February 9, 199

Mr. William T. Cottle
Group Vice-President, Nuclear
Houston Lighting & Power Company
South Texas Project Electric
Generating Station
P.O. Box 289
Wadsworth, Texas 77483

SUBJECT: SOUTH TEXAS PROJECT, UNITS 1 AND 2 - AMENDMENT NOS. 69 AND 58 TO FACILITY OPERATING LICENSE NOS. NPF-76 AND NPF-80 (TAC NOS. M90796 AND M90797)

Dear Mr. Cottle:

The Commission has issued the enclosed Amendment Nos. 69 and 58 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 November 7, 1994.

The amendments permit both containment personnel airlock doors to be open while moving fuel during refueling operations.

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. 69 to NPF-76
2. Amendment No. 58 to NPF-80
3. Safety Evaluation

cc w/encls: See next page

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

February 9, 1995

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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. 69
License No. NPF-76

I. 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 November 7, 1994, 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-76 is hereby amended to read as follows:

   2. Technical Specifications

      The Technical Specifications contained in Appendix A, as revised through Amendment No. 69, 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 9, 1995

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. 58
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 November 7, 1994, 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. 58, 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 9, 1995

ATTACHMENT TO LICENSE AMENDMENT NOS. 69 AND 58

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 9-4	3/4 9-4
B 3/4 9-1	B 3/4 9-1
B 3/4 9-2	B 3/4 9-2
B 3/4 9-3	B 3/4 9-3
--	B 3/4 9-4

3/4.9.3 DECAY TIME

LIMITING CONDITION FOR OPERATION

3.9.3 The reactor shall be subcritical for at least 42 hours.

APPLICABILITY: **During movement of irradiated fuel in the reactor vessel.**

ACTION:

With the reactor subcritical for less than 42 hours, suspend all operations involving movement of irradiated fuel in the reactor vessel.

LIMITING CONDITION FOR OPERATION

4.9.3 The reactor shall be determined to have been subcritical for at least 42 hours by verification of the date and time of subcriticality prior to movement of irradiated fuel in the reactor vessel.

3/4.9.4 CONTAINMENT BUILDING PENETRATIONS

LIMITING CONDITION FOR OPERATION

3.9.4 The containment building penetrations shall be in the following status:

a. The equipment door closed and held in place by a minimum of four bolts.

b. 1) A minimum of one door in the containment Auxiliary Airlock (AAL) is closed.

AND

2) A minimum of one door in the containment Personnel Airlock (PAL) is closed.

OR

The water level is ≥23 feet above the reactor vessel flange.

AND

The Reactor has been subcritical for ≥95 hours.

AND

An Individual is available to close a PAL door when directed (after the initiation of a fuel handling accident inside containment) within;

a. 30 minutes, if the reactor has been subcritical <165 hours.

OR

b. As soon as possible but within 2 hours, if the reactor has been subcritical ≥ 165 hours.

c. Each penetration providing direct access from the containment atmosphere to the outside atmosphere shall be either:

1) Closed by an isolation valve, blind flange, or manual valve, or

2) Be capable of being closed by an OPERABLE automatic containment purge and exhaust isolation valve.

APPLICABILITY: During CORE ALTERATIONS or movement of irradiated fuel within the containment.

ACTION:

With the requirements of the above specification not satisfied, immediately suspend all operations involving CORE ALTERATIONS or movement of irradiated fuel in the containment building.

SURVEILLANCE REQUIREMENTS

4.9.4 Each of the above required containment building penetrations shall be determined to be either in its required condition or capable of being closed by an OPERABLE automatic containment purge and exhaust isolation valve within 100 hours prior to the start of and at least once per 7 days during CORE ALTERATIONS or movement of irradiated fuel in the containment building by:

a. Verifying the penetrations are in their required condition, or

b. Testing the containment purge and exhaust isolation valves per the applicable portions of Specification 4.6.3.2.

3/4.9 REFUELING OPERATIONS

BASES

3/4.9.1 BORON CONCENTRATION

The limitations on reactivity conditions during REFUELING ensure that: (1) the reactor will remain subcritical during CORE ALTERATIONS, and (2) a uniform boron concentration is maintained for reactivity control in the water volume having direct access to the reactor vessel. These limitations are consistent with the initial conditions assumed for the boron dilution incident in the safety analyses. The value of 0.95 or less for K_{eff} includes a 1% $\Delta k/k$ conservative allowance for uncertainties. Similarly, the boron concentration value of 2800 ppm or greater includes a conservative uncertainty allowance of 50 ppm boron. The locking closed of the required valves during refueling operations precludes the possibility of uncontrolled boron dilution of the filled portion of the RCS. This action prevents flow to the RCS of unborated water by closing flow paths from sources of unborated water.

3/4.9.2 INSTRUMENTATION

The OPERABILITY of the Source Range Neutron Flux Monitors ensures that redundant monitoring capability is available to detect changes in the reactivity condition of the core.

3/4.9.3 DECAY TIME

The minimum requirement for reactor subcriticality prior to movement of irradiated fuel assemblies in the reactor vessel ensures that sufficient time has elapsed to allow the radioactive decay of the short-lived fission products. This decay time is consistent with the assumptions used in the safety analyses for the rapid refueling design.

3/4.9.4 CONTAINMENT BUILDING PENETRATIONS

The requirements on containment building penetration closure and OPERABILITY ensure that a release of radioactive material within containment will be restricted from leakage to the environment. The containment personnel airlock, which is part of the containment pressure boundary, provides a means for personnel access during MODES 1, 2, 3, and 4 operation. During periods of shutdown, when containment closure is not required, the door interlock mechanism may be disabled, allowing both doors of the containment personnel airlock to remain open for extended periods when frequent containment entry is necessary. Both containment personnel airlock doors may be open during CORE ALTERATIONS provided one airlock door is OPERABLE, there is 23 feet of water above the reactor vessel flange, and an individual is available outside the containment personnel airlock to close a door following a fuel handling accident inside containment.

3/4.9.4 CONTAINMENT BUILDING PENETRATIONS (Continued)

Operability of a containment personnel airlock door requires that the door is capable of being closed, i.e., that the door is unblocked and no cables or hoses run through the personnel airlock. Containment personnel airlock door closure is required to take place within 30 minutes of initiation of a fuel handling accident inside containment if the reactor has been subcritical for less than 165 hours. Fuel movement is not permitted with personnel airlock doors open, if the reactor has not been subcritical for ≥95 hours. If the reactor has been subcritical for 165 hours or more, containment personnel airlock door closure is to occur as soon as practicable, but is assumed to occur within 2 hours to be consistent with the accident analysis. These requirements assure that the associated doses are limited to within acceptable levels. The requirement to have 23 feet of water above the reactor vessel flange is consistent with the fuel handling accident analysis assumptions, Regulatory Guide 1.25, and Technical Specification 3.9.10, Water Level - Refueling Cavity.

3/4.9.5 COMMUNICATIONS

The requirement for communications capability ensures that refueling station personnel can be promptly informed of significant changes in the facility status or core reactivity conditions during CORE ALTERATIONS.

3/4.9.6 REFUELING MACHINE

The OPERABILITY requirements for the refueling machine and auxiliary hoist ensure that: (1) the refueling machine and auxiliary hoist will be used for movement of drive rods and fuel assemblies, (2) the refueling machine has sufficient load capacity to lift a drive rod or fuel assembly, and (3) the core internals and reactor vessel are protected from excessive lifting force in the event they are inadvertently engaged during lifting operations.

3/4.9.7 CRANE TRAVEL - FUEL HANDLING BUILDING

The restriction on movement of loads in excess of the nominal weight of a fuel and control rod assembly and associated handling tool over other fuel assemblies in the storage pool, unless handled by the single-failure-proof main hoist of the FHB 15-ton crane, ensures that in the event this load is dropped: (1) the activity release will be limited to that contained in a single fuel assembly, and (2) any possible distortion of fuel in the storage racks will not result in a critical array. This assumption is consistent with the activity release assumed in the safety analyses.

3/4.9.8 RESIDUAL HEAT REMOVAL AND COOLANT CIRCULATION

The requirement that at least one residual heat removal (RHR) loop be in operation ensures that: (1) sufficient cooling capacity is available to remove decay heat and maintain the water in the reactor vessel below 140°F as required during the REFUELING MODE, and (2) sufficient coolant circulation is maintained through the core to minimize the effect of a boron dilution incident and prevent boron stratification.

The requirement to have two RHR loops OPERABLE when there is less than 23 feet of water above the reactor vessel flange ensures that a single failure of the operating RHR loop will not result in a complete loss of residual heat removal capability. With the reactor vessel head removed and at least 23 feet of water above the reactor pressure vessel flange, a large heat sink is available for core cooling. Thus, in the event of a failure of the operating RHR loop, adequate time is provided to initiate emergency procedures to cool the core.

3/4.9.9 CONTAINMENT VENTILATION ISOLATION SYSTEM

The OPERABILITY of this system ensures that the containment purge and exhaust penetrations will be automatically isolated upon detection of high radiation levels in the purge exhaust. The OPERABILITY of this system is required to restrict the release of radioactive material from the containment atmosphere to the environment.

3/4.9.10 and 3/4.9.11 WATER LEVEL - REFUELING CAVITY AND STORAGE POOLS

The restrictions on minimum water level ensure that sufficient water depth is available to remove 99% of the assumed 10% iodine gap activity released from the rupture of an irradiated fuel assembly. The minimum water depth is consistent with the assumptions of the safety analysis.

3/4.9.12 FUEL HANDLING BUILDING EXHAUST AIR SYSTEM

The limitations on the Fuel Handling Building Exhaust Air System ensure that all radioactive material released from an irradiated fuel assembly will be filtered through the HEPA filters and charcoal adsorber prior to discharge to the atmosphere. Operation of the system with the heaters operating for at least 10 continuous hours in a 31-day period is sufficient to reduce the buildup of moisture on the adsorbers and HEPA filters. The OPERABILITY of this system and the resulting iodine removal capacity are consistent with the assumptions of the safety analyses. ANSI N510-1980 will be used as a procedural guide for sureillance testing.

3/4.9.13 SPENT FUEL POOL MINIMUM BORON CONCENTRATION

The restrictions on the boron concentration of the spent fuel pool ensures that the rack K_{eff} is maintained less than or equal to 0.95 in the event that one or more fuel assemblies are improperly loaded in the spent fuel pool storage racks (with respect to Specification 5.6). Since the presence of boron is ensured, the rack K_{eff} will be maintained less than or equal to 0.95 in the event of improper loading of fuel assemblies. This boron concentration is more than adequate to ensure the K_{eff} limit of 0.95, specified in Specification 5.6.1.1.a, will not be violated under the following scenarios:

(1) in Region 1, any misloading of Category 1, 2, 3, and 4 assemblies; or

(2) in Region 2, the misloading of one Category 1 assembly into the center of a fully loaded checkerboard area also containing Category 1 assemblies; or,

(3) the misloading of a Category 1 assembly in a Region 1 rack adjacent to a Category 1 assembly in a Region 2 rack.

This boron concentration limit is the value necessary to ensure that the 0.95 K_{eff} limit for rack criticality will not be violated in the event of a Category 1 assembly dropped in the gap between the pool wall and a Region 2 rack module.

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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

RELATED TO AMENDMENT NOS. 69 AND 58 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 November 7, 1994, 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 permit both containment personnel airlock doors to be open while moving fuel during refueling operations. Specifically, the amendments would revise TS 3/4.9.4, Containment Building Penetrations, to permit airlocks to be continuously open during fuel movement and core alterations provided that there is 23 feet of water above the reactor vessel flange and a qualified individual is available to close at least one airlock door within 30 minutes or 2 hours, depending on the time since last criticality. Blocking of the doorways by cables, hoses, etc., would be prohibited, however, removable protective devices would be permitted to be installed on the door seals and sealing surfaces.

The STP facilities are 3800 megawatts thermal Westinghouse-designed pressurized water reactor plants located 12 miles south-southwest of Bay City, TX. The STP containments are of the large, dry, post-tensioned, reinforced concrete type.

2.0 DISCUSSION AND EVALUATION

Airlocks

The STP containments each contain a personnel access lock (PAL) connecting the containment interior with the Mechanical and Electrical Auxiliary Building. The PAL is provided for the purpose of permitting personnel to enter and exit the containment while maintaining the integrity of the containment pressure boundary during power operation and certain shutdown operations. It has two

8-feet high, 5-feet wide, airlock doors with a 11½-foot diameter, 8-foot long personnel chamber between the doors. Each door is provided with a double inflatable seal. The doors are hydraulically operated. Electrical and mechanical interlocks ensure that both doors cannot be opened at the same time. When neither core alterations nor movement of irradiated fuel in containment are taking place, the interlock mechanism may be intentionally disabled allowing both doors to be opened at the same time.

Each containment is also provided with an auxiliary airlock. The auxiliary airlock is 10-feet long and has a diameter of 5½ feet. The auxiliary airlock doors are 30 inches in diameter and mechanically interlocked. The proposed amendment applies to the PAL only.

The licensee proposes to revise the TSs to remove the restriction prohibiting the opening of both PAL doors at the same time, for periods when certain conditions are met. This would reduce airlock door wear (eliminating approximately 1500 airlock door open/close cycles per outage) and would facilitate personnel access. The proposed conditions are that (a) there is at least 23 feet of water over the reactor vessel flange, (b) at least 95 hours has elapsed since last reactor criticality, (c) a designated individual is available to close the airlock within either 30 minutes or 2 hours depending on the time since last criticality (the 2-hour condition would apply when the time since criticality is ≥165 hours).

Standard Generic Requirements Regarding Airlock Penetration Integrity During Core Alterations

The applicable staff positions regarding opening of airlock doors during Mode 6 (Refueling Operations) are stated in Section 3.9.4 (BASES) of the Improved Standard Technical Specifications (NUREG-1431, "Standard Technical Specifications for Westinghouse Plants" or "ISTS"). Text excerpted from the ISTS states:

> The containment air locks, which are part of the containment pressure boundary, provide a means for personnel access during MODES 1, 2, 3, and 4 operation. During periods of shutdown when containment closure is not required, the door interlock mechanism may be disabled, allowing both doors of an air lock to remain open for extended periods when frequent containment entry is necessary. During CORE ALTERATIONS or movement of irradiated fuel assemblies within containment, containment closure is required; therefore, the door interlock mechanism may remain disabled, but one air lock door must always remain closed.
>
> The requirements on containment penetration closure ensure that a release of fission product radioactivity within containment will be restricted from escaping to the environment. The closure restrictions are sufficient to

restrict fission product radioactivity release from containment due to a fuel handling accident during refueling.

During CORE ALTERATIONS or movement of irradiated fuel assemblies within containment, the most severe radiological consequences result from a fuel handling accident. The fuel handling accident is a postulated event that involves damage to irradiated fuel. Fuel handling accidents include dropping a single irradiated fuel assembly and handling tool or a heavy object onto other irradiated fuel assemblies. The minimum decay time of [72] hours prior to CORE ALTERATIONS ensure that the release of fission product radioactivity, subsequent to a fuel handling accident, results in doses that are well within the guideline values specified in 10 CFR 100. The acceptance limits for offsite radiation exposure are contained in Standard Review Plan Section 15.7.4, Rev. 1, which defines "well within" 10 CFR 100 to be 25% or less of the 10 CFR 100 values.

As indicated above, the basis for the staff position against simultaneous opening of both airlock doors during core alterations is to limit fission product leakage in the event of a design basis fuel handling accident. In performing analyses of the radiological consequences of a fuel handling accident, the criteria of Standard Review Plan Section 15.7.4 are used. If fuel handling is prohibited when the containment is open, radiological consequences need not be calculated. Standard Technical Specifications thus specify that airlock integrity be continuously maintained during fuel handling in containment. If the containment will be open during fuel handling operations, automatic isolation by radiation detection instrumentation must be provided for penetrations and calculations must demonstrate acceptable consequences. However, automatic isolation of airlock doors is not practicable. The licensee has shown by analysis that the requirement for airlock closure need not be applied to STP.

STP Fuel Handling Accident Analysis

The licensee performed analyses of the radiological consequences of a fuel handling accident with the PAL doors open. In performing the analysis the licensee used the assumptions and methodology prescribed by 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." A 95-hour decay time (subcritical period) was assumed in the Case 1 analysis and a 165-hour decay time in the Case 2 analysis. Both analyses assumed that there was 23-foot water coverage above the reactor vessel flange. The licensee's analyses indicated that for Case 1, radiological dose consequences acceptance criteria are met if the airlock doors are closed in 30 minutes. For Case 2, the dose criteria are met with the airlock doors open for the entire assumed 2-hour release period.

The staff did not review the licensee's analysis, but instead performed an independent analysis of the potential radiological consequences of a fuel handling accident that bounds both the licensee's Case 1 and Case 2 analyses, based upon the conditions of the proposed TS change. The staff's analysis was performed to determine conformance with the requirements of 10 CFR Part 100 (for offsite doses) and General Design Criterion (GDC) 19 of Appendix A to 10 CFR Part 50 (for doses to control room operators). The staff's analysis utilized the accident source term given in Regulatory Guide 1.4, "Assumptions Used for Evaluating the Potential Radiological Consequences of a Loss of Coolant Accident for Pressurized Water Reactors," the assumptions contained in Regulatory Guide 1.25, and the review procedures specified in Standard Review Plan (SRP) Sections 15.7.4 and 6.4. The staff assumed an instantaneous puff release of noble gases and radioiodines from the gap and plenum of the broken fuel rods as gas bubbles pass through 23 feet of water covering the fuel. All airborne activity reaching the containment atmosphere is exhausted to the environment within 2 hours. As stipulated in the proposed TS change, the gap activity is assumed to have decayed for a period of greater than 95 hours.

The staff computed the offsite doses for STP using the above assumptions and NRC computer code ACTCODE. Control room operator doses were determined using the methodology in SRP Section 6.4. The computed offsite doses and control room operator doses are well within the acceptance criteria given in SRP Section 15.7.4 and GDC 19. The assumptions used in calculating those doses and the resulting calculated values are provided in Attachments 1 and 2.

3.0 SUMMARY

The proposed changes to the TSs will result in delayed containment closure in the event of a fuel handling accident. However, the staff has confirmed that the containment closure conditions and limitations established by the proposed TSs assure acceptable dose consequences. Accordingly, the licensee's proposal 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 (59 FR 63123). 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.

Attachments: 1. Calculational Assumptions
2. Calculated Radiological Consequences

Principal Contributors: W. Long
S. Boynton

Date: February 9, 1995

Attachment 1

CALCULATIONAL ASSUMPTIONS

Parameter	Value
Source Term Variables	
Core Thermal Power (MWt)	3800
Total Number of Fuel Rods	50,952
Number of Damaged Fuel Rods (1 assembly + 50 rods)	314
Power Peaking Factor	1.7
Time Since Shutdown	95 hours
Release Fractions*	
Iodine	0.10
Noble Gases	0.30
Pool Decontamination Factors*	
Iodine	100
Noble Gases	1
Iodine Forms*	
Elemental	75%
Organic	25%
Fission Product Release Duration*	2 hours
Receptor Point Variables	
Exclusion Area Boundary	
Atmospheric Relative Concentration, χ/Q (sec/m^3)**	
0-2 hours	1.3×10^{-4}
Low Population Zone	
Atmospheric Relative Concentration, χ/Q (sec/m^3)**	
0-8 hours	1.6×10^{-5}
8-24 hours	1.1×10^{-5}
1-4 days	4.3×10^{-6}
4-30 days	1.2×10^{-6}
Control Room	
Atmospheric Relative Concentration, χ/Q (sec/m^3)***	
0-8 hours	8.15×10^{-4}
8-24 hours	4.92×10^{-4}
1-4 days	1.56×10^{-4}
4-30 days	8.72×10^{-5}
Control Room Volume	280,000 ft^3

Parameter	Value
Control Room (Continued)	
Maximum Infiltration Rate	10 ft^3/min
Pressurization Makeup Air Inflow	
Flow Rate	2000 ft^3/min
ESF Filter Efficiency	
Elemental Iodine	99%
Organic Iodine	99%
Particulate Iodine	99%
Recirculation Air Flow	
Flow Rate	10,000 ft^3/min
ESF Filter Efficiency	
Elemental Iodine	95%
Organic Iodine	95%
Particulate Iodine	95%
Geometry Factor	18
Iodine Protection Factor	380

Core Fission Product Inventories (TID-14844)

Isotope	Inventory (Ci/MWt)	Isotope	Inventory (Ci/MWt)
I^{131}	2.51×10^4	$Xe^{131}m$	2.60×10^2
I^{132}	3.80×10^4	$Xe^{133}m$	1.38×10^3
I^{133}	5.63×10^4	Xe^{133}	5.62×10^4
I^{134}	6.57×10^4	$Xe^{135}m$	1.56×10^4
I^{135}	5.11×10^4	Xe^{135}	5.36×10^4
		Xe^{137}	5.10×10^4
$Kr^{83}m$	4.15×10^3	Xe^{138}	4.78×10^4
$Kr^{85}m$	1.30×10^4		
Kr^{85}	4.10×10^2		
Kr^{87}	2.34×10^4		
Kr^{88}	3.20×10^4		
Kr^{89}	3.98×10^4		

Note: Dose conversion factors from ICRP-30 were utilized for all calculations

* Reg Guide 1.25
** South Texas Project UFSAR
*** South Texas Project FSER (NUREG-0781, April 1986)

CALCULATED RADIOLOGICAL CONSEQUENCES
(rem)

Exclusion Area Boundary	Dose	SRP 15.7.4 Limits
Whole Body	0.2	6
Thyroid	36	75

Control Room Operator	Dose	GDC-19 Limits
Whole Body	<0.1	5
Thyroid	0.6	Equivalent to 5 rem whole body*

* Section 6.4 of the Standard Review Plan defines the dose limit to the thyroid as 30 rem.