



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

August 23, 2011

LICENSEE: STP Nuclear Operating Company

FACILITY: South Texas Project

SUBJECT: SUMMARY OF TELEPHONE CONFERENCE CALL HELD ON JULY 28, 2011,
BETWEEN THE U.S. NUCLEAR REGULATORY COMMISSION AND STP
NUCLEAR OPERATING COMPANY, CONCERNING REQUESTS FOR
ADDITIONAL INFORMATION PERTAINING TO THE SOUTH TEXAS PROJECT
LICENSE RENEWAL APPLICATION

The U.S. Nuclear Regulatory Commission (NRC or the staff) and representatives of STP Nuclear Operating Company held a telephone conference call on July 28, 2011, to discuss and clarify the applicant's responses to the staff's requests for additional information (RAIs) concerning the South Texas Project license renewal application. The telephone conference call was useful in clarifying the needs for follow-up RAIs.

Enclosure 1 provides a listing of the participants and Enclosure 2 contains a listing of the clarifications for RAI responses that were discussed with the applicant, including a brief description of the status of the items.

The applicant had an opportunity to comment on this summary.

A handwritten signature in black ink, appearing to read "Tam Tran", is positioned above the typed name.

Tam Tran, Project Manager
Projects Branch 2
Division of License Renewal
Office of Nuclear Reactor Regulation

Docket Nos.: 50-498 and 50-499

Enclosures:

1. List of Participants
2. List of RAI

cc w/encls: Listserv

TELEPHONE CONFERENCE CALL
SOUTH TEXAS PROJECT
LICENSE RENEWAL APPLICATION

LIST OF PARTICIPANTS
JULY 28, 2011

PARTICIPANTS

Tam Tran
Jerry Dozier
Travis Tate
Donnie Harrison
Steve Short
Bruce Schmidt
Arden Aldridge
Chet McIntyre
Shawn Rodgers
Mary Ann Billings
Don MacLeod

AFFILIATIONS

Nuclear Regulatory Commission (NRC)
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Pacific Northwest National Laboratory (PNNL)
PNNL
South Texas Project (STP)
STP
STP
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Engineering and Research, Inc. (ERIN)

REQUESTS FOR ADDITIONAL INFORMATION

LICENSE RENEWAL APPLICATION

JULY 28, 2011

The U.S. Nuclear Regulatory Commission (NRC or the staff) and representatives of STP Nuclear Operating Company held a telephone conference call on July 28, 2011, to discuss and clarify the following responses to requests for additional information (RAIs) concerning the license renewal application (LRA), listed in ML11140A015.

A. **RAI response supplements are needed for additional clarification**

RAI 1.d: The response to this RAI states that a reduced set of sequences was used for the uncertainty analysis and the results scaled so that the mean of the distribution was scaled to match the mean of the CDF point estimate or $6.39\text{E-}06$ per year. It is unclear how this scaling of the CDF distribution impacts the 95th percentile multiplier of 1.6 used in the uncertainty analysis.

Provide the mean and 95th percentile CDF from the Monte Carlo distribution and the ratio of this 95th percentile CDF to the point estimate CDF for the reduced set of sequences. If the resulting ratio is greater than 1.6, consider the impact on the SAMA cost benefit analysis provided in the environmental report (ER) and in response to RAIs. Also, confirm that all CDF and release frequency values provided in the ER and in RAI responses are point estimates based on mean basic event values.

RAI 1.f: The total CDF for STP_REV4 is given in Table 1-3 of the RAI response as $1.17\text{E-}05$ per year. Section F.2 of the ER and page 9 of Attachment 1 to STPNOC's 2/28/07 RMTS submittal give the total as $9.08\text{E-}06$ per year.

Explain this difference and/or indicate the necessary corrections in the submittals.

RAI 2.c: The response to this RAI states that an additional initiator with a large contribution to LERF, HWIND2, that was not included in the IPE was added to the PRA later. ER Table F.2-1 does not include the HWIND2 initiator, only the HWIND initiator.

Discuss the difference between the HWIND and HWIND2 initiators, their contributions to CDF and LERF, and identify the version of the PRA model to which the HWIND2 initiator was first added.

RAI 6.b: The ER discussion of the modeling of SAMA 12 appears to indicate that the only sequences impacted and credited in the cost benefit analysis are those involving leakage from the primary system. The conservative modeling discussed involves hydrogen generation for non-leakage sequences. The response to the RAI states sequences involving this conservative

modeling are included in the assessment of the impact of this SAMA. Describe how these conservatively modeled sequences are included in the SAMA evaluation.

Discussion: The applicant indicated that the questions are clear. The applicant will provide an RAI supplement by August 19, 2011. In addition, during the discussion, the applicant provided clarification that the information in the ER for RAI 2.c is correct; hence, the staff withdraws this question (RAI 2.c).

B. **Resolution path is needed on the use of best available methodology or data for evaluation in DSEIS**

RAI 3.b: The response to this RAI simply indicates that a review of the NUREG/CR-6850 will be performed in the future. However, the recent research and guidance reported in NUREG/CR-6850, specifically in the areas of hot short probabilities, fire ignition frequencies, and non-suppression probabilities, indicate that the fire analysis methodologies utilized for the IPE may underestimate fire risk.

Provide assurance that consideration of this new information is not expected to impact the selection of cost beneficial SAMAs for STP.

Discussion: The applicant indicated that the question is clear. The applicant will provide a proposed resolution by August 19, 2011.

RAI 3.c: The response to this RAI did not provide the requested updated seismic CDF results instead citing IN 2010-18. While this Information Notice concluded that the US plants had adequate safety margin, it did indicate that the seismic CDF for South Texas could be as high as 3E-06 per year (for spectral accelerations of 5 hz and 10 hz). This is 40 times the total seismic CDF given in the ER. Also note that the STP IPE gives a seismic CDF using the LLNL hazard curve of 1.7E-05 per year which is over 200 times the value used in the PRA. Since the seismic CDF was determined using point estimates, the seismic CDF for STP_REV6, based on the LLNL hazard curve, can be obtained from the LLNL seismic frequencies from Table 3.4.4-9 of the IPE/IPEEE and the CCDPs from Table F.2-1 of the ER. The result is a SCDF of 8.7E-06 per year.

Comparing the USGS hazard curves for the STP site with the EPRI hazard curves indicates that the frequency for the USGS curves is 60 to 150 times those for the EPRI curves over the range of 0.4 to 0.6 g which is the range for the largest contributors to STP seismic CDF. Furthermore, the USGS hazard curve is higher than the LLNL hazard curve by a factor of 1.5 to 2 over the same range.

Using the above method for determining the CDF for SEIS3 and SEIS4 initiators gives seismic CDFs of 4E-06 and 5E-06 per year, respectively. This indicates that applying the LLNL hazard curves or the 2008 USGS hazard curves to the SEIS3 and SEIS4 initiators could lead to CDF contributions of about 60 to 150% of the STP_REV6 total CDF.

Provide an assessment of the seismic CDF contribution due to the updated USGS hazard curves and the potential for cost beneficial SAMAs.

Discussion: The applicant indicated that the question is clear. The applicant's experts are having discussion with the industry on the use of USGS hazard curves, but this effort may not meet the license renewal schedule. The difficulty for the applicant's experts is that the use of LLNL or the USGS hazard curves may not provide consistently realistic results requiring extensive peer-reviews. The applicant is working on a proposed resolution by August 19, 2011.

August 23, 2011

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/RA/

Tam Tran, Project Manager
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*concurrent via email

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DATE	8/10/11	8/18/11	8/23/11

OFFICIAL RECORD COPY

Memorandum to STP Nuclear Operating Company from T. Tran dated August 23, 2011

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