

October 20, 1997

Mr. William T. Cottle  
Group Vice-President, Nuclear  
Houston Lighting & Power Company  
South Texas Project Electric  
Generating Station  
P. O. Box 289  
Wadsworth, TX 77483

SUBJECT: SOUTH TEXAS PROJECT, UNITS 1 AND 2 - AMENDMENT NOS. 92  
AND 79 TO FACILITY OPERATING LICENSE NOS. NPF-76 AND NPF-80  
(TAC NOS. M99406 AND M99407)

Dear Mr. Cottle:

The Commission has issued the enclosed Amendment Nos. 92 and 79 to Facility Operating License Nos. NPF-76 and NPF-80 for the South Texas Project, Units 1 and 2 (STP). The amendments consist of changes to the Technical Specifications (TS) in response to your application dated August 14, 1997, as supplemented September 23, 1997. The amendments revise the allowed tolerance of the reactor coolant system volume provided in TS 5.4.2 to account for steam generator tube plugging.

A copy of our related Safety Evaluation is enclosed. The Notice of Issuance will be included in the Commission's next biweekly Federal Register notice.

Sincerely,  
for Orig. signed by Thomas W. Alexion  
Janet L. Kennedy, Project Manager  
Project Directorate IV-1  
Division of Reactor Projects III/IV  
Office of Nuclear Reactor Regulation

Docket Nos. 50-498 and 50-499

- Enclosures: 1. Amendment No. 92 to NPF-76  
2. Amendment No. 79 to NPF-80  
3. Safety Evaluation

cc w/encls: See next page

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UNITED STATES  
NUCLEAR REGULATORY COMMISSION  
WASHINGTON, D.C. 20555-0001

October 20, 1997

Mr. William T. Cottle  
Executive Vice-President &  
General Manager, Nuclear  
Houston Lighting & Power Company  
South Texas Project Electric  
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A copy of our related Safety Evaluation is enclosed. The Notice of Issuance will be included in the Commission's next biweekly Federal Register notice.

Sincerely,

A handwritten signature in cursive script that reads "Thomas W. Alington".

for Janet L. Kennedy, Project Manager  
Project Directorate IV-1  
Division of Reactor Projects III/IV  
Office of Nuclear Reactor Regulation

Docket Nos. 50-498 and 50-499

Enclosures: 1. Amendment No. 92 to NPF-76  
2. Amendment No. 79 to NPF-80  
3. Safety Evaluation

cc w/encls: See next page

Mr. William T. Cottle  
Houston Lighting & Power Company

South Texas, Units 1 & 2

cc:

Mr. David P. Loveless  
Senior Resident Inspector  
U.S. Nuclear Regulatory Commission  
P. O. Box 910  
Bay City, TX 77414

Jack R. Newman, Esq.  
Morgan, Lewis & Bockius  
1800 M Street, N.W.  
Washington, DC 20036-5869

Mr. J. C. Lanier/M. B. Lee  
City of Austin  
Electric Utility Department  
721 Barton Springs Road  
Austin, TX 78704

Mr. Lawrence E. Martin  
General Manager, Nuclear Assurance Licensing  
Houston Lighting and Power Company  
P. O. Box 289  
Wadsworth, TX 77483

Mr. M. T. Hardt  
Mr. W. C. Gunst  
City Public Service Board  
P. O. Box 1771  
San Antonio, TX 78296

Rufus S. Scott  
Associate General Counsel  
Houston Lighting and Power Company  
P. O. Box 61867  
Houston, TX 77208

Mr. G. E. Vaughn/C. A. Johnson  
Central Power and Light Company  
P. O. Box 289  
Mail Code: N5012  
Wadsworth, TX 74483

Joseph R. Egan, Esq.  
Egan & Associates, P.C.  
2300 N Street, N.W.  
Washington, DC 20037

INPO  
Records Center  
700 Galleria Parkway  
Atlanta, GA 30339-3064

Office of the Governor  
ATTN: John Howard, Director  
Environmental and Natural  
Resources Policy  
P. O. Box 12428  
Austin, TX 78711

Regional Administrator, Region IV  
U.S. Nuclear Regulatory Commission  
611 Ryan Plaza Drive, Suite 400  
Arlington, TX 76011

Arthur C. Tate, Director  
Division of Compliance & Inspection  
Bureau of Radiation Control  
Texas Department of Health  
1100 West 49th Street  
Austin, TX 78756

Dr. Bertram Wolfe  
15453 Via Vaquero  
Monte Sereno, CA 95030

Texas Public Utility Commission  
ATTN: Mr. Glenn W. Dishong  
7800 Shoal Creek Blvd.  
Suite 400N  
Austin, TX 78757-1024

Judge, Matagorda County  
Matagorda County Courthouse  
1700 Seventh Street  
Bay City, TX 77414



UNITED STATES  
NUCLEAR REGULATORY COMMISSION  
WASHINGTON, D.C. 20555-0001

HOUSTON LIGHTING & POWER COMPANY  
CITY PUBLIC SERVICE BOARD OF SAN ANTONIO  
CENTRAL POWER AND LIGHT COMPANY  
CITY OF AUSTIN, TEXAS  
DOCKET NO. 50-498  
SOUTH TEXAS PROJECT, UNIT 1  
AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 92  
License No. NPF-76

1. The Nuclear Regulatory Commission (the Commission) has found that:
  - A. The application for amendment by Houston Lighting & Power Company\* (HL&P) acting on behalf of itself and for the City Public Service Board of San Antonio (CPS), Central Power and Light Company (CPL), and City of Austin, Texas (COA) (the licensees), dated August 14, 1997, as supplemented September 23, 1997, complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act), and the Commission's rules and regulations set forth in 10 CFR Chapter I;
  - B. The facility will operate in conformity with the application, as amended, the provisions of the Act, and the rules and regulations of the Commission;
  - C. There is reasonable assurance: (i) that the activities authorized by this amendment can be conducted without endangering the health and safety of the public, and (ii) that such activities will be conducted in compliance with the Commission's regulations;
  - D. The issuance of this license amendment will not be inimical to the common defense and security or to the health and safety of the public; and
  - E. The issuance of this amendment is in accordance with 10 CFR Part 51 of the Commission's regulations and all applicable requirements have been satisfied.

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\*Houston Lighting & Power Company is authorized to act for the City Public Service Board of San Antonio, Central Power and Light Company and City of Austin, Texas and has exclusive responsibility and control over the physical construction, operation and maintenance of the facility.

2. Accordingly, the license is amended by changes to the Technical Specifications as indicated in the attachment to this license amendment and Paragraph 2.C.(2) of Facility Operating License No. NPF-76 is hereby amended to read as follows:

2. Technical Specifications

The Technical Specifications contained in Appendix A, as revised through Amendment No. 92, and the Environmental Protection Plan contained in Appendix B, are hereby incorporated in the license. The licensee shall operate the facility in accordance with the Technical Specifications and the Environmental Protection Plan.

3. The license amendment is effective as of its date of issuance.

FOR THE NUCLEAR REGULATORY COMMISSION



*for* Janet L. Kennedy, Project Manager  
Project Directorate IV-1  
Division of Reactor Projects III/IV  
Office of Nuclear Reactor Regulation

Attachment: Changes to the Technical  
Specifications

Date of Issuance: October 20, 1997



UNITED STATES  
NUCLEAR REGULATORY COMMISSION  
WASHINGTON, D.C. 20555-0001

HOUSTON LIGHTING & POWER COMPANY  
CITY PUBLIC SERVICE BOARD OF SAN ANTONIO  
CENTRAL POWER AND LIGHT COMPANY  
CITY OF AUSTIN, TEXAS  
DOCKET NO. 50-499  
SOUTH TEXAS PROJECT, UNIT 2  
AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 79  
License No. NPF-80

1. The Nuclear Regulatory Commission (the Commission) has found that:
  - A. The application for amendment by Houston Lighting & Power Company\* (HL&P) acting on behalf of itself and for the City Public Service Board of San Antonio (CPS), Central Power and Light Company (CPL), and City of Austin, Texas (COA) (the licensees), dated August 14, 1997, as supplemented September 23, 1997, complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act), and the Commission's rules and regulations set forth in 10 CFR Chapter I;
  - B. The facility will operate in conformity with the application, as amended, the provisions of the Act, and the rules and regulations of the Commission;
  - C. There is reasonable assurance: (i) that the activities authorized by this amendment can be conducted without endangering the health and safety of the public, and (ii) that such activities will be conducted in compliance with the Commission's regulations;
  - D. The issuance of this license amendment will not be inimical to the common defense and security or to the health and safety of the public; and
  - E. The issuance of this amendment is in accordance with 10 CFR Part 51 of the Commission's regulations and all applicable requirements have been satisfied.

---

\*Houston Lighting & Power Company is authorized to act for the City Public Service Board of San Antonio, Central Power and Light Company and City of Austin, Texas and has exclusive responsibility and control over the physical construction, operation and maintenance of the facility.

2. Accordingly, the license is amended by changes to the Technical Specifications as indicated in the attachment to this license amendment and Paragraph 2.C.(2) of Facility Operating License No. NPF-80 is hereby amended to read as follows:

2. Technical Specifications

The Technical Specifications contained in Appendix A, as revised through Amendment No. 79, and the Environmental Protection Plan contained in Appendix B, are hereby incorporated in the license. The licensee shall operate the facility in accordance with the Technical Specifications and the Environmental Protection Plan.

3. The license amendment is effective as of its date of issuance.

FOR THE NUCLEAR REGULATORY COMMISSION

  
for Janet L. Kennedy, Project Manager  
Project Directorate IV-1  
Division of Reactor Projects III/IV  
Office of Nuclear Reactor Regulation

Attachment: Changes to the Technical  
Specifications

Date of Issuance: October 20, 1997

ATTACHMENT TO LICENSE AMENDMENT NOS. 92 AND 79  
FACILITY OPERATING LICENSE NOS. NPF-76 AND NPF-80  
DOCKET NOS. 50-498 AND 50-499

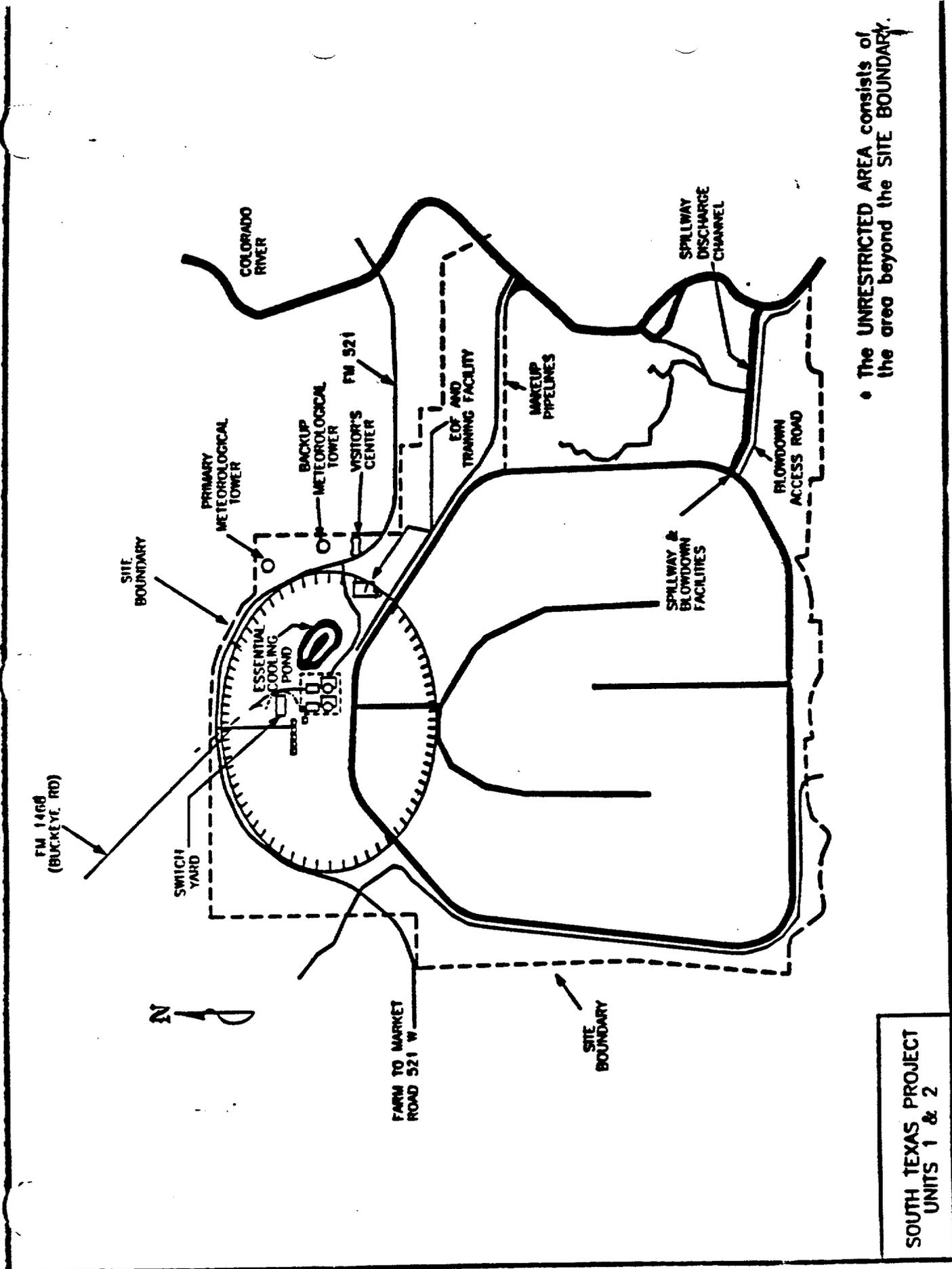
Replace the following page of the Appendix A Technical Specifications with the attached page. The revised page is identified by Amendment number and contain marginal lines indicating the areas of change. The corresponding overleaf page is also provided to maintain document completeness.

REMOVE

5-6

INSERT

5-6



• The UNRESTRICTED AREA consists of the area beyond the SITE BOUNDARY.

SOUTH TEXAS PROJECT  
UNITS 1 & 2

FIGURE 5.1--4  
UNRESTRICTED AREA AND SITE BOUNDARY FOR RADIOACTIVE LIQUID EFFLUENTS

## DESIGN FEATURES

### 5.3 REACTOR CORE

#### FUEL ASSEMBLIES

5.3.1 The reactor core shall contain 193 fuel assemblies. Each fuel assembly shall consist of a matrix of zircaloy or ZIRLO clad fuel rods with an initial composition of natural or slightly enriched uranium dioxide as fuel material. Limited substitutions of zirconium alloy, ZIRLO or stainless steel filler rods for fuel rods, in accordance with NRC-approved applications of fuel rod configurations, may be used. Fuel assemblies shall be limited to those fuel designs that have been analyzed with applicable NRC staff-approved codes and methods, and shown by tests or analyses to comply with all fuel safety design bases. A limited number of lead test assemblies that have not completed representative testing may be placed in non-limiting core regions.

#### CONTROL ROD ASSEMBLIES

5.3.2 The core shall contain 57 full-length control rod assemblies. The full-length control rod assemblies shall contain a nominal 158.9 inches of absorber material. The absorber material within each assembly shall be silver-indium-cadmium or hafnium. Mixtures of hafnium and silver-indium-cadmium are not permitted within a bank. All control rods shall be clad with stainless steel tubing.

### 5.4 REACTOR COOLANT SYSTEM

#### DESIGN PRESSURE AND TEMPERATURE

5.4.1 The Reactor Coolant system is designed and shall be maintained:

- a. In accordance with the Code requirements specified in Section 5.2 of the FSAR, with allowance for normal degradation pursuant to the applicable Surveillance Requirements,
- b. For a pressure of 2485 psig, and
- c. For a temperature of 650°F, except for the pressurizer which is 680°F.

#### VOLUME

5.4.2 The total water and steam volume of the Reactor Coolant System is between 13,364 and 13,914 cubic feet at a nominal  $T_{avg}$  of 561°F.

### 5.5 METEOROLOGICAL TOWER LOCATION

5.5.1 The meteorological towers shall be located as shown on Figure 5.1-1.

### 5.6 FUEL STORAGE

#### 5.6.1 CRITICALITY

5.6.1.1 The spent fuel storage racks are designed and shall be maintained

SOUTH TEXAS - UNITS 1 & 2

Unit 1 - Amendment No. ~~2, 10, 16, 43,~~  
~~61, 65, 89, 92~~  
5-6 Unit 2 - Amendment No. ~~2, 6, 32, 50,~~  
~~54, 76, 79~~



UNITED STATES  
NUCLEAR REGULATORY COMMISSION  
WASHINGTON, D.C. 20555-0001

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

RELATED TO AMENDMENT NOS. 92 AND 79 TO

FACILITY OPERATING LICENSE NOS. NPF-76 AND NPF-80

HOUSTON LIGHTING & POWER COMPANY

CITY PUBLIC SERVICE BOARD OF SAN ANTONIO

CENTRAL POWER AND LIGHT COMPANY

CITY OF AUSTIN, TEXAS

DOCKET NOS. 50-498 AND 50-499

SOUTH TEXAS PROJECT, UNITS 1 AND 2

1.0 INTRODUCTION

By application dated August 14, 1997, as supplemented September 23, 1997, Houston Lighting & Power Company, et.al., (the licensee) requested changes to the Technical Specifications (TS) (Appendix A to Facility Operating License Nos. NPF-76 and NPF-80) for the South Texas Project, Units 1 and 2 (STP). The proposed changes would reduce the minimum required reactor coolant system (RCS) volume in TS 5.4.2, reflecting an increase in steam generator tube plugging. The maximum required RCS volume remains unchanged.

The licensee's September 23, 1997, supplement provided responses to the staff's request for additional information dated September 4, 1997, and did not change the staff's initial no significant hazards determination.

2.0 BACKGROUND

In the August 14, 1997, submittal, the licensee noted that steam generator tube plugging has reduced the total water and steam volume of the STP, Unit 2 RCS below the range specified in TS 5.4.2. The current TS 5.4.2 specifies the total water and steam volume of the RCS is  $13,814 \pm 100$  cubic feet. The licensee proposed to lower the specified minimum RCS volume to reflect the additional steam generator tube plugging. In the September 4, 1997, letter, the licensee provided information regarding new licensing basis boron dilution analyses which were performed to justify the new proposed minimum RCS volume.

3.0 EVALUATION

In its August 14, 1997, submittal, the licensee proposed to lower the specified minimum RCS volume in STP TS 5.4.2 from 13,714 cubic feet to

13,364 cubic feet to reflect a maximum amount of 10% RCS steam generator tube plugging. The licensee indicated that the only licensing analyses affected by this TS change are those for boron dilution events. The licensee's September 4, 1997, letter provided descriptions of boron dilution event analyses for the various modes of operation from full power to cold shutdown with the RCS not drained. For Modes 1 and 2, in which the reactor is critical and reactor scram functions are available, the analyses indicate that a reactor trip occurs with accompanying alarm, and that, while the response time available is slightly reduced, the operator has more than 30 minutes to take action to terminate the dilution source. This is greater than the 15 minutes specified in the staff's Standard Review Plan (SRP), NUREG-0800 guidance, and is therefore, acceptable.

For other modes in which the reactor is subcritical and the operator is alerted by a high flux alarm, the licensee has indicated that due to excess conservatism in the initial boron concentration for the previous analysis, the 15 minutes available for operator response calculated in the previous analysis continues to apply. The 15 minute time available for operator response is consistent with SRP guidance and is therefore, acceptable.

Although not discussed in the licensee's submittals, for operation in modes with the reactor drained, it is apparent that the effective RCS coolant volume is unchanged by the steam generator plugging assumption, and the boron dilution analyses for these conditions are not affected.

Based on the results of the boron dilution analyses described in the licensee's September 23, 1997, submittal, the staff finds the proposed TS change to lower the specified minimum RCS volume from 13,714 cubic feet to 13,364 cubic feet acceptable.

#### 4.0 STATE CONSULTATION

In accordance with the Commission's regulations, the Texas State official was notified of the proposed issuance of the amendments. The State official had no comments.

#### 5.0 ENVIRONMENTAL CONSIDERATION

The amendments change a requirement with respect to installation or use of a facility component located within the restricted area as defined in 10 CFR Part 20. The NRC staff has determined that the amendments involve no significant increase in the amounts, and no significant change in the types, of any effluents that may be released offsite, and that there is no significant increase in individual or cumulative occupational radiation exposure. The Commission has previously issued a proposed finding that the amendments involve no significant hazards consideration, and there has been no public comment on such finding (62 FR 45278). Accordingly, the amendment meets the eligibility criteria for categorical exclusion set forth in 10 CFR 51.22(c)(9). Pursuant to 10 CFR 51.22(b) no environmental impact statement or environmental assessment need be prepared in connection with the issuance of the amendments.

## 6.0 CONCLUSION

The Commission has concluded, based on the considerations discussed above, that: (1) there is reasonable assurance that the health and safety of the public will not be endangered by operation in the proposed manner, (2) such activities will be conducted in compliance with the Commission's regulations, and (3) the issuance of the amendments will not be inimical to the common defense and security or to the health and safety of the public.

Principal Contributor: Frank Orr

Date: October 20, 1997