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Attachment contains ~~information not for public disclosure. Withhold under 10 CFR 2.390~~

SOUTHERN COMPANY

OCT 13 2014

Docket Nos.: 50-348
50-364

NL-14-1464

U. S. Nuclear Regulatory Commission
ATTN: Document Control Desk
Washington, D. C. 20555-0001

Joseph M. Farley Nuclear Plant
Response to Request for Additional Information Regarding License Amendment Request for Transition to 10 CFR 50.48(c) – NFPA 805 Performance Based Standard for Fire Protection for Light Water Reactor Generating Plants

Ladies and Gentlemen:

By letter dated September 25, 2012, the Southern Nuclear Operating Company (SNC) submitted a license amendment request (LAR) for Joseph M. Farley Units 1 and 2 (Ref. TAC NOS. ME9741 and ME9742). The proposed amendment requests the review and approval for adoption of a new fire protection licensing basis which complies with the requirements in Sections 50.48(a) and 50.48(c) to Title 10 to the Code of Federal Regulations (10 CFR), and the guidance in Regulatory Guide (RG) 1.205, Revision 1, *Risk-Informed, Performance-Based Fire Protection for Existing Light-Water Nuclear Power Plants.*

By letter dated December 12, 2012, the Nuclear Regulatory Commission (NRC) Staff requested supplemental information regarding the acceptance of the license amendment (Adams Accession No. ML12345A398). SNC provided the requested information by letter dated December 20, 2012. The NRC staff subsequently completed the acceptance review by letter dated January 24, 2013, (Adams Accession No. ML13022A158).

By letter dated July 8, 2013, the NRC Staff formally transmitted a request for additional information (RAI) related to the referenced license amendment. SNC's responses to these RAIs are being provided by three submittals. By letter dated September 16, 2013, SNC provided the first set of responses. By letter dated October 30, 2013, SNC provided the second set of responses and by letter dated November 12, 2013, SNC provided the remaining set of responses.

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By letter dated March 28, 2014, the NRC Staff formally transmitted the second round of requests for additional information related to the referenced license amendment request. By letter dated April 23, 2014, SNC provided the 30 day response to the second round of RAIs. By letter dated May 23, 2014, SNC provided the 60 day response to six of the eight remaining RAIs.
By letter dated July 3, 2014, SNC provided revised Attachments S, V, and W. The updated total plant, Fire PRA, and delta risk values were provided in the updated Attachments V and W. These attachments provided the response to PRA RAIs 06.a.01 and 35. The revised Attachment S reflected the updates associated with the RAI responses. Revisions to Table C-2 in Attachment C and Attachment G were to be provided in a separate submittal. Along with other revisions, a new modification item was added to Attachment S for installation of the Generation III Westinghouse shutdown seals for the reactor coolant pumps on both Unit 1 and Unit 2.

By letter dated July 11, 2014, the NRC staff transmitted additional RAIs related to the credit for the next generation of the Westinghouse Reactor Coolant Pump shutdown seals (PRA RAI 35.01) and the composite analysis of the probabilistic risk assessment (PRA RAI 36). By letter dated August 11, 2014, SNC provided the response to PRA RAIs 16.a.02 and 35.01. By letter dated August 29, 2014, SNC provided the response to PRA RAI 36.

The enclosure to this letter provides the clarifications and supplemental information discussed during a teleconference held on September 10, 2014 involving the Farley PRA methodology. Revisions to Table C-1 in Attachment C, NFPA 805 Chapter 4 Compliance (NEI 04-02 Table B-3) are provided as an attachment and provide the affected pages regarding the Table C-1 originally submitted to the NRC with SNC's letter dated September 25, 2012. Table C-1 has been revised to remove the risk and delta risk values to eliminate duplication of information.

Table C-1 in Attachment C contains sensitive information and should be withheld from public disclosure under 10 CFR 2.390.

The No Significant Hazards Consideration determination provided in the original submittal is not altered by the RAI responses provided herein.

This letter contains no new NRC commitments. If you have any questions, please contact Ken McElroy at (205) 992-7369.

Mr. C. R. Pierce states he is Regulatory Affairs Director of Southern Nuclear Operating Company, is authorized to execute this oath on behalf of Southern Nuclear Operating Company and, to the best of his knowledge and belief, the facts set forth in this letter are true and correct.

Respectfully submitted,

C. R. Pierce

C. R. Pierce
Regulatory Affairs Director

CRP/jkb/lac

Sworn to and subscribed before me this 13 *day of* October, *2014.*

Laura L. Crupton
Notary Public

My commission expires: 10/8/2017

Enclosure 1: Response to Request for Supplemental Information

Attachments: Revisions to Table C-1 in Attachment C – NFPA 805 Chapter 4 Compliance

cc: Southern Nuclear Operating Company
Mr. S. E. Kuczynski, Chairman, President & CEO
Mr. D. G. Bost, Executive Vice President & Chief Nuclear Officer
Ms. C. A. Gayheart, Vice President – Farley
Mr. B. L. Ivey, Vice President – Regulatory Affairs
Mr. T. E. Tynan, Vice President – Fleet Operations
Mr. B. J. Adams, Vice President – Engineering
Mr. D. R. Madison, Vice President – Vogtle
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U. S. Nuclear Regulatory Commission
Mr. V. M. McCree, Regional Administrator
Mr. S. A. Williams, NRR Project Manager - Farley
Mr. P. K. Niebaum, Senior Resident Inspector - Farley

Alabama Department of Public Health
Dr. D. E. Williamson, State Health Officer

Joseph M. Farley Nuclear Plant
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Regarding License Amendment Request for Transition to 10 CFR 50.48(c)
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Enclosure 1
Response to Request for Supplemental Information

Farley RAI PRA 36 – Supplemental Information Request

By letter dated September 25, 2012 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML12279A235), as supplemented by letter dated October 30, 2013 (ADAMS Accession No. ML13305A105), Southern Nuclear Company (SNC) requested an amendment to the Technical Specifications for the Joseph M. Farley Nuclear Plant (Farley). Specifically, the requested change would allow the licensee to adopt National Fire Protection Association Standard 805, "Performance-Based Standard for Fire Protection for Light Water Reactor Generating Plants."

In the response to PRA RAI 36, the licensee states: "To calculate the risk of recovery actions per scenario, a new compliant case (compliant with respect to recovery actions and recovery action related to VFDRs only) was created in which the variant case was modified to set the recovery action failure probability to zero and to set only VFDRs associated with the recovery action to their random failure probability. This new compliant case scenario was then quantified. The delta between the variant case and the new compliant case for these scenarios represents the additional risk of the recovery actions." Clarify which of the following approaches is employed (or describe if there is a different one). (1) The variant case includes both the fire-induced and random (non-fire-induced) failures of the basic event associated with the VFDR such that, for the compliant case, only the fire-induced failure probability is set to zero, i.e., the random failure probability remains for both the variant and compliant cases. (2) The variant case includes only the fire-induced failure because (a) this is always assumed to be one, thereby subsuming the random failure or (b) this probability is always much greater than the random failure probability, such that it effectively represents the total failure probability of the basic event associated with the VFDR in the variant case. Note that, absent either of these (or some other approach), the risk reductions associated with the VFDR will be underestimated.

RESPONSE:

The approach used in the delta risk calculation is best represented by the variant case including the fire induced failures and random hardware failures and the corresponding recovery action HEP associated with the VFDR and the compliant case setting the recovery action to zero. This is consistent with approach (1) discussed in the question.

Farley RAI PRA 36 – Supplemental Information Request

The referenced teleconference of August 1, 2014, included provision by the NRC of a table showing significant decreases in the risk and delta-risk metrics per fire area from the original LAR's Table W-6 to that of the updated Table W-6. The licensee was requested to address the reason for those changes, generically where appropriate and specifically by fire area where the change was unique to that area. As this does not appear to have been included with the response, provide this discussion relative to the latest update of Table W-6 vs. the original table from the LAR.

RESPONSE:

In general the risk and delta risk decreases can be attributed to application of approved methods already used in other fire areas within the Farley Fire PRA. These methods are addressed in the original LAR submittal and subsequent RAIs. The following methods provide a summary of those further used in this latest update to the analysis: application of non-suppression probabilities to many of the fire areas throughout the plant. These include, but are not limited to, fire areas U1 1-021, U1 1-041, U1 1-009, U2 2-021, U2 2-041, and U2 2-009. Other methods used include the use of NUREG/CR-7150 hot short probabilities, including hot short durations. Operator actions were also credited (previously set to 1.0 due to no cue indication) for alignment of the 1(2) C Emergency Diesel Generators to the credited bus when loss of offsite power occurred due to the fire. These non-VFDR related actions provide benefit in many of the areas due to the potential loss of offsite power in multiple rooms.

Farley RAI PRA 36 – Supplemental Information Request

The updated Table W-6 indicates that recovery actions have now been added to the following Fire Areas: U1 1-DU-DGSWIS-B, U2 060, U2 075, U2 076, U2 1-041, U2 1-DU-DGSWIS-A, U2 2-DU-DGSWIS-A, U2 2-DU-DGSWIS-B and US 2-SVB2-B. While not all contribute to the delta-risk associated with recovery actions (some are listed as epsilon), these new recovery actions should be included in Attachment G, an update of which has not been provided. Provide the updated Attachment G.
The licensee explained that, while changes were made to Table W-6, in all cases these changes consisted of "re-crediting" human actions that were already categorized in Attachment G as "recovery actions" (i.e., not "defense-in-depth," "primary control station," etc.) but had not been credited previously when calculating the risk reductions associated with VFDRs and recovery actions.

RESPONSE:

Attachment G currently lists these fire areas as having required recovery actions. At one time, these recovery actions were no longer credited in the Fire PRA. However, at this time they have been credited again. There are no new recovery actions, just those that are being credited again for risk. There is no change in the categorization of these recovery actions. Based on there being no new recovery actions and no change in characterization there is no change update required to be made in Attachment G.

Farley RAI PRA 36 – Supplemental Information Request

The licensee states that "The enclosure to this letter provides the response to PRA RAI 36. The response contains a summary of changes as requested in the August 1, 2014, teleconference. Revisions to Table C-2 in Attachment C, NFPA 805 Required Fire Protection Systems and Features, are provided as an attachment. Based on the nature of the changes involved with previous RAI responses, there have been no significant changes to the current VFDR dispositions as identified in Table C-1 found in Attachment C. Also, no VFDRs have been added or deleted. As a result, it is not necessary to revise Table C-1. It should be noted that the delta CDF and LERF numbers and 'Required Fire Protection Systems and Features' tables in Table C-1 will change as a result of the PRA model changes. However, this information is included in other attachments which are being revised. Therefore, the C-1 table will not be revised at this time." The current version of Table C-1 on the docket lists the delta-risks from the original submittal, not those from this latest update. Provide the updated version of Table C-1 to be consistent with these latest delta-risks.

RESPONSE:

Regarding the risk reduction estimates provided in Table C-1, updated pages are provided as an attachment. The Table C-1 has been revised to remove the risk and delta risk values to eliminate duplication of information.