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January 4, 2010
U7-C-STP-NRC-100001

U. S. Nuclear Regulatory Commission
Attention: Document Control Desk
One White Flint North
11555 Rockville Pike
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South Texas Project
Units 3 and 4
Docket Nos. 52-012 and 52-013
Response to Request for Additional Information

Attached is the response to NRC staff question included in Request for Additional Information (RAI) letter number 295 related to Combined License Application (COLA) Part 2, Tier 2 Chapter 19. The attachment contains the response to the following RAI question.

19.01-31

There are no new commitments in this letter.

If you have any questions regarding this RAI response, please contact me at (361) 972-7136, or Bill Mookhoek at (361) 972-7274.

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

Executed on 1/4/10

Scott Head
Manager, Regulatory Affairs
South Texas Project Units 3 & 4

dws

Attachment:
Question 19.01-31

STI 32595507

DO91
NRO

cc: w/o attachment except*

(paper copy)

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RAI 19.01-31**QUESTION**

The staff has reviewed the applicant's response to RAI 19-18 and 19-20 and has additional questions. The shared fire water system design departure impacts the shutdown and full power hurricane risk assessment for the site. In accordance with 10CFR Part 52.79(d)(1), the staff requests that the applicant provide:

- (a) The shutdown and full power hurricane core damage frequency (CDF) and large early release frequency (LERF).
- (b) A description of the dominant sequences contributing to the shutdown and full power hurricane CDF and LERF estimates.
- (c) The list of SSCs that were identified as risk significant for the Reliability Assurance Program with the supporting Fussell-Vesely (FV) and Risk Achievement Worth (RAW) for component basic events, human error probabilities, and common cause failures.

RESPONSE

The "Addenda to ASME/ANS RA-S-2008, Standard for Level 1/Large Early Release Frequency Probabilistic Risk Assessment for Nuclear Power Plant Applications, ASME/ANS RA-Sa-2009," approved February 2, 2009 (reference 1), contains screening criteria for external events other than fire and seismic events in Subsection 6-2.3. This Standard applies to an At-Power Level 1 PRA for operating nuclear power plants. An equivalent Low Power/Shutdown Standard is not yet approved; however, for the purposes of responding to this Request for Additional Information, the external event screening criteria in the published national standard are selected to provide a basis for the response provided below. In NUREG-1407 (reference 2), the NRC recommended a similar set of screening criteria for the Individual Plant Examination of External Events (IPEEE) required of all operating nuclear power plants.

In ASME/ANS RA-Sa-2009, Subsection 6-2.3, the fundamental criteria for screening external events other than fire and seismic events are as below:

"There are three fundamental screening criteria embedded in the requirements here, as follows. An event can be screened out either

- (a) if it meets the criteria in the NRC's 1975 Standard Review Plan (SRP) or a later revision; or
- (b) if it can be shown using a demonstrably conservative analysis that the mean value of the frequency of the design-basis hazard used in the plant design is less than $\sim 10^{-5}/\text{yr}$ and that the conditional core damage probability is $< 10^{-1}$, given the occurrence of the design-basis hazard event; or
- (c) if it can be shown using a demonstrably conservative analysis that the CDF is $< 10^{-6}/\text{yr}$."

The STP site is within the site parameters specified in the Design Control Document (DCD) for the ABWR for high winds and tornados. Therefore, the STP 3&4 design satisfies the requirements of the Standard Review Plan 3.3.1, Revision 3, which was in effect at the time of the Combined Operating License Application. Criterion (a) of ASME/ANS RA-Sa-2009 Subsection 6-2.3 is satisfied for high winds and tornados and these events are screened from the STP 3&4 PRA described in Chapter 19 of the Combined Operating License Application.

REFERENCES

1. Addenda to ASME/ANS RA-S-2008, Standard for Level 1/Large Early Release Frequency Probabilistic Risk Assessment for Nuclear Power Plant Applications, ASME/ANS RA-Sa-2009, February 2, 2009, American Society for Mechanical Engineers and American Nuclear Society.
2. "Procedural and Submittal Guidance for the Individual Plant Examination of External Events (IPEEE) for Severe Accident Vulnerabilities," Report NUREG-1407, U.S. Nuclear Regulatory Commission (1991).