

June 30, 2008

Mr. James J. Sheppard
President and Chief Executive Officer
STP Nuclear Operating Company
South Texas Project Electric
Generating Station
P.O. Box 289
Wadsworth, TX 77483

SUBJECT: SOUTH TEXAS PROJECT, UNITS 1 AND 2 - ISSUANCE OF AMENDMENTS
RE: BATTERY SURVEILLANCE REQUIREMENTS (TAC NOS. MD7366 AND
MD7367)

Dear Mr. Sheppard:

The U.S. Nuclear Regulatory Commission has issued the enclosed Amendment No. 184 to Facility Operating License No. NPF-76 and Amendment No. 171 to Facility Operating License No. NPF-80 for the South Texas Project, Units 1 and 2, respectively. The amendments consist of changes to the Technical Specifications (TSs) in response to your application dated November 8, 2007.

The amendments modify TS surveillance requirements related to battery testing, by revising TS 3/4.8.2.1, "DC [Direct Current] Sources - Operating," TS 3/4.8.2.2, "DC Sources - Shutdown," and TS 3/4.8.2.3, "Battery Parameters." The changes allow battery testing activities to be performed during any MODE of operation.

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

Sincerely,

/RA/

Mohan C. Thadani, Senior Project Manager
Plant Licensing Branch IV
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation

Docket Nos. 50-498 and 50-499

Enclosures:

1. Amendment No. 184 to NPF-76
2. Amendment No. 171 to NPF-80
3. Safety Evaluation

cc w/encls: See next page

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MMcConnell, NRR/DE/EEEB
GHill, OIS (4)

(*) SE input memo, (**) See previous concurrence

ADAMS Accession Nos.: Pkg ML081330342, Amendment ML081330344, License/TS Pgs ML081330355

OFFICE	NRR/LPL4/PM	NRR/LPL4/LA	NRR/DE/EEEB	OGC – no legal objection	NRR/LPL4/BC	NRR/LPL4/PM
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DATE	5/15/08	5/13/08	4/21/2008	6/20/08	6/30/08	6/30/08

OFFICIAL RECORD COPY

cc:

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South Texas Project, Units 1 and 2

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STP NUCLEAR OPERATING COMPANY

DOCKET NO. 50-498

SOUTH TEXAS PROJECT, UNIT 1

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 184
License No. NPF-76

1. The Nuclear Regulatory Commission (the Commission) has found that:
 - A. The application for amendment 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 the City of Austin, Texas (COA) (the licensees), dated November 8, 2007, 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.

*STPNOC is authorized to act for NRG South Texas LP, the City Public Service Board of San Antonio, and the 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. 184, and the Environmental Protection Plan contained in Appendix B, are hereby incorporated in the license. STPNOC 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 and shall be implemented within 60 days from the date of issuance.

FOR THE NUCLEAR REGULATORY COMMISSION

/RA/

Thomas G. Hiltz, Chief
Plant Licensing Branch IV
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation

Attachment:
Changes to the Facility Operating
License No. NPF-76 and the
Technical Specifications

Date of Issuance: June 30, 2008

STP NUCLEAR OPERATING COMPANY

DOCKET NO. 50-499

SOUTH TEXAS PROJECT, UNIT 2

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 171
License No. NPF-80

1. The Nuclear Regulatory Commission (the Commission) has found that:
 - A. The application for amendment 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 the City of Austin, Texas (COA) (the licensees), dated November 8, 2007, 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.

*STPNOC is authorized to act for NRG South Texas LP, the City Public Service Board of San Antonio, and the 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. 171, and the Environmental Protection Plan contained in Appendix B, are hereby incorporated in the license. STPNOC 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 and shall be implemented within 60 days from the date of issuance.

FOR THE NUCLEAR REGULATORY COMMISSION

/RA/

Thomas G. Hiltz, Chief
Plant Licensing Branch IV
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation

Attachment:
Changes to the Facility Operating
License No. NPF-80 and the
Technical Specifications

Date of Issuance: June 30, 2008

ATTACHMENT TO LICENSE AMENDMENT NOS. 184 AND 171

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

DOCKET NOS. 50-498 AND 50-499

Replace the following pages of the Facility Operating Licenses, Nos. NPF-76 and NPF-80, and Appendix A Technical Specifications with the attached revised pages. The revised pages are identified by amendment number and contain marginal lines indicating the areas of change.

Facility Operating License No. NPF-76

REMOVE

-4-

INSERT

-4-

Facility Operating License No. NPF-80

REMOVE

-4-

INSERT

-4-

Technical Specifications

REMOVE

3/4 8-11
3/4 8-13a
3/4 8-13c

INSERT

3/4 8-11
3/4 8-13a
3/4 8-13c

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION
RELATED TO AMENDMENT NOS. 184 AND 171 TO
FACILITY OPERATING LICENSE NOS. NPF-76 AND NPF-80
STP NUCLEAR OPERATING COMPANY, ET AL.
SOUTH TEXAS PROJECT, UNITS 1 AND 2
DOCKET NOS. 50-498 AND 50-499

1.0 INTRODUCTION

By letter dated November 8, 2007 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML073230120), the STP Nuclear Operating Company (STPNOC, the licensee) requested an amendment to Facility Operating License Nos. NPF-76 and NPF-80 for South Texas Project (STP), Units 1 and 2, respectively.

The licensee proposed to modify Technical Specification (TS) Surveillance Requirements (SRs) related to battery testing. The proposed changes would revise TS 3/4.8.2.1, "DC [Direct Current] Sources – Operating," TS 3/4.8.2.2, "DC Sources – Shutdown," and TS 3/4.8.2.3, "Battery Parameters." The proposed changes would allow battery testing activities to be performed during any MODE of operation.

2.0 REGULATORY EVALUATION

The following U.S. Nuclear Regulatory Commission (NRC) requirements and guidance documents are applicable to the staff's review of the licensee's amendment request:

- Title 10 of the *Code of Federal Regulations* (10 CFR), Section 50.36, "Technical Specifications" outlines the requirements of Safety Limits, Limiting Safety System Settings, and Limiting Control Settings.
- Paragraph 50.36(d)(2)(ii) of 10 CFR, "Technical specifications," requires that a technical specification limiting condition for operation of a nuclear reactor must be established for each item meeting one or more of the criteria set forth in 10 CFR 50.36(d)(2)(ii)(A)-(D).
- Paragraph 50.36(d)(3) of 10 CFR, "Technical specifications," requires that TSs include SRs, which "are requirements relating to test, calibration, or inspection to assure that the necessary quality of systems and components is maintained, that facility operation will be within safety limits, and that the limiting conditions for operation will be met."

- Appendix A of 10 CFR Part 50, General Design Criterion (GDC) 17, “Electric power systems,” requires, in part, that “[a]n onsite electric power system and an offsite electric power system shall be provided to permit functioning of structures, systems, and components important to safety. . . . The onsite electric power supplies, including the batteries, and the onsite electric distribution system, shall have sufficient independence, redundancy, and testability to perform their safety functions assuming a single failure. Electric power from the transmission network to the onsite electric distribution system shall be supplied by two physically independent circuits (not necessarily on separate rights of way) designed and located so as to minimize to the extent practical the likelihood of their simultaneous failure under operating and postulated accident and environmental conditions. . . . Provisions shall be included to minimize the probability of losing electric power from any of the remaining supplies as a result of, or coincident with, the loss of power generated by the nuclear power unit, the loss of power from the transmission network, or the loss of power from the onsite electric power supplies.”
- GDC 18, “Inspection and testing of electric power systems,” requires, in part, that “[e]lectric power systems important to safety shall be designed to permit appropriate periodic inspection and testing of important areas and features ... ”
- Paragraph 50.65(a)(3) of 10 CFR, “Requirements for monitoring the effectiveness of maintenance at nuclear power plants,” requires, in part, that “[p]erformance and condition monitoring activities and associated goals and preventive maintenance activities shall be evaluated at least every refueling cycle provided the interval between evaluations does not exceed 24 months. . . . Adjustments shall be made where necessary to ensure that the objective of preventing failures of structures, systems, and components through maintenance is appropriately balanced against the objective of minimizing unavailability of structures, systems, and components due to monitoring or preventive maintenance.”
- Regulatory Guide (RG) 1.6, “Independence Between Redundant Standby (Onsite) Power Sources and Between Their Distribution Systems,” describes an acceptable degree of independence between redundant standby (onsite) power sources and between their distribution systems.
- RG 1.32, Revision 2, “Criteria for Safety-Related Electric Power Systems for Nuclear Power Plants,” provides guidance for complying with GDCs 17 and 18 with respect to the design, operation, and testing of safety-related electric power systems of all types of nuclear power plants.

3.0 TECHNICAL EVALUATION

The Class 1E 125 volt (V) DC battery system for each STP unit consists of four independent, physically separate buses, each energized by one of two available battery chargers and one battery. The batteries serve to provide uninterrupted power for systems that maintain protection and control of the nuclear plant when alternating current (AC) power sources are unavailable.

The capacity of the STP batteries is sufficient to provide electrical power for a minimum of 2 hours to DC controls and to the vital instrumentation and protection system. Once an STP battery is discharged to its design minimum state, the battery chargers are capable of restoring the battery to its fully charged state within 12 hours while providing normal steady state-loads.

The Class 1E 125 V DC batteries are of the 59 cell lead-calcium type, assembled in shock-absorbing, clear plastic, sealed containers. The four 125 V DC batteries are located in separate rooms in a seismic Category I building, which inhibits propagation of fire and provides protection against missiles. Additionally, the STP batteries are sized to provide an output at 80 percent of their nameplate rating, which corresponds to the expected capacity at end of life.

The two battery chargers are associated with each of the four 125 V DC buses. The battery chargers are connected to their train-related AC buses. One battery charger is necessary for each of the four channels for operability. Each battery charger is of sufficient size to power the normal steady-state DC loads while providing some minimal over potential to the battery.

TS SRs 4.8.2.2.c and 4.8.2.3.f prescribe the conditions when a battery service test or modified performance discharge test must be performed. The purpose of the battery service test prescribed by SR 4.8.2.2.c is to test a battery's capability, as found, to satisfy the design requirements (i.e., the battery duty cycle) of the DC electrical power system. The battery performance discharge test prescribed by SR 4.8.2.3.f is a test of constant current capacity of a battery, normally done in the as-found condition, to detect any change in the capacity. The performance discharge test is intended to determine overall battery degradation due to age and usage. Either the battery performance discharge test or the modified performance discharge test is acceptable for satisfying SR 4.8.2.3.f. A modified discharge test is a test of the battery capacity and its ability to provide a high rate, short duration load (usually the highest rate of the duty cycle). This will confirm the battery's ability to meet the critical period of the load duty cycle, in addition to determining its percentage of rated capacity. Initial conditions for the modified performance discharge test should be identical to those specified for a service test. Therefore, note 4.8.2.1.2 referencing a test in SR 4.8.2.3.f is acceptable.

The existing STP TS require that SRs 4.8.2.2.c and 4.8.2.3.f be performed during shutdown. The licensee is proposing to remove this restriction to allow performance of the SRs while STP is operating. The proposed change would also create new SR 4.8.2.1.c.2 to address the ability to perform the service or modified performance test while in MODES 1, 2, 3, and 4. Therefore, deletion of the mode restriction in SRs 4.8.2.2.c and 4.8.2.3.f is acceptable.

In Amendments 179 and 166 for STP Units 1 and 2, respectively, dated July 13, 2007, the NRC staff approved a methodology proposed by the Nuclear Energy Institute (NEI) to support the licensee's adoption of risk-informed technical specifications. The NRC staff approved the methodology documented in NEI 06-09, "Risk-Informed Technical Specifications Initiative 4b, Risk-Managed Technical Specifications (RMTS) Guidelines, Industry Guidance Document," on May 17, 2007. The guidance ensures defense-in-depth by requiring preservation of existing balance between avoidance of core damage, avoidance of containment failure, and consequence mitigation by ensuring that the TS allowed outage times are based on cumulative risk associated with the current plant configuration. The licensee's configuration risk management program (CRMP), in conjunction with the probabilistic risk assessment (PRA), measures and accounts for the level of defense-in-depth on both instantaneous and cumulative

basis. Thus, the application of CRMP and PRA provides the operators a structure to assist the operators in identifying effective compensatory actions for various plant maintenance configurations to maintain and manage adequate defense-in-depth. The approval of the license Amendments 179 and 166 permitted the licensee to extend the TS allowed outage times up to 30 days.

The licensee is typically limited to a 2-hour TS allowable outage time for an inoperable battery bank. However, as discussed above, this allowable outage time could potentially be extended based on the results of the licensee's CRMP and PRA analysis. Provided that the licensee's CRMP and PRA analysis allows a sufficient outage time extension, the licensee could remove a battery bank from service for longer than 2 hours, for testing purposes. The licensee stated that battery discharge testing typically takes approximately 12 hours. This includes time needed to restore the battery bank to OPERABLE status.

Furthermore, as discussed above, the licensee must implement the compensatory measures during the extended period that a safety-related battery is inoperable for elective maintenance. Implementation of these compensatory measures will ensure that adequate defense-in-depth is maintained to provide adequate protection of health and safety of the public.

Based on the above evaluation, the NRC staff finds that removing the MODE restrictions for SRs 4.8.2.2.c and 4.8.2.3.f, and creating new SR 4.8.2.1.c.2 to address the ability to perform the service or modified performance test while in MODES 1, 2, 3, and 4, is acceptable. Therefore, the NRC staff concludes that the proposed revisions to the STP TS provide reasonable assurance of the continued availability of the required DC power to shut down the reactors and to maintain the reactors in a safe condition after an anticipated operational occurrence or a postulated design-basis accident. The staff also concludes that the proposed TS changes are in accordance with 10 CFR 50.36, 10 CFR 50.65, and the requirements of GDCs 17 and 18. Therefore, the staff finds the proposed changes acceptable.

4.0 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.

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. 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 published in the *Federal Register* on February 12, 2008 (73 FR 8072). Accordingly, the amendments meet 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: M. McConnell

Date: June 30, 2008