

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

BEFORE THE COMMISSION

In the Matter of)
)
DUKE ENERGY CAROLINAS, LLC) Docket Nos. 52-018-COL
) 52-019-COL
(William States Lee III Nuclear Station,)
Units 1 and 2))

NRC STAFF RESPONSES TO COMMISSION POST-HEARING QUESTIONS

Pursuant to the October 12, 2016 "Order (Transmitting Post-Hearing Questions)," the staff of the U.S. Nuclear Regulatory Commission hereby responds to the questions posed in that Order. The staff's responses are attached. An updated exhibit list is being filed separately.

Respectfully submitted,

/Signed (electronically) by/

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Dated at Frisco, Texas
this 20th day of October, 2016

ATTACHMENT

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- 1. Discuss the Staff's basis for concluding that license condition 2.D.11.g, which requires DEC to submit a schedule for implementation of the site-specific severe accident management guidelines (SAMGs) for Lee, is consistent with the Commission direction in SRM-SECY-15-0065, in which the Commission disapproved including requirements for SAMGs in the proposed rule for Mitigation of Beyond-Design-Basis Events and affirmed that SAMGs should remain a voluntary industry initiative.**

Staff Response: Even though SAMGs are an industry initiative, Westinghouse made consideration of SAMGs an integral part of the AP1000 design. The design certification rule (10 CFR Part 52, Appendix D) incorporates the AP1000 Design Control Document (DCD), which specifies implementing the AP1000 severe accident management guidance on a site-specific basis. To reflect this existing regulatory provision, a license condition is still appropriate for AP1000 licensees. As employed in the AP1000 DCD, the focused consideration of SAMGs contributes to two foundational parts of the NRC's defense-in-depth framework: containment and emergency preparedness. The Staff recognizes the Commission's direction in SRM-SECY-15-0065 disapproving the inclusion of new requirements for SAMGs in the proposed rule for Mitigation of Beyond-Design-Basis Events. However, Staff has included the license condition for the Lee COLs because DEC voluntarily proposed the subject license condition in Chapter 19 of the Lee FSAR, pursuant to the combined license action item already included in the AP1000 DCD.

- 2. At the hearing and in pre-hearing Questions 4 and 5, the Staff and DEC discussed the AP1000 technology training requirements for the Charlotte Emergency Operations Facility (EOF) staff.**

Please provide further support for the statement at the hearing that only the EOF Director, Assistant Director, and Accident Assessment Manager are required to receive AP1000-specific training. Will the EOF Director, Assistant Director, or Accident Assessment Manager have operational experience with AP1000 units? Will any additional EOF staff also receive AP1000-specific training?

There may be event scenarios where the Technical Support Center and its personnel are unavailable to assist the EOF Director in classifying the emergency within 15 minutes, authorizing notifications to the NRC and State and local agencies, and recommending protective measures to State and local authorities.

According to Section II.B.4 of the Lee Emergency Plan, the EOF Director cannot delegate responsibility for those three tasks upon activation of the EOF. Given the need to complete those tasks in a short period of time, please discuss the

adequacy of requiring only the EOF Director, Assistant Director, and Accident Assessment Manager to receive AP1000-specific training.

Staff Response: The offsite EOF is the support facility responsible for the management of overall licensee emergency response (including coordination with Federal, State, and local officials), coordination of radiological and environmental assessments, and determination of recommended public protective actions. The level of specific plant design and systems operations training provided for EOF positions will vary to reflect their designated emergency response organization (ERO) functions. Duke Energy testified that the EOF Director, Assistant Director, and Accident Assessment Manager will be required to have AP1000-specific training.

Sections II.O.2 and II.O.4 of the Lee Emergency Plan discuss the training and qualification of emergency response personnel. Specifically, DEC states that it conducts a program for instructing and qualifying all personnel who implement the emergency plan. The training required to perform specific ERO functions, including AP1000-specific training, will be identified in the Emergency Plan (EP) Training Program that the applicant will develop. Positions that may require AP1000-specific training will be identified based on the job and task analyses that would be conducted in the development of the EP Training Program. At this time, the applicant has not completed these job and task analyses; they will be completed in preparation for the exercise required by Appendix E, to Part 50 of Title 10 of the *Code of Federal Regulations*.

The NRC will verify the adequacy of the applicant's EP Training Program by inspecting the applicant's ability to adequately perform designated ERO functions during the required exercise described in Inspections, Tests, Analyses, and Acceptance Criteria 8.0. Subsequently, if the Section 52.103(g) finding is made, the NRC will perform periodic inspections of the training, as well as evaluations of ERO performance during biennial drills under NRC Inspection Procedure 71114. A part of the inspection requires examination of the performance indicators provided by the licensee every calendar quarter. The indicators measuring ERO participation and drill and exercise performance are evaluated per Nuclear Energy Institute (NEI) 99-02, "Regulatory Assessment Performance Indicator Guideline," Section 2.4, and are intended to demonstrate, on a continuing basis, proficiency of key ERO positions.¹ This process will verify, initially and continuously, whether key EOF positions, such as the EOF Director, Assistant Director, and Accident Assessment Manager, and any other EOF personnel identified based on job and task analyses, are receiving adequate AP1000-specific training to perform their designated emergency plan functions.

The EOF Director, Assistant Director, and Accident Assessment Manager are the three key supervisors who direct activities within the EOF. Based on its evaluation of the application against the regulations and guidance, as well as consideration of the Staff's and DEC's pre-hearing question responses and testimony at the hearing, the Staff concludes that providing AP1000-specific training for these three positions is adequate to fulfill the EOF mission and to ensure that supervisors are able to direct the ERO members in the performance of their duties. However, as noted above, AP1000-specific training may be provided for additional positions based on future job and task analyses.

¹ The current revision of NEI 99-02 is a document published by NEI and endorsed by the NRC that contains guidance for calculating and reporting Performance Indicator (PI) data that the NRC uses in its assessment of commercial power reactor licensee performance. This document is used for PI data collection as of October 1, 2013 and incorporates Frequently Asked Questions that were approved through March 2013.

In addition, the EOF is required to have trained and qualified personnel to classify, notify, and make protective action recommendations within the required timeframes, regardless of the Technical Support Center's availability to support the EOF. If the job and task analyses identify any of these positions as requiring AP1000-specific training, such training will be provided.

Finally, the Lee Emergency Plan does not state whether the EOF Director, Assistant Director, or the Accident Assessment Manager will have AP1000 operating experience, nor what prior operating experience any of the ERO members may have in its ERO position qualifications. However, the regulations and guidance do not require the applicant to provide this information, and DEC has demonstrated its ability to qualify EOF ERO members to perform EOF functions across a range of technologies, as confirmed by NRC inspection results from the biennial exercises since Oconee was added to the combined EOF in 2005.

3. **At the hearing, the Staff discussed the compensatory mitigation plan DEC entered into with the U.S. Army Corps of Engineers and the U.S. Forest Service. Was the assumption that the mitigation plan will be implemented necessary for the Staff to characterize the aquatic and terrestrial ecology impacts as MODERATE rather than LARGE in the FEIS?**

Staff Response: No. If DEC had not proposed the compensatory mitigation, the Staff would have still concluded that the aquatic and terrestrial impacts were MODERATE. The primary reason that the Staff concluded that the impacts were MODERATE is the inundation of London Creek and its riparian habitats to build Makeup Pond C. The FEIS characterizes London Creek and its stream valley as increasingly rare but not unique within the surrounding landscape. The habitat losses necessary to build Makeup Pond C would therefore not destabilize the regional ecology even if not addressed through compensatory mitigation. The Staff recognizes that the impacts would have been greater without the compensatory mitigation, which calls for restoring and enhancing previously degraded streams and wetlands elsewhere in the same watershed as the project. However, the Staff would not have considered the unmitigated impacts severe enough to destabilize the ecology of the surrounding landscape, which would be necessary to support a conclusion that impacts are LARGE.

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CERTIFICATE OF SERVICE

I hereby certify that the document entitled NRC STAFF RESPONSES TO COMMISSION POST-HEARING QUESTIONS, dated October 20, 2016, has been filed through the E-Filing system this 20th day of October, 2016.

/Signed (electronically) by/

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