

# The Light company

Houston Lighting & Power South Texas Project Electric Generating Station P. O. Box 289 Wadsworth, Texas 77483

May 31, 1995  
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File No.: G09.06  
10CFR50.90  
10CFR50.92

U. S. Nuclear Regulatory Commission  
Attention: Document Control Desk  
Washington, DC 20555

South Texas Project  
Units 1 & 2  
Docket Nos. STN 50-498, STN 50-499  
Unit 1 and Unit 2 Technical Specifications 3/4.1.2.1 to 3/4.1.2.6 and 3/4.4.2.1

Houston Lighting & Power proposes to amend its Operating Licenses NPF-76 and NPF-80 for the South Texas Project, Units 1 and 2, by incorporating the attached proposed changes to the Technical Specifications. The purpose of the proposed amendment is to modify (by relocation) the following Technical Specifications:

3/4.1.2.1	Boration Systems/Flow Paths - Shutdown
3/4.1.2.2	Boration Systems/Flow Paths - Operating
3/4.1.2.3	Charging Pumps - Shutdown
3/4.1.2.4	Charging Pumps - Operating
3/4.1.2.5	Borated Water Sources - Shutdown
3/4.1.2.6	Borated Water Sources - Operating
3/4.4.2.1	Safety Valves - Shutdown

This relocation is being made pursuant to the guidance provided in the Final Policy Statement on Technical Specifications Improvements for Nuclear Power Reactors. The South Texas Project is committed to convert to the Improved Standard Technical Specifications by 1997. Relocation of the above Technical Specifications prior to complete conversion will allow Houston Lighting & Power to revise these specifications pursuant to 10CFR50.59. This will enable resolution of several minor technical issues which impede plant maintenance.

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Project Manager on Behalf of the Participants in the South Texas Project

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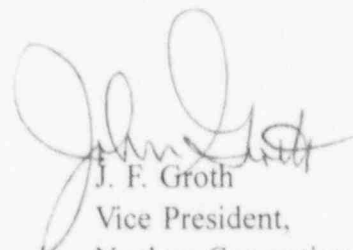
Houston Lighting & Power has reviewed the attached proposed amendment pursuant to 10CFR50.92 and determined that it does not involve a significant hazards consideration. In addition, Houston Lighting & Power has determined that the proposed amendment satisfies the criteria of 10CFR51.22(c)(9) for categorical exclusion from the requirement for an environmental assessment. The South Texas Project Nuclear Safety Review Board has reviewed and approved the proposed changes.

Included with this letter is the required affidavit. A Safety Evaluation and No Significant Hazards Consideration Determination associated with the proposed changes, mark-ups of the affected pages of the Technical Specifications, and the screening evaluation are included as attachments to the letter.

Houston Lighting & Power requests that the effective date of this amendment be 30 days after the date of Nuclear Regulatory Commission approval. Although this request is neither exigent nor an emergency, issuance of this amendment by the Nuclear Regulatory Commission by September 4, 1995, is requested to allow implementation to support the fall refueling outage for Unit 2.

In accordance with 10CFR50.91(b), Houston Lighting & Power is providing the State of Texas with a copy of this proposed amendment.

If you should have any questions concerning this matter, please contact Mr. P. L. Walker at (512) 972-8392 or me at (512) 972-8664.



J. F. Groth  
Vice President,  
Nuclear Generation

PLW/lf

- Attachment:
- 1) Safety Evaluation and No Significant Hazards Consideration Determination
  - 2) Mark-ups of Proposed Changes to Technical Specifications and Associated Bases
  - 3) Technical Specification Screening Evaluation Based on the Final Policy Statement Criteria

c:

Leonard J. Callan  
Regional Administrator, Region IV  
U. S. Nuclear Regulatory Commission  
611 Ryan Plaza Drive, Suite 400  
Arlington, TX 76011-8064

\*Thomas W. Alexion  
Project Manager  
U. S. Nuclear Regulatory Commission  
Washington, DC 20555-0001 13H15

\*David P. Loveless  
Sr. Resident Inspector  
c/o U. S. Nuclear Regulatory Comm.  
P. O. Box 910  
Bay City, TX 77404-0910

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

K. J. Fiedler/M. T. Hardt  
City Public Service  
P. O. Box 1771  
San Antonio, TX 78296

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

G. E. Vaughn/C. A. Johnson  
Central Power and Light Company  
P. O. Box 2121  
Corpus Christi, TX 78403

Rufus S. Scott  
Associate General Counsel  
Houston Lighting & Power Company  
P. O. Box 61067  
Houston, TX 77208

Institute of Nuclear Power  
Operations - Records Center  
700 Galleria Parkway  
Atlanta, GA 30339-5957

Dr. Joseph M. Hendrie  
50 Bellport Lane  
Bellport, NY 11713

Richard A. Ratliff  
Bureau of Radiation Control  
Texas Department of Health  
1100 West 49th Street  
Austin, TX 78756-3189

\*U. S. Nuclear Regulatory Comm.  
Attn: Document Control Desk  
Washington, D. C. 20555-0001

J. R. Egan, Esquire  
Egan & Associates, P.C.  
2300 N Street, N.W.  
Washington, D.C. 20037

\* Above copies distributed without Attachment 2 except as noted by asterisk (\*).

UNITED STATES OF AMERICA  
NUCLEAR REGULATORY COMMISSION

In the Matter of )

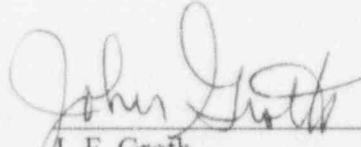
Houston Lighting & Power )  
Company, et al., )

South Texas Project )  
Units 1 and 2 )

Docket Nos. 50-498  
50-499

AFFIDAVIT


I, J. F. Groth being duly sworn, hereby depose and say that I am Vice President, Nuclear Generation of Houston Lighting & Power Company; that I am duly authorized to sign and file with the Nuclear Regulatory Commission the attached proposed changes to Technical Specifications 3/4.1.2.1, 3/4.1.2.2, 3/4.1.2.3, 3/4.1.2.4, 3/4.1.2.5, 3/4.1.2.6, and 3/4.4.2.1; that I am familiar with the content thereof; and that the matters set forth therein are true and correct to the best of my knowledge and belief.

  
\_\_\_\_\_  
J. F. Groth  
Vice President,  
Nuclear Generation

STATE OF TEXAS )

COUNTY OF MATAGORDA )

Subscribed and sworn to before me, a Notary Public in and for the State of Texas, this  
31<sup>st</sup> day of May, 1995.

  
\_\_\_\_\_  
Notary Public in and for  
The State of Texas

ATTACHMENT 1

SAFETY EVALUATION  
AND  
NO SIGNIFICANT HAZARDS  
CONSIDERATION DETERMINATION

**BACKGROUND**

The Nuclear Regulatory Commission published a "Final Policy Statement on Technical Specifications Improvements for Nuclear Power Reactors" in the Federal Register on July 22, 1993. The Policy states, "The purpose of Technical Specifications is to impose those conditions or limitations upon reactor operations necessary to obviate the possibility of an abnormal situation or event giving rise to an immediate threat to the public health and safety by identifying those features that are of controlling importance to safety and establishing on them certain conditions of operation which cannot be changed without prior Commission approval." The Policy provided four Criteria for determining the necessary requirements to be included in the Technical Specifications. Items not meeting the four Criteria were to be relocated from Technical Specifications to a licensee-controlled document (e.g., the Final Safety Analysis Report, the Security Plan, the Quality Assurance Plan, the Fire Protection Plan, or other locations approved by the Nuclear Regulatory Commission).

The four Criteria are:

**Criterion 1**

Installed instrumentation that is used to detect, and indicate in the control room, a significant abnormal degradation of the reactor coolant pressure boundary.

**Discussion**

A basic concept in the adequate protection of the public health and safety is the prevention of accidents. Instrumentation is installed to detect significant abnormal degradation of the reactor coolant pressure boundary so as to allow operator actions to either correct the condition or to shutdown the plant safely, thus reducing the likelihood of a loss-of-coolant accident. This criterion is intended to ensure that Technical Specifications control those instruments specifically installed to detect excessive reactor coolant system leakage.

**Criterion 2**

A process variable, design feature, or operating restriction that is an initial condition of a Design Basis Accident or Transient Analysis that either assumes the failure of or presents a challenge to the integrity of a fission product barrier.

Discussion

A basic concept in the adequate protection of the public health and safety is that the plant will be operated within the bounds of the initial conditions assumed in existing Design Bases Accident and Transient Analyses. These analyses consist of postulated events, analyzed in the Final Safety Analysis report, for which a structure, system, or component must meet specified functional goals. These analyses are contained in chapters 6 and 15 of the Final Safety Analysis report and are identified as Condition II, III or IV events that either assume the failure of or present a challenge to a fission product barrier.

As used in criterion 2, process variables are only those parameters for which specific values or ranges of values have been chosen as reference bounds in the Design Basis Accidents or Transient Analyses and which are monitored and controlled during power operation such that process values remain within the analysis bounds.

The purpose of this criterion is to capture those process variables that have initial values assumed in the Design Basis Accident and Transient Analyses, and which are monitored and controlled during power operations. So long as these variables are maintained within the established values, risk to the public safety is presumed to be acceptably low.

**Criterion 3**

A structure, system, or component that is part of the primary success path and which functions or actuates to mitigate a Design Basis Accident or Transient that either assumes the failure of or presents a challenge to the integrity of a fission product barrier.

Discussion

A third concept in the adequate protection of the public health and safety is that in the event a postulated Design Basis Accident or Transient should occur, structures, systems, and components are available to function or to actuate in order to mitigate the consequences of the Design Basis Accident or Transient. Safety sequence analyses or their equivalent have been performed in recent years and provide a method of presenting the plant response to an accident. These can be used to define the primary success paths.

A safety sequence analysis is a systematic examination of the actions required to mitigate the consequences of events considered in the plant's Design Basis Accident or Transient Analyses, as presented in Chapters 6 and 15 of the plant's Final Safety Analysis Report. Such a safety sequence analysis considers all applicable events, whether explicitly or implicitly presented. The primary success path of a safety sequence analysis consists of the combination and sequences of equipment needed to operate, so that the plant response to Design Basis Accidents and Transients limits the consequences of these events to within the appropriate acceptance criteria.

It is the intent of this criterion to include in Technical Specifications only those structures, systems, and components that are part of the primary success path of a safety sequence analysis. Also captured by this criterion are those support and actuation systems that are necessary for items in the primary success path to successfully function.



**Criterion 4**

A structure, system, or component which operating experience or probabilistic safety assessment has shown to be significant to the public health and safety.

Discussion

It is the intent of this criterion that those requirements that the probabilistic safety assessment or operating experience exposes as significant to public health and safety, consistent with the Commission's Safety Goal and Severe Accident Policies, be retained or included in Technical Specifications.

**PROPOSED CHANGES**

Houston Lighting & Power proposes to modify (by relocation) the following Technical Specifications:

**Chemical and Volume Control System**

- 3/4.1.2.1      Boration Systems/Flow Paths - Shutdown
- 3/4.1.2.2      Boration Systems/Flow Paths - Operating
- 3/4.1.2.3      Charging Pumps - Shutdown
- 3/4.1.2.4      Charging Pumps - Operating
- 3/4.1.2.5      Borated Water Sources - Shutdown
- 3/4.1.2.6      Borated Water Sources - Operating

**Pressurizer Code Safety Valves**

- 3/4.4.2.1      Safety Valves - Shutdown

Markups of the proposed changes to the Technical Specifications and associated Bases are included as Attachment 2 of this request. The document selected to contain these requirements, the Technical Requirements Manual, will meet the requirements in the Final Policy Statement. The Technical Requirements Manual will be considered as a Licensing Basis Document and as such, changes will be controlled in accordance with approved station procedures and the requirements of 10CFR50.59.

The subject Technical Specifications have been reviewed by station personnel against the four criteria of the Final Policy Statement and against WCAP 11618 (WOG Merits Program - Improved Technical Specification Merits Program Phase II Task 5, Criteria Application). This review concluded that the subject Technical Specifications do not meet any of the four criteria and can be relocated to the Technical Requirements Manual.

## **TECHNICAL REQUIREMENTS MANUAL**

Relocation of the subject Technical Specifications to the Technical Requirements Manual is an administrative change in that the subject Technical Specifications and Bases will be relocated in their entirety to the Technical Requirements Manual. Future changes to the relocated requirements will be in accordance with 10CFR50.59 and approved station procedures.

## **SAFETY EVALUATION**

The purpose of Technical Specifications is to impose those conditions or limitations upon reactor operations necessary to preclude the possibility of an abnormal situation or event giving rise to an immediate threat to the public health and safety by identifying those features that are of controlling importance to safety, and establishing on them certain conditions of operations which cannot be changed without prior Commission approval. Technical Specifications 3/4.1.2.1, 3/4.1.2.2, 3/4.1.2.3, 3/4.1.2.4, 3/4.1.2.5, 3/4.1.2.6, and 3/4.4.2.1 were evaluated against the four criteria; based on the following discussion, the Technical Specifications were determined to not meet any of the criteria in the Final Policy Statement for inclusion into the Technical Specifications.

### **Chemical and Volume Control System**

The boration subsystem of the Chemical and Volume Control System is addressed by the following Technical Specifications:

Technical Specification 3/4.1.2.1	Boration Systems/Flow Paths - Shutdown
Technical Specification 3/4.1.2.2	Boration Systems/Flow Paths - Operating
Technical Specification 3/4.1.2.3	Charging Pumps - Shutdown
Technical Specification 3/4.1.2.4	Charging Pumps - Operating
Technical Specification 3/4.1.2.5	Borated Water Sources - Shutdown
Technical Specification 3/4.1.2.6	Borated Water Sources - Operating

The boration subsystem of the Chemical and Volume Control System is designed to maintain and control the chemical neutron absorber (boron) concentration in the Reactor Coolant System to ensure adequate shutdown margin. The current specifications require a source of borated water, one or more flow paths to inject this borated water into the Reactor Coolant System, and a charging pump to provide the necessary charging head.

- The boration subsystem of the Chemical and Volume Control System, including the charging pumps, is not installed instrumentation that is used to detect, and indicate in the control room a significant abnormal degradation of the reactor coolant pressure boundary. Therefore, the boration subsystem of the Chemical and Volume Control System does not meet Criterion 1.

- The boration subsystem of the Chemical and Volume Control System, including the charging pumps, is not a process variable, design feature, or operating restriction that is an initial condition of a Design Basis Accident or Transient Analysis that either assumes the failure of or presents a challenge to the integrity of a fission product barrier. Shutdown Margin is a process variable which is an initial condition of various Design Basis Accidents and Transient Analyses. However, operability of the Chemical and Volume Control System is not. Limitations on Shutdown Margin are established and maintained by other Technical Specifications (e.g., 3/4.1.1) that are not affected by this proposed change. Therefore, the boration subsystem of the Chemical and Volume Control System does not meet Criterion 2.
- The boration subsystem of the Chemical and Volume Control System, including the charging pumps, is not a structure, system, or component that is part of the primary success path and which functions or actuates to mitigate a Design Basis Accident or Transient that either assumes the failure of or presents a challenge to the integrity of a fission product barrier. Control and maintenance of the boron concentration in the Reactor Coolant system by the Chemical and Volume Control System is not a part of the primary success path for mitigation of a Design Basis Accident or Transient. This function is provided either by the Emergency Core Cooling System (for some accidents or transients) or through maintenance of the Shutdown Margin, as established by specifications not affected by the proposed change, which is adequate to provide for the required safety function for other transients and postulated design basis accidents. Therefore, the boration subsystem of the Chemical and Volume Control System does not meet Criterion 3.
- The boration subsystem of the Chemical and Volume Control System, including the charging pumps, is not a structure, system, or component which operating experience or probabilistic safety assessment has shown to be significant to the public health and safety. Boration paths are not modeled in the probabilistic safety assessment of the South Texas Project except for borated water injected via the Refueling Water Storage Tank. Leakage through the Reactor Coolant Pump seals due to loss of seal injection by the charging pumps is included in the probabilistic safety assessment, but the contribution to Core Damage Frequency is not significant. Operating experience is included in the probabilistic safety assessment. Therefore, the boration subsystem of the Chemical and Volume Control System does not meet Criterion 4.

### **Pressurizer Code Safety Valves**

The pressurizer Code safety valves are covered by Technical Specification 3/4.4.2.1.

The pressurizer Code safety valves operate to prevent the Reactor Coolant System from being pressurized above its Safety Limit of 2735 psig. However, in Modes 4 and 5, the Reactor Coolant System is protected against pressure transients by the Overpressure Protection Systems. In Modes 4 and 5, the low temperature overpressure protection requirements ensure that the Reactor Coolant System is protected from pressure transients that could exceed the limits of 10CFR50, Appendix G, "Fracture Toughness Requirements". In addition, limitations are placed on mass addition and flow rates from other plant systems.

- The pressurizer Code safety valves are not installed instrumentation that is used to detect, and indicate in the control room a significant abnormal degradation of the reactor coolant pressure boundary. Therefore, the pressurizer Code safety valves do not meet Criterion 1.
- The pressurizer Code safety valves in Modes 4 and 5 are not a process variable, design feature, or operating restriction that is an initial condition of a Design Bases Accident or Transient Analysis that either assumes the failure of or presents a challenge to the integrity of a fission product barrier. The limitations and restrictions established for the Overpressure Protection Systems provide the design feature in Modes 4 and 5, which the pressurizer Code safety valves provide for operations in Modes 1, 2 and 3. Therefore, the pressurizer Code safety valves do not meet Criterion 2 in Modes 4 and 5.
- The pressurizer Code safety valves in Modes 4 and 5 are not a structure, system, or component that is part of the primary success path and which functions or actuates to mitigate a Design Basis Accident or Transient that either assumes the failure of or presents a challenge to the integrity of a fission product barrier. The limitations and restrictions established for the Overpressure Protection Systems provide the design feature in Modes 4 and 5, which the pressurizer Code safety valves provide for operations in Modes 1, 2 and 3. Therefore, the pressurizer Code safety valves do not meet Criterion 3 in Modes 4 and 5.
- The pressurizer Code safety valves in Modes 4 and 5 are not a structure, system or component which operating experience or probabilistic safety assessment has shown to be significant to the public health or safety. Reviews that have been performed are only applicable to operating modes. The pressurizer Code safety valves do not meet Criterion 4 in Modes 4 and 5.

## **CURRENT LICENSING BASIS**

The subject Technical Specifications were included in the South Texas Project Technical Specifications during initial licensing of the station. This was primarily the result of structuring the South Texas Project Technical Specifications using NUREG-0452 (Standard Technical Specifications) as a model. In recent years, NUREG-1431 (Improved Standard Technical Specifications) has been developed by the Commission and the Industry as a new standard for plant Technical Specifications.

### **Chemical and Volume Control System**

The purpose of the boration subsystem of the Chemical and Volume Control System, as addressed by Technical Specifications 3/4.1.2.1 through 3/4.1.2.6 is to provide for negative reactivity control during each mode of facility operation. As stated in Technical specification 3/4.1.2, Boration Systems: Bases:

- With the Reactor Coolant System average temperature above 350°F, a minimum of two boron injection flow paths are required to ensure single functional capability in the event an assumed failure renders one of the flow paths inoperable. The boration capability of either flow path is sufficient to provide a shutdown margin from expected operating conditions of 1.3%  $\Delta k/k$  after xenon decay and cooldown to 200°F.
- With the Reactor Coolant System temperature below 350°F, one boron injection flow path/source is acceptable without single failure consideration on the basis of the stable reactivity condition of the reactor and the additional restrictions prohibiting core alterations and positive reactivity changes in the event the single boron injection flow path/source becomes inoperable.
- The boration capability required below 200°F is sufficient to provide a variable shutdown margin based on the results of a boron dilution accident analysis where the shutdown margin is varied as a function of Reactor Coolant System boron concentration after xenon decay and cooldown from 200°F to 140°F.
- The Operability of one Boron Injection System during refueling ensures that this system is available for reactivity control while in Mode 6.

However, continued negative reactivity control is ensured through other Technical Specifications not affected by this change.



### **Pressurizer Code Safety Valves**

The purpose of the pressurizer Code safety valves, as addressed by Technical Specification 3/4.4.2.1, Safety Valves - Shutdown, is to ensure that sufficient capability is available to prevent the Reactor Coolant System from being pressurized above its safety limit of 2735 psig. However, in Modes 4 and 5, overpressure protection is provided by the low temperature overpressure protection requirements so that the pressurizer safety valves are not assumed to function to mitigate a design basis accident or transient under those conditions.

The licensing basis for these requirements remains unchanged. Administrative relocation of the subject Technical Specifications and Bases has no impact on the licensing basis.

### **IMPACT OF PROPOSED CHANGE**

The proposed change is an administrative relocation of the listed Technical Specifications to the Technical Requirements Manual. This is in accordance with the criteria published in the "Final Policy Statement on Technical Specifications Improvements for Nuclear Power Reactors" (Federal Register, July 22, 1993). The listed Technical Specifications have been evaluated against the criteria in the Final Policy Statement for inclusion into the Technical Specifications.

### **NO SIGNIFICANT HAZARDS CONSIDERATION DETERMINATION**

Pursuant to 10CFR50.91, this analysis provides a determination that the proposed change to the Technical Specifications described previously does not involve any significant hazards consideration as defined in 10CFR50.92, as described below:

- 1. Does the proposed change involve a significant increase in the probability or consequences of an accident previously evaluated?**

The proposed change to the subject Technical Specifications is of an administrative nature in that the subject Technical Specifications and Bases will be relocated in their entirety to the Technical Requirements Manual. Future changes to the relocated requirements will be in accordance with 10CFR50.59 and approved station procedures. Whether the listed Technical Specifications and Bases are located in Technical Specifications or the Technical Requirements Manual has no effect on the probability or consequences of an accident previously evaluated.

The proposed change does not alter the assumptions previously made in the listed Technical Specifications. The proposed change allows the Commission and the South Texas Project more effective use of personnel resources to control requirements that meet the four Criteria in the Final Policy Statement. The proposed change will not change the dose to workers.

Since the probability of an accident is unaffected by administratively relocating the subject Technical Specification, and the doses are not affected and do not exceed acceptance limits, the proposed change does not involve a significant increase in the probability or consequences of an accident previously evaluated.

**2. Does the proposed change create the possibility of a new or different kind of accident from any accident previously evaluated?**

The proposed change to the subject Technical Specifications is of an administrative nature in that the subject Technical Specifications and Bases will be relocated in their entirety to the Technical Requirements Manual. Future changes to the relocated requirements will be in accordance with 10CFR50.59 and approved station procedures. Whether the listed Technical Specifications and Bases are located in Technical Specifications or the Technical Requirements Manual has no effect on any previously evaluated accident. It does not represent a change in the configuration or operation of the plant and, therefore, does not create the possibility of a new or different type of accident from any accident previously evaluated.

**3. Does the proposed change involve a significant reduction in the margin of safety?**

The proposed change to the subject Technical Specifications is of an administrative nature in that the subject Technical Specifications and Bases will be relocated in their entirety to the Technical Requirements Manual. Future changes to the relocated requirements will be in accordance with 10CFR50.59 and approved station procedures. The margin of safety is not reduced when the requirements are relocated to a Licensee-controlled document because the requirements to change a License Basis Document via the 10CFR50.59 process ensure the same questions concerning the margin of safety required for license amendments are asked. Therefore, this proposed change does not significantly reduce the margin of safety .

### **IMPLEMENTATION PLAN**

Houston Lighting & Power Company requests an implementation time of 30 days from the effective date of the approved license amendment to facilitate distribution and to make appropriate changes to plant documents.