

Docket Nos. 50-498  
and 50-499

June 22, 1990

Mr. Donald P. Hall  
Group Vice-President, Nuclear  
Houston Lighting & Power Company  
P. O. Box 1700  
Houston, Texas 77251

Dear Mr. Hall:

SUBJECT: ISSUANCE OF AMENDMENT NOS. 17 AND 7 TO FACILITY OPERATING  
LICENSE NOS. NPF-76 AND NPF-80 - SOUTH TEXAS PROJECT, UNITS 1  
AND 2 (TAC NOS. 75522 AND 75521)

The Commission has issued the enclosed Amendment Nos. 17 and 7 to Facility  
Operating License Nos. NPF-76 and NPF-80 for the South Texas Project, Units 1  
and 2. The amendments consist of changes to the Technical Specifications (TSs)  
in response to your application dated October 25, 1989 (ST-HL-AE-3078).

The amendments change the Appendix A Technical Specifications by defining the  
surveillance intervals in Notes 3 and 6 of Table 4.3-1 in terms of effective  
full power days rather than calendar days.

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

Sincerely,  
Original Signed By  
George F. Dick, Jr., Project Manager  
Project Directorate IV-2  
Division of Reactor Projects - III,  
IV, V and Special Projects  
Office of Nuclear Reactor Regulation

Enclosures:

- 1. Amendment No. 17 to NPF-76
- 2. Amendment No. 7 to NPF-80
- 3. Safety Evaluation

cc w/enclosures:

See next page  
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Docket File	NRC PDR	Local PDR	PDIV-2 Reading
G. Holahan	CGrimes	E. Peyton (2)	J. Wiebe, RIV
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G. Hill (8)	Wanda Jones	J. Calvo	PD4-2 Plant File
ACRS (10)	GPA/PA	ARM/LFMB	R. Jones, SRXB

\*For previous concurrences see attached ORC

FC : PD4/LA*	: PD4/PM*	: SRXB*	: OGC*	: PD4/D	:	:
AME : PNoonan	: GDick:bj	: RJones	: RBachmann	: CGrimes	:	:
ATE : 05/17/90	: 05/22/90	: 05/23/90	: 05/31/90	: 06/20/90	:	:

*CP-1*  
*QF01*  
*11/11*

cc w/enclosures:

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

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. 17  
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 October 25, 1989, 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.

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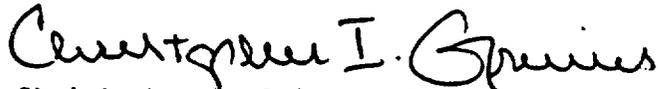
2. Accordingly, the license is amended by changes to the Technical Specifications as indicated in the attachment to this license amendment and Paragraph 2.C.(2) of Facility Operating License No. NPF-76 is hereby amended to read as follows:

2. Technical Specifications

The Technical Specifications contained in Appendix A, as revised through Amendment No. 17, 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



Christopher I. Grimes, Director  
Project Directorate IV-2  
Division of Reactor Projects - III,  
IV, V and Special Projects  
Office of Nuclear Reactor Regulation

Attachment:  
Changes to the Technical  
Specifications

Date of Issuance: June 22, 1990



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

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. 7  
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 October 25, 1989, 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.

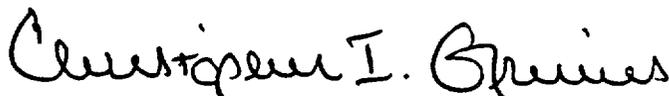
2. Accordingly, the license is amended by changes to the Technical Specifications as indicated in the attachment to this license amendment and Paragraph 2.C.(2) of Facility Operating License No. NPF-80 is hereby amended to read as follows:

2. Technical Specifications

The Technical Specifications contained in Appendix A, as revised through Amendment No. 7, 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



Christopher I. Grimes, Director  
Project Directorate IV-2  
Division of Reactor Projects - III,  
IV, V and Special Projects  
Office of Nuclear Reactor Regulation

Attachment:  
Changes to the Technical  
Specifications

Date of Issuance: June 22, 1990

ATTACHMENT TO LICENSE AMENDMENT NOS. 17 AND 7

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 contains vertical lines indicating the areas of change. The corresponding overleaf page is also provided to maintain document completeness.

Remove

3/4 3-14

Insert

3/4 3-14

SOUTH TEXAS - UNITS 1 &amp; 2

3/4 3-13

TABLE 4.3-1 (Continued)

REACTOR TRIP SYSTEM INSTRUMENTATION SURVEILLANCE REQUIREMENTS

<u>FUNCTIONAL UNIT</u>	<u>CHANNEL CHECK</u>	<u>CHANNEL CALIBRATION</u>	<u>ANALOG CHANNEL OPERATIONAL TEST</u>	<u>TRIP ACTUATING DEVICE OPERATIONAL TEST</u>	<u>ACTUATION LOGIC TEST</u>	<u>MODES FOR WHICH SURVEILLANCE IS REQUIRED</u>
19. Reactor Trip System Interlocks						
a. Intermediate Range Neutron Flux, P-6	N.A.	R(4)	R	N.A.	N.A.	2**
b. Low Power Reactor Trips Block, P-7	N.A.	R(4)	R	N.A.	N.A.	1
c. Power Range Neutron Flux, P-8	N.A.	R(4)	R	N.A.	N.A.	1
d. Power Range Neutron Flux, P-9	N.A.	R(4)	R	N.A.	N.A.	1
e. Power Range Neutron Flux, P-10	N.A.	R(4)	R	N.A.	N.A.	1, 2
f. Turbine Impulse Chamber Pressure, P-13	N.A.	R	R	N.A.	N.A.	1
20. Reactor Trip Breaker	N.A.	N.A.	N.A.	M(7, 11)	N.A.	1, 2, 3*, 4*, 5*
21. Automatic Trip and Interlock Logic	N.A.	N.A.	N.A.	N.A.	M(7)	1, 2, 3*, 4*, 5*
22. Reactor Trip Bypass Breaker	N.A.	N.A.	N.A.	M(15),R(16)	N.A.	1, 2, 3*, 4*, 5*

TABLE 4.3-1 (Continued)

TABLE NOTATIONS

\*When the Reactor Trip System breakers are closed and the Control Rod Drive System is capable of rod withdrawal.

\*\*Below P-6 (Intermediate Range Neutron Flux Interlock) Setpoint.

\*\*\*Below P-10 (Low Setpoint Power Range Neutron Flux Interlock) Setpoint.

- (1) If not performed in previous 31 days.
- (2) Comparison of calorimetric to excore power indication above 15% of RATED THERMAL POWER. Adjust excore channel gains consistent with calorimetric power if absolute difference is greater than 2%. The provisions of Specification 4.0.4 are not applicable to entry into MODE 2 or 1.
- (3) Single point comparison of incore to excore AXIAL FLUX DIFFERENCE above 15% of RATED THERMAL POWER. Recalibrate if the absolute difference is greater than or equal to 3%. The provisions of Specification 4.0.4 are not applicable for entry into MODE 2 or 1. For the purpose of this surveillance requirement, monthly shall mean at least once per 31 EFPD.
- (4) Neutron detectors may be excluded from CHANNEL CALIBRATION.
- (5) Detector plateau curves shall be obtained and evaluated. If a low noise preamplifier is used with the Source Range Detector, no plateau curve is obtained. Instead, with the high voltage setting varied as recommended by the manufacturer, an initial discriminator bias curve shall be measured for each detector. Subsequent discriminator bias curves shall be obtained, evaluated and compared to the initial curves. For the Intermediate Range and Power Range Neutron Flux channels the provisions of Specification 4.0.4 are not applicable for entry into MODE 2 or 1.
- (6) Incore - Excore Calibration, above 75% of RATED THERMAL POWER. The provisions of Specification 4.0.4 are not applicable for entry into MODE 2 or 1. For the purpose of this surveillance requirement, quarterly shall mean at least once per 92 EFPD.
- (7) Each train shall be tested at least every 62 days on a STAGGERED TEST BASIS.
- (8) (Not Used)
- (9) Quarterly surveillance in MODES 3\*, 4\*, and 5\* shall also include verification that permissives P-6 and P-10 are in their required state for existing plant conditions by observation of the permissive annunciator window.



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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

RELATED TO AMENDMENT NOS. 17 AND 7 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 October 25, 1989 (ST-HL-AE-3078), Houston Lighting & Power Company, et al., (the licensee) requested changes to the Technical Specifications (Appendix A to Facility Operating License Nos. NPF-76 and NPF-80) for the South Texas Project, Units 1 and 2. The proposed changes would change Notes 3 and 6 of Table 4.3-1 (Reactor Trip System Instrumentation Surveillance Requirements) as they apply to Functional Unit 2a, High Setpoint. The surveillance intervals, monthly and quarterly, would be defined in terms of effective full power days (EFPD) rather than calendar days.

2.0 DISCUSSION

Table 4.3-1, Functional Unit 2a, High Setpoint requires various channel calibrations daily, monthly, quarterly, and once per 18 months. Note 3, which addresses the monthly surveillance, requires a single point comparison of incore to excore axial flux difference when the unit is above 15% of rated thermal power. The licensee has been interpreting the note to mean that a single point comparison is required after every 31 calendar days of operation above 15% power. If the unit goes below 15% during a 31 day surveillance interval, the period is not counted as part of the 31 days.

Note 6, which addresses the quarterly surveillance has been interpreted to mean that after every 92 calendar days of operation above 75%, a calibration is required. If the unit goes below 75% during a surveillance interval, this period of time is not counted in the 92 day period. The licensee has proposed using EFPD in both Notes 3 and 6 rather than calendar days.

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### 3.0 EVALUATION

The purpose of the incore/excore comparisons is to assure that the excore detectors are accurately representing the flux of the core during its lifetime because, among other functions, they provide input to reactor trip instruments. The excore detectors are in a fixed location on the outside of the core. The quantity of neutrons detected by the excore detectors is proportional to reactor power and will change as the flux profile changes, which in turn changes with core burnup. Since the excore detectors are in fixed positions, the output will change with the flux profile. That determines the need for the comparisons with the incore detectors. However, because changes in the flux profile depend on core burnup, EFPDs are more representative of burning than are calendar days.

The Power Range High Neutron Flux Reactor Trip (High Setting) is actuated when two out of four power range channels indicate a power level above a preset setpoint. The Power Range High Neutron Flux Reactor Trip is actuated by the output of the excore detectors. The setpoint on the Power Range High Neutron Flux Reactor Trip (High Setting) was not changed with this proposal. The change in the single point comparison and calibration will allow these surveillances to be performed on a basis that it is representative of core burnup and flux distribution.

The ion chambers (excore detectors) that provide input to the Power Range High Neutron Flux Trip (high setpoint) also provide input to the Power Range High Positive Neutron Flux Rate Trip and the Power Range High Negative Neutron Flux Rate Trip. These trips are not affected by the proposed change because they trip on rate of signal increase or decrease. The rate of signal change is not affected because the single point comparison and calibration surveillances do not change the rate of signal change setpoints.

The Overtemperature and Overpower delta T trips have inputs from the excore ion chambers. These inputs use the difference between top and bottom detector of the power range ion chambers. The trip setpoints for the Overtemperature and Overpower delta T trips are not changed.

As with any instrument loop, the excore neutron detectors do experience instrument drift. However, the effect of the flux profile change is much greater than the effect of instrument drift. Instrument loops affected by drift are routinely calibrated on a 18 month frequency. In the case of the excore neutron detectors, the calibration frequency is chosen to account for the flux profile change. While it is possible that operation at low power levels for a long period of time would allow the single point comparison and calibration to be performed infrequently, Technical Specification 4.3-1, Functional Unit 2a, requires a comparison of calorimetric to excore power indication above 15% rated thermal power which would correct or account for most of the effects of drift.

#### 4.0 SUMMARY

The staff has reviewed the proposed changes and concluded that because the surveillance and incore/excore comparisons are required because of fuel burnup, surveillance intervals based on EFPDs are acceptable. Further, the setpoints for the various trips are not affected by the proposed changes.

#### 5.0 ENVIRONMENTAL CONSIDERATION

The amendments involve a change in a requirement with respect to the installation or use of a facility component located within the restricted area as defined in 10 CFR Part 20 and changes in surveillance requirements. The 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 exposures. 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. Accordingly, the amendments meet the eligibility criteria for categorical exclusion set forth in 10 CFR Section 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

Based upon its evaluation of the proposed changes to the South Texas Project, Units 1 and 2, Technical Specifications, the staff has concluded that: (1) there is reasonable assurance that the health and safety of the public will not be endangered by operation in the proposed manner, and (2) such activities will be conducted in compliance with the Commission's regulations and the issuance of the amendments will not be inimical to the common defense and security or to the health and safety of the public. The staff, therefore, concludes that the proposed changes are acceptable.

Date: June 22, 1990

Principal Contributor: G. Dick