

SAFETY EVALUATION BY THE OFFICE OF NEW REACTORS
RELATED TO AMENDMENT NOS. 102 AND 101
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, GEORGIA
VOGTLE ELECTRIC GENERATING PLANT UNITS 3 AND 4
DOCKET NOS. 52-025 AND 52-026

1.0 INTRODUCTION

By letter dated June 23, 2017 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML17179A171), Southern Nuclear Operating Company, Inc., (licensee) requested that the U.S. Nuclear Regulatory Commission (NRC) amend the combined licenses (COL) for Vogtle Electric Generating Plant (VEGP) Units 3 and 4, COL Numbers NPF-91 and NPF-92, respectively. The requested amendment requires changes to the Updated Final Safety Analysis Report (UFSAR) in the form of departures from the plant-specific Design Control Document (DCD) Tier 2 information and involves changes to the VEGP Units 3 and 4 COL Appendix A, Technical Specifications (TS). Specifically, the proposed changes revise plant-specific Tier 2 information to add the time delay assumed in the safety analysis for the reactor trip on a safeguards actuation (“S”) signal to UFSAR Table 15.0-4a. This revision is also reflected in the proposed revision to TS 3.3.4, Reactor Trip System (RTS) Engineered Safety Feature Actuation System (ESFAS) Instrumentation, to add a surveillance requirement to verify the RTS response time for this “S” signal. The request also includes proposed changes to TS 3.3.7, RTS Trip Actuation Devices, to clarify that the requirements for reactor trip breaker (RTB) undervoltage and shunt trip mechanisms apply only to in-service RTBs. In addition, the request includes proposed changes to TS 3.3.9, ESFAS Manual Initiation, to correct the nonmenclature for the Chemical and Volume Control System, which is inadvertently stated as the Chemical Volume and Control System.

The NRC staff issued an initial *Federal Register* notice of opportunity to request a hearing and a proposed No Significant Hazard Consideration Determination on August 15, 2017 (82 FR 38714).

2.0 REGULATORY EVALUATION

The NRC staff considered the following regulatory requirements in reviewing the licensee's proposed LAR.

Title 10 of the *Code of Federal Regulations* (10 CFR) 52.98(c) states that any changes to or departures from information within the scope of the referenced design certification rule are subject to the applicable change processes in that rule; and changes that are not within the scope of the referenced design certification rule are subject to the applicable change processes in 10 CFR Part 50, unless they also involve changes to or noncompliance with information within the scope of the referenced design certification rule. In these cases, the applicable provisions of this section and the design certification rule apply.

10 CFR 50.90 states, in part, that whenever a licensee desires to amend their license, they must file an application for an amendment, fully describe the requested changes, and follow as far as applicable, the form prescribed for the original application.

10 CFR 52, Appendix D, Section VIII.B.5.a allows an applicant or licensee who references this appendix to depart from Tier 2 information, without prior NRC approval, unless the proposed departure involves a change to or departure from Tier 1 information, Tier 2* information, or the Technical Specifications, or requires a license amendment under paragraphs B.5.b or B.5.c of the section. This activity involves changes to COL Appendix A, Technical Specifications, and thus requires prior NRC approval.

10 CFR 52, Appendix D, Section VIII.C.6 states that after issuance of a license, "Changes to the plant-specific TS will be treated as license amendments under 10 CFR 50.90." 10 CFR 50.90 addresses the application for amendments of licenses, construction permits, and early site permits. As discussed above, a change to COL Appendix A is requested, and thus a license amendment request (LAR) (as supplied herein) is required.

The proposed changes revise plant-specific UFSAR Tier 2 information, and also involves changes to the COLs, Appendix A, plant-specific TS. It was determined that the proposed changes do not affect conformance with the General Design Criteria differently than described in the plant-specific DCD or UFSAR.

3.0 TECHNICAL EVALUATION

The proposed changes revise plant-specific Tier 2 information to add the time delay assumed in the safety analysis for the reactor trip on a safeguards actuation ("S") signal to UFSAR Table 15.0-4a. This is also reflected in the proposed revision to TS 3.3.4, RTS ESFAS Instrumentation, to add a surveillance requirement to verify the RTS response time for this "S" signal. The request also includes proposed changes to TS 3.3.7, RTS Trip Actuation Devices, to clarify that the requirements for RTB undervoltage and shunt trip mechanisms apply only to in-service RTBs. In addition, the request includes proposed changes to TS 3.3.9, ESFAS Manual Initiation, to correct the nonmenclature for the Chemical and Volume Control System, which is inadvertently stated as the Chemical Volume and Control System.

3.1 Evaluation of Proposed Changes

The proposed change to UFSAR Table 15.0-4a, Protection and Safety Monitoring System Setpoints and Time Delay Assumed in Accident Analyses, is to include the reactor trip signal on the safeguards actuation signal (“S” signal) with a time delay of 2.0 seconds, consistent with the assumptions of the safety analysis in UFSAR Chapter 15. The Reactor Trip on Safeguards Signal is credited in the accident analyses for the mitigation of several accidents and therefore the response time is to be listed in UFSAR Table 15.0-4a.

The response time, being credited in the actuation for accident mitigation, should be verified to be within limits by a TS surveillance requirement (SR). Therefore, TS SR 3.3.4.2 is added to verify the RTS response time at the same frequency (24 months on a staggered test basis) as the other RTS response time tests required by SR 3.3.1.11, SR 3.3.2.4, and SR 3.3.3.4. The reformatting of Table 3.3.4-1 and inclusion of the Surveillance Requirement Note for determining the applicability of SRs to Reactor Trip System functions, is consistent with the standard convention also presented in TS 3.3.1, “Reactor Trip System (RTS) Instrumentation.”

The TS 3.3.7, RTS Trip Actuation Devices, Limiting Condition for Operation requires four divisions of RTS trip actuation with two functions: a) RTBs; and b) undervoltage and shunt trip mechanisms, to be Operable. Each division consists of two RTBs, each with undervoltage and shunt trip mechanisms. The current Required Action A.1 for any inoperability within one division is to “Open RTBs in inoperable division,” that is, both RTBs even when only one is inoperable. Opening an operable RTB places the plant in a condition more likely to experience an inadvertent reactor trip and ensuing plant shutdown transient. This unnecessarily restrictive requirement is changed in Required Action A.1 which is reworded to include the term “affected”; such that it reads “Open affected RTB(s) in inoperable division.” This proposed change also adds the parentheses around the “s” in RTBs since the inoperability, could be either one or both (affected) RTB(s). This provides for an action that is commensurate with the inoperability. Once an inoperable RTB is opened, the remaining operable RTB in that division can continue to perform its function without it also being required to be opened. The change is substantive and the TS modifications ensure the TS continue to meet the requirements of 10 CFR 50.36(c).

The TS 3.3.9, Engineered Safety Feature Actuation System (ESFAS) Manual Initiation, Table 3.3.9-1, Function 10, is currently titled, “Chemical Volume and Control System Makeup Isolation - Manual Initiation” [underline added]. However, the actual system name is Chemical and Volume Control System” [underline added]. This editorial error is corrected by renaming Table 3.3.9-1 Function 10 as “Chemical and Volume Control System Makeup Isolation - Manual Initiation.” There is no change in function or design to TS 3.3.9.

Based upon the above discussion and evaluation the staff finds the above changes to the UFSAR and TS acceptable. The TS Bases are changed to be consistent with the TS.

3.2 SUMMARY OF THE TECHNICAL EVALUATION

Based on the technical evaluations above, the staff finds that the proposed changes to the plant-specific UFSAR Tier 2 information, to add the time delay assumed in the safety analysis for the reactor trip on a safeguards actuation (“S”) signal to UFSAR Table 15.0-4a, the staff concludes that there is reasonable assurance that the requirements of 10 CFR Part 50.36, 10 CFR 50.90, and 10 CFR 52, Appendix D, Section VIII.B.5.a will continue to be met. The change are substantive and the TS modifications ensure that the TS continue to meet the

requirements of 10 CFR 50.36. Therefore, the staff finds the proposed changes to be acceptable.

4.0 STATE CONSULTATION

In accordance with the Commission's regulations in 10 CFR 50.91(b) (4), the Georgia State official was consulted of the proposed issuance of the amendment on December 6, 2017. The State official had no comment.

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 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, and that 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*, 82 FR 38714, dated August 15, 2017). Accordingly, the amendment meets the eligibility criteria for categorical exclusion set forth in 10 CFR 51.22(c)(9). Under 10 CFR 51.22(b), no environmental impact statement or environmental assessment need be prepared in connection with the issuance of the amendments.

6.0 CONCLUSION

Based on the technical evaluation presented in Section 3.0 above, the staff has concluded that: (1) there is reasonable assurance that the health and safety of the public will not be endangered by operation in the proposed manner, (2) there is reasonable assurance that 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 to the health and safety of the public. Therefore, the staff finds the changes proposed in this LAR are acceptable.

7.0 REFERENCES

1. Request for License Amendment (LAR 17-020): Add Reactor Trip Signal on Safeguards Actuation Signal Time Delay and Other Miscellaneous Technical Specification Changes, dated June 23, 2017 (ADAMS Accession No. ML17179A171).
2. Vogtle Units 3 and 4 Updated Final Safety Analysis Report, Revision 6 and Tier 1, Revision 5 dated March 12, 2017 (ADAMS Accession No. ML17172A218).
3. AP1000 Design Control Document, Revision 19, dated June 13, 2011 (ADAMS Accession No. ML11171A500).
4. Combined License NPF-91 for Vogtle Electric Generating Plant Unit 3, Southern Nuclear Operating Company (ADAMS Accession No. ML14100A106).
5. Combined License NPF-92 for Vogtle Electric Generating Plant Unit 4, Southern Nuclear Operating Company (ADAMS Accession No. ML14100A135).