



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

NRG SOUTH TEXAS LP

CITY PUBLIC SERVICE BOARD OF SAN ANTONIO

CITY OF AUSTIN, TEXAS

STP NUCLEAR OPERATING COMPANY

DOCKET NO. 50-498

SOUTH TEXAS PROJECT, UNIT 1

RENEWED FACILITY OPERATING LICENSE

Renewed License No. NPF-76

1. The Nuclear Regulatory Commission (the Commission or the NRC) has found that:
 - A. The application for a renewed license filed by STP Nuclear Operating Company (STPNOC)*, acting on behalf of itself and for NRG South Texas LP, the City Public Service Board of San Antonio (CPS), and City of Austin, Texas (COA) (the "Owners") complies with the standards and requirements of the Atomic Energy Act of 1954, as of 1954 as amended (the Act), and the Commission's regulations set forth in 10 CFR Chapter I, and all required notifications to other agencies or bodies have been duly made;
 - B. Construction of the South Texas Project, Unit 1, (the facility) has been substantially completed in conformity with Construction Permit No. CPPR-128 and the application, as amended, the provisions of the Act, and the regulations of the Commission;
 - C. The facility will operate in conformity with the application, as amended, the provisions of the Act, and the regulations of the Commission (except as exempted from compliance in Section 2.D. below);
 - D. There is reasonable assurance: (i) that the activities authorized by this renewed operating license 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 set forth in 10 CFR Chapter I (except as exempted from compliance in Section 2.D. below);

* STPNOC is authorized to act for NRG South Texas LP, the City Public Service Board of San Antonio, and City of Austin, Texas and has exclusive responsibility and control over the physical construction, operation, and maintenance of the facility.

- E. STPNOC is technically qualified to engage in the activities authorized by this renewed license in accordance with the Commission's regulations set forth in 10 CFR Chapter I;
 - F. The Owners have satisfied the applicable provisions of 10 CFR Part 140, "Financial Protection Requirements and Indemnity Agreements," of the Commission's regulations;
 - G. The issuance of this renewed license will not be inimical to the common defense and security or to the health and safety of the public;
 - H. After weighing the environmental, economic, technical and other benefits of the facility against environmental and other costs and considering available alternatives, the issuance of this Renewed Facility Operating License No. NPF-76, subject to the conditions for protection of the environment set forth in the Environmental Protection Plan attached as Appendix B, is in accordance with 10 CFR Part 51 of the Commission's regulations and all applicable requirements have been satisfied; and
 - I. The receipt, possession, and use of source, byproduct and special nuclear material as authorized by this renewed license will be in accordance with the Commission's regulations in 10 CFR Parts 30, 40 and 70.
 - J. Actions have been identified and have been or will be taken with respect to (1) managing the effects of aging during the period of extended operation on the functionality of structures and components that have been identified to require review under 10 CFR 54.21(a)(1), and (2) time-limited aging analyses that have been identified to require review under 10 CFR 54.21(c), such that there is reasonable assurance that the activities authorized by this renewed license will continue to be conducted in accordance with the current licensing basis, as defined in 10 CFR 54.3, for the facility, and that any changes made to the facility's current licensing basis in order to comply with 10 CFR 54.29(a) are in accordance with the Act and the Commission's regulations.
2. Based on the foregoing findings by the Nuclear Regulatory Commission, Facility Operating License No. NPF-76, dated March 22, 1988, and expiring August 20, 2027, as amended, is superseded by Renewed Facility Operating License No. NPF-76 and hereby issued to STPNOC to read as follows:
- A. This renewed license applies to the South Texas Project, Unit 1, a pressurized water reactor, and associated equipment (the facility) owned by NRG South Texas LP, City Public Service Board of San Antonio, and City of Austin, Texas and operated by STPNOC. The facility is located in Matagorda County, Texas, west of the Colorado River, 8 miles north-northwest of the town of Matagorda and about 89 miles southwest of Houston and is described in the licensees' Final Safety Analysis Report, as supplemented and amended, and in the licensees' Environmental Report, as supplemented and amended.
 - B. Subject to the conditions and requirements incorporated herein, the Commission hereby licenses:

- (1) STPNOC pursuant to Section 103 of the Act and 10 CFR Part 50, to possess, use and operate the facility at the designated location in Matagorda County, Texas, in accordance with the procedures and limitations set forth in this renewed license;
 - (2) NRG South Texas LP, the City Public Service Board of San Antonio (CPS), and the City of Austin, Texas (COA), pursuant to the Act and 10 CFR Part 50, to possess the facility at the designated location in Matagorda County, Texas, in accordance with the procedures and limitations set forth in this renewed license;
 - (3) STPNOC, pursuant to the Act and 10 CFR Part 70, to receive, possess and use at any time special nuclear material as reactor fuel, in accordance with the limitations for storage and amounts required for reactor operation, as described in the Final Safety Analysis Report, as supplemented and amended;
 - (4) STPNOC, pursuant to the Act and 10 CFR Parts 30, 40 and 70, to receive, possess, and use at any time any byproduct, source and special nuclear material as sealed neutron sources for reactor startup, sealed sources for reactor instrumentation and radiation monitoring equipment calibration, and as fission detectors in amounts as required;
 - (5) STPNOC, pursuant to the Act and 10 CFR Parts 30, 40 and 70, to receive, possess, and use in amounts as required any byproduct, source or special nuclear material without restriction to chemical or physical form, for sample analysis or instrument calibration or associated with radioactive apparatus or components; and
 - (6) STPNOC, pursuant to the Act and 10 CFR Parts 30, 40 and 70, to possess, but not separate, such byproduct and special nuclear materials as may be produced by the operation of the facility authorized herein.
- C. This renewed license shall be deemed to contain and is subject to the conditions specified in the Commission's regulations set forth in 10 CFR Chapter I and is subject to all applicable provisions of the Act and to the rules, regulations and orders of the Commission now or hereafter in effect; and is subject to the additional conditions specified or incorporated below:

(1) Maximum Power Level

STPNOC is authorized to operate the facility at reactor core power levels not in excess of 3,853 megawatts thermal (100% power) in accordance with the conditions specified herein.

(2) Technical Specifications

The Technical Specifications contained in Appendix A, as revised through Amendment No. 212, and the Environmental Protection Plan contained in Appendix B, are hereby incorporated in the renewed license. STPNOC shall operate the facility in accordance with the Technical Specifications and the Environmental Protection Plan.

(3) Not Used

(4) Initial Startup Test Program (Section 14, SER)*

Any changes to the Initial Test Program described in Section 14 of the Final Safety Analysis Report made in accordance with the provisions of 10 CFR 50.59 shall be reported in accordance with 50.59(b) within one month of such change.

(5) Safety Parameter Display System (Section 18, SSER No. 4)*

Before startup after the first refueling outage, HL&P[**] shall perform the necessary activities, provide acceptable responses, and implement all proposed corrective actions related to issues as described in Section 18.2 of SER Supplement 4.

(6) Supplementary Containment Purge Isolation (Section 11.5, SSER No. 4)*

HL&P shall provide, prior to startup from the first refueling outage, control room indication of the normal and supplemental containment purge sample line isolation valve position.

* The parenthetical notation following the title of many license conditions denotes the section of the Safety Evaluation Report and/or its supplements wherein the license condition is discussed.

**The original licensee authorized to possess, use and operate the facility was HL&P. Consequently, historical references to certain obligations of HL&P remain in the license conditions.

(7) License Transfer

Texas Genco, LP shall provide decommissioning funding assurance, to be held in decommissioning trusts for South Texas Project, Unit 1 (Unit 1) upon the direct transfer of the Unit 1 license to Texas Genco, LP, in an amount equal to or greater than the balance in the Unit 1 decommissioning trust immediately prior to the transfer. In addition, Texas Genco, LP shall ensure that all contractual arrangements referred to in the application for approval of the transfer of the Unit 1 license to Texas Genco, LP to obtain necessary decommissioning funds for Unit 1 through a non-bypassable charge are executed and will be maintained until the decommissioning trusts are fully funded, or shall ensure that other mechanisms that provide equivalent assurance of decommissioning funding in accordance with the Commission's regulations are maintained.

(8) License Transfer

The master decommissioning trust agreement for Unit 1, at the time the direct transfer of Unit 1 to Texas Genco, LP is effected and thereafter, is subject to the following:

- a. The decommissioning trust agreement must be in a form acceptable to the NRC.
- b. With respect to the decommissioning trust funds, investments in the securities or other obligations of CenterPoint Energy, Inc., or its affiliates, successors, or assigns, shall be prohibited. Except for investments in funds tied to market indices or other nonnuclear sector mutual funds, investments in any entity owning one or more nuclear power plants are prohibited.
- c. The decommissioning trust agreement must provide that the trustee, investment advisor, or anyone else directing the investments made in the trusts shall adhere to the standards for such investments established by the Public Utility Commission of Texas (e.g., 16 Texas Administration Code § 25.301).
- d. The decommissioning trust agreement must provide that except for ordinary administrative expenses, no disbursements or payments from the trusts shall be made by the trustee unless the trustee has first given the NRC 30 days prior written notice of such disbursement or payment. The decommissioning trust agreement shall further contain a provision that no disbursements or payments from the trusts shall be made if the trustee receives prior written notice of an objection from the Director, Office of Nuclear Reactor Regulation.

- e. The decommissioning trust agreement must provide that the agreement cannot be modified in any material respect without 30 days prior written notification to the Director, Office of Nuclear Reactor Regulation.

(9) License Transfer

Texas Genco, LP shall take all necessary steps to ensure that the decommissioning trust is maintained in accordance with the application for approval of the transfer of the Unit 1 license to Texas Genco, LP, the requirements of the Order approving the transfer, and the related safety evaluation.

(10) License Transfer

Texas Genco, LP shall provide the Director, Office of Nuclear Reactor Regulation a copy of any application, at the time it is filed, to transfer (excluding grants of security interests or liens) from CenterPoint Energy, Inc., or its subsidiaries, to a proposed direct or indirect parent, or to any other affiliated company, facilities for the production of electric energy having a depreciated book value exceeding ten percent (10%) of such licensee's consolidated net utility plant, as recorded on Texas Genco, LP's book of accounts.

(11) Mitigation Strategy License Condition

Develop and maintain strategies for addressing large fires and explosions and that include the following key areas:

- a. Fire fighting response strategy with the following elements:
 - 1. Pre-defined coordinated fire response strategy and guidance
 - 2. Assessment of mutual aid fire fighting assets
 - 3. Designated staging areas for equipment and materials
 - 4. Command and control
 - 5. Training of response personnel
- b. Operations to mitigate fuel damage considering the following:
 - 1. Protection and use of personnel assets
 - 2. Communications
 - 3. Minimizing fire spread
 - 4. Procedures for implementing integrated fire response strategy
 - 5. Identification of readily-available pre-staged equipment

6. Training on integrated fire response strategy
7. Spent fuel pool mitigation measures

c. Actions to minimize release to include consideration of:

1. Water spray scrubbing
2. Dose to onsite responders

(12) Control Room Envelope Habitability

Upon implementation of this License Amendment Request adopting TSTF 448, Revision 3, the determination of CRE unfiltered air inleakage as required by SR 4.7.7.e.3, in accordance with TS 6.8.3.q.3.(i), the assessment of CRE habitability as required by Specification 6.8.3.q.3.(ii), and the measurement of CRE pressure as required by Specification 6.8.3.q.4, shall be considered met. Following implementation:

- a. For Unit 1, the first performance of SR 4.7.7.e.3, in accordance with Specification 6.8.3.q.3.(i), shall be within the specified frequency of 6 years, plus the 18-month allowance of SR 3.0.2, as measured from March 9, 2004, the date of the most recent successful tracer gas test, as stated in the letter from T.J. Jordan, STP Nuclear Operating Company, to the NRC Document Control Desk, dated August 5, 2004 (NOC-AE-04001758), response to Generic Letter 2003-01, or within the next 18 months if the time period since the most recent successful tracer gas test is greater than 6 years.
- b. For Unit 1, the first performance of the periodic assessment of CRE habitability, Specification 6.8.3.q.3.(ii), shall be within 3 years, plus the 9-month allowance of SR 3.0.2, as measured from March 9, 2004, the date of the most recent successful tracer gas test, as stated in the letter from T.J. Jordan, STP Nuclear Operating Company, to the NRC Document Control Desk, dated August 5, 2004 (NOC-AE-04001758), response to Generic Letter 2003-01, or within the next 9 months if the time period since the most recent successful tracer gas test is greater than 3 years.
- c. For Unit 1, the first performance of the periodic measurement of CRE pressure, Specification 6.8.3.q.4, shall be within 18 months, plus the 138 days allowed by SR 3.0.2, as measured from April 30, 2007, the date of the most recent successful pressure measurement test.

(13) License Renewal License Conditions

- a. The information in the Updated Final Safety Analysis Report (UFSAR) supplement required by 10 CFR 54.21(d), as revised during the application review process, and as supplemented by Commitments (as updated by STPNOC letters submitted through May 2, 2017) applicable to South Texas Project, Unit 1, in Appendix A of the "Safety Evaluation Report Related To The License Renewal of South Texas Project, Units 1 and 2," (SER) dated June 2017, is collectively the "License Renewal UFSAR Supplement." This Supplement is henceforth part of the UFSAR which will be updated in

accordance with 10 CFR 50.71(e). As such, STPNOC may make changes to the programs and activities applicable to South Texas Project, Unit 1, described in this Supplement provided STPNOC evaluates such changes pursuant to the criteria set forth in 10 CFR 50.59 and otherwise complies with the requirements in that section.

- b. This License Renewal UFSAR Supplement, as specified in License Condition (13)a above, describes programs to be implemented and activities to be completed prior to the period of extended operation.
 - 1. STPNOC shall implement those new programs and enhancements to existing programs no later than February 21, 2027.
 - 2. STPNOC shall complete those activities as noted in the Commitments applicable to South Texas Project, Unit 1, in this Supplement by February 21, 2027 or the end of the last refueling outage before the period of extended operation, whichever occurs later.
 - 3. STPNOC shall notify the NRC in writing within 30 days after having accomplished item b.1 above and include the status of those activities that have been or remain to be completed in item b.2 above.
- c. All capsules in the reactor vessel that are removed and tested must meet the test procedures and reporting requirements of American Society of Testing and Materials (ASTM) E 185-82 to the extent practicable for the configuration of the specimens in the capsule. Capsules placed in storage shall be maintained for future insertion, and any changes to capsule withdrawal schedules (including spare capsules) or storage requirements must be approved by the NRC prior to implementation.
- d. Prior to August 20, 2027, destructive examinations shall be conducted on the lesser of 20 percent or 25 of the aboveground welds susceptible to loss of material due to selective leaching of aluminum bronze without backing rings and the lesser of 20 percent or 25 of the aboveground welds susceptible to loss of material due to selective leaching of aluminum bronze with backing rings. The results of the examinations shall be evaluated in accordance with the acceptance criteria, and corrective actions shall be taken when the acceptance criteria are not met, as specified in the license renewal application, as amended through supplements dated May 2, 2017, specifically as described in the license amendment supplement dated March 30, 2017.

D. Exemptions

The following exemptions are authorized by law and will not endanger life or property or the common defense and security, and certain special circumstances are present. With the granting of these exemptions, the facility will operate, to the extent authorized herein, in conformity with the application, as amended, the provisions of the Act, and the rules and regulations of the Commission.

- (1) The facility requires a technical exemption from the requirements of 10 CFR Part 50, Appendix J, Section III.D.2(b)(ii). The justification for this exemption is contained in Section 6.2.6 of Supplement 3 to the Safety Evaluation Report. The staff's environmental assessment was published on July 2, 1987 (52 FR 25094). Therefore, pursuant to 10 CFR 50.12(a)(1), 10 CFR 50.12(a)(2)(ii) and (iii), the South Texas Project Unit 1 is hereby granted an exemption from the quoted requirement and instead, is required to perform the overall air lock leak test at pressure P_a prior to establishing containment integrity if air lock maintenance has been performed that could affect the air lock sealing capability.
- (2) The facility requires a schedular exemption from the requirements of General Design Criterion 57, Appendix A to 10 CFR 50. The staff has described in detail in Supplement 4 to the Safety Evaluation Report the technical bases associated with this exemption. The staff's environmental assessment was published on June 18, 1987 (52 FR 23217). Therefore, pursuant to 10 CFR 50.12(a)(1) and 10 CFR 50.12(a)(2)(v) the South Texas Project Unit 1 is hereby granted an exemption from the requirements of GDC-57 applicable to the essential component cooling water (CCW) piping which is also used by the nonessential reactor containment building chilled water system in providing cooling to the Reactor Containment Fan Coolers (RCFC). This exemption will expire at the end of the first refueling outage.
- (3) The facility was previously granted exemption from the criticality monitoring requirements of 10 CFR 70.24 (See Materials License No. SNM-1 972 dated December 29, 1986 and Section 9.1.2 of SSER No. 3). The South Texas Project Unit 1 is hereby exempted from the criticality monitoring provisions of 10 CFR 70.24 as applied to fuel assemblies held under this renewed license.

- (4) The facility has been granted a schedular exemption from Section 50.71(e)(3)(i) of 10 CFR 50 to extend the date for submittal of the updated Final Safety Analysis Report to no later than one year after the date of issuance of a low power license for the South Texas Project, Unit 2. This exemption is effective until August 1990. The staff's environmental assessment was published on December 16, 1987 (52 FR 47805).

E. Fire Protection

STPNOC shall implement and maintain in effect all provisions of the approved fire protection program as described in the Final Safety Analysis Report through Amendment No. 55 and the Fire Hazards Analysis Report through Amendment No. 23, and submittals dated April 29, May 7, 8 and 29, June 11, 25 and 26, 1987; February 3, March 3, and November 20, 2009; January 20, 2010; July 23, 2013; May 12 (two letters), May 19, and December 17, 2014; and as approved in the SER (NUREG-0781) dated April 1986 and its Supplements, subject to the following provision:

STPNOC may make changes to the approved fire protection program without prior approval of the Commission, only if those changes would not adversely affect the ability to achieve and maintain safe shutdown in the event of a fire.

F. Physical Security

STPNOC shall fully implement and maintain in effect all provisions of the physical security, training and qualification, and safeguards contingency plans previously approved by the Commission and all amendments and revisions to such plans made pursuant to the authority under 10 CFR 50.90 and 10 CFR 50.54(p).

STPNOC shall fully implement and maintain in effect all provisions of the Commission-approved physical security, training and qualification, and safeguards contingency plans including amendments made pursuant to provisions of the Miscellaneous Amendments and Search Requirements revisions to 10 CFR 73.55 (51 FR 27817 and 27822), and the authority of 10 CFR 50.90 and 10 CFR 50.54(p). The combined set of plans, which contains Safeguards Information protected under 10 CFR 73.21, is entitled: "South Texas Project Electric Generating Station Security, Training and Qualification, and Safeguards Contingency Plan, Revision 2" submitted by letters dated May 17 and 18, 2006.

STPNOC shall fully implement and maintain in effect all provisions of the Commission-approved cyber security plan (CSP), including changes made pursuant to the authority of 10 CFR 50.90 and 10 CFR 50.54(p). STPNOC CSP was approved by License Amendment No. 197 and supplemented by License Amendment No. 202.

G. Not Used

H. Financial Protection

The Owners shall have and maintain financial protection of such type and in such amounts as the Commission shall require in accordance with Section 170 of the Atomic Energy Act of 1954, as amended, to cover public liability claims.

I. Effective Date and Expiration

This renewed license is effective as of the date of issuance and shall expire at midnight on August 20, 2047.

FOR THE NUCLEAR REGULATORY COMMISSION

/RA/

Brian E. Holian, Acting Director
Office of Nuclear Reactor Regulation

Enclosures:

1. Appendix A, Technical Specifications (NUREG-1305)
2. Appendix B, Environmental Protection Plan

Date of Issuance: September 28, 2017