



South Texas Project Electric Generating Station P.O. Box 289 Wadsworth, Texas 77483

August 23, 2011  
NOC-AE-11002714  
10CFR54  
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U. S. Nuclear Regulatory Commission  
Attention: Document Control Desk  
One White Flint North  
11555 Rockville Pike  
Rockville, MD 20852-2746

South Texas Project  
Units 1 and 2  
Docket Nos. STN 50-498, STN 50-499  
Response to Requests for Additional Information for the  
South Texas Project License Renewal Application (TAC Nos. ME4936 and ME4937)

- References: 1. STPNOC Letter dated October 25, 2010, from G. T. Powell to NRC Document Control Desk, "License Renewal Application" (NOC-AE-10002607) (ML103010257)  
2. NRC letter dated July 28, 2011, "Requests for Additional Information for the Review of the South Texas Project, License Renewal Application – Scoping and Screening Audit" (ML11201A055)

By Reference 1, STP Nuclear Operating Company (STPNOC) submitted a License Renewal Application (LRA) for South Texas Project (STP) Units 1 and 2. By Reference 2, the NRC staff requested additional information for review of the STP LRA. STPNOC's response to the request for additional information is provided in the Enclosure to this letter.

There are no regulatory commitments in this letter.

Should you have any questions regarding this letter, please contact either Arden Aldridge, STP License Renewal Project Lead, at (361) 972-8243 or Ken Taplett, STP License Renewal Project regulatory point-of-contact, at (361) 972-8416.

I declare under penalty of perjury that the foregoing is true and correct.

Executed on August 23, 2011  
Date

G. T. Powell  
Vice President,  
Technical Support & Oversight

KJT

Enclosure: STPNOC Response to Requests for Additional Information

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**STPNOC Response to Requests for Additional Information**

**SOUTH TEXAS PROJECT  
LICENSE RENEWAL APPLICATION  
REQUESTS FOR ADDITIONAL INFORMATION**

**RAI 2.1-1**

**Background:**

Title 10 of the *Code of Federal Regulations* (10 CFR) 54.4, "Scope," states, in part,

(a) Plant systems, structures and components within the scope of this part are:

- (1) Safety-related systems, structures, and components which are those relied upon to remain functional during and following design-basis events (as defined in 10 CFR 50.49(b)(1)) to ensure the following functions:
  - (i) The integrity of the reactor coolant pressure boundary;
  - (ii) The capability to shut down the reactor and maintain it in a safe shutdown condition;  
or
  - (iii) The capability to prevent or mitigate the consequences of accidents which could result in potential offsite exposures comparable to those referred to in 10 CFR 50.34(a)(1), 10 CFR 50.67(b)(2), or 10 CFR 100.11, as applicable.

**Issue:**

During the scoping and screening methodology audit, performed on-site May 16-19, 2011, the U.S. Nuclear Regulatory Commission (NRC or the staff) determined, through a review of the license renewal implementing documents and discussions with STP Nuclear Operating Company (STPNOC or the applicant), that a quality class, "QC-4," had been used in identifying structures, systems, and components (SSCs) to be included within the scope of license renewal in accordance with 10 CFR 54.4(a)(1) that was not addressed in the license renewal application.

**Request:**

The staff requests that the applicant provide a description of the process used to evaluate components identified as QC-4 in the plant equipment database or other documents, to identify SSCs to be included within the scope of license renewal in accordance with 10 CFR 54.4(a)(1). The staff requests that the applicant perform a review of this issue and indicate if the review concludes that use of the scoping methodology precluded the identification of SSCs which should have been included within the scope of license renewal in accordance with 10 CFR 54.4(a). Describe any additional scoping evaluations performed to address the 10 CFR 54.4(a) criteria. List any additional SSCs included within the scope as a result of your efforts, and list those structures and components for which aging management reviews were conducted or any additional information related to material and environment combinations. For each structure and

component, describe the aging management programs, as applicable, to be credited for managing the identified aging effects.

**STPNOC Response:**

South Texas Project (STP) systems, structures and components (SSCs) classified as Quality Class 4 (QC-4) are identified as safety-related and are included within the scope of license renewal under the requirements of 10 CFR 54.4(a)(1). In accordance with the requirements of 10 CFR 54.4(a)(2), nonsafety-related SSCs whose failure could impact any of the functions identified for 10 CFR 54.4(a)(1) SSCs including SSCs classified as QC-4, are included within the scope of license renewal. Therefore, this review concludes that use of this scoping methodology does not preclude the identification of SSCs which should have been included within the scope of license renewal in accordance with 10 CFR 54.4(a). No additional scoping evaluations regarding this issue are required to be performed to address the 10 CFR 54.4(a) criteria.

Section 2.1.2.1, *10 CFR 54.4(a)(1) Safety Related*, of the STP License Renewal Application (LRA) will be revised to include Quality Class 4 (QC-4) SSCs and will state that Quality Class 4 SSCs are within the scope of license renewal for 10 CFR 50.54(a)(1).

**RAI 2.1-2**

**Background:**

Title 10 of the *Code of Federal Regulations* (10 CFR) 54.4, "Scope," states, in part,

(a) Plant systems, structures and components within the scope of this part are:

- (1) Safety-related systems, structures, and components which are those relied upon to remain functional during and following design-basis events (as defined in 10 CFR 50.49 (b)(1)) to ensure the following functions:

- (i) The integrity of the reactor coolant pressure boundary;
- (ii) The capability to shut down the reactor and maintain it in a safe shutdown condition;  
or
- (iii) The capability to prevent or mitigate the consequences of accidents which could result in potential offsite exposures comparable to those referred to in 10 CFR 50.34(a)(1), 10 CFR 50.67(b)(2), or 10 CFR 100.11, as applicable.

- (2) All nonsafety-related systems, structures and components whose failure could prevent satisfactory accomplishment of any of the functions identified in (a)(1)(i), (ii), or (iii) of this section.

**Issue:**

During the scoping and screening methodology audit, performed on-site May 16-19, 2011, the staff reviewed the license renewal application, license renewal implementing documents and had discussions with the applicant, to determine the applicant's approach for identifying nonsafety-related SSCs, with the potential to impact safety-related SSCs, and to include the nonsafety-related SSCs within the scope of license renewal in accordance with 10 CFR 54.4

(a)(2). The staff determined that the method used to address the potential for nonsafety-related SSCs to impact safety-related SSCs located in the turbine building as provided during discussions with the applicant, was different than the method provided in the license renewal application (LRA) and the applicant's implementing documents. The staff performed a plant walkdown of the safety-related SSCs located in the turbine building (feedwater regulating control valves' associated air solenoid valves and limit switches) and determined that there were nonsafety-related SSCs located within the vicinity of the safety-related SSCs. The LRA and the applicant's implementing documents stated that nonsafety-related piping and structures that could potentially interact with the safety-related solenoid valves and limit switches were included within the scope of license renewal in accordance with 10 CFR 54.4 (a)(2). However, during audit discussions with the staff, the applicant stated that the safety-related solenoid valves and limit switches were qualified to withstand the effects of the failure of nonsafety-related SSCs within the vicinity of the safety-related SSCs and, therefore, the nonsafety-related SSCs were not included within the scope of license renewal in accordance with 10 CFR 54.4 (a)(2).

Request:

The staff requests that the applicant perform a review of this issue and provide a discussion and basis for the position, as stated by the applicant during the scoping and screening methodology audit, that nonsafety-related SSCs within the vicinity of the safety-related solenoid valves and limit switches located in the turbine building are not required to be included within the scope of license renewal in accordance with 10 CFR 54.4(a)(2). Indicate if the review concludes that use of the scoping methodology precluded the identification of systems, structures, and components (SSCs) which should have been included within the scope of license renewal in accordance with 10 CFR 54.4(a)(2). Describe any additional scoping evaluations performed to address the 10 CFR 54.4(a)(2) criteria. List any additional SSCs included within the scope as a result of your efforts, and list those structures and components for which aging management reviews were conducted or any additional information related to material and environment combinations. For each structure and component, describe the aging management programs, as applicable, to be credited for managing the identified aging effects.

STPNOC Response:

Prior to submittal of the STP LRA, the feedwater regulating valves and associated safety-related solenoid valves and limit switches were walked down to identify nonsafety-related components whose failure could affect these safety-related components. Components in immediate vicinity of the solenoid valves and limit switches that were judged to have the potential for spatial interaction with the solenoid valves and limit switches to prevent satisfactory performance of their Intended function were included in the scope of license renewal under the requirements of 10 CFR 54.4(a)(2). The feedwater regulating valves and lines are within the scope of license renewal and subject to periodic external surfaces monitoring per LRA Section B2.1.20; thereby, ensuring that any external aging effects will be managed.

The solenoid valves, limit switches and associated circuits are environmentally qualified for steam line break, water spray and harsh temperature environments. High energy nonsafety-related components not in immediate vicinity that can not impact the safety-related components are not included within the scope of license renewal because the safety-related components are qualified for the environment resulting from failure of those nonsafety-related components. This is consistent with Section 5.2.3.2 of NEI 95-10, Rev. 6, Appendix F which states that "If a component is qualified/designed to maintain its function in an environment that could be caused by failure of a nearby non-safety SSC, that non-safety SSC would NOT need to be within the scope of 54.4(a)(2)."

As a result of this review, no previously unidentified components are brought into the scope of license renewal.

### **RAI 2.1-3**

#### **Background:**

Title 10 of the *Code of Federal Regulations* (10 CFR) 54.4, "Scope," states, in part,

(a) Plant systems, structures and components within the scope of this part are:

- (1) Safety-related systems, structures, and components which are those relied upon to remain functional during and following design-basis events (as defined in 10 CFR 50.49 (b)(1)) to ensure the following functions:

- (i) The integrity of the reactor coolant pressure boundary;
- (ii) The capability to shut down the reactor and maintain it in a safe shutdown condition;  
or
- (iii) The capability to prevent or mitigate the consequences of accidents which could result in potential offsite exposures comparable to those referred to in 10 CFR 50.34(a)(1), 10 CFR 50.67(b)(2), or 10 CFR 100.11, as applicable.

- (2) All nonsafety-related systems, structures and components whose failure could prevent satisfactory accomplishment of any of the functions identified in (a)(1)(i), (ii), or (iii) of this section.

#### **Issue:**

During the scoping and screening methodology audit performed on-site May 16-19, 2011, the staff determined that the applicant had performed a plant walkdown in April 2011, subsequent to the submittal of the license renewal application, during which the applicant identified additional SSCs to be included within the scope of license of renewal in accordance with 10 CFR 54.4(a)(2). The applicant had not submitted this information to the NRC, which identified additional non safety-related SSCs to be included within the scope of license renewal.

#### **Request:**

The staff requests that the applicant perform a review of this issue and indicate if the review concludes that use of the scoping methodology precluded the identification of SSCs which should have been included within the scope of license renewal in accordance with 10 CFR 54.4(a). Describe any additional scoping evaluations performed to address the 10 CFR 54.4(a) criteria. List any additional SSCs included within the scope as a result of your efforts, and list those structures and components for which aging management reviews were conducted or any additional information related to material and environment combinations. For each structure and component, describe the aging management programs, as applicable, to be credited for managing the identified aging effects.

STPNOC Response:

Section 2.1.2.2 of the LRA states that non-safety related SSCs containing fluid or steam, and located in the same room or area containing safety-related SSCs are included in scope for potential leakage boundary (spatial) interaction under criterion 10 CFR 54.4(a)(2) (regardless of the system pressure). Identification of the rooms and areas of concern for potential spatial interaction is based on a review of the Current Licensing Basis and design drawings and considered for potential communication with other rooms that may contain 10 CFR 54.4(a)(1) components. The methodology used for the Reactor Containment Building (RCB), Isolation Valve Cubicle (IVC), Fuel Handling Building (FHB), and Mechanical Auxiliary Building (MAB) is to include all non safety-related fluid-filled SSCs in scope of license renewal for spatial interaction unless the components are in a closed area that does not allow spatial interaction with SSCs in an adjacent area.

Some SSCs in the MAB and FHB were not included within the scope of license renewal in the submitted LRA because of an incorrect usage of the information contained on a set of drawings showing seismic II/I conditions. If the drawing indicated that the room did not contain seismic II/I conditions (non II/I area), then the approach was to exclude the room from 10 CFR 54.4(a)(2) evaluation for spatial interaction. The approach incorrectly concluded that the non-seismic II/I area did not contain safety-related components although the room could have included safety-related components above non safety-related components.

Further evaluation determined that the approach for excluding non-seismic II/I areas from 10 CFR 54.4(a)(2) evaluation for spatial interaction was not a valid approach. Walkdowns were performed for these previously excluded areas. The walkdowns identified that potential spatial interaction exists between seismic II/I and non-seismic II/I areas, and that some non-seismic II/I areas contain safety-related components above non safety-related components.

Each room that was excluded from a 10 CFR 54.4(a)(2) evaluation based on the approach described above was reviewed to determine if the room contained safety-related components. Table 1 shows the components that were identified within previously excluded rooms that could spatially interact with SR components and are in-scope per 10 CFR 54.4(a)(2). These components will be placed in-scope and managed by the aging management program (AMP) listed in Table 1.

LRA Sections 2.3.3, 2.3.4, 3.3 and 3.4 will be revised to include the components contained in Table 1. Boundary drawings will be revised to show the components listed in Table 1 are within the scope of license renewal.

**Table 1**

**Components within previously excluded rooms  
that could spatially interact with SR components and are in-scope per 10 CFR 54.4(a)(2).**

Note: Components are designated by South Texas Project Total Plant Numbering System (TPNS) nomenclature.

<b>AMP B.1.2, "Water Chemistry" and AMP B.1.16, "One-Time Inspection"</b>	<b>Comp Type</b>	<b>AMP B.1.20, "External Surfaces Monitoring Program"</b>	<b>Comp Type</b>	<b>AMP B.1.22, "Inspection of Internal Surfaces in Miscellaneous Piping and Ducting Components"</b>	<b>Comp Type</b>
7Q061TED0332	Valve	7S201MSP001	Filter	7Q061TED0096	Valve
7Q061TED0361	Valve	7S201TSB0230	Valve	7Q061TED0097	Valve
7Q061TED0362	Valve	7S201TSB0305	Valve	7Q061TED0098	Valve
7Q061TED0363	Valve	7S201TSB0316	Valve	7Q061TED0170	Valve
7Q061TED0375	Valve	7S201TSB0380	Valve	7Q061TED0265	Valve
7Q061TED0378	Valve	7S201TSB0381	Valve	7Q061TED0268	Valve
7Q062TED0332	Valve	7S202MSP001	Filter	7Q061TED0281	Valve
7Q062TED0361	Valve	7S202TSB0305	Valve	7Q062TED0096	Valve
7Q062TED0362	Valve	7S202TSB0316	Valve	7Q062TED0097	Valve
7Q062TED0363	Valve	7S202TSB0380	Valve	7Q062TED0098	Valve
7Q062TED0375	Valve	7S202TSB0381	Valve	7Q062TED0170	Valve
7Q062TED0378	Valve	N1SBFV5019	AOV-3	7Q062TED0265	Valve
7R181NDM102A	Vessel	N2SBFV5019	AOV-3	7Q062TED0268	Valve
7R181TBR0055	Valve			7Q062TED0281	Valve
7R181TBR0168	Valve			7R301TWL1086	Valve
7R181TBR0169	Valve			7R302TWL1086	Valve
7R181TBR0218	Valve			7R321XPA1902	Pump
7R182NDM202A	Vessel			7R321XWS0076	Valve
7R182TBR0055	Valve			7R321XWS0077	Valve
7R182TBR0168	Valve			7R321XWS0078	Valve
7R182TBR0169	Valve			7R321XWS0079	Valve
7R321TWS0035	Valve			7R321XWS0080	Valve
7R322TWS0035	Valve			7R321XWS0081	Valve
7R322TWS0068	Valve			7R321XWS0083	Valve
7S201MDM001	Vessel			7R322TWS0036	Valve
7S201MDM002	Vessel			7R322TWS0041	Valve
7S201MSP001	Filter			7R322XPA1902	Pump
7S201TSB0230	Valve			7R322XWS0076	Valve
7S201TSB0305	Valve			7R322XWS0077	Valve
7S201TSB0316	Valve			7R322XWS0078	Valve
7S201TSB0319	Valve			7R322XWS0079	Valve
7S201TSB0380	Valve			7R322XWS0080	Valve
7S201TSB0381	Valve			7R322XWS0081	Valve
7S202MSP001	Filter			7R322XWS0082	Valve
7S202TSB0305	Valve			7R322XWS0083	Valve

<b>AMP B.1.2, "Water Chemistry" and AMP B.1.16, "One-Time Inspection"</b>	<b>Comp Type</b>	<b>AMP B.1.20, "External Surfaces Monitoring Program"</b>	<b>Comp Type</b>	<b>AMP B.1.22, "Inspection of Internal Surfaces in Miscellaneous Piping and Ducting Components"</b>	<b>Comp Type</b>
7S202TSB0316	Valve			9Q061NPA112A	Pump
7S202TSB0319	Valve			9Q061NPA112B	Pump
7S202TSB0380	Valve			9Q061NPA112C	Pump
7S202TSB0381	Valve			9Q061NPA112E	Pump
9S191TDW0609	Valve			9Q061NPA112F	Pump
9S192TDW0609	Valve			9Q061NPA112G	Pump
N1FHLCV0027B	Valve			9Q061NPA112H	Pump
N1FHPSV0028A	PSV			9Q062NPA112A	Pump
N1FHPSV0028B	PSV			9Q062NPA112B	Pump
N1SBFV5019	AOV-3			9Q062NPA112C	Pump
N2SBFV5019	AOV-3			9Q062NPA112E	Pump
OCM01FHVLV0026B	Valve			9Q062NPA112F	Pump
				9Q062NPA112G	Pump
				9Q062NPA112H	Pump
				9R301NPA0103A	Pump
				9R301NPA0103B	Pump

Notes:

AOV – air-operated valve  
PSV – pressure relief valve