

The Light company

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

September 28, 1992

ST-HL-AE-4222

File No.: G20.02.01
G21.02.01

10CFR50.90

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

South Texas Project
Units 1 and 2
Docket Nos. STN 50-498, STN 50-499
Proposed Amendment to the Units 1 and 2
Technical Specification 3.1.1.1

Pursuant to 10CFR50.90, Houston Lighting & Power (HL&P) hereby proposes to amend its Operating License: NPF-76 and NPF-80 for the South Texas Project (STP), Units 1 and 2, by incorporating the attached proposed change to the Technical Specifications. The proposed change removes the variable shutdown margin requirements for Modes 1 and 2 in Technical Specification Section 3.1.1.1. The presence of the variable shutdown margin requirements for Modes 1 and 2 places an unnecessary restriction on the design of the reactor core at beginning-of-life conditions. A change is also required to the surveillance Specification 4.1.1.1.2. This change reflects the fact that a reactivity balance can only be performed when the reactor is critical.

HL&P has reviewed the attached proposed amendment pursuant to 10CFR50.92 and determined that it does not involve a significant hazards consideration. Additionally, pursuant to 10CFR51 and based on information contained in this submittal and in the Final Environmental Statement Related to the Operation of South Texas Project, Units 1 and 2, HL&P has concluded that the proposed amendment poses no significant radiological or non-radiological impacts, and will not have a significant impact on environmental quality.

This proposed change is needed for the Cycle 4 core of Unit 2. It has been submitted at this time in order to support fuel load during the upcoming Unit 2 refueling outage. Approval of this change is requested by March 1, 1993, in order to support the Unit 2 refueling outage. Upon approval of the proposed change by the staff, HL&P requests a 15 day implementation period following the date of issuance of the license amendment. This will allow adequate time for reproduction and distribution of the change.

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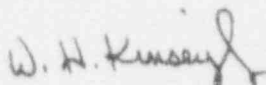
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The STP Nuclear Safety Review Board has reviewed and approved the proposed changes.

In accordance with 10CFR50.91(b), HL&P 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. A. W. Harrison at (512) 972-7298 or me at (512) 972-7921.



W. H. Kinsey, Jr.
Vice President,
Nuclear Generation

VJM/ag

- Attachments:
1. Safety Evaluation for the Proposed Revision to the Shutdown Margin
 2. No Significant Hazards Evaluation for the Proposed Revision to the Shutdown Margin
 3. Marked-up Current South Texas Project Technical Specifications Reflecting Proposed Changes to the Shutdown Margin Technical Specification

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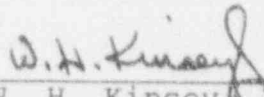
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UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

In the Matter)
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Houston Lighting & Power) Docket Nos. 50-498
Company, et al.,) 50-499
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South Texas Project)
Units 1 and 2)

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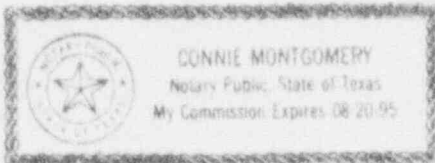
W. H. Kirsey, Jr. being duly sworn, hereby deposes and says that he is Vice President, Nuclear Generation, of Houston Lighting & Power Company; that he is duly authorized to sign and file with the Nuclear Regulatory Commission the attached proposed changes to the South Texas Project Electric Generating Station Technical Specification 3.1.1.1; is familiar with the content thereof; and that the matters set forth therein are true and correct to the best of his knowledge and belief.

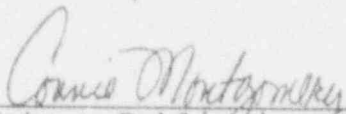


W. H. Kirsey, Jr.
Vice President,
Nuclear Generation

STATE OF TEXAS)
)
)

Subscribed and sworn to before me, a Notary Public in and for The State of Texas this 20th day of September, 1992.





Notary Public in and for the
State of Texas

ATTACHMENT 1

Safety Evaluation
for the
Proposed Revision to the Shutdown Margin

Safety Evaluation
for the
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Safety Evaluation
for the
Proposed Revision to the Shutdown Margin

1.0 Summary

Two licensing changes are proposed to the South Texas Project Technical Specifications. The first change is to replace the variable shutdown margin requirements for Modes 1 and 2 with a constant value. The intent of the variable shutdown margin is to prevent loss of shutdown margin during a boron dilution accident in Modes 3 and 4. The shutdown margin requirement for Modes 1 and 2 should be a constant value of 1.75% $\Delta\rho$. This submittal does not propose a change to the licensing basis for the shutdown margin for Modes 1 and 2.

The second change clarifies when an overall reactivity balance is to be performed to confirm core design predictions, and hence validate shutdown margin.

The effects of the proposed changes do not pose a significant increase in hazards.

2.0 Purpose

The first proposed change replaces the variable shutdown margin requirements for Modes 1 and 2 with a constant value. The shutdown margin requirement for Modes 1 and 2 should not have been included in Figure 3.1-1. The presence of the variable shutdown margin requirements for Modes 1 and 2 places an unnecessary restriction on the design of the reactor core at beginning-of-life conditions.

A change is also requested to Surveillance Specification 4.1.1.1.2. This change reflects the fact that a measured reactivity balance can only be performed when the reactor is critical.

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3.0 Description of Change

The proposed change to the shutdown margin specification constitutes a correction in the manner in which the shutdown margin for Modes 1 and 2 is presented in Technical Specification 3.1.1.1. The variable shutdown margin for Modes 1 and 2 is to be replaced by a constant value of 1.75% $\Delta\rho$. The shutdown margin for Modes 3 and 4 remains unchanged.

Since a measured reactivity balance can only be performed when the reactor is critical, a statement is added to Specification 4.1.1.1.2 which states that the provisions of Specification 4.0.4 are not applicable.

The proposed changes modify Figure 3.1-1 of Technical Specification 3.1.1.1 and add a sentence to Specification 4.1.1.1.2. These changes are shown on the marked-up Technical Specification section in Attachment 3.

4.0 Safety Evaluation

The purpose of this section is to discuss the impact of the proposed change on the design and licensing basis of the plant.

As described in the BASIS for Specification 3.1.1.1, the most restrictive condition in Modes 1 and 2 occurs at end-of-life (EOL), with T_{avg} at no load operating temperature, and is associated with a postulated steam line break accident and resulting reactor coolant system (RCS) cooldown. For STP, a minimum shutdown margin of 1.75% $\Delta\rho$ is required to control the reactivity transient.

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For Modes 3 and 4, the most restrictive condition occurs at beginning-of-life (BOL) when the boron concentration is greatest. In these modes, the required shutdown margin is composed of a constant requirement and a variable requirement, which is a function of the RCS boron concentration. The constant shutdown margin requirement of $1.75\% \Delta\rho$ is based on an uncontrolled RCS cooldown from a steamline break accident. The variable shutdown margin requirement is based on results of a boron dilution accident analysis, where the shutdown margin is varied as a function of RCS boron concentration, to guarantee a minimum time for operator action after a boron dilution alarm.

Therefore, based on the above, the shutdown margin requirements for MODES 1 and 2 are separable from those for Modes 3 and 4.

Additionally, Technical Specifications 3.1.3.1 (control rod operability and alignment), 3.1.3.5 (shutdown rod insertion limits), and 3.1.3.6 (control rod insertion limits) establish conditions which restrain shutdown margin to within safety analysis assumptions for Modes 1 and 2. The conditions are in terms which pertain to routine reactor operation (control rod alignment and insertion limits). These Specifications also define specific surveillance requirements and specific means to accomplish the surveillance. If a shutdown margin verification is required, that action is specified in these Specifications. Specifications 3.1.3.1, 3.1.3.5, and 3.1.3.6 are, in essence, an expansion of Specification 3.1.1.1, specifically for Modes 1 and 2.

The proposed change does not constitute a change to the design basis of the plant since the design limit for Modes 1 and 2 remains at $1.75\% \Delta\rho$.

Specification 4.0.4 states that "entry into an Operational Mode ... shall not be made unless the Surveillance Requirement(s) associated with the Limiting Condition for Operation has been performed within the stated surveillance interval or as otherwise specified." As Surveillance Specification 4.1.1.1.2 is currently written,

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Specification 4.0.4 would require that a core reactivity balance be performed for all Operational Mode evolutions for which Specification 3.1.1.1 is applicable. However, since the reactor must be in a critical condition for a core reactivity balance to be performed, it is not possible to perform the surveillance for all evolutions. Therefore, Surveillance Specification 4.1.1.1.2 is modified to be exempted from the requirements of Specification 4.0.4.

The proposed change in the surveillance requirement does not affect the accuracy of the parameters used in the shutdown margin calculation performed for Specification 3.1.1.1.

The proposed changes do not constitute a change to the design basis of the plant.

5.0 Conclusion

The proposed changes to the Technical Specifications, as described above, are acceptable because the proposed changes to shutdown margin for Modes 1 and 2 do not pose a significant increase in hazard or involve a significant reduction in a margin of safety. HL&P requests approval of the proposed changes.

ATTACHMENT 2

No Significant Hazards Evaluation
for the
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No Significant Hazards Evaluation
for the
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Pursuant to 10CFR50.91, this analysis provides a determination that the proposed change to the Technical Specifications does not involve significant hazards considerations as defined in 10CFR50.92.

- (1) The proposed change does not involve a significant increase in the probability or consequences of an accident previously evaluated.

The proposed change constitutes a correction in the manner in which the shutdown margin for Modes 1 and 2 is presented in the Technical Specifications. The design basis for the shutdown margin in Modes 1 and 2 is unchanged.

The proposed change in the surveillance requirement does not affect the accuracy of the parameters used in the shutdown margin calculation performed for Specification 3.1.1.1.

Therefore, the changes do not involve a significant increase in the probability or consequences of an accident previously evaluated.

- (2) The proposed change does not create the possibility of a new or different kind of accident from any accident previously evaluated.

The design basis for the shutdown margin in Modes 1 and 2 is unchanged. The proposed change in the surveillance requirement does not affect the accuracy of the parameters used in the shutdown margin calculation performed for Specification 3.1.1.1.

The proposed changes do not create the possibility of a new or different kind of accident from any accident previously evaluated.

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- (3) The proposed change does not involve a significant reduction in a margin of safety.

The design basis for the shutdown margin in Modes 1 and 2 is unchanged. The shutdown margin requirement for Modes 1 and 2 remains at 1.75% $\Delta\rho$, as described in the Technical Specification BASIS and in the design basis. The proposed change in the surveillance requirement does not affect the accuracy of the parameters used in the shutdown margin calculation performed for Specification 3.1.1.1.

Therefore, the proposed changes do not involve a significant reduction in a margin of safety.

The proposed changes to the Technical Specifications are acceptable because the proposed changes to shutdown margin for Modes 1 and 2 do not pose a significant increase in hazard or involve a significant reduction in a margin of safety. HL&P requests approval of the proposed changes.