

March 31, 2006

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: PROPOSED AMENDMENTS TO INCORPORATE BEST ESTIMATE  
ANALYZER FOR CORE OPERATIONS-NUCLEAR (TAC NOS. MC8224 AND  
MC8225)

Dear Mr. Sheppard:

The Commission has issued the enclosed Amendment No. 175 to Facility Operating License No. NPF-76 and Amendment No. 163 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 August 30, 2005.

The amendments incorporate the Westinghouse Electric Company Best Estimate Analyzer for Core Operations-Nuclear power distribution monitoring system as described in Topical Report WCAP-124-P-A, "BEACON - Core Monitoring and Operations Support System."

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. 175 to NPF-76  
2. Amendment No. 163 to NPF-80  
3. Safety Evaluation

cc w/encls: See next page

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(PKG) **ML060760523** (TS) **ML060950451**

ADAMS Accession No: **ML060760501**

\* No significant change to the SE input

OFFICE	NRR/LPL4/PM	NRR/LPL4/LA	SPWB/BC*	OGC	NRR/LPL4/BC
NAME	MThadani	DJohnson	JNakoski	MWoods (NLO)	DTerao
DATE	3/22/06	3/22/06	12/15/2006	3/31/06	3/31/06

OFFICIAL RECORD COPY

STP NUCLEAR OPERATING COMPANY

DOCKET NO. 50-498

SOUTH TEXAS PROJECT, UNIT 1

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 175

License No. NPF-76

1. The Nuclear Regulatory Commission (the Commission) has found that:
  - A. The application for amendment by STP Nuclear Operating Company\* acting on behalf of itself and for Texas Genco, LP, the City Public Service Board of San Antonio (CPS), AEP Texas Central Company, and the City of Austin, Texas (COA) (the licensees), dated August 30, 2005, 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.

---

\*STP Nuclear Operating Company is authorized to act for Texas Genco, LP, the City Public Service Board of San Antonio, AEP Texas Central Company, 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. 175 , and the Environmental Protection Plan contained in Appendix B, are hereby incorporated in the license. The STP Nuclear Operating Company 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 90 days from the date of issuance.

FOR THE NUCLEAR REGULATORY COMMISSION

**/RA/**

David Terao, Chief  
Plant Licensing Branch IV  
Division of Operating Reactor Licensing  
Office of Nuclear Reactor Regulation

Attachment: Changes to the Technical  
Specifications

Date of Issuance: March 31, 2006

STP NUCLEAR OPERATING COMPANY

DOCKET NO. 50-499

SOUTH TEXAS PROJECT, UNIT 2

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 163  
License No. NPF-80

1. The Nuclear Regulatory Commission (the Commission) has found that:
  - A. The application for amendment by STP Nuclear Operating Company\* acting on behalf of itself and for Texas Genco, LP, the City Public Service Board of San Antonio (CPS), AEP Texas Central Company, and the City of Austin, Texas (COA) (the licensees), dated August 30, 2005, 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.

---

\*STP Nuclear Operating Company is authorized to act for Texas Genco, LP, the City Public Service Board of San Antonio, AEP Texas Central Company, 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. 163 , and the Environmental Protection Plan contained in Appendix B, are hereby incorporated in the license. The STP Nuclear Operating Company 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 90 days from the date of issuance.

FOR THE NUCLEAR REGULATORY COMMISSION

**/RA/**

David Terao, Chief  
Plant Licensing Branch IV  
Division of Operating Reactor Licensing  
Office of Nuclear Reactor Regulation

Attachment: Changes to the Technical  
Specifications

Date of Issuance: March 31, 2006

ATTACHMENT TO LICENSE AMENDMENT NOS. 175 AND 163

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 revised pages\*. The revised pages are identified by amendment number and contain marginal lines indicating the areas of change.

REMOVE

3/4 1-17  
3/4 1-19  
3/4 2-5  
3/4 2-7  
3/4 2-8  
3/4 2-9  
3/4 2-10  
3/4 4-6  
3/4 4-38  
3/4 6-2  
3/4 6-15  
3/4 6-16

INSERT

3/4 1-17  
3/4 1-19  
3/4 2-5  
3/4 2-7  
3/4 2-8  
3/4 2-9  
3/4 2-10  
3/4 4-6  
3/4 4-38  
3/4 6-2  
3/4 6-15  
3/4 6-16

\*Overleaf pages are provided to maintain document completeness. No changes are required on these pages.

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

RELATED TO AMENDMENT NOS. 175 AND 163 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 application dated August 30, 2005 (Agencywide Documents Access and Management System Accession No. ML052490396), STP Nuclear Operating Company (the licensee) requested changes to the Technical Specifications (TSs) for South Texas Project (STP), Units 1 and 2.

The proposed changes incorporate the Westinghouse Electric Company (Westinghouse) Best Estimate Analyzer for Core Operations - Nuclear (BEACON) power distribution monitoring system (PDMS) as described in Topical Report (TR) WCAP-12472-P-A, "BEACON - Core Monitoring and Operations Support System."

The BEACON system was developed by Westinghouse to improve the monitoring support for Westinghouse-designed pressurized water reactors. It is a core monitoring and support package which uses Westinghouse standard instrumentation in conjunction with an analytical methodology for on-line generation of three-dimensional power distributions. The system provides core monitoring, core measurement reduction, core analysis, and core predictions. The NRC staff reviewed TR WCAP-12472-P-A and approved it on February 16, 1994.

2.0 REGULATORY EVALUATION

The regulatory requirements related to the content of TSs are set forth in 10 CFR 50.36. Under 10 CFR 50.36(c)(2)(ii), a limit condition for operation must be included in TSs for any item meeting one of the following four criteria:

- Criterion 1: Installed instrumentation that is used to detect, and indicate in the control room, a significant abnormal degradation of the reactor pressure boundary.
- Criterion 2: A process variable, design feature, or operating restriction that is an initial condition of a design basis accident or transient analysis that either assumes the failure of or presents a challenge to the integrity of a fission product barrier.



Criterion 3: A structure, system, or component that is part of the primary success path and which functions or actuates to mitigate a design basis accident or transient that either assumes the failure of or presents a challenge to the integrity of a fission product barrier.

Criterion 4: A structure, system, or component which operating experience or probabilistic safety assessment has shown to be significant to public health and safety.

Those items that do not fall within or satisfy any of the above criteria do not need to be included in the TSs. The PDMS instrumentation does not meet any of the criteria of 10 CFR 50.36(c)(2)(ii) for inclusion in the TSs. Therefore, the licensee will include the PDMS instrumentation requirements in the STP Technical Requirements Manual (TRM). The TRM contains plant-specific administrative controls similar to those provided by the TSs over plant equipment not required to be in the TSs. Changes to the TRM are made in accordance with the provisions of 10 CFR 50.59. The NRC staff finds that the licensee-proposed changes meet the regulatory requirements stated above.

### 3.0 TECHNICAL EVALUATION

The staff evaluation of the licensee-proposed TS changes involved in adopting the BEACON system are discussed below.

TS 3.1.3.1, "Movable Control Assemblies - Group Height" - Action b.3.c will be modified to imply that a core power distribution measurement is obtained from either the moveable incore detectors (MIDS) or the PDMS that is consistent with TR WCAP-12472-P-A.

TS 3.1.3.2, "Position Indication Systems - Operating" - Action a.1 will be modified to allow use of either MIDS or PDMS to determine the position of nonindicating rod(s).

TS 3.2.2, "Heat Flux Hot Channel Factor -  $F_Q(Z)$ " - Action b will be modified to imply that the power distribution information could be obtained using either MIDS or PDMS.

TS 4.2.2, "Power Distribution Limits - Surveillance Requirements" - Replace wording from "power distribution maps" to "core power distribution measurements" in a few areas since this is appropriate for the use of either the PDMS or MIDs. Also, in Section 4.2.2.2b and 4.2.2.3, replace instructions to refer corrections specified in the Core Operating Limits Report (COLR).

TS 3.2.3, "Nuclear Enthalpy Rise Hot Channel Factor" - Replace wording from "incore mapping" to "core power distribution measurement" since this is appropriate for the use of either the PDMS or MIDs.

TS 4.2.3, "Nuclear Enthalpy Rise Hot Channel Factor - Surveillance Requirements" - Replace directions to use the moveable incore detectors with directions to obtain a core power distribution measurement. Also, in Section 4.2.3.2b, change wording to refer measurement uncertainty as specified in the COLR.

TS 4.2.4.2, "Quadrant Power Tilt Ratio - Surveillance Requirements" - Revise wording to allow either PDMS or incore measurements for Quadrant Power Tilt Ratio surveillance. In addition to the BEACON adoption changes, the licensee has proposed changes to

TSs 3.4.1.4.2c, 4.4.9.3.4, and 6.2.2b that are administrative in nature.

TS 6.9, "Reporting Requirements" - Add heat flux hot channel factor measurement and manufacturing uncertainties, enthalpy rise hot channel factor measurement uncertainty and TR WCAP-12472-P-A to the COLR.

Based on the above, the staff finds that the licensee's proposed TS changes and justifications are consistent with TR WCAP-12472-P-A or are administrative in nature, and, therefore, are acceptable. The staff, therefore, concludes that the licensee has adequately confirmed that its proposed TS changes will meet all relevant regulatory requirements, and the proposed TS changes are acceptable for STP.

#### 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 October 11, 2005 (70 FR 59088). The amendments also relate to changes in recordkeeping, reporting, or administrative procedures or requirements. Accordingly, the amendments meet the eligibility criteria for categorical exclusion set forth in 10 CFR 51.22(c)(9) and 10 CFR 51.22(c)(10). 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: C. Liang

Date: March 31, 2006

South Texas Project, Units 1 & 2  
cc

Senior Resident Inspector  
U.S. Nuclear Regulatory Commission  
P. O. Box 910  
Bay City, TX 77414

C. Kirksey/C. M. Canady  
City of Austin  
Electric Utility Department  
721 Barton Springs Road  
Austin, TX 78704

Mr. J. J. Nesrsta  
Mr. R. K. Temple  
City Public Service Board  
P. O. Box 1771  
San Antonio, TX 78296

INPO  
Records Center  
700 Galleria Parkway  
Atlanta, GA 30339-3064

Regional Administrator, Region IV  
U.S. Nuclear Regulatory Commission  
611 Ryan Plaza Drive, Suite 400  
Arlington, TX 76011

Steve Winn  
Texas Genco, LP  
12301 Kurland Drive  
Houston, TX 77034

Judge, Matagorda County  
Matagorda County Courthouse  
1700 Seventh Street  
Bay City, TX 77414

A. H. Gutterman, Esq.  
Morgan, Lewis & Bockius  
1111 Pennsylvania Avenue, NW  
Washington, DC 20004

E. D. Halpin  
Vice President Oversight  
STP Nuclear Operating Company  
P. O. Box 289  
Wadsworth, TX 77483

S. M. Head, Manager, Licensing  
STP Nuclear Operating Company  
P. O. Box 289, Mail Code: N5014  
Wadsworth, TX 77483

Environmental and Natural Resources  
Policy Director  
P. O. Box 12428  
Austin, TX 78711-3189

Jon C. Wood  
Cox, Smith, & Matthews  
112 East Pecan, Suite 1800  
San Antonio, TX 78205

Director  
Division of Compliance & Inspection  
Bureau of Radiation Control  
Texas Department of State Health Services  
1100 West 49th Street  
Austin, TX 78756

Brian Almon  
Public Utility Commission  
William B. Travis Building  
P. O. Box 13326  
1701 North Congress Avenue  
Austin, TX 78701-3326

Susan M. Jablonski  
Office of Permitting, Remediation  
and Registration  
Texas Commission on  
Environmental Quality  
MC-122  
P.O. Box 13087  
Austin, TX 78711-3087

South Texas Project, Units 1 & 2  
cc

Mr. Terry Parks, Chief Inspector  
Texas Department of Licensing  
and Regulation  
Boiler Division  
P. O. Box 12157  
Austin, TX 78711

Mr. Ted Enos  
4200 South Hulen  
Suite 630  
Ft. Worth, Texas 76109