



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

August 20, 2015
NOC-AE-15003241
10CFR50.12
10CFR50.90

U. S. Nuclear Regulatory Commission
Attention: Document Control Desk
Washington, DC 20555-0001

South Texas Project
Units 1 and 2
Docket Nos. STN 50-498 and STN 50-499
Supplement 2 to STP Pilot Submittal and Requests for Exemptions and
License Amendment for a Risk-Informed Approach to Address
Generic Safety Issue (GSI)-191 and Respond to Generic Letter (GL) 2004-02
(TAC NOS. MF2400 - MF2409)

References:

1. Letter, G. T. Powell, STPNOC, to NRC Document Control Desk, "Supplement 1 to Revised STP Pilot Submittal and Requests for Exemptions and License Amendment for a Risk-Informed Approach to Resolving Generic Safety Issue (GSI)-191", November 13, 2013, NOC-AE-13003043, ML13323A183
2. Letter, G. T. Powell, STPNOC, to NRC Document Control Desk, "Description of Revised Risk-Informed Methodology and Responses to Round 2 Requests for Additional Information Regarding STP Risk-Informed GSI-191 Licensing Application", March 25, 2015, NOC-AE-15003220, ML15091A440

This submittal supplements the STP Risk-Informed GSI-191 application (Reference 1) with the information from RAI responses and with the "Risk over Deterministic" (RoverD) methodology as the primary framework for the technical basis and a proposed change to the Technical Specifications. It contains sufficient information to be used as a stand-alone reference for the review of the STP licensing application and for closure of GL 2004-02 for STP.

The requested licensing actions are for approval of a risk-informed approach for resolving GSI-191 for STP Units 1 and 2 as the pilot plants for other licensees pursuing a similar approach. Approval of the proposed licensing application is also requested to close (GL) 2004-02 for STPNOC.

STPNOC seeks NRC approval of the proposed exemptions and amendment to the license based on a determination that the STP risk-informed approach and the risk associated with the postulated failure mechanisms due to GSI-191 concerns meets the guidance, key principles for risk-informed decision-making, and the acceptance guidelines in RG 1.174.

A114
NRR

STI 34081350

The STP piloted risk-informed approach to resolving GSI-191 shows that the risk associated with debris from pipe breaks that generate quantities of debris that are not bounded by plant-specific prototypical testing is very small, in accordance with the acceptance criteria of RG 1.174. The effects of debris that is bounded by the plant-specific testing are deterministically mitigated in accordance with NRC-accepted methodology for resolution of GL 2004-02.

The risk associated with GSI-191 concerns includes the effects on long-term cooling due to debris accumulation on Emergency Core Cooling System (ECCS) and Containment Spray System (CSS) sump strainers in recirculation mode, as well as core flow blockage due to in-vessel effects, following loss of coolant accidents (LOCAs). A full spectrum of postulated LOCAs is analyzed, including double-ended guillotine breaks for all pipe sizes up to the largest pipe in the reactor coolant system. The changes to CDF and LERF associated with GSI-191 concerns are quantified by applying the LOCA frequencies published in NUREG-1829, and then compared to RG 1.174 acceptance guidelines. The results quantified in Section 4.5 of Attachment 1-3, in combination with the defense-in-depth and safety margin described in Attachment 1-4, meet the criteria of RG 1.174 for considering the risk from effects of LOCA debris to be in Region III (very small) and that no additional plant modification is required to close GL 2004-02 for STP.

Attachment 1 provides the methodology for the proposed risk-informed approach to addressing the GSI-191 issue as described in GL 2004-02, consistent with RG 1.174 guidance. It also includes responses to Round 2 RAIs regarding boric acid precipitation and scope of the proposed exemptions that were deferred in Reference 2.

Attachment 2 describes the proposed exemptions from certain regulatory requirements in accordance with the provisions of 10CFR50.12. This submittal revises the proposed licensing basis to change the proposed exemption to 10CFR50.46(b)(5) described in Reference 1 to an exemption to 10CFR50.46(d). Note that STPNOC described a need for exemption to single failure in previous correspondence on this licensing application. STPNOC is not requesting specific exemption to the single failure requirement identified in the affected regulations and reference to it is not included in this supplement.

Attachment 3 provides the License Amendment Request (LAR), pursuant to 10CFR50.90, for approval of the proposed changes to the STP Units 1 and 2 licensing basis including page markups for the affected TS pages and Updated Final Safety Analysis Report (UFSAR) pages. In this supplement STPNOC is proposing addition of a required action specific to the effects of debris to TS 3/4.5.2, "ECCS Subsystems – Tavg Greater Than or Equal to 350°" and TS3/4.6.2, "Depressurization and Cooling Systems – Containment Spray System". The LAR includes technical and regulatory evaluations for the proposed change, a no significant hazards consideration determination pursuant to 10CFR50.92, and an environmental considerations review. The Plant Operations Review Committee has approved the proposed change. In accordance with 10CFR50.91(b), STPNOC has notified the State of Texas by transmitting a copy of this letter and enclosure to the State of Texas Official. Changes to the STP Technical Specifications and UFSAR are to be implemented pursuant to NRC approval of LAR.

To support the completion of work and resolution schedule for closure of GL 2004-02 for STP, STPNOC requests approval of the proposed exemption requests and license amendment request by November 30, 2015.

A 90-day implementation period is requested to provide time to revise the applicable STP licensing documents and implement the Technical Specification changes. There are no other commitments in this letter.

If there are questions regarding this submittal, please contact Mike Murray at 361-972-8146, or me at 361-972-7566.

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

Executed on August 20, 2015



G. T. Powell
Site Vice President

awh

Attachments:

1. STP Piloted Risk-Informed Approach to Closure for GSI-191
 - 1-1 Introduction
 - 1-2 Deterministic Basis
 - 1-3 Risk-Informed Basis
 - 1-4 Defense in Depth and Safety Margin
 - 1-5 Response to 2009 RAIs
 - 1-6 Responses to Round 2 RAIs
2. Requests for Exemptions for STP Piloted Risk-Informed Approach to Closure for GSI-191
 - 2-1 General
 - 2-2 Request for Exemption from 10CFR50.46(d)
 - 2-3 Request for Exemption from General Design Criterion 35
 - 2-4 Request for Exemption from General Design Criterion 38
 - 2-5 Request for Exemption from General Design Criterion 41
3. License Amendment Request for STP Piloted Risk-informed Approach to Closure for GSI-191
 - 3-1 Technical Specification Page Markups
 - 3-2 "Clean" Technical Specification Pages
 - 3-3 Technical Specifications Bases Page Markups (Information Only)
 - 3-4 STPEGS UFSAR Page Markups (Information Only)
4. List of Commitments
5. Definitions and Acronyms

cc:

(paper copy)
Regional Administrator, Region IV
U. S. Nuclear Regulatory Commission
1600 East Lamar Boulevard
Arlington, TX 76011-4511

Lisa M. Regner
Senior Project Manager
U.S. Nuclear Regulatory Commission
One White Flint North (O8H04)
11555 Rockville Pike
Rockville, MD 20852

NRC Resident Inspector
U. S. Nuclear Regulatory Commission
P. O. Box 289, Mail Code: MN116
Wadsworth, TX 77483

(electronic copy)
Morgan, Lewis & Bockius LLP
Steven P. Frantz, Esquire

U. S. Nuclear Regulatory Commission
Lisa M. Regner
Michael Markley
John Stang

NRG South Texas LP
John Ragan
Chris O'Hara
Jim von Suskil

CPS Energy
Kevin Pollo
Cris Eugster
L. D. Blaylock

Crain Caton & James, P.C.
Peter Nemeth

City of Austin
Cheryl Mele
John Wester

Texas Dept of State Health Services
Richard A. Ratliff
Robert Free