

SAFETY EVALUATION BY THE OFFICE OF NEW REACTORS
RELATED TO EXEMPTION AND AMENDMENT NO. 47
TO THE COMBINED LICENSE NOS. NPF-91 AND NPF-92
SOUTHERN NUCLEAR OPERATING COMPANY, INC.
GEORGIA POWER COMPANY
OGLETHORPE POWER CORPORATION
MEAG POWER SPVM, LLC
MEAG POWER SPVJ, LLC
MEAG POWER SPVP, LLC
CITY OF DALTON
VOGTLE ELECTRIC GENERATING PLANT UNITS 3 AND 4
DOCKET NOS. 52-025 AND 52-026

1.0 INTRODUCTION

By letter dated September 1, 2015 (Agencywide Document Access and Management System (ADAMS) Accession No. ML15244A602), Southern Nuclear Operating Company, Inc. (SNC or licensee) requested that the U.S. Nuclear Regulatory Commission's (NRC or Commission) amend the combined licenses (COLs) for Vogtle Electric Generating Plant (VEGP) Units 3 and 4, COL Nos. NPF-91 and NPF-92, respectively. By letter dated October 6, 2015 (ADAMS Accession No. ML15271A224), the NRC provided SNC with the results of the staff's acceptance review of license amendment request (LAR) 15-014, which concluded that the LAR is sufficient for the staff to perform the detailed technical review.

The proposed amendment revises plant-specific emergency planning (EP) inspections, tests, analyses, and acceptance criteria (ITAAC) to remove the copy of Updated Final Safety Analysis Report (UFSAR) Table 7.5-1, "Post-Accident Monitoring System," from Appendix C of the VEGP Units 3 and 4 COLs (ADAMS Accession Nos. ML112991102 and ML113060437, respectively).

2.0 REGULATORY EVALUATION

The NRC staff considered the following regulatory requirements and guidance in reviewing the licensee's LAR:

Title 10 of the *Code of Federal Regulations* (10 CFR) 50.47(b)(8) requires that adequate emergency facilities and equipment to support the emergency response are provided and maintained.

10 CFR 50.47(b)(9) requires adequate methods, systems, and equipment for assessing and monitoring actual or potential offsite consequences of a radiological emergency condition are in use.

10 CFR Part 50, Appendix E, Section IV.E.2 requires that a licensee provide the equipment for determining the magnitude of, and for continuously assessing the impact of, the release of radioactive materials to the environment.

10 CFR 52.97(b) requires that the Commission identify within the COL the inspections, tests, and analyses, including those applicable to emergency planning, that the licensee shall perform, and the acceptance criteria that, if met, are necessary and sufficient to provide reasonable assurance that the facility has been constructed and will be operated in conformity with the license, the provisions of the Atomic Energy Act of 1954, as amended, and the Commission's rules and regulations.

NUREG-0800, Section 14.3.10, "Emergency Planning – Inspections, Tests, Analyses, and Acceptance Criteria," March 2007, provides generic guidance for evaluating EP ITAAC.

3.0 TECHNICAL EVALUATION

10 CFR 50.47(b)(8) requires that the licensee provide and maintain adequate emergency facilities and equipment to support the emergency response. In addition, 10 CFR 50.47(b)(9) requires adequate methods, systems, and equipment for assessing and monitoring actual or potential offsite consequences of a radiological emergency condition. Finally, 10 CFR Part 50, Appendix E, Section IV.E.2 requires the licensee to provide the equipment for determining the magnitude of, and for continuously assessing the impact of, the release of radioactive materials to the environment. These requirements are supplemented by the generic EP ITAAC guidance in NUREG-0800, Section 14.3.10, "Emergency Planning – Inspections, Tests, Analyses, and Acceptance Criteria," which provides the regulatory basis for SNC's COL EP ITAAC.

The EP ITAAC in Appendix C of the VEGP Units 3 and 4 COLs are being revised to remove the copy of UFSAR Table 7.5-1. UFSAR Table 7.5-1 is also referenced in four Appendix C EP ITAAC for the Units 3 and 4 COLs, consisting of EP ITAAC Nos. 845 (E.3.9.01.01.01), 851 (E.3.9.05.01.03), 858 (E.3.9.05.02.02), and 859 (E.3.9.06.00.01). These four EP ITAAC address the identification of available plant parameters in emergency response facilities, and correspond to generic EP ITAAC Acceptance Criteria 4.1, 8.1.5, 8.2.4, and 9.1, respectively, in NUREG-0800, Section 14.3.10, Table 14.3.10-1. These generic acceptance criteria include a bracketed statement that the COL applicant will identify specific capabilities. The licensee has identified these specific capabilities, in part, by referencing the plant parameters in UFSAR Table 7.5-1 in the four COL EP ITAAC acceptance criteria.¹ Importantly, this LAR does not change any of the parameters listed in UFSAR Table 7.5-1, and does not change the four COL EP ITAAC that reference UFSAR Table 7.5-1 in the acceptance criteria.

¹ ITAAC 735 (3.1.00.03) in Appendix C of VEGP Units 3 and 4 COLs identifies additional plant parameters listed in Table 2.5.4-1, "Minimum Inventory of Controls, Displays, and Alerts at the RSW [remote shutdown workstation]," with a "Yes" in the "Display" column, that can be retrieved in the TSC. Table 2.5.4-1, which is identical to AP1000 DCD Tier 1 Table 2.5.4-1 (ADAMS Accession No. ML11171A313), is included in Appendix C of the VEGP Units 3 and 4 COLs as ITAAC, and is not addressed in this LAR.

The licensee explained that the removal of the copy of UFSAR Table 7.5-1 from COL Appendix C is needed in order to eliminate the requirement for a license amendment whenever a change to the table's detailed listing of plant variables is made. The licensee further explained that as the design matures (i.e., as the AP1000 reactor is constructed on the site), the exact list of plant variables needed to evaluate emergency situations may change; either through the addition of new variables, or the deletion of variables that are no longer needed. In addition, the licensee stated that any such changes could be evaluated under the provisions of 10 CFR Part 52, Appendix D, Section VIII.B.5, 10 CFR 50.59, or 10 CFR 50.54(q), as applicable, without automatically requiring a license amendment.

While an evaluation of these three NRC regulatory change processes are not within the scope of this current LAR review, the following brief summary of each change process indicates that the need for a license amendment associated with a future UFSAR Table 7.5-1 change would be dependent upon the specific nature of the change.²

- 10 CFR Part 52, Appendix D, Section VIII.B.5 – This regulation addresses generic changes made to Tier 2 information contained in the AP1000 design control document (DCD). Such changes are applicable to all applicants and licensees who reference this appendix, with various specified exceptions. The requirement for a licensee to request an amendment associated with the change is dependent upon the nature of the change and whether the licensee proposes a departure from the change.
- 10 CFR 50.59 – This regulation addresses changes made to the final safety analysis report (FSAR), including those that may, or may not, require the licensee to obtain a license amendment. In addition, FSAR changes are also governed by 10 CFR 50.71(e), which requires periodic updates to the FSAR to assure that the information included in the report contains the latest information developed, including modifications to the design. Submission of the updates to the NRC shall include all safety analyses and evaluations performed by the licensee, either in support of approved license amendments, or in support of conclusions that changes did not require a license amendment.
- 10 CFR 50.54(q) – This regulation addresses modifications to the emergency plan, including how the licensee may make changes that either reduce, or do not reduce, the effectiveness of the emergency plan. If the licensee determines that the changes do not reduce the effectiveness of the plan and the plan, as changed, continues to meet the applicable requirements, then the licensee may make the changes without

² UFSAR Table 7.5-1 is a COL application-specific variation of AP1000 DCD Tier 2 Table 7.5-1 (ADAMS Accession No. ML11171A469). The referenced change process in 10 CFR Part 50, Appendix D, Section VIII.B.5, would apply to generic changes to DCD Tier 2 Table 7.5-1, and would be applicable to UFSAR Table 7.5-1, with various specified exceptions. - 3 -

NRC approval and without requiring a license amendment. If, however, the licensee determines that the changes to the emergency plan reduce the effectiveness of the plan, prior NRC approval is required, including submission of an application for an amendment to the license.³

The licensee further justified the removal of the copy of UFSAR Table 7.5-1 from COL Appendix C by pointing out that in Appendix C of the Enrico Fermi Unit 3 (Fermi 3) COL (ADAMS Accession No. ML15084A169), EP ITAAC 1724 (C.3.9.02.01) references Table II.B-1, "Minimum Staffing Requirements for Emergencies," of the Fermi 3 Emergency Plan (in Acceptance Criterion 2.1), as the source of on-shift staffing level information. While a copy of Table II.B-1 is not included in Appendix C of the Fermi 3 COL, it is included in the Fermi 3 Emergency Plan; and as such, is subject to the 10 CFR 50.54(q) change process, identified above. The licensee's basic argument is that when an EP ITAAC references a table as the source of various information, there is no requirement for a copy of the table to be included in the ITAAC itself. The staff agrees with the licensee.

For Fermi 3 EP ITAAC 1724, which refers to Table II.B-1 for staffing levels, there is no comparable SNC COL EP ITAAC. The staff did, however, identify several other SNC EP ITAAC that further support the licensee's argument, through comparison with their respective Fermi 3 EP ITAAC. Specifically, as discussed above, the EP ITAAC in Appendix C of the SNC Units 3 and 4 COLs that reference UFSAR Table 7.5-1 are EP ITAAC 845, 851, 858, and 859. These four EP ITAAC all require the confirmation that the plant parameters listed in UFSAR Table 7.5-1 are available in the identified emergency response facilities and in support of accident assessment. These SNC EP ITAAC are comparable to Fermi 3 EP ITAAC 1725 (C.3.9.04.01.01), 1740 (C.3.9.08.01.06), 1749 (C.3.9.08.02.07), and 1754 (C.3.9.09.01), respectively, which also address the availability of plant parameters (information). While Fermi 3 EP ITAAC 1725, 1749, and 1754 refer to external sources of plant information (e.g., emergency plan implementing procedures or staffing rosters) to identify the various parameters, EP ITAAC 1740 merely states that the display of plant and environmental information in the Technical Support Center (TSC) has been accomplished – without reference to a source of the information.

The staff reviewed the proposed change to Appendix C of the VEGP Units 3 and 4 COLs (described above), and determined that there is no substantive change to the detailed EP ITAAC because UFSAR Table 7.5-1 remains unchanged and the four referencing EP ITAAC in each license retain reference to UFSAR Table 7.5-1 in the acceptance criterion. As such, the availability (in the identified emergency response facilities, or in support of accident assessment) of all plant variables listed in UFSAR Table 7.5-1 remains a condition for meeting the respective EP ITAAC acceptance criterion. The only change associated with this LAR – beyond removing the copy of UFSAR Table 7.5-1 from COL Appendix C – is to the procedural method(s) by which any future revisions to UFSAR Table 7.5-1 would be evaluated by the staff in a separate licensing action. Any future changes to UFSAR Table 7.5-1 would be addressed under the applicable change process (addressed above), including whether the changes would require a license amendment. Importantly, whichever of the three change processes (identified above) are appropriate for future changes to UFSAR Table 7.5-1, the potential, substantive impact to the adequacy of the emergency plan, including its relationship to completion of the applicable EP ITAAC, would be addressed via the relevant change process. Finally, the staff is unaware of any requirement that a copy of tables referenced in an EP ITAAC must also be

³ Additional guidance on making changes to emergency plans is provided in Regulatory Guide 1.219, "Guidance on Making Changes to Emergency Plans for Nuclear Power Reactors," November 2011 (ADAMS Accession No. ML102510626), and NRC Regulatory Issue Summary (RIS) 2005-02, Revision 1, "Clarifying the Process for Making Emergency Plan Changes," April 19, 2011 (ADAMS Accession No. ML100340545).

included in the ITAAC itself; in addition to inclusion within the tables' source documents (e.g., FSAR, DCD, or emergency plan).

The staff finds the proposed EP ITAAC changes acceptable because they are consistent with 10 CFR Part 50, Appendix E, Section IV.E.2, and provide for the VEGP Units 3 and 4 Emergency Plan to continue to meet the requirements in 10 CFR 50.47(b)(8) and (b)(9) for a licensee to provide and maintain adequate emergency facilities and equipment to support the emergency response, including adequate methods, systems, and equipment for assessing and monitoring actual or potential offsite consequences of a radiological emergency condition. In addition, as discussed above, the staff finds that the proposed changes do not result in any substantive changes to the current EP ITAAC, such that the requirements in 10 CFR 52.97(b), for identification of ITAAC within the COL, continue to be met.

3.3 Summary

Based on the technical evaluation above, the NRC staff concludes that, with the proposed change to Appendix C of VEGP Units 3 and 4 COLs, there is reasonable assurance that adequate protective measures can and will be taken in the event of a radiological emergency at VEGP Units 3 and 4; and therefore, the VEGP Units 3 and 4 Emergency Plan continues to meet the requirements of 10 CFR 50.47(b)(8), 10 CFR 50.47(b)(9), 10 CFR Part 50, Appendix E, Section IV.E.2, and 10 CFR 52.97(b).

4.0 STATE CONSULTATION

In accordance with the Commission's regulations in 10 CFR 50.91(b)(2), the Georgia State official was notified of the proposed issuance of the amendment. The State official had no comments.

5.0 ENVIRONMENTAL CONSIDERATION

The amendment changes a requirement with respect to installation or use of a facility component located within the restricted area, as defined in 10 CFR Part 20, *Standards for Protection Against Radiation*. The NRC staff has determined that the amendment involves no significant increase in the amounts, and no significant change in the types, of any effluents that may be released offsite. Also, there is no significant increase in individual or cumulative occupational radiation exposure. The Commission has previously issued a proposed finding that the amendment involves no significant hazards consideration, and there has been no public comment on such finding (*Federal Register*, [80 FR65807], dated October 27, 2015). Accordingly, the amendment meets the eligibility criteria for categorical exclusion set forth in 10 CFR 51.22(c)(9). Pursuant to 10 CFR 51.22(b), no environmental impact statement or environmental assessment need be prepared in connection with issuing the amendment.

6.0 CONCLUSION

Based on the considerations discussed above in Section 3.0, the staff concludes that there is reasonable assurance that (1) the proposed operation will not endanger public health and safety, (2) such activities will be conducted in compliance with the Commission's regulations, and (3) the

issuance of the amendment will not be inimical to the common defense and security or public health and safety. Therefore, the staff finds the proposed ITAAC change in Appendix C of the VEGP Units 3 and 4 COLs to be acceptable.

7.0 REFERENCES

1. U.S. Nuclear Regulatory Commission letter to Southern Nuclear Operating Company, Inc., "Acceptance Review of Southern Nuclear Operating Company's Request for License Amendment Request (LAR 15-014) for the Vogtle Electric Generating Plant Units 3 and 4 – Revision to Vogtle Units 3 and 4 Inspections, Tests, Analyses and Acceptance Criteria in Combined License Appendix C (TAC No. RP9517)," October 6, 2015 (ADAMS Accession No. ML15271A224).
2. Southern Nuclear Operating Company's letter to the U.S. Nuclear Regulatory Commission, "Request for License Amendment: Revision to Vogtle Units 3 and 4 Plant-Specific Emergency Planning ITAAC (LAR 15-014)," September 1, 2015 (SNC Letter No. ND-15-1632) (ADAMS Accession No. ML15244A602).
3. Enrico Fermi Nuclear Plant, Unit 3 Combined License, NPF-95, Appendix C, "Inspections, Tests, Analyses, and Acceptance Criteria," May 1, 2015 (ADAMS Accession No. ML15084A169).
4. Vogtle Electric Generating Plant, Unit 3 Combined License, NPF-91, Appendix C, "Inspections, Tests, Analyses, and Acceptance Criteria," February 10, 2012 (ADAMS Accession No. ML112991102).
5. Vogtle Electric Generating Plant, Unit 4 Combined License, NPF-92, Appendix C, "Inspections, Tests, Analyses, and Acceptance Criteria," February 10, 2012 (ADAMS Accession No. ML113060437).
6. Westinghouse AP1000 Design Control Document, Revision 19, Tier 1 Chapter 2, "System Based Design Descriptions and ITAAC," Section 2.5, "Instrumentation and Control Systems," Table 2.5.4-1, "Minimum Inventory of Controls, Displays, and Alerts at the RSW," June 13, 2011 (ADAMS Accession No. ML11171A313).
7. Westinghouse AP1000 Design Control Document, Revision 19, Tier 2 Chapter 7, "Instrumentation and Controls," Section 7.5, "Safety-Related Display Information," Table 7.5-1, "Post-Accident Monitoring System," June 13, 2011 (ADAMS Accession No. ML11171A469).