

June 8, 1992

Docket Nos. 50-498
and 50-499

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

Dear Mr. Hall:

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ARM/LFMB	AHowell, RGN-IV
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SUBJECT: ISSUANCE OF AMENDMENT NOS. 38 AND 29 TO FACILITY OPERATING
LICENSE NOS. NPF-76 AND NPF-80 - SOUTH TEXAS PROJECT, UNITS 1 AND 2
(TAC NOS. M82128 AND M82129)

The Commission has issued the enclosed Amendment Nos. 38 and 29 to Facility Operating License No. NPF-76 and NPF-80 for the South Texas Project, Units 1 and 2. The amendment consists of changes to the Updated Final Safety Analysis Report (UFSAR) in response to your application dated October 30, 1991 (ST-HL-AE-3906) which identified the changes as an unreviewed safety question.

The amendments revise various UFSAR sections based upon the revision of radiological consequences which result from changes to radionuclide inventories associated with extending fuel burnups. The changes reflect revised dose estimates but remain well below those limits associated with the environmental qualification of equipment and the maximum radiation exposure to the public or plant personnel.

These amendments are being issued pursuant to the requirements of 10 CFR 50.59(c) because the review by Houston Lighting and Power Company identified the changes as an unreviewed safety question. No changes to the Technical Specifications are required by these amendments.

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

George F. Dick, Jr., Senior Project Manager
Project Directorate IV-2
Division of Reactor Projects III/IV/V
Office of Nuclear Reactor Regulation

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PDR ADOCK 05000498
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Enclosures:

1. Amendment No. 38 to NPF-76
2. Amendment No. 29 to NPF-80
3. Safety Evaluation

NRC FILE CENTER COPY

cc w/enclosures:
See next page

OFFICE	PDIV-2/LA	PDIV-2/PM	OGC	SPLB	PDIV-2/D
NAME	EPeyton	GDick:nb	My...	CMcCracken	SBlack
DATE	5/13/92	5/13/92	5/12/92	5/15/92	5/18/92

DFOL
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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

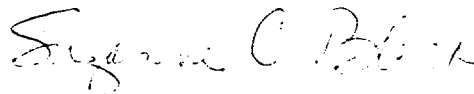
Amendment No. 38
License No. NPF-76

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 30, 1991, 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, by Amendment No. 38 , the license is amended to authorize revision of the Updated Final Safety Analysis Report (UFSAR) as set forth in the application for amendment by Houston Lighting and Power Company dated October 30, 1991. Houston Lighting and Power Company shall update the UFSAR to reflect the revised description authorized by this amendment in accordance with 10 CFR 50.71(e).
3. The license amendment is effective as of its date of issuance.

FOR THE NUCLEAR REGULATORY COMMISSION



Suzanne C. Black, Director
Project Directorate IV-2
Division of Reactor Projects III/IV/V
Office of Nuclear Reactor Regulation

Date of Issuance: June 8, 1992



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

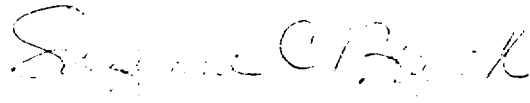
Amendment No. 29
License No. NPF-80

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 30, 1991, 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, by Amendment No. 29, the license is amended to authorize revision of the Updated Final Safety Analysis Report (UFSAR) as set forth in the application for amendment by Houston Lighting and Power Company dated October 30, 1991. Houston Lighting and Power Company shall update the UFSAR to reflect the revised description authorized by this amendment in accordance with 10 CFR 50.71(e).
3. The license amendment is effective as of its date of issuance.

FOR THE NUCLEAR REGULATORY COMMISSION



Suzanne C. Black, Director
Project Directorate IV-2
Division of Reactor Projects III/IV/V
Office of Nuclear Reactor Regulation

Date of Issuance: June 8, 1992



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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

RELATED TO AMENDMENT NOS. 38 AND 29 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 letter dated October 30, 1991 (ST-HL-AE-3906), Houston Lighting & Power Company (the licensee) requested changes to the Updated Final Safety Analysis Report (UFSAR) for the South Texas Project, Units 1 and 2. The changes to the UFSAR would revise various sections to reflect the extension of the core operating cycles and the associated increase in the fuel burnup. The amendment request was made pursuant to the requirements of 10 CFR 50.59(c) because the review by Houston Lighting and Power Company identified the changes as an unreviewed safety question.

2.0 EVALUATION

The possible safety consequences of increasing fuel burnup are related to fuel integrity issues and changes in the radionuclide inventories in the core and resultant changes in the consequences of the release of those nuclides during serious reactor accidents. The fuel integrity issues were not included as part of the unreviewed safety question because the existing discussion of the fuel in the UFSAR and incorporated references bound the proposed burnup levels of approximately 45 gigawatt-days per metric ton (GWD/MT) for region average discharge. The potential radiological consequences related to the changes in radionuclide inventories were addressed by the licensee's amendment request and were divided into potential public and personnel dose consequences and potential equipment environmental qualification consequences.

Public and Personnel Dose Consequences

The licensee's submittal noted that NUREG/CR-5009 "Assessment of the Use of Extended Burnup Fuel in Light Water Power Reactors," in discussing the impacts of different categories of accidents, concluded that for accidents in which

the core remains intact with only volatile fission products involved, no increases in impacts would occur. For these cases involving fuel melt, increased burnup would only impact a few fission products and the actinides. NUREG/CR-5009 concluded that the uncertainty involved in determining the overall risk to the public was greater than increases in the inventory of materials.

This NUREG also concluded that the expected iodine gap release fractions for certain fuel types is 0.12 instead of the value of 0.10 previously assumed when considering the radiological impacts of fuel handling accidents. Thus, the calculated offsite (thyroid) doses would increase by 20 percent over those calculated using the assumptions contained in Regulatory Guide 1.25, "Assumptions Used for Evaluating the Potential Radiological Consequences of a Fuel Handling Accident in the Fuel Handling and Storage Facility for Boiling and Pressurized Water Reactors." The analyzed fuel handling accident thyroid doses would thus increase from the previously calculated value of 24.6 rem to 29.5 rem.

In addition, the licensee addressed the issue of worker occupational doses and determined that normal plant cleanup systems could handle any expected increase in systems radionuclide inventories. The licensee also noted that extended burnup fuel would not significantly impact plant shielding design and that radiation zones, both inside and outside the plant, would not be impacted by this change. The licensee noted that occupational doses would not change as a result of the expected small increase in inventory; further, the licensee noted that NUREG/CR-5009 stated that since fewer refueling outages would be expected, worker doses from refueling operations would be expected to decrease.

The staff has reviewed the information submitted by the licensee related to the use of longer fuel cycles and has concluded that the analyzed fuel handling accident consequences, although increased, remain well within the guideline values of 10 CFR Part 100. Further, any postulated increase in occupational exposures arising from the expected small increase in radionuclide inventory would be more than offset by the expected decrease in refueling outage exposures. This finding is consistent with the staff's review of the extension of the South Texas Project Unit 2 initial core which was documented in Supplement 6 of NUREG-0781, "Safety Evaluation Report Related to the Operation of South Texas Project, Unit 2."

Equipment Environmental Qualification Consequences

In addition to the potential for impacting public and personnel exposures to radiation, the changes to the inventories of radionuclides resulting from extending fuel burnups also have the potential to increase the radiation exposure to plant equipment required to mitigate an accident. The licensee evaluated the radiation doses due to the proposed change and found that, although doses in some plant areas were increased above the previously cited values in the UFSAR, the increased doses remained bounded by the qualification data with sufficient margin as required by 10 CFR 50.49 and staff positions provided in NUREG-0588, Revision 1, "Interim Staff Position on Environmental Qualification of Safety-Related Electrical Equipment."

The staff has reviewed the information provided by the licensee and concluded that the impact on plant equipment resulting from increased dose values associated with extending fuel burnups are acceptable.

3.0 STATE CONSULTATION

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

4.0 ENVIRONMENTAL CONSIDERATION

Pursuant to 10 CFR 51.21, 51.32, and 51.33, an environmental assessment and finding of no significant impact was published in the Federal Register on May 28, 1992 (57 FR 22494).

Accordingly, based upon the environmental assessment, the Commission has determined that issuance of these amendments will not have a significant effect on the quality of the human environment.

5.0 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 amendment will not be inimical to the common defense and security or to the health and safety of the public.

Principal Contributor: K. T. Eccelston
W. D. Reckley

Date: June 8, 1992