SeabrookNPEm Resource

From: Wentzel, Michael
Sent: Thursday, February 17, 2011 9:46 AM
To: Cliche, Richard
Subject: Draft 2/15 Telecon Summary
Attachments: 021511, Telecon Summary Between NRC and NextEra Seabrook, Clarifying the Seabrook SAMA RAI Responses (TAC No. ME3959).docx

Rick,

Attached is the draft summary for our Tuesday telecon. Please review and let me know if you have any comments. Any of the areas of clarification where we are requesting information are deferred until we issue additional RAIs. I should have a copy of the draft RAIs for your review later today, or tomorrow.

Thanks,
Mike

Michael Wentzel
Project Manager
NRR/DLR/RPB1
(301) 415-6459
michael.wentzel@nrc.gov

Hearing Identifier: Seabrook_License_Renewal_NonPublic
Email Number: 598

Mail Envelope Properties (C0A338EE37A11447B136119705BF9A3F9FF9446FA6)

Subject: Draft 2/15 Telecon Summary
Sent Date: 2/17/2011 9:46:05 AM
Received Date: 2/17/2011 9:46:05 AM
From: Wentzel, Michael

Created By: Michael.Wentzel@nrc.gov

Recipients:
"Cliche, Richard" <Richard.Cliche@fpl.com>
Tracking Status: None

Post Office: HQCLSTR02.nrc.gov

Files	**Size**	**Date & Time**
MESSAGE	500	2/17/2011 9:46:05 AM
021511, Telecon Summary Between NRC and NextEra Seabrook, Clarifying the Seabrook SAMA RAI Responses (TAC No. ME3959).docx	44472	

Options
Priority: Standard
Return Notification: No
Reply Requested: No
Sensitivity: Normal
Expiration Date:
Recipients Received:

LICENSEE: NextEra Energy Seabrook, LLC

FACILITY: Seabrook Station

SUBJECT: SUMMARY OF TELEPHONE CONFERENCE CALLS HELD ON FEBRUARY 15, 2011, BETWEEN THE U.S. NUCLEAR REGULATORY COMMISSION AND NEXTERA ENERGY SEABROOK, LLC, TO CLARIFY THE RESPONSES TO THE REQUESTS FOR ADDITIONAL INFORMATION PERTAINING TO THE SEVERE ACCIDENT MITIGATION ALTERNATIVES REVIEW OF THE SEABROOK STATION LICENSE RENEWAL APPLICATION (TAC NO. ME3959)

The U.S. Nuclear Regulatory Commission (NRC or the staff) and representatives of NextEra Energy Seabrook, LLC (NextEra, or the applicant), held a telephone conference call on February 15, 2011, to discuss and clarify the applicant's responses to the staff's requests for additional information (RAI) concerning the Severe Accident Mitigation Alternatives review of the Seabrook Station, license renewal application (LRA). The telephone conference call was useful in clarifying the intent of the applicant's responses to the staff's RAIs and identifying areas where further information was necessary.

Enclosure 1 provides a listing of the participants and Enclosure 2 contains a listing of issues that the staff requested clarification on and that were discussed with the applicant, including a brief description on the status of the items.

The applicant had an opportunity to comment on this summary.

Michael Wentzel, Project Manager
Projects Branch 1
Division of License Renewal
Office of Nuclear Reactor Regulation

Docket No. 50-443

Enclosures:
As stated

cc w/encls: Distribution via Listserv

LICENSEE: NextEra Energy Seabrook, LLC

FACILITY: Seabrook Station

SUBJECT: SUMMARY OF TELEPHONE CONFERENCE CALLS HELD ON FEBRUARY 15, 2011, BETWEEN THE U.S. NUCLEAR REGULATORY COMMISSION AND NEXTERA ENERGY SEABROOK, LLC, TO CLARIFY THE RESPONSES TO THE REQUESTS FOR ADDITIONAL INFORMATION PERTAINING TO THE SEVERE ACCIDENT MITIGATION ALTERNATIVES REVIEW OF THE SEABROOK STATION LICENSE RENEWAL APPLICATION (TAC NO. ME3959)

The U.S. Nuclear Regulatory Commission (NRC or the staff) and representatives of NextEra Energy Seabrook, LLC (NextEra, or the applicant), held a telephone conference call on February 15, 2011, to discuss and clarify the applicant's responses to the staff's requests for additional information (RAI) concerning the Severe Accident Mitigation Alternatives review of the Seabrook Station, license renewal application (LRA). The telephone conference call was useful in clarifying the intent of the applicant's responses to the staff's RAIs.

Enclosure 1 provides a listing of the participants and Enclosure 2 contains a listing of issues that the staff requested clarification on and that were discussed with the applicant, including a brief description on the status of the items.

The applicant had an opportunity to comment on this summary.

Michael Wentzel, Project Manager
Projects Branch 1
Division of License Renewal
Office of Nuclear Reactor Regulation

Docket No. 50-443

Enclosures:
As stated

cc w/encls: Distribution via Listserv

DISTRIBUTION:
See next page
ADAMS Accession No.:

OFFICE	LA:DLR	PM:RPB1:DLR	BC: RPB1:DLR
NAME		MWentzel	BPham
DATE	2/ /11	2/ /11	2/ /11

OFFICIAL RECORD COPY

Memorandum to NextEra Energy Seabrook, LLC from M.Wentzel dated February XX, 2011

SUBJECT: SUMMARY OF TELEPHONE CONFERENCE CALLS HELD ON FEBRUARY 15, 2011, BETWEEN THE U.S. NUCLEAR REGULATORY COMMISSION AND NEXTERA ENERGY SEABROOK, LLC, TO CLARIFY THE RESPONSES TO THE REQUESTS FOR ADDITIONAL INFORMATION PERTAINING TO THE SEVERE ACCIDENT MITIGATION ALTERNATIVES REVIEW OF THE SEABROOK STATION LICENSE RENEWAL APPLICATION (TAC NO. ME3959)

DISTRIBUTION:

HARD COPY:
DLR RF

E-MAIL:
PUBLIC
RidsNrrDlr Resource
RidsNrrDlrRpb1 Resource
RidsNrrDlrRpb2 Resource
RidsNrrDlrRarb Resource
RidsNrrDlrRapb Resource
RidsNrrDlrRasb Resource
RidsNrrDlrRerb Resource
RidsNrrDlrRpob Resource
SeabrookPEm Resource

MWentzel
BPham
DHarrison
RGallucci
EMiller
ICouret, OPA
EDacus, OCA
MSpencer, OGC
WRaymond, RI
DTifft, RI
NMcNamara, RI
NSheehan, RI
DScrenci, RI
JJohnson, RI
ABurritt, RI

TELEPHONE CONFERENCE CALL
SEABROOK STATION LICENSE RENEWAL APPLICATION

LIST OF PARTICIPANTS
February 15, 2011

PARTICIPANTS	AFFILIATIONS
Michael Wentzel	U.S. Nuclear Regulatory Commission (NRC)
Ray Gallucci	NRC
Donnie Harrison	NRC
Bo Pham	NRC
Steve Short	Pacific Northwest National Labatory (PNNL)
Bruce Schmidt	PNNL
Garill Coles	PNNL
Richard Cliche	NextEra Energy Seabrook, LLC. (NextEra)
Edward Carley	NextEra
Rich Turcotte	NextEra
Paul Willoughby	NextEra

ENCLOSURE 1

TELEPHONE CONFERENCE CALLS
SEABROOK STATION
LICENSE RENEWAL APPLICATION

February 15, 2011

The U.S. Nuclear Regulatory Commission (NRC or the staff) and representatives of NextEra Energy Seabrook, LLC (NextEra or the applicant), held a telephone conference call on February 15, 2011, to discuss and clarify the applicant's responses to the staff's requests for additional information (RAIs) concerning the Severe Accident Mitigation Alternatives (SAMA) review of the Seabrook Station, license renewal application (LRA). The areas of clarification requested by the staff are discussed below:

1. Response to RAI 1.a. Relative to SAMA #192, provide the change in population dose-risk, and describe NextEra's plans for further consideration of this potentially cost-beneficial SAMA. Clarify why the Upper Bound Cost Benefit is only a factor of 1.4, rather than a factor of 1.9, greater than the Nominal Cost Benefit.

Discussion: *The applicant stated that SAMA #192 has been added to Seabrook Station's Long Range Plan and the decision has been made to implement this SAMA by the end of 2011. The evaluation of this SAMA resulted in a decrease in population dose risk of 6.14% with the Upper Bound Cost Benefit now assessed at $306.5K, reflecting the uncertainty factor of 1.9 (NextEra indicated that the Upper Bound Cost Benefit in the RAI response reflecting a factor of 1.4 was incorrect).*

2. Response to RAI 1.b.1. Provide the fire and seismic core damage frequency (CDF) based on the 2006 probabilistic risk assessment (PRA) model used for the SAMA evaluation.

Discussion: *The applicant stated that the fire and seismic CDFs for the 2006 PRA model used in the SAMA evaluation is 1.32E-06 per year and 3.06E-06 per year, respectively.*

3. The responses to RAI 1.f and 2.e state that Tables F.3.1.1.1-2 and F.3.2.1-2 consider initiating events. However, Tables F.3.1.1.1-2 and F.3.2.1-2 show only basic events, and so it is not clear how initiating events are explicitly considered in the importance analysis. For example, the most dominant initiating event contributor according to the listing in Table F.3.1.1.1-1 is loss of station power due to weather (LOSPW), but there appears to be no corresponding event in Tables F.3.1.1.1-2 or F.3.2.1-2. As an example, demonstrate in Tables F.3.1.1.1-2 and F.3.2.1-2 how LOSPW is considered.

Discussion: *The staff will be issuing an additional RAI to address this issue.*

4. The responses to RAI 1.f and 2.e also state that Attachment F.A describes a number of SAMA PRA cases that specifically addressed initiating events. While this is the case, it is unclear if all of the dominant initiating events in Table F.3.1.1.1-1 are addressed. For example, while Attachment F.A describes "NOLOSP" as the modeling case used to determine the benefit of eliminating all LOSP events, none of the SAMAs evaluated using this case (i.e., SAMA s 13, 14, 16, 24, and 156) specifically addressed initiating event FLLP, "Flood in Turbine Building (causing LOSP)." Other examples from

Attachment F.A are PRA cases "FIRE1" and "FIRE2," which are the PRA model cases used to determine the benefit of eliminating control room induced LOCA and fire in Turbine Building causing loss of power to emergency buses, respectively. Neither of these modeling cases addresses the specific scenario of a fire in Switchgear Rooms A or B and no SAMAs were identified or developed to specifically address fire in Switchgear Rooms A and B. In the absence of initiating events in the RRW importance listing, provide a correlation of one or more SAMAs to each of the risk significant initiating events (and a justification for any initiating events not addressed by a SAMA).

Discussion: *The staff will be issuing an additional RAI to address this issue.*

5. Response to RAI 1.e. states that the Seabrook Station PRA Group instructions are consistent with requirements of the American Society of Mechanical Engineers (ASME) PRA standard, but neither the ASME standard nor its version is referenced. ER Section F.3.3 states that 2005 focused peer review is against the ASME PRA standard, but again the version is not cited. Identify the version of the ASME standard that applies in these two cases.

Discussion: *The applicant stated that the 2005 focused scope peer review was performed to the ASME RA-Sa-2003 PRA standard and the Seabrook Station PRA Group instructions are consistent with the requirements of the ASME/ANS RA-Sa-2009 PRA standard.*

6. The response to RAI 2.a. states that "Therefore, all Level 1 sequences are evaluated by the containment event tree (CET) and it is not necessary to summarize and group similar sequences into Level 1 plant damage states." In light of this response, clarify if the text in the 5th paragraph of ER Section F.3.2.1 about grouping "inputs to the Level 2 analysis" and the benefits of grouping as a way to focus on the limited number of representative sequences" is erroneous or if is there an explanation for this wording.

Discussion: *The applicant stated that the cited text in the Environmental Report (ER) was erroneous.*

7. RAI 2.f response.

    i. Relative to SAMA #193, provide the change in CDF and change in population dose-risk, and describe NextEra's plans for further consideration of this potentially cost-beneficial SAMA.

Discussion: *The applicant stated that SAMA #193 has been added to Seabrook Station's Long Range Plan to be prioritized and considered for further implementation in conjunction with SAMA #192. The evaluation of this SAMA resulted in a decrease in population dose risk of 34.5% with essentially no change in CDF.*

    ii. Relative to basic event #10, page 38 of 116, confirm acronym "BE" means "basic event" or provide its meaning if not.

Discussion: *The applicant stated that the acronym "BE" means "basic event."*

8. Response to RAI 3.b.

i. Relative to the FIVE fire risk analysis methodology, clarify if fire-induced failures of components or human actions credited for mitigating the initiator are assessed, given that the initiator is now fire-induced (including identifying either new components or actions to be modeled or requantifying the random failure probabilities of previously modeled ones). In addition, clarify if hot shorts are considered and, if so, what probabilities are assigned to these.

ii. Relative to the Fire-induced interfacing system loss-of-coolant accident (ISLOCA) & Containment Impact section. For the "only area where isolation valves both inside and outside containment could be affected," clarify how "important isolation valves [that] could be controlled locally at the valve" would be so controlled for valves inside containment during operation. For the letdown system and its "several; fail closed air operated valves (AOVs)," clarify the basis for the statement "it is not credible for all three valves to hot short." For "isolation failure of one or more valves of a single train," clarify the statement "the ability to remove power from fail closed valves to provide isolation" and the case for failed open valves due to hot shorting (which could not be de-powered?).

Discussion: *The staff will be issuing an additional RAIs to address these issues.*

9. The response to RAI 3.c.a states that "However, the present PRA model has been updated to the more recent Electric Power Research Institute (EPRI) hazards" and that "This was done because, while the methodology and experts used in developing the EPRI hazard are essentially the same as the Seabrook Station Probabilistic Safety Assessment (SSPSA), the EPRI hazard is more recent and the EPRI uniform hazard spectrum (UHS) developed for the Seabrook Station site is more realistic than that used in the SSPSA." Since the EPRI hazard curve was assessed in the individual plant examination external events (IPEEE) as a sensitivity case, clarify what has changed to conclude that the EPRI hazard curve is more realistic than the SSPSA hazard curve.

Discussion: *The staff will be issuing an additional RAI to address this issue.*

10. RAI 3.g response. A seismic CDF of 2.2E-05 per year, based on the updated 2008 United States Geologic Survey (USGS) seismic hazard curves (as determined from GI-199 information), was used to develop a factor of 2.6 multiplier on the maximum attainable benefit (MAB). The revised MAB was used to re-assess only those Phase II SAMAs that were qualitatively screened based on high cost or low benefit. Phase II SAMAs that were quantitatively evaluated and determined to not be cost-beneficial in the original analysis were not re-assessed in the RAI response. Based on a scoping assessment by the NRC staff, applying the 2.6 multiplier to the estimated benefit for these non-re-assessed SAMAs will result in many SAMAs becoming potentially cost-beneficial, based on the current cost estimates. Provide an assessment of the impact of the higher seismic CDF on all SAMAs, including those identified and evaluated in response to RAIs.

Discussion: *The staff will be issuing an additional RAI to address this issue.*

11. The response to RAI 5.b states that all top ranked basic events related to large early release frequency (LERF) have been addressed in response to RAI 2.f. This appears to be the case with the exception of basic event FWP161.FS, which has a LERF risk

reduction worth (RRW) of 1.0886 (see ER Table F.3.2.1-2). Provide an assessment of this basic event for SAMAs.

Discussion: *The staff will be issuing an additional RAI to address this issue.*

12. The response to RAI 5.b provides the same disposition (not beneficial based on eliminating all supplemental electric power system (SEPS) failures), same associated SAMAs (#9 and #14), and same two pairs of case studies (PRA cases SEPS for #s 8-9 and OSEP1 for #s 10-11) for basic events #8, #9, #10, and #11, yet the estimated benefits are different between the pairs #s 8-9 and #s 10-11. Clarify the differences in the treatment of these four SAMAs, including the two different case studies.

Discussion: *The staff will be issuing an additional RAI to address this issue.*

13. In the response to RAI 5.f for Essential Switchgear Rooms, clarify if electrical raceway fire barriers also considered for areas where cables for redundant trains may be co-located.

Discussion: *The applicant stated that there are no collocated cables in the switchgear rooms and therefore electrical raceway fire barriers would provide no benefit.*

14. The results of a Phase II evaluation of SAMA 79 are provided in response to RAI 5.g. Provide the change in CDF and change in population dose-risk for this SAMA (Case FW01, while as described in ER Appendix F.A, does not appear to have been used for any other SAMA).

Discussion: *The applicant stated that the decrease in CDF is 12% and the decrease in population dose risk is 7.3%.*

15. RAI 5.n response. Provide the change in CDF and change in population dose-risk for SAMA 105 (PRA Case OLPRS).

Discussion:

16. RAI 6.a response. The offsite economic cost risk (OECR) reduction is shown to be 9% for SAMAs 96, 108, and 109, yet the benefit at both 7% discount rate and for the Upper Bound are reported in the ER to be <$1K. Clarify the basis for the <$1K benefit given the 9% reduction in OECR.

Discussion: *The applicant stated that the decrease in CDF is 1.8% and the decrease in population dose risk is <1%.*

17. RAI 6.k response. Clarify why NextEra believes the uncertainty distribution represents the uncertainty in the fire and seismic portions of the PRA model. Include a discussion of whether probability distributions were assigned for external events (such as for fire ignition frequencies, non-suppression probabilities, hot short probabilities, seismic frequencies, other seismic parameters) and, if not, how this impacts the SAMA analysis.

Discussion: *The staff will be issuing an additional RAI to address this issue.*