February 21, 1996

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. 81 AND 70 TO FACILITY OPERATING LICENSE NOS. NPF-76 AND NPF-80 (TAC NOS. M92431 AND M92432)

Dear Mr. Cottle:

The Commission has issued the enclosed Amendment Nos. 81 and 70 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 (TSs) in response to your application dated May 22, 1995, as supplemented by letter dated October 9, 1995.

The amendments revise TS 4.8.1.1.2.e.7 to allow the performance of the 24-hour surveillance test of the diesel generators during power operation.

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,
ORIGINAL SIGNED BY:
Thomas W. Alexion, 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. 81 to NPF-76
2. Amendment No. 70 to NPF-80
3. Safety Evaluation

cc w/encls: See next page

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Document Name: STP92431.AMD **SEE PREVIOUS CONCURRENCE W/COMMENTS***

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DATE	1/30/96	1/30/96	1/23/96	1/30/96	2/12/96
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TWA signed on 2/21/96

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

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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. 81
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 May 22, 1995, as supplemented by letter dated October 9, 1995, 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. 81 , 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 to be implemented within 30 days of issuance.

FOR THE NUCLEAR REGULATORY COMMISSION

Thomas W. Alexion

Thomas W. Alexion, 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: February 21, 1996

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. 70
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 May 22, 1995, as supplemented by letter dated October 9, 1995, 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. 70 , 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 to be implemented within 30 days of issuance.

FOR THE NUCLEAR REGULATORY COMMISSION

Thomas W. Alexion

Thomas W. Alexion, 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: February 21, 1996

ATTACHMENT TO LICENSE AMENDMENT NOS. 81 AND 70

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

DOCKET NOS. 50-498 AND 50-499

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

REMOVE	INSERT
3/4 8-5	3/4 8-5
3/4 8-8	3/4 8-8

SURVEILLANCE REQUIREMENTS (Continued)

is loaded with the ESF loads. After energization, the steady-state voltage and frequency of the ESF busses shall be maintained at 4160 ± 416 volts and 60 ± 1.2 Hz during this test; and

c) Verifying that all automatic diesel generator trips, except engine overspeed, generator differential, and low lube oil pressure are automatically bypassed upon loss of voltage on the ESF bus concurrent with a Safety Injection Actuation signal.

7)[10] Verifying the standby diesel generator operates for at least 24 hours. During the first 2 hours of this test, the diesel generator shall be loaded to 5700 to 6050 kW[4][5][6] and during the remaining 22 hours of this test, the diesel generator shall be loaded to 5000 to 5500 kW.[6] The steady-state generator voltage and frequency shall be 4160 ± 416 volts and 60 ± 1.2 Hz during this test. Within 5 minutes after completing this 24-hour test, perform a fast start per Specification 4.8.1.1.2a.2[7]; I

8) Verifying that the auto-connected loads to each standby diesel generator do not exceed the 2000-hour rating of 5935 kW;

9) Verifying the standby diesel generator's capability to:

a) Synchronize with the offsite power source while the generator is loaded with its ESF loads upon a simulated restoration of offsite power,

b) Transfer its loads to the offsite power source, and

c) Be restored to its standby status.

10) Verifying that with the standby diesel generator operating in a test mode, connected to its bus, a simulated Safety Injection signal overrides the test mode by: (1) returning the diesel generator to standby operation, and (2) automatically energizing the ESF loads with offsite power;[5]

11) Verifying that the automatic load sequence timer is OPERABLE with the first sequenced load verified to be loaded between 1.0 second and 1.6 seconds, and all other load blocks within ±10% of its design interval;

12) Verifying that the standby diesel generator emergency stop lockout feature prevents diesel generator starting; and

SURVEILLANCE REQUIREMENTS (Continued)

13) Demonstrating the OPERABILITY of the automatic load shed bypass and the manual load shed reinstatement features of the load sequencer.

f. At least once per 10 years or after any modifications which could affect standby diesel generator interdependence by starting all standby diesel generators simultaneously, during shutdown, and verifying that all standby diesel generators accelerate to at least 600 rpm in less than or equal to 10 seconds; and

g. At least once per 10 years by:

1) Draining each fuel tank, removing the accumulated sediment and cleaning the tank using a sodium hypochlorite solution, or equivalent, and

2) Performing a pressure test of those portions of the diesel fuel oil system designed to Section III, subsection ND of the ASME Code at a test pressure equal to 110% of the system design pressure.

4.8.1.1.3 Reports - All standby diesel generator failures, valid or nonvalid, shall be reported to the Commission in a Special Report pursuant to Specification 6.9.2 within 30 days. Reports of standby diesel generator failures shall include the information recommended in Regulatory Position C.3.b of Regulatory Guide 1.108, Revision 1, August 1977. If the number of failures in the last 100 valid tests (on a per nuclear unit basis) is greater than or equal to 7, the report shall be supplemented to include the additional information recommended in Regulatory Position C.3.b of Regulatory Guide 1.108, Revision 1, August 1977.

Table 4.8-1

DIESEL GENERATOR TEST SCHEDULE

NUMBER OF FAILURES IN LAST 20 VALID TESTS[8]	NUMBER OF FAILURES IN LAST 100 VALID TESTS[8]	TEST FREQUENCY
≤ 1	≤ 4	Once per 31 days
≥ 2[9]	≥ 5	Once per 7 days

SPECIFICATION NOTATIONS

(1) Loss of one 13.8 kV Standby Bus to 4.16 kV ESF bus line constitutes loss of one offsite source. Loss of two 13.8 kV Standby busses to 4.16 kV ESF bus lines constitutes loss of two offsite sources.

(2) All diesel generator starts for the purpose of these surveillances may be preceded by a prelube period.

(3) A diesel generator start in less than or equal to 10 seconds (fast start) shall be performed every 184 days. All other diesel generator starts for the purpose of this surveillance may be modified starts involving reduced fuel (load limit) and/or idling and gradual acceleration to synchronous speed.

(4) Generator loading may be accomplished in accordance with vendor recommendations, including a warmup period prior to loading.

(5) The diesel generator start for this surveillance may be a modified start (see SR 4.8.1.1.2a.2)).

(6) Momentary transients outside this load range due to changing conditions on the grid shall not invalidate the test.

(7) If Specification 4.8.1.1.2a.2) is not satisfactorily completed, it is not necessary to repeat the preceding 24-hour test. Instead, the standby diesel generator may be operated at 5000-5500 kW for a minimum of 2 hours or until operating temperature has stabilized.

(8) Criteria for determining number of failures and number of valid tests shall be in accordance with Regulatory Position C.2.e of Regulatory Guide 1.108, but determined on a per diesel generator basis.

For the purpose of determining the required test frequency, the previous test failure count may be reduced to zero if a complete diesel overhaul to like-new condition is completed, provided that the overhaul, including appropriate post-maintenance operation and testing, is specifically approved by the manufacturer and if acceptable reliability has been demonstrated. The reliability criterion shall be the successful completion of 14 consecutive tests in a single series. Ten of these tests shall be in accordance with the routine Surveillance Requirements

4.8.1.1.2a.2 and 4.8.1.1.2a.3 and four tests in accordance with the 184-day testing requirement of Surveillance Requirements 4.8.1.1.2a.2 and 4.8.1.1.2a.3. If this criterion is not satisfied during the first series of tests, any alternate criterion to be used to transvalue the failure count to zero requires NRC approval.

(9) The associated test frequency shall be maintained until seven consecutive failure free demands have been performed and the number of failures in the last 20 valid demands has been reduced to one.

(10) This test may be performed during power operation provided that the other two diesel generators are operable.

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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

RELATED TO AMENDMENT NOS. 81 AND 70 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 May 22, 1995, as supplemented by letter dated October 9, 1995, Houston Lighting & Power Company, et.al., (the licensee) requested changes to the Technical Specifications (TSs) (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 revise TS 4.8.1.1.2.e.7 to allow the performance of the 24-hour surveillance test of the diesel generators during power operation.

The October 9, 1995, supplement provided clarifying information and did not change the initial no significant hazards consideration determination.

2.0 BACKGROUND

The standby diesel generator (SDG) system for STP consists of three identical 5500 kW SDGs with associated controls and support systems. Each SDG unit is completely separate and independent from the others, including its power sources for controls and support systems. Each unit provides 4.16 kV power to its respective Class 1E switchgear bus. During a loss-of-offsite power (LOOP), each SDG automatically starts and energizes its associated 4.16 kV bus. In the case of unavailability of any one SDG, the remaining two SDGs are capable of feeding the loads necessary for safe shutdown of the plant in the event of a design-basis accident (DBA) or LOOP.

3.0 EVALUATION

The licensee is proposing to perform the SDG 24-hour endurance test during any mode of operation. TS 4.8.1.1.2.e.7 currently requires that a 24-hour SDG endurance test be performed once every 18 months during shutdown conditions.

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The proposed change will provide flexibility in scheduling surveillance testing activities.

The staff has always expressed concern regarding performance of the 24-hour SDG endurance test with a unit at power. When an SDG is operated in parallel with offsite power, the emergency power system is not independent of disturbances on offsite power systems that can adversely affect emergency power availability. In this condition, a disturbance in the non-emergency power system could result in both a LOOP and disabling of the emergency power source.

If a fault develops while the SDG is connected to non-emergency buses, SDG availability for subsequent emergency demands may be affected. In some design configurations, the SDG would trip as a result of overcurrent or reverse power, actuate a lockout device, and require local operator action to reset the lockout. In such cases, the SDG is recoverable, but the timeliness of its availability is not comparable to that of having the SDG in its normal standby service.

The design of SDGs at STP incorporates features that enable an SDG to automatically switch from the test mode to the emergency mode. As such, if an SDG is running in the test mode and an emergency demand SDG start signal is received, the SDG controls will automatically trip the SDG output breaker, thus disconnecting it from the offsite power system, and return the SDG to standby condition. This function is tested once per refueling cycle in accordance with TS 4.8.1.1.2.e.10. If offsite power is unavailable, the SDG will be ready to supply the emergency loads within the required time. In addition, the STP design provides the following features:

1. During surveillance tests, no more than one SDG is operated in parallel with the offsite power grid, and the remaining safety buses are aligned to the alternate offsite power source (the licensee will make procedure changes to align the redundant safety buses to a separate auxiliary or standby transformer). In this configuration, only one SDG is susceptible to perturbations in the offsite power grid. In this scenario alone, or coincident with a DBA, a shutdown can be achieved with any two of the three SDGs.

2. If a fault develops while the SDG is in the test mode and the SDG output circuit breaker does not trip, then that safety bus will not respond to a LOOP condition since this bus has not experienced a LOOP. However, the remaining two safety buses will respond if a LOOP condition exists.

3. In the event of a LOOP to the bus while the SDG is in the test mode, the ESF transformer directional overcurrent relay will trip the SDG output circuit breaker. This protection scheme functions to trip the SDG output circuit breaker upon detection of an overcurrent but allows the SDG to continue running. When the bus undervoltage relays detect the loss of voltage, they will trip the offsite source feeder breaker to the bus and

initiate SDG load sequencing. Thus, the timely availability of the SDG is not compromised even in this situation.

In addition to the above, the licensee will not perform planned maintenance on required components of the other redundant trains or the auxiliary feedwater system while the 24-hour SDG run is underway, to provide assurance that cross-train components are available in the unlikely case of an event while the SDG is running. Also, the procedure for testing the SDG will include a requirement to assess the potential for unstable grid conditions, including local severe weather conditions.

Based on the above, the staff finds that although performance of the 24-hour endurance test during power operation is contrary to the Standard Technical Specifications, the performance of this test during power operation is acceptable because of the unique SDG design features provided at STP. This conclusion is based on: 1) inclusion of an emergency override of the test mode to permit response to bona fide safety injection signals while the test SDG is paralleled with the offsite power source; 2) alignment of the remaining safety buses to a separate auxiliary or standby transformer, when one SDG is paralleled with the one offsite source for testing, so that a perturbation in offsite power affects only one SDG; 3) the excess capacity provided by three SDGs is such that any two out of three SDGs can supply adequate power to mitigate the consequences of a DBA; and 4) the SDGs will not be paralleled to the offsite systems during severe weather or unstable grid conditions. Therefore, the proposed amendment to add a footnote that would permit the 24-hour test of the SDG during power operation is 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 and change surveillance requirements. 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 (60 FR 37091). 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: O. Chopra

Date: February 21, 1996