



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

September 22, 2015

Mr. Dennis L. Koehl  
President and CEO/CNO  
STP Nuclear Operating Company  
South Texas Project  
P.O. Box 289  
Wadsworth, TX 77483

SUBJECT: SOUTH TEXAS PROJECT, UNITS 1 AND 2 - ISSUANCE OF AMENDMENTS  
RE: APPROVAL OF CHANGE TO UPDATED FINAL SAFETY ANALYSIS  
REPORT (TAC NOS. MF6172 AND MF6173)

Dear Mr. Koehl:

The U.S. Nuclear Regulatory Commission (NRC, the Commission) has issued the enclosed Amendment No. 207 to Facility Operating License No. NPF-76 and Amendment No. 195 to Facility Operating License No. NPF-80 for the South Texas Project, Units 1 and 2, respectively. The amendments consist of changes to the Updated Final Safety Analysis Report (UFSAR) in response to your application dated April 29, 2015.

The amendments correct the radiological doses previously reported in error in Revisions 16 and 17 to the UFSAR. These revisions were submitted in a license amendment request dated March 22, 2007, for an alternate source term analysis, and approved by the NRC staff by letter dated March 6, 2008.

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,

A handwritten signature in black ink, appearing to read "L. Regner", is written over a horizontal line.

Lisa M. Regner, Senior Project Manager  
Plant Licensing Branch IV-1  
Division of Operating Reactor Licensing  
Office of Nuclear Reactor Regulation

Docket Nos. 50-498 and 50-499

Enclosures:

1. Amendment No. 207 to NPF-76
2. Amendment No. 195 to NPF-80
3. Safety Evaluation

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UNITED STATES  
NUCLEAR REGULATORY COMMISSION  
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STP NUCLEAR OPERATING COMPANY

DOCKET NO. 50-498

SOUTH TEXAS PROJECT, UNIT 1

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 207  
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 April 29, 2015, 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.

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\*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, by Amendment No. 207, the license is amended to authorize revision to the Updated Final Safety Analysis Report (UFSAR), as set forth in the application dated April 29, 2015. The licensee shall update the UFSAR to incorporate the correction to Table 15.6-17, as described in the licensee's application dated April 29, 2015, and the NRC staff's safety evaluation enclosed with this amendment, and shall submit the revised description authorized by this amendment with the next update of the UFSAR.
3. This license amendment is effective as of its date of issuance and shall be implemented within 90 days from the date of issuance. The UFSAR changes shall be implemented in the next periodic update to the UFSAR in accordance with 10 CFR 50.71(e).

FOR THE NUCLEAR REGULATORY COMMISSION

A handwritten signature in black ink, appearing to read "Michael T. Markley".

Michael T. Markley, Chief  
Plant Licensing Branch IV-1  
Division of Operating Reactor Licensing  
Office of Nuclear Reactor Regulation

Date of Issuance: September 22, 2015



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

STP NUCLEAR OPERATING COMPANY

DOCKET NO. 50-499

SOUTH TEXAS PROJECT, UNIT 2

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 195  
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 April 29, 2015, 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.

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\*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, by Amendment No. 195, the license is amended to authorize revision to the Updated Final Safety Analysis Report (UFSAR), as set forth in the application dated April 29, 2015. The licensee shall update the UFSAR to incorporate the correction to Table 15.6-17, as described in the licensee's application dated April 29, 2015, and the NRC staff's safety evaluation enclosed with this amendment, and shall submit the revised description authorized by this amendment with the next update of the UFSAR.
3. This license amendment is effective as of its date of issuance and shall be implemented within 90 days from the date of issuance. The UFSAR changes shall be implemented in the next periodic update to the UFSAR in accordance with 10 CFR 50.71(e).

FOR THE NUCLEAR REGULATORY COMMISSION

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Michael T. Markley, Chief  
Plant Licensing Branch IV-1  
Division of Operating Reactor Licensing  
Office of Nuclear Reactor Regulation

Date of Issuance: September 22, 2015



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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

RELATED TO AMENDMENT NOS. 207 AND 195 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 April 29, 2015 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML15127A260), STP Nuclear Operating Company (the licensee), requested a change to the Updated Final Safety Analysis Report (UFSAR) for South Texas Project (STP), Units 1 and 2. The NRC staff originally posted the proposed no significant hazards consideration determination in the *Federal Register* on July 21, 2015 (80 FR 43130).

The amendments correct the radiological dose errors previously reported in Revisions 16 and 17 to the UFSAR. These errors were originally submitted in a license amendment request (LAR) dated March 22, 2007 (ADAMS Accession No. ML070890474), for an alternate source term (AST) analysis, and approved by the U.S. Nuclear Regulatory Commission (NRC) staff by letter dated March 6, 2008 (ADAMS Accession No. ML080300062).

2.0 REGULATORY EVALUATION

The Commission's regulatory requirements related to the content of UFSARs are set forth in Title 10 of the *Code of Federal Regulations* (10 CFR) Section 50.34, "Contents of applications; technical information," to support initial licensing. The change control and reporting requirements are in 10 CFR 50.59, "Changes, tests, and experiments," and 10 CFR 50.71, "Maintenance of records, making of reports."

The criteria for evaluating loss-of-coolant accident (LOCA) dose results are provided in 10 CFR 50.67, "Accident source term," General Design Criteria (GDC) 19, "Control room," of Appendix A to 10 CFR Part 50, "General Design Criteria for Nuclear Power Plants," NRC Regulatory Guide (RG) 1.183, "Alternative Radiological Source Terms for Evaluating Design Basis Accidents at Nuclear Power Reactors," July 2000 (ADAMS Accession No. ML003716792), and NUREG-0696, "Functional Criteria for Emergency Response Facilities," February 1981 (ADAMS Accession No. ML051390358).

Enclosure

### 3.0 TECHNICAL EVALUATION

#### 3.1 Proposed UFSAR Changes

The licensee's revision would correct radiological dose errors in UFSAR Table 15.6-17, "Dose Resulting from Large Break Loss of Coolant Accident," inadvertently introduced during an update to the UFSAR following NRC approval of Amendment Nos. 182 and 169 for STP, Units 1 and 2, respectively. The amendments requested approval of an AST submitted by letter dated March 22, 2007, and were approved by the NRC by letter dated March 6, 2008.

The licensee updated the UFSAR in Revision 16 as part of the implementation of the AST amendments, and transcribed the errors from AST LAR Table 4.3-14, "LOCA Dose Results (rem TEDE [roentgen equivalent man total effective dose equivalent])," to the UFSAR Table 15.6-17. The licensee noted the error during preparation of Revision 17 to the UFSAR and entered the condition into its Corrective Action Program. The licensee also included a description of the error in a letter to the NRC dated April 28, 2014, for UFSAR Revision 17 (ADAMS Accession No. ML14132A289), which retained the error, but noted that the dose values remained below the regulatory limits.

The licensee evaluated the error using the criteria of 10 CFR 50.59, but discovered that the dose to Technical Support Center operators would increase by more than 10 percent of the margin to the dose limit, and therefore, required NRC approval.

#### 3.2 NRC Staff Evaluation

In its LAR dated April 29, 2015, the licensee proposed to correct the radiological dose errors in UFSAR Table 15.6-17 that were introduced following implementation of the AST amendments.

The NRC staff reviewed the licensee's LAR, the underlying calculations for the AST LAR, the NRC staff's safety evaluation (SE) for the STP AST license amendments, the radiological dose limits in 10 CFR 50.67, and the guidance of RG 1.183 and NUREG-0696. The NRC staff also reviewed the acceptance criteria for radiological dose limits in 10 CFR 50.67 for licensees with revised accident source terms. The limits for the exclusion area boundary, the low population zone, and the control room are listed in the table below. The limits for the Technical Support Center are also listed in the table below but are defined in NUREG-0696, Section 2.6, "Habitability," which states that the Technical Support Center "...shall have the same radiological habitability as the control room under accident conditions."

The NRC staff compared the values in STP's AST LAR Table 4.3-14 to the STP AST underlying analyses values in Calculation Number: NC-6013, Revision 16 (ADAMS Accession No. ML071620446), used to support the AST amendments, and noted they were inconsistent. The NRC staff then compared the AST underlying analysis values to the proposed UFSAR Chapter 15, Table 15.6-17 changes for consistency. The staff noted that the proposed changes were consistent with the underlying analysis values calculated for AST LOCA radiological dose.

The table below provides the current UFSAR Table 15.6-17 total LOCA dose (in rem, TEDE); the proposed UFSAR Table 15.6-17 total LOCA dose; and the dose limits of 10 CFR 50.67:

Area	Current UFSAR	Proposed UFSAR	10 CFR 50.67 Limits
Exclusion Area Boundary	5.62	5.68	25
Low Population Zone	2.81	2.89	25
Control Room	3.68	3.74	5
Technical Support Center	1.21	4.40	5 Δ

Δ not provided in 10 CFR 50.67, but are set at 5 rem per NUREG 0696 Functional Criteria for Emergency Response Facilities, Section 2.6 "Habitability."

The NRC staff also reviewed the NRC SE for the AST amendments, Section 3.1.1, "Loss-of-Coolant Accident (LOCA)" dated March 6, 2008 (ADAMS Accession No. ML080160013), and Table 1, "Radiological Consequences Expressed as TEDE." The SE provides statements verifying the licensee's values to one significant figure versus the licensee's two significant figures.

The NRC staff recognized the values below in its SE for the AST amendments:

Area	NRC Staff SE Values
Exclusion Area Boundary	5.6
Low Population Zone	2.8
Control Room	3.7
Technical Support Center	▲

▲ The SE did not include this value.

The NRC SE states, in part, that the NRC "...staff performed independent confirmatory dose evaluations as necessary to ensure a thorough understanding of the licensee's methods." This review, therefore, did not rely on the licensee's analysis, but confirmed dose evaluations by independent means. Further, the staff's review of SE dose values for the exclusion area boundary, low population zone, and control room involved one significant figure. Since the errors were less than 0.06, 0.08, and 0.06 rem for each of the exclusion area boundary, low population zone, and control room, respectively, these errors are not reflected to one significant figure are not, therefore, considered significant.

The licensee stated that the Technical Support Center calculation changed by more than 10 percent of the margin to the dose limit and, therefore, failed the 10 CFR 50.59 screening criteria and requires NRC approval. The NRC staff agrees with this determination since the most significant error the licensee reported was the dose for the on-site Technical Support Center which rose from 1.2 rem to 4.4 rem.

As stated in the discussion above, the NRC staff compared the proposed value of 4.4 rem to the underlying analysis value and verified that they were the same. Since this value is below the limit for the control room (5 rem) as discussed in NUREG-0696, Section 2.6, "Habitability", the NRC staff determines the proposed value are within the recommended guidelines.



Based on the above, the NRC staff concludes that the changes proposed by the licensee are acceptable since they are consistent with the licensee's analysis values for radiological dose for the exclusion area boundary, low population zone, control room, and Technical Support Center. Further, the staff concludes that the amendments are acceptable because the radiological dose values for these areas continue to be consistent with radiological dose criteria of 10 CFR 50.67 and NUREG-0696.

#### 4.0 STATE CONSULTATION

In accordance with the Commission's regulations, the State of Texas official was notified of the proposed issuance of the amendment. The State of Texas 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 July 21, 2015 (80 FR 43130). 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) there is reasonable assurance that 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: Lisa M. Regner

Date: September 22, 2015

Mr. Dennis L. Koehl  
President and CEO/CNO  
STP Nuclear Operating Company  
South Texas Project  
P.O. Box 289  
Wadsworth, TX 77483

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Sincerely,

/RA/

Lisa M. Regner, Senior Project Manager  
Plant Licensing Branch IV-1  
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NAME	LRegner	JBurkhardt	CKanatas	MMarkley	LRegner
DATE	8/4/15	8/4/15	8/24/15	9/1/15	9/22/15

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