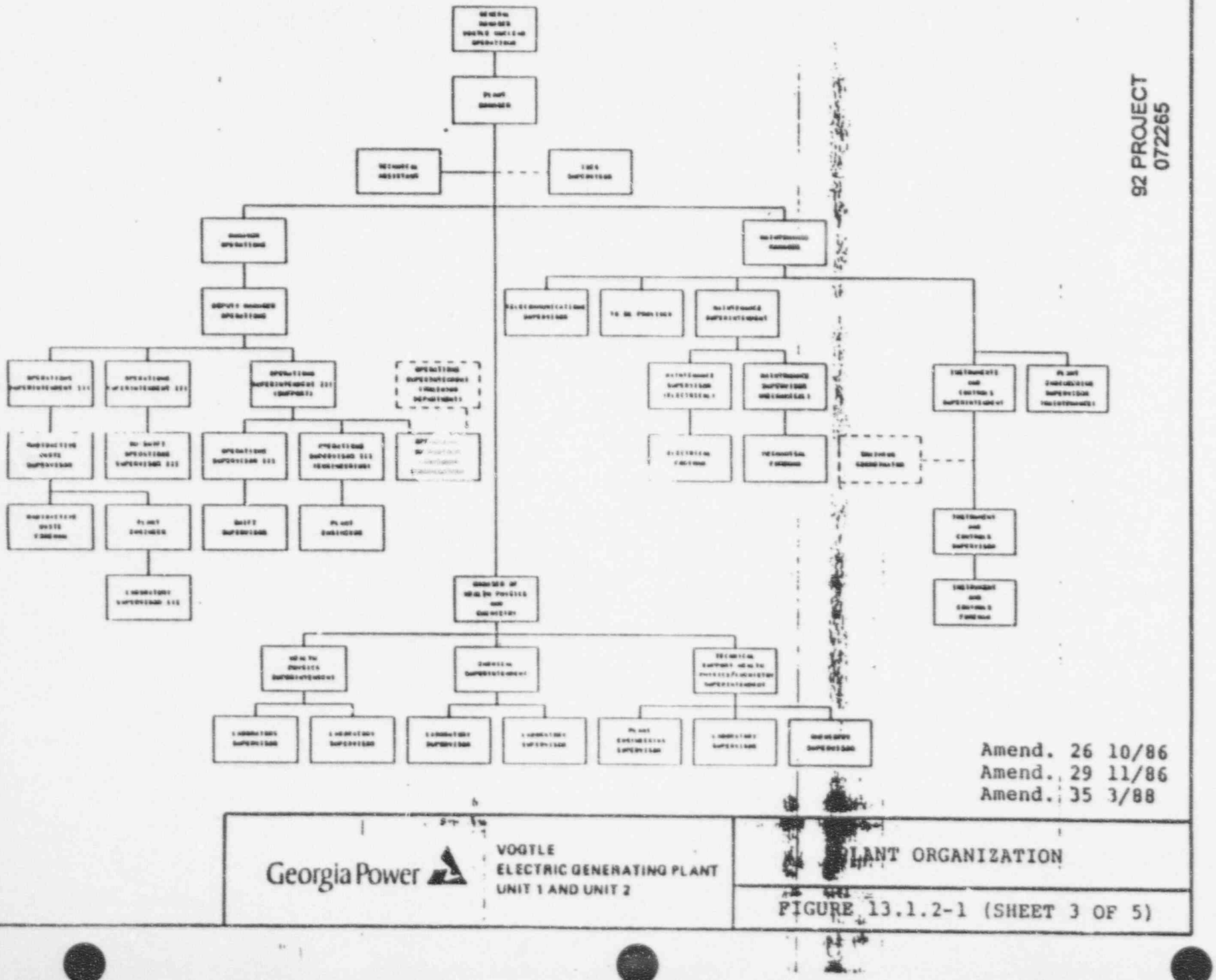
Georgia Power

VOGTLE
ELECTRIC GENERATING PLANT
UNIT 1 AND UNIT 2

PLANT ORGANIZATION

FIGURE 13.1.2-1 (SHEET 2 OF 5)

Exhibit 13, page 8 of 8



92 PROJECT
072265

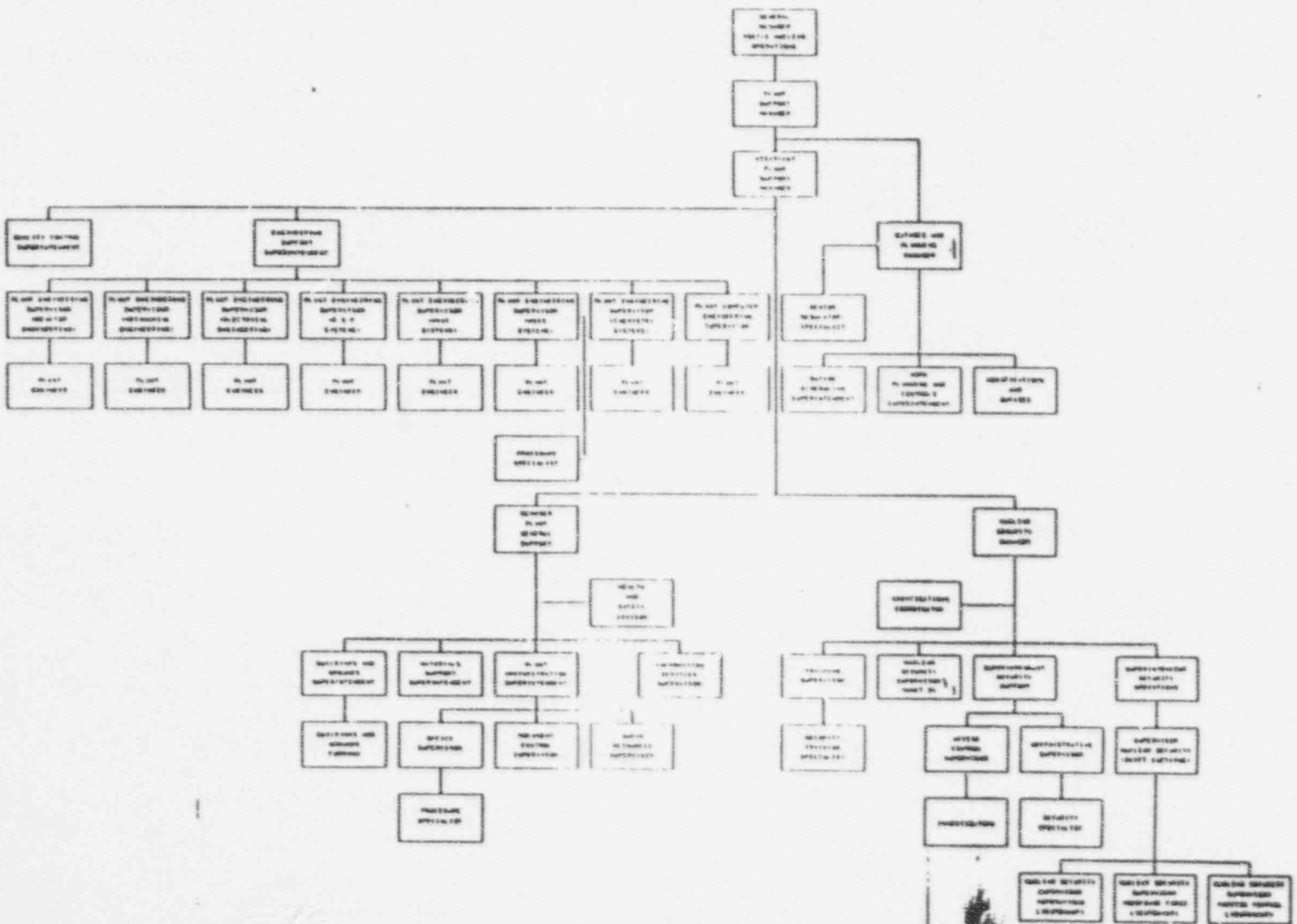
Amend. 26 10/86
Amend. 29 11/86
Amend. 35 3/88

Georgia Power

VOGTLE
ELECTRIC GENERATING PLANT
UNIT 1 AND UNIT 2

PLANT ORGANIZATION

FIGURE 13.1.2-1 (SHEET 3 OF 5)



92 PROJECT
072266

Exhibit 113, page 160

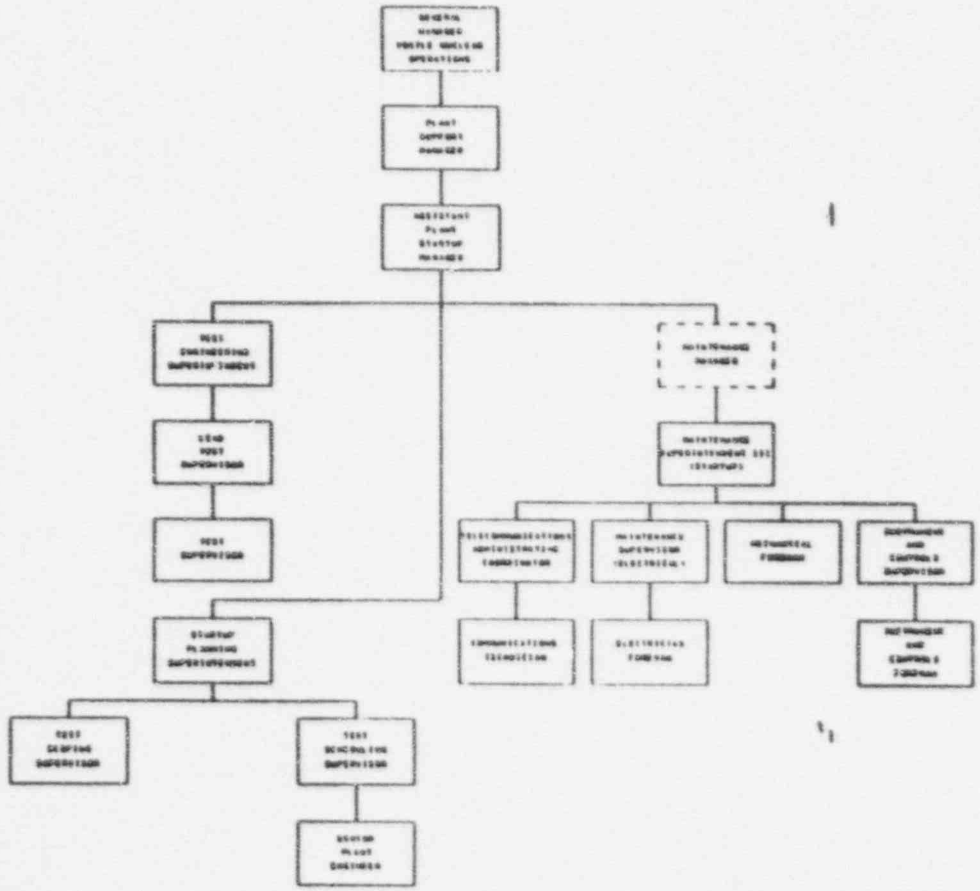
Amend. 26 10/86
Amend. 29 11/86
Amend. 35 3/88

Georgia Power

VOGTLE
ELECTRIC GENERATING PLANT
UNIT 1 AND UNIT 2

PLANT ORGANIZATION

FIGURE 13.1.2-1 (SHEET [illegible] 1)



92 PROJECT
072267

Amend. 26 10/86
Amend. 29 11/86
Amend. 35 3/88

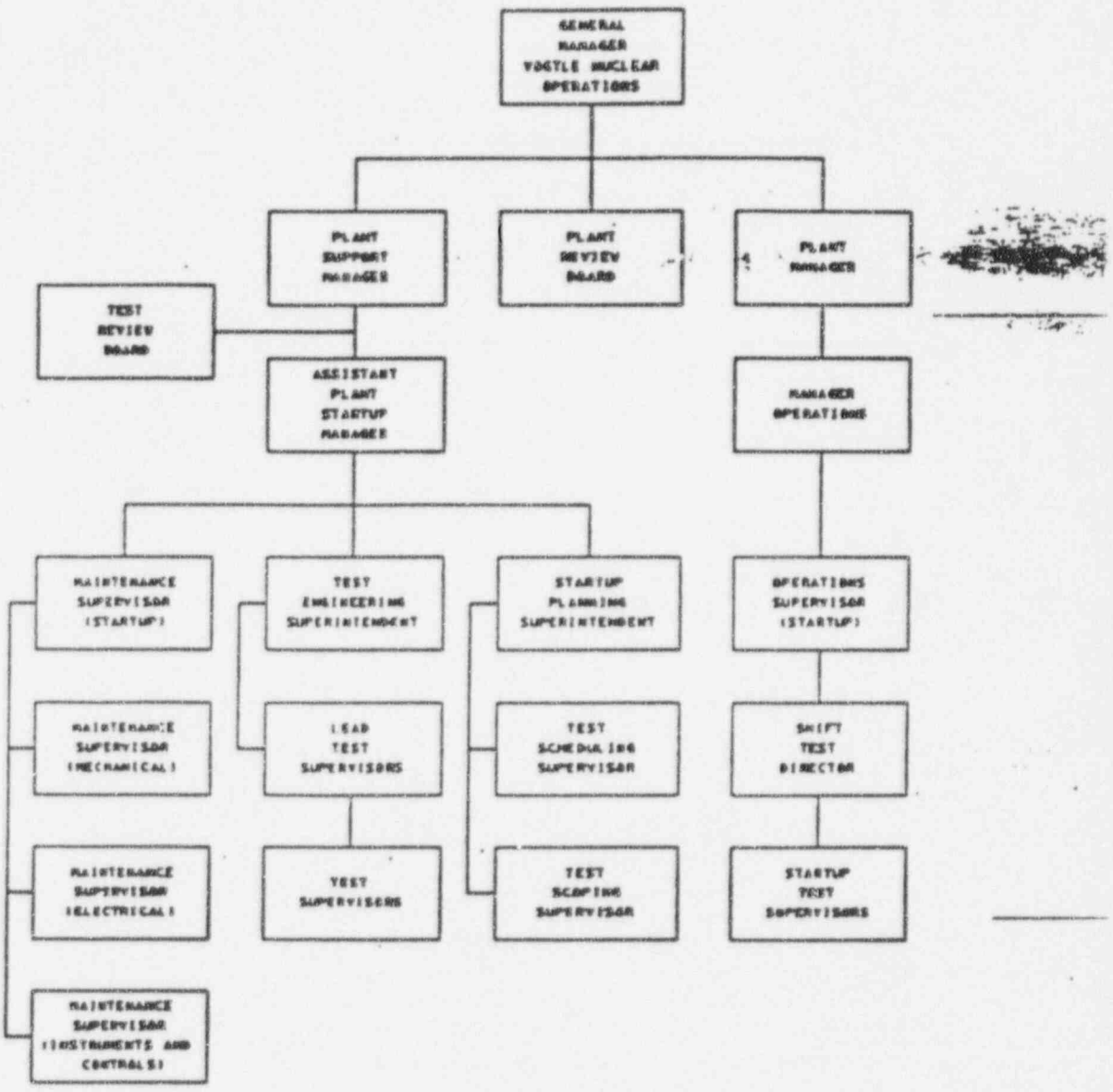
Georgia Power

VOGTLE
ELECTRIC GENERATING PLANT
UNIT 1 AND UNIT 2

PLANT ORGANIZATION

FIGURE 13.1.2-1 (SHEET [illegible] OF 5)

Exhibit 113, page [illegible] of [illegible]



92 PROJECT
072268

Amend. 26 10/86
Amend. 35 3/88

Georgia Power

VOGTLE
ELECTRIC GENERATING PLANT
UNIT 1 AND UNIT 2

INITIAL TEST PROGRAM

FIGURE 13.1.2-2

423-0

13.2.1.2 Operation Experience

Reactor operations experience training will be provided by the VEGP plant-specific simulator, the experience gained from the VEGP staff participating in the preoperational test program, and the experience received by the VEGP staff observing and participating in plant startup or operations of other light-water reactors. The cold license training program will also contain a program of 10 reactor startups on a research/test type reactor to gain actual "at the controls" experience. Personnel with prior Navy nuclear experience as an engineering watch officer, engineering watch supervisor, reactor operator, or other equivalent positions or those who have prior commercial nuclear plant licensed operator experience or those who have prior test reactor experience shall be exempted from 10 reactor startup requirements. A combination of the preceding will satisfy the experience requirements of NUREG-0737, item I.A.2.1. The details of the simulator program are contained in tables 13.2.1-1 through 13.2.1-6.

The VEGP simulator will conform to the guidance given in Regulatory Guide 1.149 Revision 1.

TEXT DELETED

Factory acceptance testing of the VEGP simulator has already been completed. The certification of the VEGP simulator as a plant-referenced simulator will be completed prior to May 26, 1991, and certification shall be maintained as described in 10 CFR 55.45 (b)(5)(ii)-(vi).

13.2.1.3 Qualification and Requalification Program

The qualification and requalification program for licensed operators and the training department is described in the following paragraphs.

13.2.1.3.1 Licensed Operator Qualification

Reactor operator and senior reactor operator training programs include the qualification requirements contained in NUREG-0737, item I.A.2.1, and are described in tables 13.2.1-1 through 13.2.1-6.

13.2.1.3.2 Licensed Operator Requalification Program

The program shall be continuous and may be conducted as an intensive program of several weeks duration each year or may be spaced out over a period of up to 24 months, with elements of the program occurring on a periodic basis.

Records of the requalification program shall be maintained for the duration of the license. The records shall contain copies of written examinations administered, the answers given by the licensee, results of evaluations, and documentation of any additional training administered in areas in which an operator or senior operator has exhibited deficiencies. An original or reproduced copy or microfilm copy will fulfill these record retention requirements. The reproduced copy or microfilm copy will be authenticated by authorized personnel and will be capable of producing a clear and legible copy after storage for a period of 2 years. For purposes of these programs, annual shall be defined as once per calendar year and biennial shall be defined as once every 2 calendar years.

For a licensed operator or senior operator to maintain an active license, they must fill a position on the shift crew that requires the individual to be licensed as defined in the VEGP Technical Specifications, and the individual must carry out, and be responsible for, the duties covered by that position on a minimum of seven 8-h or five 12-h shifts per calendar quarter.

For a licensed operator or senior operator to be returned to an active status, certification must be made that:

- The qualification and status of the licensee is current.
- The licensee has completed a minimum of 40 h of shift functions under the direction of an operator or senior operator as appropriate and in the position to which the licensee will be assigned. The 40 h must have included a complete tour of the plant and all required shift turnover procedures.

13.2.1.3.2.1 Classroom Study. A planned lecture series will be presented annually (i.e., each calendar year) covering those subjects where training feedback indicates a need for additional training. The lecture series will be based on the following subjects as outlined in 10 CFR 55.

A. Theory and principles of operation.

B. General and specific plant operating characteristics.

C. Plant instruments and controls.

D. Plant protection systems.

E. Engineered safety systems.

F. Normal, abnormal, and emergency operating procedures.

G. Radiation control and safety.

H. Technical specifications.

I. Applicable portions of title 10 chapter 1 CFR.

92 PROJECT
072275

(This page has been intentionally left blank.)

J. Quality assurance for operations.

K. Major upcoming events.

L. Heat transfer, fluid flow, and thermodynamics.

1. Fluids and matter.

2. Fluid statics.

3. Fluid dynamics.

4. Heat transfer by conduction, convection, and radiation.

5. Change of phase - boiling.

6. Burnout and flow instability.

7. Reactor heat transfer limits.

M. Mitigation of accidents involving a degraded core.

1. Incore instrumentation.

2. Excore instrumentation.

3. Vital instrumentation.

4. Primary chemistry.

5. Radiation monitoring.

6. Gas generation.

13.2.1.3.2.2 On-the-Job Training.

A. Control Manipulations

Each individual shall perform or participate in a combination of reactivity control manipulations based on the availability of plant equipment and systems. Those control manipulations which are not performed at the plant may be performed on the Vogtle simulator. The use of the Technical Specifications should be maximized during the simulator control manipulations. Senior operator licensees are credited with these activities if they direct control manipulations as they are performed.

92 PROJECT
072277

The following control manipulations and plant evolutions are acceptable for meeting the control manipulations required by 10 CFR 55. The starred items shall be performed on an annual basis (once each calendar year); all other items shall be performed on a 2-year cycle (once each 2 calendar years).

*1. Plant or reactor startups to include a range that reactivity feedback from nuclear heat addition is noticeable and heatup rate is established.

*2. Plant shutdown.

*3. Manual control of steam generators and/or feedwater during startup and shutdown.

*4. Boration and/or dilution during power operation.

*5. Any significant (greater than 10 percent) power changes in manual rod control.

*6. Loss of coolant including:

a. Significant pressurized water reactor (PWR) steam generator leaks.

b. Inside and outside primary containment.

c. Large and small, including leak rate determination.

d. Saturated reactor coolant response.

*7. Loss of instrument air.

*8. Loss of electrical power (or degraded power sources).

*9. Loss of core coolant flow/natural circulation.

10. Loss of condenser vacuum.

*11. Loss of service water.

12. Loss of shutdown cooling.

13. Loss of component cooling system or cooling to an individual component.

14. Loss of normal feedwater or normal feedwater system failure.

*15. Loss of all feedwater (normal and emergency).

16. Loss of protective system channel.

17. Mispositioned control rod or rods (or rod drops).

18. Inability to drive control rods.

19. Conditions requiring use of emergency boration.

20. Fuel cladding failure or high activity in reactor coolant or offgas.

21. Turbine or generator trip.

22. Malfunction of an automatic control system which affects reactivity.

23. Malfunction of reactor coolant pressure/volume control system.

24. Reactor trip.

25. Main steam line break (inside or outside containment).

26. Nuclear instrumentation failure.

B. Understanding of Control Manipulations and Procedures

Each licensed operator will demonstrate satisfactory understanding of the operation of the apparatus and mechanisms associated with the control manipulations in 13.2.1.3.2.2.A, and will know the operating procedures in each area for which the operator is licensed.

C. Plant Changes

Each licensed operator will be cognizant of significant facility design changes, procedure changes, and facility license changes.

D. Procedures

Each licensed operator will review abnormal and emergency procedures at a minimum of once per calendar year. Failure to complete a procedure review will require that the licensee be removed from license duties until such review is completed.

13.2.1.3.2.3 Evaluation.

A. Observation

Deleted.

B. Requalification Written Examination

A comprehensive written examination will be given to all licensed personnel to determine areas in which requalification training is needed. The examination is normally evaluated within 30 days (2 months for unusual conditions with corporate office approval). A minimum grade of 80 percent correct on

any section shall exempt an operator or senior operator from required attendance at requalification lectures pertinent to that section. Any section grade less than 80 percent but greater than 70 percent will require attendance at requalification lectures pertinent to that section until the next requalification written examination.

An overall grade of less than 80 percent correct on the written examination, a section grade of less than 70 percent, or an unsatisfactory performance evaluation will require an operator or senior operator to be relieved of licensed duties so that he may participate in an accelerated requalification program. This will be documented with written notification to the individual and to the appropriate department head. An operator or senior operator who has been relieved may return to his licensed duties following completion of accelerated requalification training in areas where he was weak, including a grade of not less than 80 percent correct on examinations given over such areas.

The NRC may participate in the examination process. Examinations will be given during the requalification training program so as to measure the effectiveness of the program and not to disrupt shift manning and training schedules.

The examination will sample the items specified below, to the extent applicable to the licensee, and any limitations of the license.

- Fundamentals of reactor theory, including fission process, neutron multiplication, source effects, control rod effects, criticality indications, reactivity coefficients, and poison effects.
- General design features of the core, including core structure, fuel rods, control rods, core instrumentation, and coolant flow.
- Mechanical components and design features of the RCS.
- Secondary and auxiliary systems that affect plant operation.

92 PROJECT
072281

- Plant operating characteristics during steady state and transient conditions, including RCS chemistry, causes and effects of temperature, pressure and reactivity changes, effects of load swings/rejections, and operating limitations, and reasons for these operating characteristics.
- Design, components, and functions of reactivity control mechanisms and instrumentation.
- Design, components, and functions of control and safety systems, including instrumentation, signals, interlocks, failure modes, and automatic and manual features.
- Components, capacity, and functions of Emergency Core Cooling Systems.
- Shielding, isolation, containment design features, including access limitations.
- Administrative, normal, abnormal, and emergency procedures.
- Purpose and operation of the Plant Effluent and Radiation Monitoring System, including alarms, and survey equipment.
- Radiological safety principles and procedures.
- Procedures and equipment available for handling and disposal of radioactive materials and effluents.
- Principles of heat transfer thermodynamics and fluid mechanics.

The senior operator examination will include a representative sample from the items above in addition to the items below:

- Conditions and limitations of the license.
- Operating limitations in the Technical Specifications and their bases.
- Procedures for design and operating changes in the facility.

92 PROJECT
072282

- Radiation hazards that may arise during normal and abnormal situations, including maintenance activities and various contamination conditions.

- Assessment of conditions and selection of appropriate procedure during normal, abnormal, and emergency situations.

- Procedures and limitations involved in initial core loading, alterations in core configuration, control rod programming, and determination of various internal and external effects on core reactivity.

- Fuel handling facilities procedures.

C. Operating test

An annual test which requires the operator or senior operator to demonstrate an understanding of and the ability to perform the actions necessary to accomplish a comprehensive sample of items specified below:

- Manipulate the main controls as required to operate the plant between shutdown and designated power levels.

- Identify annunciators and condition-indicating signals and perform appropriate remedial actions where appropriate.

- Identify the instrumentation systems and the significance of facility instrument readings.

- Observe and safely control the operating behavior characteristics of the facility.

- Perform control manipulations required to obtain desired operating results during normal, abnormal, and emergency situations.

- Safely operate the plant's heat removal systems, including the RCS, ECCS, and decay heat removal systems, and identify the relations of the proper operation of these systems to the operation of the plant.

92 PROJECT
072283

- Safely operate the plant's auxiliary and emergency systems, including operation of those controls associated with plant equipment that could affect reactivity or the release of radioactive materials to the environment.

- Demonstrate or describe the use and function of the Plant Effluent and Radiation Monitoring System, including fixed radiation monitors and alarms, portable survey instruments and personnel monitoring equipment.

- Demonstrate knowledge of significant radiation hazards, including permissible levels in excess of those authorized, and the ability to perform other procedures to reduce excessive levels of radiation exposure and to guard against personnel exposure.

- Demonstrate the knowledge and ability as appropriate to the assigned position to assume the responsibilities associated with the safe operation of the plant.

- Demonstrate the ability to function within the control room team as appropriate to the assigned position, in such a way that procedures are adhered to and that the limitations in the license and amendments are not violated.

- Demonstrate knowledge of the emergency plan, including, as appropriate, the operator's or senior operator's responsibility to decide whether the plan should be executed and the duties under the plan assigned.

D. Performance and Competency Observation and Evaluation

Systematic observation and evaluation of the performance and competency of licensed operators and senior operators by supervisors and/or training staff members, including evaluation of actions taken or to be taken during actual or simulated abnormal and emergency procedures. After the simulator is certified, evaluation of actions during the abnormal and emergency procedures must be done on the simulator.

E. Lecture (Segment) Examinations

Examinations which determine the licensed operators' and senior operators' knowledge of subjects covered in the requalification program and provide the basis for evaluating knowledge of abnormal and emergency operating procedures will be given to licensed individuals. A grade of less than 80 percent on any lecture series examination shall be reviewed and evaluated. This evaluation will be based on the score received and material missed. After evaluation, the licensed operator will be scheduled for additional instruction and retesting within 3 months. Failure to meet the acceptance criteria on the retest shall require immediate, accelerated retraining. Lectures presented for information of major upcoming events and/or plant modifications may be documented by attendance records only.

13.2.1.3.3 Instructor Qualification and Requalification Program

The qualification and requalification program for instructors as described below includes requirements of NUREG-0737, item I.A.2.3.

A. Initial Qualification

The training department will use a qualification checklist to establish the initial qualification requirements for all instructors and for instructors whose teaching responsibilities are going to significantly change. These special qualification checklists shall include the following requirements:

1. The instructor's supervisor will review the employee's background and establish qualification goals and qualification deadlines. Besides other qualifications, the following minimum goals will be established:

   a. For instructors who do not have a classroom teaching background, the employee will have to present a lecture to a group of experienced instructors before lecturing plant students. The company's instructor course as a minimum shall satisfy this requirement.

   b. Before instructors teach systems, integrated response, transients, and simulator courses to licensed operators, they will demonstrate their competence by successful completion of a senior reactor operator examination. Non-certified personnel, including training instructors who are not regular members of the license training staff but are experts on particular subjects such as reactor theory, instrumentation, thermodynamics, health physics, chemistry, etc., may give guest lectures in their area of expertise.

2. The plant training and emergency preparedness manager shall approve the qualification checklist and shall approve the final qualification of each instructor.

Amend. 7 5/84
Amend. 16 4/85
Amend. 19 9/85
Amend. 24 6/86
Amend. 26 10/8[illegible]
Amend. 26 10/[illegible]
Amend. 35 3/88

13.2.1.1.4 Mitigating Core Damage

Training for mitigating core damage will have the course content as described in NUREG-0737, item II.B.4, and will be taught during the courses scheduled in the syllabus, as shown in tables 13.2.1-1 through 13.2.1-6.

13.2.1.1.5 Observation and Walkthrough Training

The following paragraphs define the meaning of the terms observation training and walkthrough training. Approximate duration for these types of training are specified in tables 13.2.1-1 through 13.2.1-6. The training will prepare the license applicants for the plant walkthrough portion of Nuclear Regulatory License examination. For the purposes of this training, 3 months shall be defined as the equivalent of 480 hours of participation over no less than 12 calendar weeks of time.

Observation training constitutes assignment to an operating shift for the purpose of training. Emphasis is placed on observing as many shift activities as possible, e.g., shift relief, operator rounds, local equipment operations, control room activities. Hands on participation may be conducted under the observation of a qualified operator.

Walkthrough training is a systematic program to become familiar with plant equipment and layout. It may be conducted concurrently with observation training or may be conducted as a separate program.

13.2.1.1.6 Review and Audit

A short period of time will be allocated for each individual license candidate to review material and prepare for a comprehensive audit examination. The effectiveness of the training program in the case of each trainee will be evaluated from the results of a series of written, oral, and manipulation

examinations. Applicants for Nuclear Regulatory Commission (NRC) license examinations are given an audit examination which has the same structure as the NRC examination, including a VEGP simulator examination. Since applications for license must be made before the audit examination results are usually available, Georgia Power Company (GPC) will certify to the extensive operating experience based upon the individual's satisfactory progress in the training program. If the individual fails to demonstrate the ability to pass an audit examination or the ability to properly manipulate VEGP simulator controls, GPC will request that the NRC not administer an examination to this individual. Occasionally, the audit examination may uncover a weak area in an individual's knowledge. If GPC believes that the individual has sufficient time to correct the problem, GPC management may specify remedial action and conduct an evaluation of the individual's readiness. Upon satisfactory reevaluation by management, certification will not be withdrawn.

13.2.1.1.7 DELETED

B. Certified Instructor Requalification

Certified instructors who teach systems, integrated response, transients, or simulator courses to licensed operators will be enrolled in the licensed operator requalification program. These requirements may be met by teaching, performing or taking examinations for each required element of the requalification program.

No more than three instructors may be exempted from any part of 13.2.1.3.2.3. The exemption will be rotated to ensure that no instructor exempts any part twice consecutively (except for lecture examinations.)

Instructors who fail to complete these instructor requalification requirements will not teach the above listed subjects to licensed operators until they renew their certification. Certification may be restored by taking a comprehensive examination or an examination over the subjects of the requalification program portions which were missed. In the event that required reading was the only delinquent area, then makeup of the missed material would be required to restore qualified status.

Contract instructors who are certified and teach systems, integrated response, transients and simulator courses to licensed operators will also be enrolled in the scheduled licensed operator requalification program activities beginning in July 1987.

92 PROJECT
072287

Amend. 16 4/85
Amend. 24 6/86
Amend. 26 10/86
Amend. 35 3/88

TABLE 13.2.1-1 (SHEET 3 OF 3)

Description	Type	Minimum Integral Duration
Mitigating core damage Incore instrumentation Excore instrumentation Vital instrumentation Primary chemistry Radiation monitoring Gas generation	Classroom or self-study	2 days
Observation training including walkthrough		3 months
Review and audit		1 week

92 PROJECT
072288

Amend. 4 2/84
Amend. 10 9/84
Amend. 16 4/85
Amend. 24 6/86
Amend. 26 10/86
Amend. 35 3/88

TABLE 13.2.1-2 (SHEET 3 OF 3)

Description	Type	Minimum Integral Duration
Mitigating core damage Incore instrumentation Excore instrumentation Vital instrumentation Primary chemistry Radiation monitoring Gas generation	Classroom or self-study	2 days
Observation training including walkthrough	VEGP	3 months
Review and audit		1 week

92 PROJECT
072289

Amend. 4 2/84
Amend. 10 9/84
Amend. 16 4/85
Amend. 24 6/86
Amend. 35 3/88

TABLE 13.2.1-3 (SHEET 3 OF 3)

Description	Type	Minimum Integral Duration
Incore instrumentation Excore instrumentation Vital instrumentation Primary chemistry Radiation monitoring Gas generation		
Observation training including walkthrough	VEGP	3 months
Review and audit		1 week

92 PROJECT
072290

Amend. 4 2/84
Amend. 10 9/84
Amend. 16 4/85
Amend. 24 6/86
Amend. 35 3/88

TABLE 13.2.1-4 (SHEET 3 OF 3)

Description	Type	Minimum Integral Duration
Excore instrumentation		
Vital instrumentation		
Primary chemistry		
Radiation monitoring		
Gas generation		
Observation training including walkthrough		3 months
Review and audit		1 week

92 PROJECT
072291

Amend. 4 2/84
Amend. 10 9/84
Amend. 16 4/85
Amend. 24 6/86
Amend. 35 3/88

TABLE 13.2.1-5 (SHEET 3 OF 3)

Description	Type	Minimum Integral Duration
Excore instrumentation		
Vital instrumentation		
Primary chemistry		
Radiation monitoring		
Gas generation		
Observation training including walkthrough		3 months
Review and audit		1 week

92 PROJECT
072292

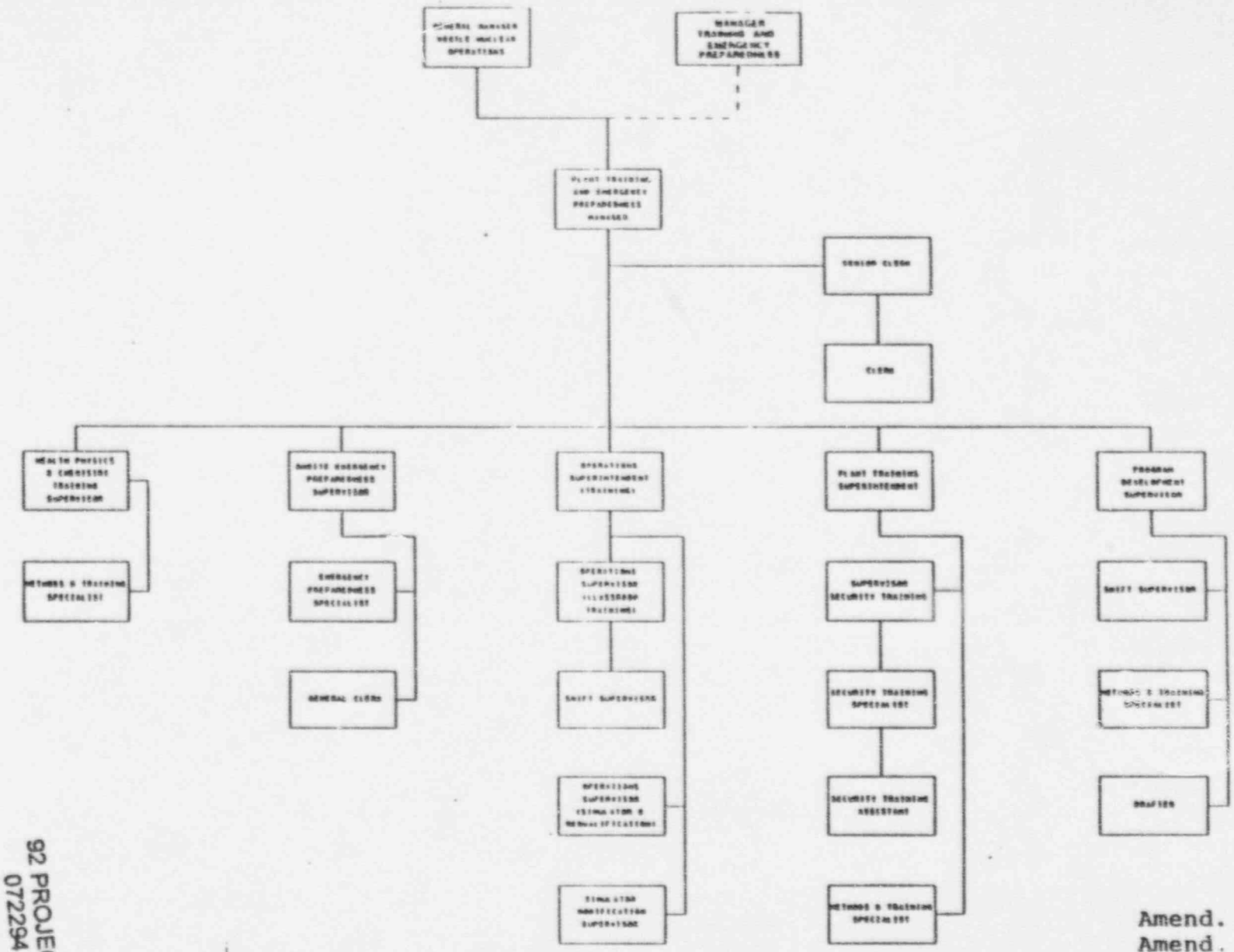
Amend. 4 2/84
Amend. 10 9/84
Amend. 16 4/85
Amend. 19 9/85
Amend. 24 6/86
Amend. 35 3/88

TABLE 13.2.1-6 (SHEET 3 OF 3)

Description	Type	Minimum Integral Duration
Observation training including walkthrough		3 months
Review and audit		1 week

92 PROJECT
072293

Amend. 19 9/85
Amend. 24 6/86
Amend. 35 3/88



Amend. 16 4/85
Amend. 35 3/88

92 PROJECT
072294

Georgia Power

VOGTLE
ELECTRIC GENERATING PLANT
UNIT 1 AND UNIT 2

VEGP TRAINING ORGANIZATION

FIGURE 13.2.1-1

Exhibit 113, page 25 of 86

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

E. Review of all proposed changes to the Technical Specifications.

F. Investigation of violations of the technical specification including preparation and forwarding

92 PROJECT
072295

reports covering evaluation and recommendations to prevent recurrence. The report is to be forwarded to the senior vice president and to the Safety Review Board.

G. Review of all reportable events.

H. Review of plant operations to detect potential hazards to nuclear safety.

I. Performance of special reviews, investigations, or analyses and reports thereon as requested by the GMVNO or the Safety Review Board.

J. Review of the Security Plan and implementing procedures and submittal of recommended changes to the GMVNO and the Safety Review Board.

K. Review of the Emergency Plan and implementing procedures and submittal of recommended changes to the GMVNO and the Safety Review Board.

L. Review of any accidental, unplanned, or uncontrolled radioactive release including preparation of reports covering evaluation, recommendations, and disposition of the corrective action to prevent recurrence and the forwarding of these reports to the senior vice president and the Safety Review Board.

M. Review of changes to the Process Control Program, the Offsite Dose Calculation Manual, and the Radwaste Treatment Systems; and

(This page has been intentionally left blank.)

13.4.2 INDEPENDENT REVIEW

The Safety Review Board (SRB) provides an independent review and audit of designated activities in the following areas:

- Nuclear power plant operations.
- Nuclear engineering.
- Chemistry and radiochemistry.
- Metallurgy.
- Instrumentation and control.
- Radiological safety.
- Mechanical and electrical engineering.
- Quality assurance practices.

The chairman and each member of the SRB as a minimum shall have a bachelor's degree in engineering or related sciences and 3 years of professional level experience in their field of specialty.

Specifically, the SRB will review:

A. The safety evaluations for changes to procedures, equipment, or systems, and tests or experiments completed under the provisions of 10 CFR 50.59 to verify that such actions did not constitute an unreviewed safety question.

B. Proposed changes to procedures, equipment, or systems which involve an unreviewed safety question as defined in 10 CFR 50.59.

C. Proposed tests or experiments which involve an unreviewed safety question as defined in 10 CFR 50.59.

D. Proposed changes to technical specifications or operating license.

(This page has intentionally been left blank.)

The quorum of the SRB necessary for the performance of SRB review and audit functions consists of the SRB chairman and at least a majority of the SRB members including alternates. No more than a minority of the quorum will have line responsibility for operation of the plant.

Reports of SRB activities will be prepared, approved, and distributed as described below:

A. Minutes of SRB activities will be prepared and submitted to the senior vice president within 14 days following a meeting.

B. Reports of certain reviews will normally be submitted to management within 14 days following completion and SRB approval of the review.

C. Audit reports will normally be submitted to management within 30 days following completion and SRB approval.

13.4.3 INDEPENDENT SAFETY ENGINEERING REVIEWS

The Independent Safety Engineering Group (ISEG) performs independent reviews of plant operations with emphasis on improving plant safety. The ISEG is part of the Nuclear Safety and Licensing Organization of the corporate office.

13.4.3.1 Composition

The ISEG shall be comprised of a minimum of five qualified individuals who will report to the senior vice president through the manager-nuclear safety and licensing analysis.

13.4.3.2 Qualifications

ISEG members shall have a bachelor's degree in engineering, applied science, or professional engineer certification with a minimum of 2 years experience in their field, including at least 1 year nuclear experience.

13.4.3.3 Responsibilities

The ISEG is responsible for:

A. Review of plant operating characteristics, NRC issuances, industry advisories, and other appropriate sources of plant design and operating experience information that may indicate areas for improving plant safety.

B. Review of selected plant activities including maintenance modifications, operational problems, and operational analysis, and aid the establishment of programmatic requirements for plant activities. The ISEG will develop and present detailed recommendations to the appropriate level of management for improvements such as revisions to procedures or equipment modifications.