UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

BEFORE THE ATOMIC SAFETY AND LICENSING BOARD

In the Matter of	)	
	)	
HOUSTON LIGHTING AND POWER COMPANY, ET AL.	)	Docket Nos. 50-498
	)	50-499
	)	
(South Texas Project, Units 1 & 2)	)	

AFFIDAVIT OF LAWRENCE P. CROCKER

Lawrence P. Crocker, being duly sworn, deposes and says:

1. My name is Lawrence P. Crocker. I am employed by the Nuclear Regulatory Commission. My business address is the Nuclear Regulatory Commission, Mail Stop 516, Washington, D.C. 20555. Since a reorganization of the Office of Nuclear Reactor Regulation on November 24, 1985, I have been a Section Leader in the Facility Operations Branch of the Division of PWR Licensing - A, Office of Nuclear Reactor Regulation. Prior to the reorganization I was Section Leader of the Management Technology Section of the Licensee Qualifications Branch in the Division of Human Factors Safety, Office of Nuclear Reactor Regulation.

2. I filed testimony previously in this proceeding on two occasions. The first instance was as a panel member with Frederick R. Allenspach in testimony prefiled on April 23, 1981 which addressed the applicant's managerial competence and attitude based upon a preliminary review of the applicants' FSAR and a visit to the applicant's corporate offices and the South Texas Project plant site. The second instance was in testimony

filed on April 5, 1982 as a panel member with Glen L. Madsen, which supplemented the testimony I had filed in April, 1981. A copy of my professional qualifications was appended to each of these pieces of testimony. Since those filings, the only change to my professional qualifications was the change in my assignment, caused by the NRR reorganization noted above.

3. In my job as Section Leader of the Management Technology Section of the Licensee Qualifications Branch I was charged with maintaining a cognizance of the applicant's organizational structure, staffing, and administrative controls as generally described in Chapter 13 of the FSAR. That responsibility has continued into my new position as Section Leader in the Facility Operations Branch. In both positions I have personally reviewed, or have caused to be reviewed, changes to the applicant's organization and plans as documented in changes to the FSAR. The results of the latest such review are being issued in the Safety Evaluation Report related to operation of the South Texas Project, NUREG-0781. The particular sections which address the review are appended to this affidavit in the same format as would appear in the SER. This review included changes to the FSAR through Amendment 51.

4. The purpose of this affidavit is to address the affidavit filed by Jerrold G. Dewease on February 14, 1986, on The Progress of HL&P's Preparations for Operation of STP Since 1982.

5. To prepare this affidavit, I have reviewed the affidavit of Mr. Dewease and have compared his statements to the staff findings as presented in the staff's SER, NUREG-0781. I have also re-reviewed Chapter 13 of the FSAR including changes through Amendment 51 to

examine details discussed by Mr. Dewease that were not included in the staff's review.

6. I find that Mr. Dewease has accurately described the applicant's preparations for operation of the STP, as documented in the FSAR. As he notes in his affidavit, there have been a number of minor changes made recently that have not yet been documented in the FSAR. We expect such changes will continue to be made as the project draws closer to the operations stage and the applicant continues to adjust the organization to achieve optimum support for safe plant operations. In fact, we would be concerned if there were not such changes.

7. The staff's evaluation of the applicant's organization and staffing for operation of the STP and the provisions the applicant has made for review and audit activities and administrative controls will be presented in Chapter 13, Conduct of Operations, of the staff's SER, an advanced copy of which is appended hereto. Basically, the staff has found that the applicant's organizational structure and staffing for plant operations are acceptable and that adequate provisions have been made for review and audit and for administrative controls, all in accordance with the requirements of Chapter 13, the Standard Review Plan, NUREG-0800. As noted in the SER, there still are a number of minor items for staff verification. However, we plan to close these items during a visit to the plant site and corporate offices, tentatively scheduled for

the early fall of 1986. Those matters that are still unresolved may be safely left for staff confirmation in the staff site visit.

Lawrence P. Crocker

Lawrence P. Crocker

Subscribed and sworn to before
me this 14th of March, 1986

Edythe S. Becker

Notary Public

My commission expires: 7/1/86

13 CONDUCT OF OPERATIONS

13.1 Organizational Structure of Applicant

13.1.1 Management and Technical Support Organization

13.1.1.1 General

The staff has reviewed the proposed organization for the operation of the South Texas Project from the level of the senior corporate officer responsible for nuclear matters down to and including the proposed operating staff at the plant. The review was based on the applicant's Final Safety Analysis Report (FSAR), as amended (through Amendment 51).

The South Texas Project is a joint project of Houston Lighting and Power Company (HL&P) and three other Texas-based organizations (Central Power & Light Company, the City Public Service Board of San Antonio, and the City of Austin). HL&P is the project manager and is responsible for the design, engineering, construction, licensing, startup, and operation of South Texas Units 1 and 2. Bechtel Energy Corporation provides design, engineering, procurement, and construction management services. Ebasco Services, Inc., provides construction services. Westinghouse Electric Corporation supplies the nuclear steam supply system (NSSS) and the fuel assemblies.

13.1.1.2 Organizational Arrangements

The current corporate organizational structure for HL&P and the HL&P nuclear group is shown in Figures 13.1 and 13.2. The senior corporate officer in charge of nuclear matters is the Group Vice President--Nuclear. The incumbent officer has approximately 30 years of nuclear experience, including a period as a Vice President for Stone & Webster Corporation, where he was involved with the construction, maintenance, and refueling of a number of nuclear plants. He is responsible for all HL&P nuclear activities related to design, procurement,

construction, testing, quality assurance, and operation, and has management responsibility for the formulation, implementation, and assessment of the effectiveness of the South Texas fire protection program. He reports directly to the Chairman of the Board and Chief Executive Officer of HL&P. Fossil plant construction and operation and matters related to the distribution of electric power are the responsibility of other officers in the HL&P corporate organization.

Project support for purchasing, material control, contract administration, and environmental protection comes through the President and Chief Operating Officer, rather than through the Group Vice President--Nuclear (Figure 13.1). The Manager--Nuclear Plant Purchasing reports to the Vice President--Purchasing and Services and provides personnel to the South Texas Project for purchasing, material control, and contract administration. The Manager--Environmental Protection reports to the General Manager--Fossil Plant Engineering and is responsible for environmental licensing (exclusive of NRC licensing), air and water quality, ecology, water resources, nonradiological waste handling, preparation of the Environmental Report, and preparation of environmentally related parts of the FSAR.

Reporting directly to the Group Vice President--Nuclear are the Vice President--Nuclear Plant Operations, the Manager--Nuclear Assurance, the Manager--South Texas Project, the General Manager--Nuclear Engineering, the Manager--Nuclear Licensing, and the Manager--Engineering Assurance. Brief descriptions of these positions are presented below.

(1) Vice President--Nuclear Plant Operations

The Vice President--Nuclear Plant Operations is responsible for activities related to operations, maintenance, and training at Units 1 and 2. The incumbent has approximately 17 years of nuclear experience, including a period as Assistant Director of Nuclear Operations for the Tennessee Valley Authority (TVA). Reporting directly to the Vice President--Nuclear Plant Operations are the Plant Manager--South Texas Project, the Training Manager--Nuclear Training, and the operations support staff. The Nuclear Plant Operations organization is shown in Figure 13.3; additional detail on the Nuclear Plant Operations Department is in Section 13.1.2 below.

(2) Manager--Nuclear Assurance

The Manager--Nuclear Assurance is responsible for the overall direction and administration of HL&P quality assurance plans related to the construction and operation of Units 1 and 2. The incumbent has approximately 8 years of nuclear experience, including a period as a quality assurance (QA) supervisor for Bechtel Power Corporation. Reporting directly to the Manager--Nuclear Assurance are the Project QA Manager--South Texas Project, the Operations QA Manager, the Technical Services General Supervisor, and the Manager--Safeteam. Additional detail on the HL&P Quality Assurance Program is in Chapter 17 of this report.

(3) Manager--South Texas Project

The Manager--South Texas Project is responsible for the management, coordination, scheduling, cost control, engineering, construction, and startup of the South Texas Project. The incumbent has approximately 26 years of nuclear experience, including approximately 10 years of project engineering experience with Commonwealth Edison Company. Reporting directly to the Manager--South Texas Project are the Manager--Support Services, the Deputy Project Manager, and the Manager--Engineering. The South Texas Project organization consisting of about 290 individuals is shown in Figure 13.2.

The Startup Manager reports to the Manager--South Texas Project through the Deputy Project Manager. The startup organization is responsible for prerequisite testing (component tests and system flushes) and preoperational testing (system and subsystem functional tests) up to the time of fuel loading. The onsite Nuclear Plant Operations Department is responsible for supporting the prerequisite and preoperational testing and for conducting the fuel loading and initial startup testing. Administrative control of the initial test program is discussed in more detail in Section 13.5.1 below.

(4) General Manager--Nuclear Engineering

The General Manager--Nuclear Engineering is responsible for nuclear services (safety analyses and waste disposal) and nuclear fuel (economics, procurement, and analysis). The incumbent has approximately 19 years of nuclear experience,

including supervisory experience in nuclear analysis for Stone & Webster Engineering Corporation. Reporting directly to the General Manager--Nuclear Engineering are the Manager--Nuclear Services and the Manager--Nuclear Fuel. The Nuclear Engineering Organization is shown in Figure 13.2. About 27 individuals of a projected total staff of 38 are now assigned.

(5) Manager--Nuclear Licensing

The Manager--Nuclear Licensing is responsible for developing and coordinating HL&P nuclear licensing policy and for coordinating the flow of licensing information among the various nuclear groups. The incumbent has approximately 21 years of nuclear experience, including several years of supervisory experience in licensing for TVA. The Nuclear Licensing Organization, shown in Figure 13.2, consists of about 11 individuals.

(6) Manager--Engineering Assurance

The Manager--Engineering Assurance with a staff of four is responsible for reviewing the technical adequacy of project design and engineering. This group is projected to decrease to a total of three persons. The incumbent has approximately 13 years of nuclear experience, including several years of management experience in the HL&P QA organization.

(7) Manager--Safeteam

The Manager--Safeteam, who reports to the Manager--Nuclear Assurance, is responsible for the investigation of employee concerns (about 15 individuals in this group conduct this activity). The incumbent has approximately 22 years of nuclear experience, including several years of management experience in the HL&P QA organization.

Personnel Qualifications

The applicant is committed to the personnel qualification requirements of ANSI N18.1-1971. The staff's review of the résumés included in the FSAR and the summary data on key personnel supporting South Texas indicates that the

corporate support elements reporting to the Group Vice President--Nuclear are well qualified technically and by previous experience in nuclear plant design and construction. The staff notes that there apparently is little previous experience at the corporate level in nuclear plant operations. Although such experience is not required, it is desirable.

Interface with South Texas Plant Organization

Procedures have been established governing the responsibilities of the onsite and offsite groups to coordinate their activities. The staff has not examined these procedures, but plans to explore this subject during a visit to the corporate office and the plant site. The staff will report on interface matters in a supplement to this SER after that visit.

13.1.1.3 Summary and Conclusions

The applicant meets SRP Section 13.1.1 (NUREG-0800). However, as noted previously, the NRC staff plans to examine how the offsite support groups interface with the plant staff. The staff will report the results of this evaluation after a visit to the corporate offices and the plant site.

13.1.2 Operating Organization

13.1.2.1 Plant Organization

The plant staff organization is shown in Figure 13.3. The Plant Manager is responsible for power production and support activities to ensure the safe and efficient startup, operation, maintenance, technical support, and refueling of the South Texas units. The incumbent has approximately 20 years of nuclear experience, including 6 years with the Navy nuclear program during which he held a senior operator rating, and 7 years with the TVA nuclear program at the Browns Ferry and Sequoyah plants. He reports to the Vice President--Nuclear Plant Operations, who has overall responsibility for operations, maintenance, and training at HL&P nuclear facilities.

The plant organization is subdivided into seven main disciplines: reactor operations, chemical operations and analysis, technical support, maintenance,

management services, health and safety services, and nuclear training. It also includes an operations support staff.

The Management Services Manager and the Health and Safety Services Manager report directly to the Plant Manager. The Reactor Operations Manager, the Chemical Operations and Analysis Manager, the Technical Support Manager, and the Maintenance Manager report to the Plant Manager through the Plant Superintendent, a position that currently is vacant. The training organization and the operations support staff report directly to the Vice President--Nuclear Plant Operations. A brief description of each of the main plant disciplines is as follows.

(1) Reactor Operations Division

The Reactor Operations Manager is responsible for the safe and efficient operation of the plant in accordance with the operating licenses and Technical Specifications. An operations supervisor, who reports to the Reactor Operations Manager, is responsible for the safe and efficient operation of each unit. The Reactor Operations Manager and the operations supervisors will hold senior reactor operator (SRO) licenses.

FSAR Figure 13.1-2B implies that the applicant plans to operate the units with six shift crews. Each shift crew will be under the overall direction of a shift supervisor (who will have an SRO license), who reports to the operations supervisor for the unit. Specific control room activities are directed by a unit supervisor (who will have an SRO license), who reports to the shift supervisor. The remainder of each shift crew consists of reactor operators (with reactor operator (RO) licenses), reactor auxiliary operators, and administrative aides. Shift staffing should satisfy, at a minimum, the requirement of 10 CFR 50.54(m)(2)(i) for licensed operators and NUREG-0737 Item I.A.1.3 for unlicensed auxiliary operators. The applicant plans to staff the Reactor Operations Division with 110 individuals for both one-unit and two-unit operations.

The applicant plans to provide engineering expertise on shift by the use of shift technical advisors (STAs). Current plans are to select 10 engineers from the Nuclear Plant Operations Department, train them to function as STAs, and have them stand watch on a rotating-shift basis. The planned program is acceptable,

although it does not meet the desires of the Commission as expressed in Generic Letter 86-04, "Policy Statement on Engineering Expertise on Shift." The Generic Letter, issued on February 13, 1986, requests licensees and applicants to review their programs for providing engineering expertise on shift and to advise the Commission of any changes they propose to make to take advantage of any of the options identified in the Commission's Policy Statement. The applicant may wish to revise the STA program in light of the new policy statement. If the applicant does revise the program, the staff will report on the change in a supplement to this SER.

The NRC began a dialogue with the industry late in 1983 to find a way of ensuring that each operating shift at a newly licensed plant had at least a certain amount of previous hot operating experience. On February 24, 1984, an Industry Working Group representing utilities with nuclear power plants under construction or ready for operation presented a proposal to the Commission on the amount of previous operating experience considered to be the minimum desirable on each shift and how that experience could be obtained. On June 14, 1984, the Commission accepted the industry proposal with certain clarifications. Information regarding the Commission action was forwarded to the industry as Generic Letter 84-16, dated June 27, 1984. The applicant has stated that the guidelines of Generic Letter 84-16 will be met. The staff will review this matter further before a license is issued to ensure that each operating shift crew has sufficient hot operating experience.

(2) Chemical Operations and Analysis Division

The Chemical Operations and Analysis Division is responsible for primary, secondary, and auxiliary chemistry control, which includes chemistry and radiochemistry sampling/analysis and the operation of water and waste treatment systems (makeup water, radwaste, condensate, steam generator blowdown, and chemical waste). Plant programs are developed to meet plant needs and regulatory requirements for chemical control and environmental discharges. The applicant plans a staffing level of about 79 individuals for one-unit operation, which will increase to about 92 individuals for two-unit operation. The Chemical Operations and Analysis Manager reports to the Plant Superintendent.

(3) Technical Support Division

The Technical Support Division with a planned staffing level of 90 provides technical support to plant operations and maintenance personnel for management of various plant programs (Technical Specification surveillance testing, pump and valve testing, leak rate testing, snubber testing, filter testing, and vibration testing), and for monitoring plant performance. The Technical Support Manager reports to the Plant Superintendent.

(4) Maintenance Division

The Maintenance Division comprises the Mechanical Group, the Electrical Group, the Instrument and Control Group, and the Maintenance Support Group. It is responsible for preventive and corrective maintenance for Units 1 and 2 and their common support facilities. The applicant plans a staffing level for this division of 265 individuals for one-unit operation, which will increase to 285 individuals by the time Unit 2 is in operation. The Maintenance Manager reports to the Plant Superintendent.

(5) Management Services Division

The Management Services Division is responsible for various administrative support functions, such as data processing, scheduling, budgeting, cost control, contract administration, drawing control, and document control. The Management Services Manager reports to the Plant Manager. The applicant plans a staffing level of 82 individuals for this division.

(6) Health and Safety Services Division

The Health and Safety Services Division is responsible for the plant health physics program and the radiological environmental surveillance program. The applicant plans a staffing level for this division of 58 individuals, which will increase to 64 individuals for two-unit operation. The Health and Safety Services Manager position corresponds to the "Radiation Protection Manager" position in RG 1.8, "Personnel Selection and Training." The Health and Safety Services Manager reports to the Plant Manager.

(7) Nuclear Training Department

The Nuclear Training Department is responsible for the overall management and administration of the HL&P nuclear training program, which is described in SER Section 13.2. Initially the staff will consist of 44 individuals, which will increase to 51 individuals for two-unit operation. The Training Manager--Nuclear Training reports directly to the Vice President--Nuclear Plant Operations.

13.1.2.2 Summary and Conclusions

The applicant meets SRP Section 13.1.2 (NUREG-0800) except for the résumé for the Plant Superintendent (a position that is currently vacant). In addition, the staff shall confirm compliance with the shift crew operating experience guidelines of Generic Letter 84-16.

13.2 Training

The applicant submitted the South Texas Project Electric Generating Station Nuclear Training Program by letter dated April 17, 1985. HL&P is drafting an amendment that will incorporate this program description into FSAR Section 13.2. The following additional training material was submitted by letters dated April 23 and April 29, 1985:

- Interdepartmental Procedure - Technical Advisory Councils (IP-8.1, Rev. 0)
- Nuclear Training Department - Cold License Training Program (NTP-203A, Rev. 0)
- Training Administrative Manual
- Nuclear Training Department - Certification of Instructors (NTP-115, Rev. 0)
- Interdepartmental Procedure - Supervisory Skills Training Program (IP-8.6, Rev. 0)
- Nuclear Training Department Lesson Plan - Cold License Training, Topic: Offsite Electrical Distribution (O.LIC.LP.SY.01, Rev. 0)

- Nuclear Training Department Lesson Plan - Licensed Operator Training, Topic: Turbine Generator Lube Oil System (0.LIC.LP.L0.01, Rev. 0)

- Nuclear Training Department - Licensed Operator Requalification Program (NTP-205, Rev. 0)

The applicant's training program was reviewed according to SRP Section 13.2. The acceptance criteria included applicable portions of 10 CFR 19, 50, and 55; NUREG-1021 (Revision 1); RGs 1.8 (Revision 1-R) and 1.149, "Nuclear Power Plant Simulators for Use in Operator Training"; and NUREG-0737, including the H.R. Denton letter of March 28, 1980, to all power reactor applicants and licensees.

After the initial review, the NRC staff provided a draft SER that included two open items. Subsequent discussions between the staff and the applicant resulted in a submittal from the applicant dated September 13, 1985, providing the information and changes needed to close out the open items. The staff's review of the nuclear training program and the applicant's supplementary submittals follows.

The South Texas training program is designed using a systematic approach to training (SAT). The applicant provided the Training Administrative Manual, which describes the elements of SAT and the methods for implementing the program. In addition, the applicant provided LP-8.1, the interdepartmental procedure concerning technical advisory councils. Each council provides a formal interface mechanism between the Nuclear Training Department and the Nuclear Plant Operations Department. This interface requirement is called for by the SAT. The program provides the required training based on individual employee experience, the intended position, and previous training/education. The objective of the program is to provide the necessary numbers of fully trained and qualified operating, maintenance, professional, and technical support personnel in time for fuel loading. Where practicable, the concept of team training is used. Personnel will receive on-the-job training during the preoperational testing program by performing their job-associated tasks.

13.2.1 Reactor Operator Training

13.2.1.1 Training Program for SRO and RO Candidates

The training program for SRO and RO candidates is designed to prepare these employees for NRC license examinations and, subsequently, station operations.

13.2.1.1.1 Training Program Phases

The program is divided into five discrete phases as follows.

(1) Phase I--Nuclear Power Plant Fundamentals (11 weeks)

This training will be conducted at the Westinghouse Nuclear Training Center and will combine onsite classroom instruction and offsite research reactor training. Topics included are

- nuclear reactor theory (2 weeks)
- large PWR core physics (2 weeks)
- health physics, instrumentation, and chemistry (2 weeks)
- power plant systems and engineering concepts (2 weeks)
- reactor loading, reactor operations, and experiments (3 weeks)

(2) Phase II--Operating PWR Training (10 weeks)

This training will consist of both systems lectures and plant observations at Commonwealth Edison's Zion Station or another plant similar to South Texas.

These observations will cover the specific systems observations and hardware discussed in the lectures.

(3) Phase III--Simulator Training (9 weeks)

License candidates will receive simulator training at the Westinghouse Nuclear Training Center. The course provides training in plant operations and transient situations including startup, shutdown, and operation under normal, off-normal,

and emergency conditions. At the conclusion of the course, RO- and SRO-level written, oral, reactor startup, and simulator crew operating examinations will be given to the candidates. Upon successful completion of simulator training, the candidates receive RO or SRO certification from Westinghouse. This course may also be conducted on a simulator that is similar to the South Texas unit; the training will be conducted on the South Texas simulator when it becomes available.

(4) Phase IV--Onsite Training

This phase of the training program consists of classroom training that meets all the requirements of NUREG-0737 Item I.A.2.1 and the letter from H.R. Denton to all power reactor applicants and licensees dated March 28, 1980. The training consists of classroom training (24 weeks); procedure training on actual or simulated control boards and on the South Texas simulator when it becomes operational (4 weeks); on-the-job training, including system checkouts, administered by training instructors or designated systems experts (12 months); and required reading assignments and/or classroom training in all phases of procedures and facility changes.

(5) Phase V--Pre-License Review and Audit (3 to 4 weeks)

This phase of the program consists of a 3- to 4-week review of subjects covered in Phase IV and an audit examination given in the same manner as the NRC licensing examination.

13.2.1.1.2 Candidate Categories

Candidates with no prior nuclear experience will participate in all five phases of the training. Those candidates with nuclear navy experience as defined in ES-109, 3b of NUREG-1021 will receive, as a minimum, Phase III of the program (modified to suit the candidates' previous nuclear training), in addition to all of Phases IV and V. The audit examination in Phase V will validate the candidates' prior nuclear experience. Candidates who have been licensed previously at a comparable facility will receive, as a minimum, all the training in Phases IV and V. The courses for these candidates will be taught at the SRO level. These courses are augmented with training in various supervisory skills.

13.2.1.1.3 Conclusions

The applicant has committed to a license training program that conforms to 10 CFR 55, to Item I.A.2.1 of NUREG-0737, and to Enclosures 1 and 2 of H.R. Denton's letter dated March 28, 1980. In addition, the program includes operations experience training on power plant simulators. The applicant has provided the content of the simulator program, the length of the course, and the identity of the simulator. A plant-referenced simulator is operational as of February 1986. By a letter dated September 13, 1985, the applicant provided pages of the FSAR that include an amendment stating that the South Texas simulator will meet RG 1.149, Revision 0, as of July 1988. The applicant has provided all the appropriate information with respect to the onsite training program, including course description, duration of course, and distinction between classroom training and on-the-job training.

The applicant has included a chart that shows the schedule of each part of the training program with respect to preoperational testing and expected time for examinations for licensed operators before criticality. However, the chart did not indicate the time for examinations for licensed operators after criticality or the number of licensed operators for whom training is planned before criticality. The applicant has now provided this information by submitting a copy of his response to NRC Generic Letter 85-04, which included the required data. Forty-two ROs and sixty-three SROs will be examined after criticality. Before criticality, 32 ROs and 60 SROs will have completed training. The applicant also has contingency plans for additional training if fuel loading is delayed.

On the basis of its review, the staff concludes that the applicant's license training program is acceptable.

13.2.1.2 Requalification Training For Licensed Operating Personnel

The applicant has provided the Nuclear Training Department Procedure for the Licensed Operator Requalification Training Program for review. The program consists of the following segments.

(1) Classroom Training (5 weeks)

Classroom training consists of lectures and required reading. Lecture topics cover all the material required by Appendix A of 10 CFR 55 and H.R. Denton's letter of March 28, 1980. The required reading portion of this program segment may include, but is not limited to, plant procedures, procedure changes or new procedures, plant design or license changes, operating experience reports, and Technical Specification review.

(2) On-the-Job Training

All licensed and certified personnel must participate in on-the-job training. This segment of the program consists of required reading, watchstanding, and control manipulations, as listed below. (The starred items will be performed annually; all other items will be performed on a 2-year cycle.)

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

· plant shutdown

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

· boration or dilution or both during power operation

*. any significant (10%) power changes with rod control

*. losses of coolant including

- significant steam generator tube leak
- inside and outside primary containment
- large and small, including leakrate determination
- saturated reactor coolant response

· loss of instrument air (if simulated, plant specific)

- loss of electrical power (or degraded power sources, or both)
- *. loss of core coolant flow/natural circulation
- loss of condenser vacuum
- loss of essential cooling water
- loss of shutdown cooling
- loss of component cooling system or cooling to an individual component
- loss of normal feedwater or normal feedwater system failure
- *. loss of all feedwater (normal and emergency)
- loss of protective system channel
- mispositioned control rod or rods (or rod drops)
- inability to drive control rods
- conditions requiring use of emergency boration
- fuel cladding failure or high activity in reactor coolant or offgas
- turbine or generator trip
- malfunction of automatic control system(s) that affect reactivity
- malfunction of reactor coolant pressure/volume control system
- reactor trip
- main steamline break (inside or outside containment)
- nuclear instrumentation failure(s)

(3) Simulator Training

The applicant states that all licensed and certified personnel will be assigned to a 5-day simulator training course. The applicant has committed to this requirement, as specified in Enclosure 1 of H.R. Denton's letter of March 28, 1980, which requires all licensed operators to participate in a simulator training program as part of the requalification program.

(4) Trainee Evaluation

- Classroom Training

  A written examination will be given at the end of each week of classroom lecture. A score of less than 80% requires a self-study remedial program. If the operator scores less than 80% on a second examination in this same subject area, a plan of action is submitted for the Plant Manager's approval. The plan may entail removal from licensed duties and accelerated requalification training and reexamination or other appropriate action.

- Simulator Training

  An instructor or supervisor from Reactor Operations or Operations Training Division will observe the operations performed on the simulator and will submit an evaluation of the operator's performance and competency. The evaluation will include actions taken during abnormal and emergency conditions, demonstrated understanding of equipment operations, and demonstrated knowledge of operating procedures. Exhibiting deficiencies in any of these areas will result in the operator's removal from licensed duties. Appropriate retraining will be conducted as proposed by the person who conducted the evaluation and jointly approved by the Reactor Operations Superintendent and the Manager--Operations Training Division. The operator will be re-evaluated after this retraining and will be returned to licensed duties after the individual demonstrates competence in the areas in which the individual was deficient.

Annual Examinations and Accelerated Requalification

Operators who score less than 70% on any section of the annual written examination or less than 80% overall, or who fail the oral examination, will be removed from all licensed duties and placed in the accelerated requalification program. Upon completion of this program, the operator will retake the failed section or the entire examination, as appropriate. A score of 80% is required to pass. If this standard is not met, the individual cannot perform licensed duties until remedial work is successfully completed.

The applicant's criteria for passing the annual requalification examination and participation in the accelerated requalification program meet Appendix A to 10 CFR 55 and Enclosure 1 of H. R. Denton's letter of March 28, 1980.

13.2.1.3 TMI-Related Requirements

I.A.2.1 Immediate Upgrading of Reactor Operator and Senior Reactor Operator Training and Qualifications

The initial training program is designed to prepare RO and SRO candidates for NRC license examinations and station operations.

South Texas is an operating license applicant and, therefore, is not subject to the 1-year experience requirement for cold-license SRO candidates. However, after 1 year of station operation, individuals applying for an SRO license will be required to comply with the 1-year experience criterion for hot-license SRO applicants, unless they are experienced in an equivalent position at another nuclear plant or at a military propulsion reactor. The experience of license applicants in the latter category will be documented by the applicant on an individual basis. This documentation must be in sufficient detail for the staff to determine equivalency. SRO license applicants with a degree in engineering or applicable science are considered to meet the 1-year experience requirement as an RO provided they (1) satisfy the requirements in Sections A.1.a and A.2 of Enclosure 1 of H.R. Denton's letter dated March 28, 1980, and (2) have participated in a training program equivalent to that of a cold-license SRO applicant.

The requirements for 3 months of training on shift as an extra person in the control room for RO candidates and 3 months as an extra person on shift for SRO candidates do not apply to cold-license candidates. However, the applicant will be required to meet this requirement after 3 months of operation.

The applicant's training program provides training in heat transfer, fluid flow, thermodynamics, mitigating core damage, and reactor and plant transients.

All license candidates will participate in simulator training programs. The applicant has also committed to a requalification program that includes performance of the control manipulations called for in Enclosure 4 of H.R. Denton's letter of March 28, 1980. These manipulations will be performed or participated in by all licensed operators.

The staff concludes that the applicant's training program meets Item I.A.2.1.

I.A.2.3 Administration of Training Programs

The organization and lines of responsibility for the training department are outlined in detail in the applicant's Training Administrative Manual. Instructors who teach safety systems, integrated plant response, and transient and simulator training will be certified through an NRC senior operator instructor examination. The applicant states that, initially, the qualifications of instructors will be maintained through their participation in the conduct of the Phase IV training program. This phase of the program is a comprehensive onsite program that encompasses all the requirements of the requalification program as called for in 10 CFR 55, Appendix A. Instructors will also be enrolled in appropriate requalification programs.

The staff finds that the applicant has satisfied Item I.A.2.3.

II.B.4 Training for Mitigating Core Damage

The applicant has provided a description of the program for training for mitigating core damage that includes all the subjects in Enclosure 3 of H.R. Denton's letter of March 28, 1980. The applicant states that STAs and all operating

personnel--including licensed operators, appropriate managers, instrumentation and control technicians, health physics technicians, and chemistry technicians--shall receive this training commensurate with their responsibilities.

The staff concludes that the applicant has met Item II.B.4.

13.2.1.4 Conclusions

The staff concludes that the applicant's operator requalification training program meets Appendix A to 10 CFR 55 and H.R. Denton's letter dated March 28, 1980. Therefore, the staff finds the applicant's requalification program acceptable.

13.2.2 Training For Nonlicensed Plant Staff

The applicant has described the training programs for nonlicensed personnel. These programs include general employee training; training for maintenance supervisors, electricians, mechanics, instrumentation and control personnel, supervisory and technician level personnel of the Health and Safety Services Division and the Chemical Operations and Analysis Division; and training for technical support personnel.

The applicant's fire protection training program is conducted in accordance with the SRP; 10 CFR 50, Appendix R; and BTP CMEB 9.5-1. The training includes classroom instruction, hands-on fire extinguishing, and drills. In addition to the training for the fire brigade, training is conducted for station employees, contract personnel, offsite fire departments, and construction personnel. On the basis of its review, the staff concludes that the applicant's fire protection training program is acceptable.

The staff has reviewed the procedure for the STA training program and finds it comparable in scope and depth to the program outlined in Appendix C of NUREG-0737. Therefore, the staff finds the applicant's STA training program acceptable.

On the basis of its review, the staff concludes that the applicant's training programs for nonlicensed personnel are acceptable.

13.3 Emergency Planning

The applicant filed with the NRC an emergency plan for the South Texas Project on December 26, 1984. The staff reviewed this plan and provided an extensive list of questions to the applicant in a meeting on October 25, 1985, and by a letter dated November 15, 1985. The applicant currently is reviewing these questions and is revising the emergency plan to provide additional information and commitments. The acceptance criteria used as a basis for the staff's review of the plan are specified in SRP Section 13.3, "Emergency Planning" (NUREG-0800) and include the planning standards of 10 CFR 50.47(b), the requirements of Appendix E to 10 CFR 50, and the specific criteria of NUREG-0654/FEMA-REP-1, "Criteria for Preparation and Evaluation of Radiological Emergency Response Plans and Preparedness in Support of Nuclear Power Plants," dated November 1980. The criteria of NUREG-0654 have been endorsed in RG 1.101, Revision 2, "Emergency Planning and Preparedness for Nuclear Power Reactors," dated October 1981 and thus have the same status as a regulatory guide.

At the present time, on the basis of its review of the emergency plan in the form in which it was submitted on December 26, 1984, the staff concludes that a final evaluation cannot be made for conformance with Appendix E to 10 CFR 50 and NUREG-0654/FEMA-REP-1, which addresses each of the planning standards of 10 CFR 50.47(b). Further evaluation of the plan and a determination of the adequacy of the planning basis for an acceptable state of onsite emergency preparedness will be provided in a supplement to this SER.

Evaluation of the state of emergency preparedness for the South Texas Project also involves the review of State and local radiological emergency response plans by the Federal Emergency Management Agency (FEMA). The SRP states that the FEMA findings on offsite plans are reviewed by the NRC staff and a full-scale exercise is to be conducted at the facility. In accordance with the revised rule on emergency planning (47 FR 30232), no NRC or FEMA findings and determinations concerning the state of adequacy of offsite emergency preparedness are required before an operating license is issued authorizing only fuel loading and low-power operations up to 5% of rated power.

Before the issuance of a license for operation above 5% of rated power and after a review of the findings and determinations made by FEMA on the adequacy of

State and local emergency response plans, a supplement to this SER will provide the staff's overall conclusions as to whether the state of onsite and offsite emergency preparedness provides reasonable assurance that adequate protective measures can and will be taken in the event of a radiological emergency. This is an open item.

13.4 Operational Review

The applicant has established a review and audit program designed to meet the requirements of Section 4 of ANSI/ANS 3.2-1982. Onsite review activities, independent review activities, and audit program activities are discussed below.

13.4.1 Onsite Review

Onsite review activities are performed by the Plant Operations Review Committee (PORC), which began meeting on a monthly basis in July 1978. The basic function of the PORC is to review matters that affect nuclear safety to keep management aware of general plant conditions and to verify that day-to-day activities are conducted safely.

The PORC is composed of the Plant Superintendent (Chairman); the Reactor Operations Manager; the Chemical Operations and Analysis Manager; the Technical Support Manager; the Maintenance Manager; the Health and Safety Services Manager; and the Operations QA Manager. Formal meetings require a quorum, which consists of the Chairman, the Operations QA Manager, and four of the remaining five members. All PORC members have designated alternates; however, a maximum of two alternates may participate as voting members at any one time. The responsibilities and conduct of the PORC are generally the same as those given in Section 6.5.1 of the Standard Technical Specifications for Westinghouse Pressurized Water Reactors (NUREG-0452, Revision 4).

13.4.2 Independent Review

The independent review function is performed by two groups: the Nuclear Safety Review Board (NSRB) and the Independent Safety Engineering Group (ISEG).

13.4.2.1 Nuclear Safety Review Board

The NSRB is a corporate review group located off the site at HL&P headquarters. The basic function of the NSRB is to identify operational problem areas, monitor corrective actions, and, in some cases, make recommendations to appropriate management of possible solutions to problems.

The NSRB is composed of the Vice President--Nuclear Engineering and Construction (Chairman), the General Manager--Nuclear Engineering, the managers from five corporate departments (Engineering Assurance, Nuclear Services, Nuclear Licensing, Nuclear Fuel, and Nuclear Assurance), and additional members as appointed by the Chairman. Formal meetings require a quorum, which consists of the Chairman and at least three members. All NSRB members have designated alternates. The responsibilities and conduct of the NSRB are generally the same as those given in Section 6.5.2 of NUREG-0452, Revision 4.

13.4.2.2 Independent Safety Engineering Group

HL&P will form an ISEG approximately 6 months before fuel load in Unit 1. This group will have a staff complement of at least a supervisor and four engineers on a full-time basis before fuel load. This group will report to the Manager--Nuclear Assurance and will be located on site.

The principal function of this group will be to examine plant operating characteristics, NRC issuances, and other sources of experience information that may indicate areas for improving plant safety. The ISEG will independently review reports of plant activities. Where useful improvements can be made, the group will present detailed recommendations to corporate management. The ISEG will not have a role in day-to-day operation and management of South Texas.

13.4.3 Audit Program

Audits of the nuclear program are scheduled in accordance with a written plan to ensure that all safety-related functions are audited within a 2-year period. The audit program is conducted as part of the corporate quality assurance (QA) program described in Chapter 17 of the FSAR. The NSRB, which is cognizant of QA audit activities, provides a means for management review of the QA program.

13.4.4 Summary and Conclusions

The staff has reviewed the HL&P organizations that perform review and audit functions for the South Texas Project and finds them in conformance with RG 1.33, Revision 2 ("Quality Assurance Program Requirements (Operation)"), ANSI/ANS 3.2-1982, and NUREG-0737. The staff concludes that the applicant meets SRP Section 13.4.

13.5 Plant Procedures

13.5.1 Administration Procedures

The staff has reviewed plant administrative procedures and determined that safety-related activities will be conducted in accordance with detailed written procedures that have been reviewed by the PORC and approved by the Plant Manager. RG 1.33, Revision 2, will be used as a guide to prepare plant administrative policies and procedures.

The staff has reviewed the applicant's plans regarding the responsibilities of the shift supervisor, control room access, working hours, shift relief/turnover requirements, operating experience feedback, verification of correct performance of operating activities, crane operations, and conduct of the initial test program. Each of these items is discussed below.

13.5.1.1 Shift Supervisor Responsibilities

Each operating shift will have a designated shift supervisor who is a licensed senior operator. Each shift supervisor has the responsibility of directing the licensed activities of licensed operators on the supervisor's shift, pursuant to 10 CFR 50.54(l). It is the staff's position that a management directive to this effect, signed by the Vice President--Nuclear Plant Operations, must be reissued to all station personnel on an annual basis.

The applicant's procedures will define the authority and responsibility of each member of the operating shift crew, pursuant to Section 5.2 of ANSI/ANS 3.2-1982. Each shift will have administrative aides to relieve the shift supervisor of

routine administrative duties and to process and route various records, logs, and correspondence. The applicant's plans for the organization and conduct of the operating shift crews meet 10 CFR 50.54 and NUREG-0694 Item I.C.3.

13.5.1.2 Control Room Access

The applicant will have a procedure to limit normal access to the control room to individuals responsible for direct operation of the plant, technical advisors, and specified NRC personnel. The procedure must establish a clear line of authority, responsibility, and succession in the control room. The shift supervisor is responsible for controlling access to the control room and may approve special access for good cause. In the absence of the shift supervisor, the unit supervisor (an SRO) should control access to the control room. The applicant has committed to limit access to the control room to meet NUREG-0694 Item I.C.4.

13.5.1.3 Limits on Working Hours

The applicant will establish a policy governing the working hours of plant personnel who perform safety-related functions. The policy should apply to SROs, ROs, health physicists, auxiliary operators, and key maintenance personnel. The purpose of the policy is to preclude the routine use of overtime; however, overtime beyond the set limits is allowed on a case-by-case basis, if authorized by the Plant Manager, the manager's deputy, or higher levels of management. The applicant has committed to limit working hours to meet NUREG-0737 Item I.A.1.3, as clarified by Generic Letter 82-12.

13.5.1.4 Shift Relief/Turnover Requirements

The applicant will prepare and implement a procedure for use during shift relief or shift turnover. The procedure must prescribe the use of checklists and logs to ensure that the operating staff, including auxiliary operators and maintenance personnel, is aware of critical plant parameters and the status of plant systems. The applicant has committed to meet the shift relief and turnover requirements of NUREG-0694 Item I.C.2.

13.5.1.5 Operating Experience Feedback

An organizational unit must be assigned to screen operating information from both inside and outside the South Texas Project organization. Information that is applicable and important to the plant should be forwarded to the ISEG, which has the lead responsibility for the operating experience and feedback function. The ISEG should then forward selected information, which may include recommendations for action, to the appropriate group within HL&P. The applicant has committed to meet the feedback requirements of Item I.C.5 of NUREGs-0694 and -0737.

13.5.1.6 Verification of Correct Performance of Operating Activities

The applicant will have a procedure for verifying the correct performance of operating activities. The shift supervisor, or, in the absence of the shift supervisor, the unit supervisor (an SRO) should be responsible for releasing equipment for testing, maintenance, or modification. Following such activities, a qualified person from the shift crew (who does not have to be a licensed operator) should be assigned to independently verify the proper positioning of valves, circuit breakers, and control switches of systems that are important to safety. The applicant has committed to verify the correct performance of operating activities to meet Item I.C.6 of NUREG-0737.

13.5.1.7 Crane Operations

The applicant will have a procedure governing crane operations, including a requirement that those who operate cranes over fuel pools be qualified and conduct themselves pursuant to the guidelines of ANSI B30.2-1976 (Chapters 2 and 3), "Overhead and Gantry Cranes."

13.5.1.8 Conduct of the Initial Test Program

FSAR Section 14.2 describes the applicant's program for developing initial test procedures, conducting the test programs, and reviewing and evaluating test results in accordance with 10 CFR 50.34, Appendix B of 10 CFR 50, and RG 1.68, "Initial Test Programs for Water-Cooled Reactor Power Plants," Revision 2.

The initial test program has three phases: prerequisite testing, preoperational/acceptance testing, and initial startup testing. They are defined as follows:

(1) Prerequisite testing begins after installation/construction of a given structure, system, or component is complete. It consists of calibration, electrical checks, vibration checks, cleaning, flushing, functional testing, etc., to verify integrity and readiness for preoperational/acceptance testing.

(2) Preoperational/acceptance testing is hot functional testing to verify that safety-related systems and equipment meet design and safety requirements before fuel load.

(3) Initial startup testing is physics testing to verify nuclear and thermal-hydraulic parameters and power ascension testing to verify the ability of the plant to operate safely at various power levels up to rated capacity. This phase of the initial test program begins at fuel load and continues through the full-power acceptance run.

Prerequisite and preoperational test procedures are prepared in accordance with the Plant Procedures Manual. Procedures are prepared using standard formats (different categories of procedures may use different standard formats), and they contain appropriate signoff provisions to control test performance and the sequence of testing.

Test results are reviewed by appropriate management/supervisory personnel to ensure that tests are performed in accordance with an approved procedure, that documentation requirements are met, and that acceptance criteria are satisfied. If acceptance criteria are not met, a nonconformance report is prepared for disposition by designated organizations. Test results for each phase of the initial test program are normally verified as complete before the next phase is begun. Testing left incomplete must be technically justified. HL&P has overall responsibility for the initial test program. The primary organizational entities involved with initial test activities are the South Texas Project startup organization, the Nuclear Plant Operations Department, the Joint Test Group, and the Plant Operations Review Committee. They are discussed below.

(1) Startup Organization

The startup organization is under the direction of the Startup Manager, who reports through the Deputy Project Manager to the Manager--South Texas Project (Figure 13.2). The startup organization, which may be augmented by contractor and vendor personnel, is responsible for developing, scheduling, and conducting prerequisite and preoperational/acceptance tests. The qualifications of personnel participating in prerequisite and preoperational testing will conform to the guidance in RG 1.58, "Qualification of Nuclear Power Plant Inspection, Examination, and Testing Personnel."

(2) Nuclear Plant Operations Department

The operating organization (the Nuclear Plant Operations Department) supports the startup organization during prerequisite and preoperational testing, but takes the lead responsibility for initial startup testing at the time of fuel load. The operating organization is under the direction of the Plant Manager, who reports to the Vice President--Nuclear Plant Operations (Figure 13.3).

(3) Joint Test Group

The Joint Test Group (JTG) reviews preoperational test procedures, revisions to preoperational test procedures, and results of preoperational tests. The JTG is chaired by the Startup Manager and includes representatives from the operating organization, the offsite nuclear support organization, the construction manager (Bechtel), and the NSSS vendor (Westinghouse).

(4) Plant Operations Review Committee

The Plant Operations Review Committee (PORC) reviews safety-related procedures, including those associated with the initial test program. The PORC is chaired by the Plant Superintendent and includes representatives from major segments of the onsite operating organization, as prescribed in the Technical Specifications.

It is the staff's position that individuals responsible for preoperational and startup testing activities for safety-related systems shall be qualified in accordance with the criteria as now stated in Section 4.4.6 of ANSI/ANS 3.1-1981. (In the case of South Texas, this does not include prerequisite testing.) These individuals include personnel from the groups listed above who are responsible for developing preoperational and startup test procedures, for reviewing and approving preoperational and startup test procedures, for briefing personnel responsible for operating the plant during tests, for ensuring that tests are performed in accordance with procedures, for generating preoperational and startup test reports, and for reviewing and approving preoperational and startup test results. The criteria now stated in Section 4.4.6 of ANSI/ANS 3.1-1981 have been applied to new licensees for a number of years and were incorporated in the 1981 version of the standard. However, they do not appear in the 1971 version of the standard (ANSI N18.1-1971), which is the version now endorsed by RG 1.8.

The applicant has stated that the qualifications of personnel performing initial startup testing will conform to RG 1.58. Position C.1 of RG 1.58 in turns refers to RG 1.8 for qualification of personnel involved in initial startup testing. However, because the current version of RG 1.8 endorses only the 1971 version of the ANSI standard, it does not address the qualification requirements for personnel responsible for startup testing. Thus, the applicant's commitment to RG 1.58 is to be improved for those persons in responsible positions for the initial startup testing to be equivalent to ANSI/ANS 3.1-1981.

13.5.1.9 Summary and Conclusions

The applicant has described the program and procedures that provide administrative controls over activities important to safety, including the control of the initial test program. The applicant meets SRP Section 13.5.1 (NUREG-0800) except for the following confirmatory items:

(1) The staff will verify the applicant's compliance with commitments to have administrative procedures to control shift supervisor responsibilities, control room access, working hours, shift relief and turnover, feedback of operating experience, verification of operating activities, and crane operations.

(2) The staff will confirm that the qualification requirements for preoperational and initial startup test personnel are equivalent to those in ANSI/ANS 3.1-1981.

13.5.2 Operating and Maintenance Procedures

13.5.2.1 General

The staff has reviewed the applicant's plan for development and implementation of operating and maintenance procedures according to SRP Section 13.5.2. The review was conducted to determine the adequacy of the applicant's program for ensuring that routine operating, offnormal, and emergency activities will be conducted in a safe manner. The review was based on information in the FSAR and correspondence from the applicant.

The staff review included evaluation of (1) the applicant's classification system for procedures that are performed by licensed operators in the control room, and for other operating and maintenance procedures; (2) the applicant's plan for completion of operating and maintenance procedures before fuel loading; (3) the applicant's program for compliance with RG 1.33, "Quality Assurance Program Requirements," Revision 2, regarding the minimum procedural requirements for safety-related operations; (4) conformance with ANSI N18.7-1975/ANS 3.2, "Administrative Controls and Quality Assurance for the Operational Phase of Nuclear Power Plants"; and (5) the applicant's program for compliance with the requirements of Supplement 1 to NUREG-0737.

13.5.2.2 Operating and Maintenance Procedures

In the FSAR, the applicant committed to a program in which activities important to safety are to be conducted in accordance with detailed written and approved procedures meeting RG 1.33, Revision 2.

As described in the FSAR, the applicant will use the following procedure categories for those operations performed by the plant operating staff:

- system operating
- general operating
- offnormal operating
- emergency operating
- annunicator response
- temporary operating
- radiation protection
- emergency preparedness
- chemical analysis
- radioactive waste management
- maintenance
- plant security
- fire protection

The staff concludes that the applicant's program for use of operating and maintenance procedures meets the relevant requirements of 10 CFR 50.34 and is consistent with RG 1.33, Revision 2, and ANSI/ANS 3.2-1978 and, therefore, is acceptable.

In a submittal dated April 14, 1983, the applicant committed to develop emergency operating procedures (EOPs), as required by Supplement 1 to NUREG-0737. The applicant submitted the procedures generation package (PGP) to the staff on June 14, 1985.

13.5.2.3 Reanalysis of Transients and Accidents; Development of Emergency Operating Procedures

In generic letters of September 13 and 27, October 10 and 30, and November 9, 1979, the staff required licensees of operating plants, applicants for operating licenses, and licensees of plants under construction to (1) perform analyses of transients and accidents, (2) prepare EOP guidelines, (3) upgrade EOPs, and (4) conduct operator retraining (see also NUREG-0737 Item I.A.2.1). EOPs must be consistent with the actions necessary to cope with the transients and accidents analyzed. Clarification of the scope of the task and appropriate

schedule revisions were included in NUREG-0737 Item I.C.1 and Supplement 1 to NUREG-0737, which require development and submittal of PGPs to the staff. The PGP describes how the South Texas EOPs will be written using the generic emergency response guidelines (ERGs) developed by the Westinghouse Owners Group (WOG).

The NRC staff reviewed the proposed WOG ERGs as described in Westinghouse Owners Group Letters OG-64, OG-76, OG-83, OG-111, and OG-123, and in the material accompanying those letters. The staff determined that the guidelines are based on reanalysis of transients and accidents and concluded that the guidelines are acceptable for implementation.

In accordance with NUREG-0737 Item I.C.7, NSSS vendor review of low-power testing procedures, power ascension testing procedures, and EOPs was necessary to further verify adequacy of the procedures. Because the applicant has committed to implement procedures based on the NRC-approved Westinghouse ERGs, the staff does not consider an additional NSSS vendor review of the EOPs necessary. The applicant committed in FSAR Section 14.2 to have the low-power testing procedures and the power ascension testing procedures reviewed by Westinghouse. Therefore, the staff considers NUREG-0737 Item I.C.7 resolved.

Since the incident at Three Mile Island Unit 2 (TMI-2), applicants have been required to meet NUREG-0737 Item I.C.8, "Pilot Monitoring of Selected Emergency Procedures for Near-Term Operating License Applicants." This pilot monitoring program was used on an interim basis for evaluation of applicant's EOPs before staff approval of generic technical guidelines and staff development of the long-term program for the upgrading of EOPs. This is no longer necessary because the NRC has approved the Westinghouse ERGs and the applicant has committed to develop EOPs based on the ERGs. Therefore, the staff considers NUREG-0737 Item I.C.8 resolved.

Supplement 1 to NUREG-0737 requires each licensee and applicant for an operating license to submit to the NRC a PGP that includes

(1) plant-specific technical guidelines
(2) a writer's guide
(3) a description of the program to be used for the validation of EOPs
(4) a description of the training program for the use of upgraded EOPs

The applicant submitted the PGP on June 14, 1985, and the staff review of the applicant's response will be included in a supplement to this SER. This is a confirmatory item.

13.6 Industrial Security

The applicant has submitted documents entitled "South Texas Project Electrical Generating Station Security Plan," "South Texas Electrical Generating Station Security Personnel Training and Qualification Plan," and "South Texas Project Electrical Generating Station Safeguards Contingency Plan" for protection against radiological sabotage. The plans were reviewed in accordance with SRP Section 13.6.

On the basis of its review, the staff has identified certain portions of these plans as requiring additional information and upgrading to satisfy 10 CFR 73.55 and Appendices B and C to 10 CFR 73. Accordingly, security of the South Texas plant is an open item which will be addressed in a supplement to this SER.

The applicant's security plans are being protected from unauthorized disclosure in accordance with 10 CFR 73.21.

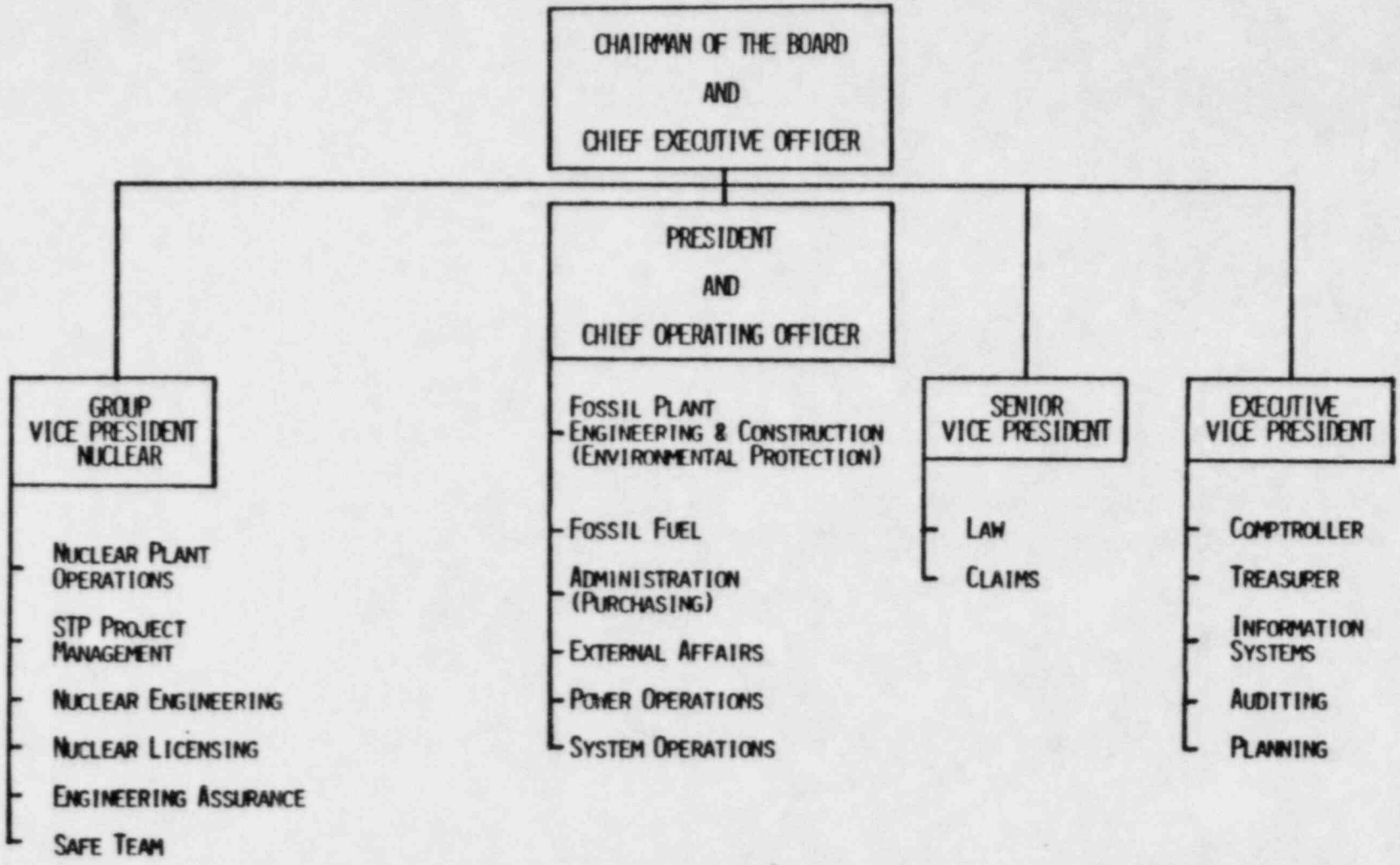

Figure 13.1 HL&P corporate organization

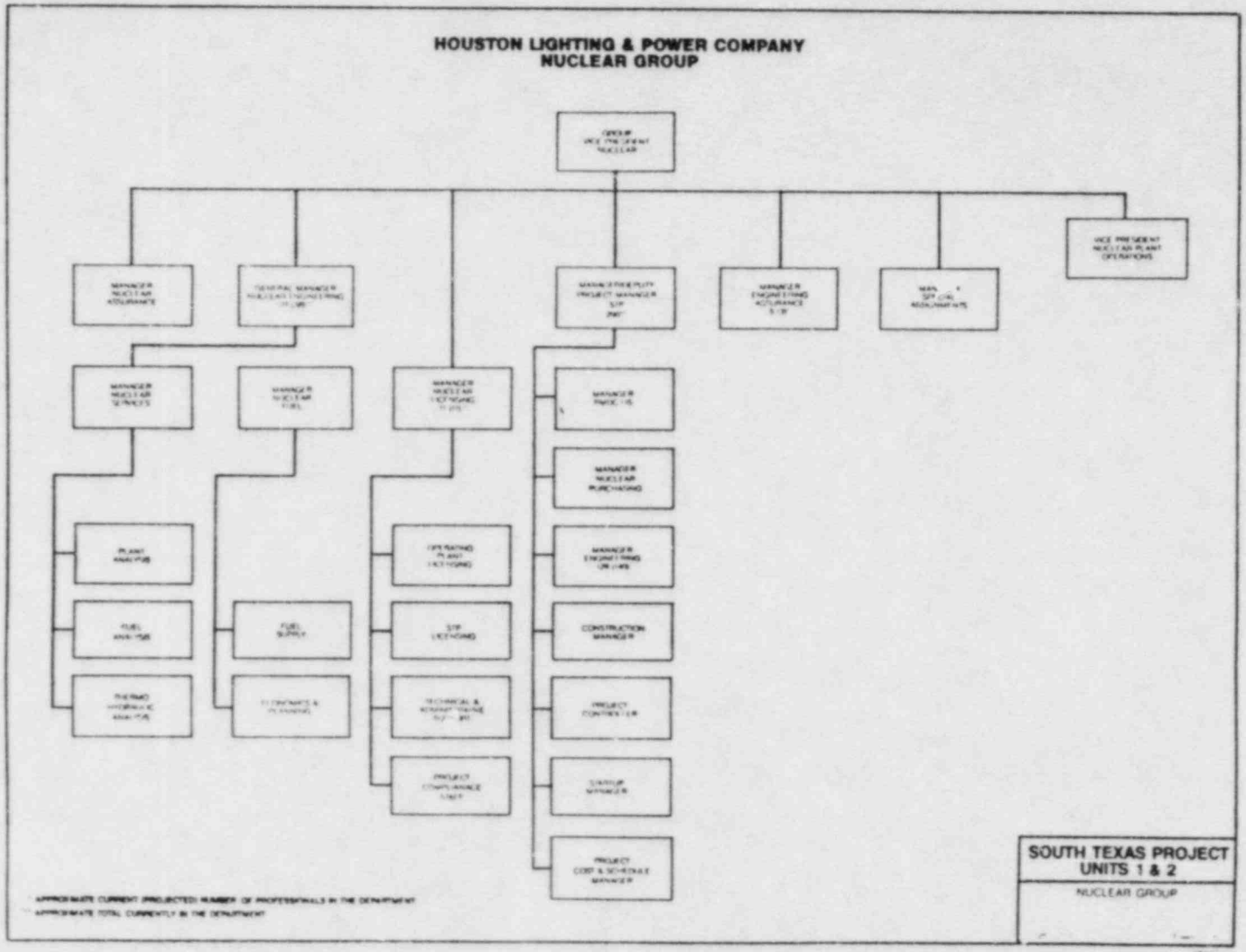

Figure 13.2 HL&P Nuclear Group
Source: FSAR Figure 13.1-3, Amendment 53

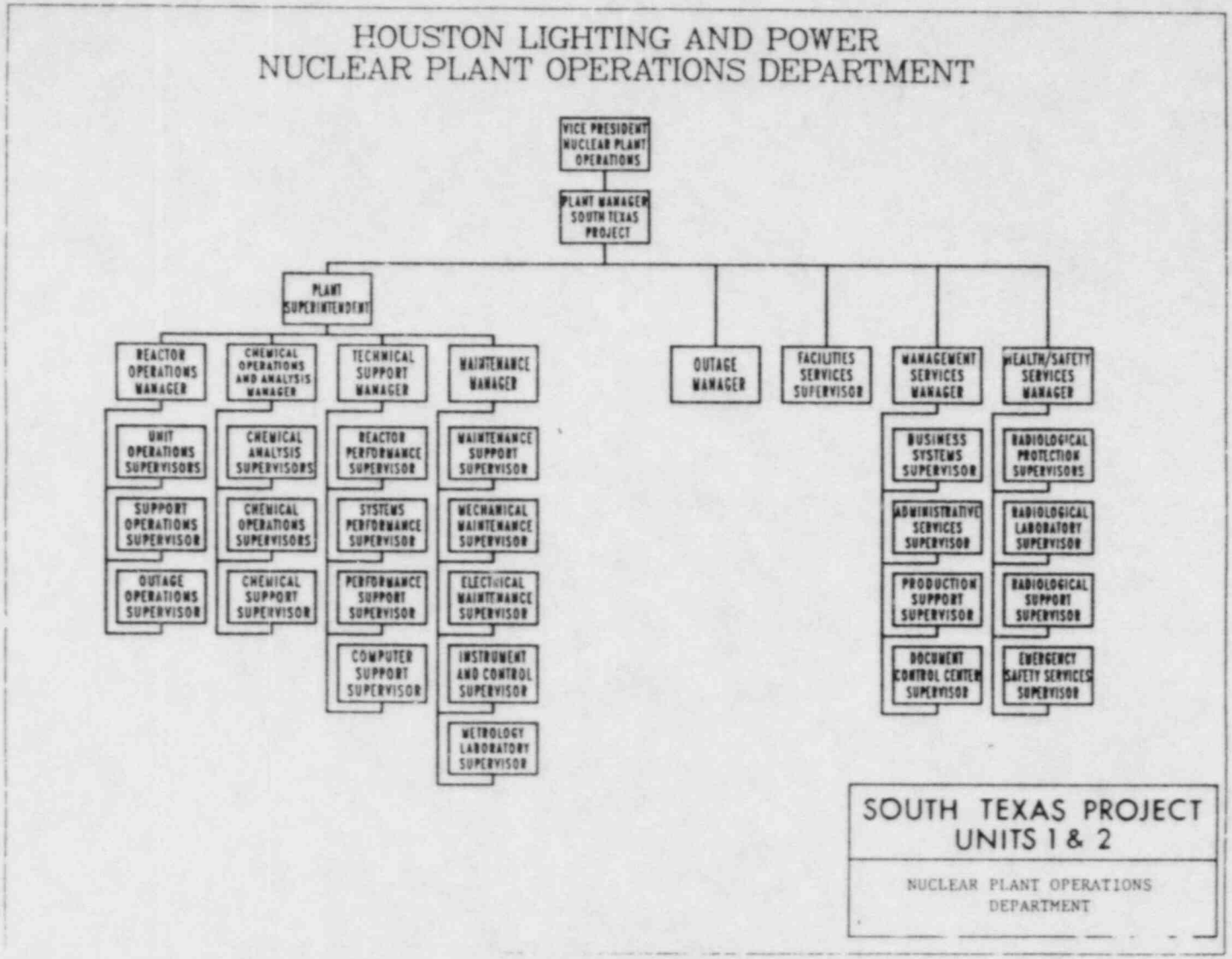

Figure 13.3 (HL&P) Nuclear Plant Operations Department
Source: FSAR Figure 13.1-2A, Amendment 51[3]