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February 9, 2009

U. S. Nuclear Regulatory Commission
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Subject: Duke Energy Carolinas, LLC
Oconee Nuclear Station, Units 1, 2, and 3
Docket Numbers 50-269, 50-270, and 50-287
License Amendment Request to adopt NFPA 805 Performance-Based
Standard for Fire Protection for Light Water Reactor Generating Plants
(2001 Edition)
License Amendment Request (LAR) 2008-01

In accordance with 10 CFR 50.90, Duke Energy Carolinas, LLC (Duke) proposes to amend Renewed Facility Operating Licenses (FOLs) Nos. DPR-38, DPR-47, and DPR-55. This LAR requests Nuclear Regulatory Commission (NRC) review and approval for adoption of a new fire protection licensing basis which complies with the requirements in 10 CFR 50.48(a), 10 CFR 50.48(c), and the guidance in Regulatory Guide (RG) 1.205. The LAR follows the guidance provided in Nuclear Energy Institute (NEI) 04-02. The LAR was submitted to the NRC on October 31, 2008.

In conference calls on January 15, 2009 and January 22, 2009, the NRC requested additional information to support the acceptance review of the LAR. The requested additional information included approved calculations, a LAR roadmap, any information that does not require LAR revisions, new calculations, and resulting LAR revisions, if any. The approved calculations were provided in a submittal dated January 30, 2009.

This submittal provides the requested additional information in Enclosure 1. Attachment 1 and 2 provide the PRA Application calculation and the requested roadmap, respectively. This meets the commitment stated in the January 30, 2009 letter. New calculations and revised LAR sections will be supplied as soon as the information is reviewed and approved by Duke's internal processes. Duke considers Attachment 1 to be sensitive information and requests that it be withheld from public disclosure pursuant to 10 CFR 2.390.

The NRC issued a conditional acceptance review of the LAR for ONS NFPA 805 transition on February 2, 2009 pending receipt of the above information.

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If there are any questions regarding this submittal, please contact Reese' Gambrell at (864) 885-3364 or David J. Goforth at 704-382-2659.

I declare under penalty of perjury that the foregoing is true and correct. Executed on February 9, 2009.

Very truly yours,



Dave Baxter, Vice President
Oconee Nuclear Station

Enclosures:

1. Technical Acceptance Issues With Oconee Nuclear Site License Application to Transition to NFPA 805, Request For Additional Information

Attachments:

1. Fire PRA Application Calculation
2. Oconee NFPA 805 LAR Modification to Reference Table (Roadmap)

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Enclosure 1

**Technical Acceptance Issues With Oconee Nuclear Site License
Application to Transition to NFPA 805**

Request For Additional Information

Enclosure 1

Technical Acceptance Issues With Oconee Nuclear Site License Application to Transition to NFPA 805 Request For Additional Information

Request 1:

The submittal does not provide a detailed, proposed configuration at the completion of transition, including all proposed modifications (sufficient for risk analysis purposes). In Attachment C of the LAR, performance based/risk informed evaluations appear to be provided on a fire area by fire area basis. In Attachment S of the LAR, the licensee discusses modifications that would reduce risk, but instead of proposing the modification, Duke states that it will "scope a modification." The staff assumes modifications others than those discussed in Attachments S and R are not planned and all non-compliances (generally related to recovery actions) will be transitioned based on acceptable increases in risk. The acceptability of the proposed modifications cannot be decided since the scope and configuration of the modifications have not been finalized.

Based on the above, the licensee's submittal is not clear in identifying the scope of the requested licensing action. The licensee should provide:

- A description of the methodology that was employed to estimate the change in risk for each change in risk estimate.
- A summary of the risk basis for transition, including the specific risk estimates, for:
 - Group 1: Committed modifications to bring the plant into compliance with NFPA-805 deterministic requirements
 - Group 2: Committed modifications not required to bring the plant into compliance with NFPA-805 deterministic requirements but proposed to decrease risk,
 - Group 3: Deviations from existing deterministic fire protection requirements that will be acceptable based on the performance based/risk-informed alternatives permitted by NFPA-805. A reference to the supporting calculations so that they may be considered in developing the safety evaluation report.

Response:

The Fire PRA application calculation (Attachment 1) currently includes a description of the method used to estimate the change in risk for each change in risk estimate. This calculation includes Appendix C, Risk Characterization of NFPA 805 Related Modifications. All of the NFPA 805 related modifications are listed in the Fire PRA application calculation, Table C-1. The table categorizes these modifications into one of three groups:

- Variances from Deterministic requirements (VFD) - corresponds to Group 1 above
- Risk Reduction (RR) - corresponds to Group 2 above
- Defense in Depth (DID) – corresponds to Group 3. These are modifications that are not required to establish an acceptable Core Damage Frequency (CDF)

CDFs are provided for each of the modifications. Methods for calculating the change in CDF are included in the table and write-up for Appendix C submitted in the LAR dated October 31, 2008.

The Change Evaluation calculations and the Change Evaluation methodology were provided in a letter to the NRC dated January 30, 2009.

ONS has supplied a table for modification references. See the table "Oconee NFPA 805 LAR Modification to Reference Table" in Attachment 2.

In the LAR dated October 31, 2008, Duke also committed to provide the specific elements of the modifications, studies, and evaluations by May 31, 2009.

Request 2:

Attachment M of the LAR includes a copy of the standard licensee condition in RG 1.205, "Risk-Informed, Performance-Based Fire Protection for Existing Light-Water Nuclear Power Plants," Regulatory Position C.3.1, as modified by FAQ 06-008. However, the licensee does not describe what types of changes to the Fire Protection Program (FPP) may be self-approved, the methodology that will be employed to make those changes, nor the justification that the PRA is of sufficient quality to make those types of changes. NFPA 805 Section 2.4.3 requires that the PRA approach, methods and data shall be acceptable to the NRC. Appendix X discusses PRA quality requirements for change evaluations in a general sense. More specific discussion is needed for proposed, future self-approved changes before the staff can conclude the future analyses will be acceptable.

Response:

The scope of potential changes to the Fire Protection Program (FPP) that is expected to be within the self-approval provisions of 10 CFR 50.48(c) are those associated with meeting the requirements of NFPA 805, Section 4. It is recognized that there are numerous possible changes and variations in specifics that could create an extremely large scope of possibilities for which it is not possible to explicitly define at this time. Since ONS is a Pilot Plant for this first of a kind regulatory change, it is proposed that the framework of the Pilot Plant process be used to develop an appropriate treatment of this issue rather than submit a specific response to this item. Attachment X of the LAR ("Need to Evaluate PRA Capability Category for Future Changes in the NFPA 805 Program or Attributes", including Figures X-1 and X-2) provides a proposed Pilot Process method for determining the adequacy of the PRA capability category for future changes.

The methodology used in change evaluations and the Fire PRA modeling to define the methodologies used for the ONS LAR were provided in a letter dated January 30, 2009.

Request 3:

Attachment W of the LAR provides "Fire PRA Insights." The attachment simply provides a total estimate of the risk increase from non-compliances, and total risk decreases from proposed modifications. Further, the licensee's submittal states that the change in risk will

satisfy the guidance of RG 1.174 "An Approach for Using Probabilistic Risk Assessment in Risk-Informed Decisions on Plant-Specific Changes to the Licensing Basis." The transition to

NFPA 805 combines different changes in the FPP, and also combines changes that are not required by the transition but decrease overall risk to achieve a final, total change in risk that the licensee states is acceptable based on RG 1.174 guidelines. Therefore the LAR can be considered a combined change request. RG 1.205 states that combined change requests should be done in accordance with RG 1.174. In response to Issue 1 above, the licensee should ensure that the information satisfies the guidelines for combined changes as described in RG 1.174.

Response:

As described in the response to request 1, the Fire PRA Application Calculation in Attachment 1 provides the requested information.

Request 4:

Attachment W of the LAR reports on the total change in Core Damage Frequencies (CDF), but the total change in Large Early Release Frequencies (LERF) is missing. The licensee must provide the change in LERF results.

Response:

The Fire PRA Application calculation includes a discussion of LERF. As noted in the Fire PRA Application calculation, none of the high risk significant scenarios involve containment bypass, therefore, no additional insights can be gained from the corresponding LERF scenarios. The calculation is provided in Attachment 1.

Request 5:

Attachment G of the LAR provides an extensive discussion and evaluation of the transition of Operator Manual Actions (OMAs) to Recovery Actions (RAs). Section G.5.2.1 addresses Alternative Shutdown (Bin D) OMAs and identifies them as Ras. The licensee argues that, "the additional risk presented by the use of Ras for alternative shutdown fire areas was addressed by inclusion of these fire areas in the Fire PRA." The mere presence of a plant feature in the PRA models is not a measure of additional risk of that feature and therefore the evaluation of Ras cannot be completed based on this assertion.

Furthermore, Table 4-2 of the submittal states that the, "results of evaluating the additional risk presented by the use of recovery actions," are provided in the submittal. However, no actual estimate of the additional risk appears to have been provided.

Response:

Dispositions of allowed operator actions, with regards to additional risk are included in the current revision of the Fire PRA Application calculation which is provided in Attachment 1.

ONS is addressing the transition of OMAs consistent with the Pilot Process included in FAQ 07-0030, submitted to the NRC on January 22, 2009 (ADAMS Accession No. ML090290218).

Request 6:

The licensee only discusses their plans for establishing a monitoring program, but does not develop, nor propose a program which can be reviewed by the staff.

- Section 4.6 of the LAR states "The Monitoring Program will be implemented after the LAR approval as part of the FP program transition to NFPA 805."
- Section 4.6.2 of the LAR states "performance criteria will be established for items within the NFPA 805 monitoring scope."
- NFPA 805 Section 2.6 states "A monitoring program shall be established...."

Before the staff can approve the LAR, the licensee should develop and propose the monitoring methods and performance criteria so the staff can conclude that the methods consider plant and industry operating experience and the criteria are acceptable.

Response:

ONS will update the monitoring section of the LAR to provide more detail. This will be submitted by February 23, 2009.

Request 7:

The licensee needs to describe the uncertainty analyses conducted as part of the program to ensure the quality requirements, see the matrix below.

Response:

The Fire PRA sensitivity analysis is included in the current revision of the Fire PRA Application calculation. An Uncertainty and Sensitivity Matrix is also provided in Appendix D to the Fire PRA Summary Report. The Fire PRA Application calculation is provided in Attachment 1 and the Fire PRA Summary Report was provided in a letter dated January 30, 2009.