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U.S. Nuclear Regulatory Commission  
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Southern Nuclear Operating Company  
Vogtle Electric Generating Plant Units 3 and 4  
Request for License Amendment and Exemption:  
Administrative Changes to Align Initial Test Program (ITP) with Regulatory Guide 1.68  
(LAR-18-024)

Ladies and Gentlemen:

In accordance with the provisions of 10 CFR 50.90, Southern Nuclear Operating Company (SNC), the licensee for Vogtle Electric Generating Plant (VEGP) Units 3 and 4, hereby requests an amendment to the Combined Licenses (COLs) for VEGP Units 3 and 4, COL numbers NPF-91 and NPF-92, respectively. This enclosed amendment request proposes to depart from certified AP1000 Design Control Document (DCD) Tier 2 material that has been incorporated into the VEGP Units 3 and 4 Updated Final Safety Analysis Report (UFSAR). This departure also involves associated Tier 1 material, and corresponding changes to license conditions of the COLs. Pursuant to 10 CFR 52.36(b)(1) SNC has included with this amendment request an exemption request to support the proposed departure from Tier 1 material. Because this amendment request impacts Tier 1 of the plant-specific DCD and license conditions of the COLs, this activity requires prior NRC approval.

The description, regulatory evaluation (including the significant hazards consideration determination), and environmental considerations for the proposed changes in the License Amendment Request (LAR) are contained in Enclosure 1 to this letter. Enclosure 2 provides the background and supporting basis for the requested exemption. Enclosure 3 provides markups depicting the requested changes to the licensing basis documents.

SNC presented an overview of this amendment request during a public meeting with the NRC on August 16, 2018. SNC requests staff approval of the license amendment and exemption by February 28, 2019, to support the construction schedule for VEGP Unit 3. SNC expects to implement the proposed amendment through incorporation into the licensing basis documents within 30 days of approval of the requested changes.

SNC also expects to submit a Preliminary Amendment Request (PAR) along with this LAR submittal to improve efficiency related to early completion of component testing. This PAR is expected to request a "no objection" finding from the NRC Staff by October 1, 2018.

In accordance with 10 CFR 50.91, SNC is notifying the State of Georgia of this LAR by transmitting a copy of this letter and enclosures to the designated State Official.

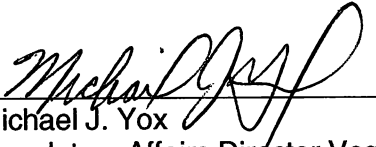
This letter contains no regulatory commitments. This letter has been reviewed and determined not to contain security-related information.

Should you have any questions, please contact Ms. Kelli Roberts at (706) 848-6991.

I declare under penalty of perjury that the foregoing is true and correct. Executed on the 30th of August 2018.

Respectfully submitted,

SOUTHERN NUCLEAR OPERATING COMPANY

  
\_\_\_\_\_  
Michael J. Yox  
Regulatory Affairs Director Vogtle 3&4

MJY/LRG/amm

- Enclosure 1) Vogtle Electric Generating Plant (VEGP) Units 3 and 4 – License Amendment Request Regarding Administrative Changes to Align Initial Test Program (ITP) with Regulatory Guide 1.68 (LAR-18-024)
- Enclosure 2) Vogtle Electric Generating Plant (VEGP) Units 3 and 4 – Exemption Request Regarding Administrative Changes to Align Initial Test Program (ITP) with Regulatory Guide 1.68 (LAR-18-024)
- Enclosure 3) Vogtle Electric Generating Plant (VEGP) Units 3 and 4 – Licensing Basis Documents – Proposed Changes (LAR-18-024)

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**ND-18-1120**

**Enclosure 1**

**Vogtle Electric Generating Plant (VEGP) Units 3 and 4**

**License Amendment Request Regarding  
Administrative Changes to Align Initial Test Program (ITP)  
with Regulatory Guide 1.68  
(LAR-18-024)**

(This Enclosure consists of 12 pages, including this cover page.)

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Pursuant to 10 CFR 52.98(c) and in accordance with 10 CFR 50.90, Southern Nuclear Operating Company (SNC, or the "Licensee") hereby requests an amendment to Combined License (COL) Nos. NPF-91 and NPF-92 for Vogtle Electric Generating Plant (VEGP) Units 3 and 4, respectively.

## **1. Summary Description**

An amendment to the current licensing basis documents is requested to revise the description and scope of the Initial Test Program (ITP) to remove component testing as a separately identified program or phase of the ITP, i.e., the Component Test Program. The changes do not affect the conformance of the ITP with Regulatory Guide (RG) 1.68, Revision 3, nor conformance with the regulations for safety analysis report content, 10 CFR 52.79(a)(28), which calls only for preoperational and startup testing programs. Additionally, preoperational and startup test specifications, which are not required in RG 1.68, Rev. 3, are proposed to be removed from the ITP.

The requested amendment requires changes to the Updated Final Safety Analysis Report (UFSAR) in the form of departures from the incorporated plant-specific Design Control Document (DCD) Tier 2 information and involves changes to related plant-specific Tier 1 information with corresponding changes to the associated COL information. This enclosure requests approval of the license amendment necessary to implement the Tier 2 and COL changes. Enclosure 2 requests the exemption necessary to implement the involved changes to the plant-specific Tier 1 information.

## **2. Detailed Description and Technical Evaluation**

The licensing basis documents, including the plant-specific Tier 1 information and associated COL information, currently identifies the ITP as having three distinct phases: component testing, preoperational testing, and startup testing. Since Tier 1 Section 3.4, Design Description for the Initial Test Program, and associated COL information, includes some of the details proposed to be revised, a license amendment and an exemption request (Enclosure 2) are required. In the proposed changes, component testing is removed from the ITP as a phase of testing; however, the overall ITP description and licensing basis content continues to be consistent with RG 1.68 and 10 CFR 52.79(a)(28). This change does not affect the health and safety of the public because construction and related component testing, although not controlled by the ITP, is conducted under 10 CFR Part 50, Appendix B, and NQA-1 1994 (see UFSAR Sections 17.1 and 17.5). Preoperational and startup test specifications, which are also described in Tier 1 Section 3.4, are proposed to be removed from the ITP. This change does not affect the health and safety of the public because all of the test specification information described in UFSAR Section 14.2.3 is contained in test procedures; additionally, this change is consistent with RG 1.68, Rev. 3.

The proposed changes to the UFSAR related to the ITP are described and justified below:

#### Component Test Phase

The component testing phase describes certain tests performed in order to prepare systems for preoperational testing. Component testing includes preliminary operation of components and systems, various electrical and mechanical tests, operability checks, and instrumentation calibration.

The proposed changes do not affect the technical content of component, preoperational, or startup procedures. These proposed changes do not include any changes to ITAAC. The proposed change is to redefine the ITP scope as described within the licensing basis to remove component testing such that the licensing basis ITP consists only of preoperational and startup testing, which is consistent with RG 1.68. There is no adverse impact to the health and safety of the public from these changes. The ITP continues to meet its objective to demonstrate that the plant has been constructed as designed, that the systems perform consistently with the plant design, and that activities culminating in operation at full licensed power are performed in a controlled and safe manner.

The second paragraph of Tier 1, Section 3.4, states, "An initial test program is performed after turnover from construction for each AP1000 plant . . ." This is revised to state, "An initial test program is performed for each AP1000 plant." Page 5 of Regulatory Guide 1.68, Revision 3, which the Licensee is committed to for administrative aspects of the ITP, notes the initial test program consists of preoperational and startup testing but does not address sequencing of testing with regard to turnover from construction. RG 1.68 does require administrative controls to provide for orderly turnover of systems and components from construction to the preoperational testing group. This requirement is reflected in the proposed change to UFSAR Section 14.2.3, which would require the ITP Administrative Manual to include "Controls to provide for turnover of plant systems and components from construction to the preoperational testing group. These administrative controls also ensure that general prerequisites are satisfied prior to preoperational and/or startup tests of individual systems or components." The change is acceptable because it is consistent with the applicable regulatory guidance.

The second sentence of the second paragraph of Tier 1, Section 3.4, states, "The initial test program consists of a series of tests categorized as component, preoperational (prior to fuel load), and startup (during and after fuel load)." This is revised to state the initial test program "consists of a series of tests categorized as preoperational (prior to fuel load) and startup (during and after fuel load)." Additionally, the third paragraph of Tier 1, Section 3.4, which describes the scope of component testing, is proposed to be deleted. Sections A and B of Regulatory Guide 1.68 describe the ITP as consisting of preoperational and startup testing. At the time of certification, Tier 1, Section 3.4, defined the ITP to consist of construction and installation testing, preoperational testing, and startup testing. The component testing portion of construction and installation testing was brought under the administrative procedural controls of ITP in VEGP LAR-14-010 (Amendment 34) [ML15138A116] and was identified as being "...beyond the regulatory minimum requirement...". Including component testing, which

is defined by RG 1.68 as prerequisites to preoperational testing, under the administrative controls of the Initial Test Program imposes administrative requirements that are no longer desired by SNC. The proposed change is administrative because there are no changes to the technical requirements for component testing, nor does the proposed change alter the number of component tests required to be performed. Controls to ensure these prerequisites are met are included in the proposed changes to Tier 1 Section 3.4 and in UFSAR Section 14.2.1 and specify that "Prerequisites for preoperational testing, such as completion of associated construction activities, component and/or preliminary tests, and inspections, should be completed before beginning preoperational tests (to the degree that outstanding items could not be expected to affect the validity of test results)." The fourth paragraph of Tier 1, Section 3.4, is updated to reflect that preoperational testing will be performed after associated prerequisites are met. This change is aligned with RG 1.68, in that any activity that is considered a prerequisite, including component testing, for preoperational testing is completed before that testing begins. This change does not affect the health and safety of the public because construction and related component testing, although not controlled by the ITP, is conducted under 10 CFR Part 50, Appendix B, and NQA-1, 1994 (see UFSAR Sections 17.1 and 17.5). Also, this change brings Tier 1 Section 3.4 in direct alignment with the description of the Initial Test Program in RG 1.68, Rev. 3.

COL condition 2.D.10(m)1 states, "... 1. Component Test Program implemented before the first component test." This statement is removed, consistent with the proposed Tier 1 changes. This license condition is reflected in Item 19 of UFSAR Table 13.4-201, so similar changes are proposed to this table. The proposed change deletes the COL requirement to implement a Component Test Program prior to the performance of the first component test. Component testing is still required testing to satisfy prerequisites to preoperational testing but will no longer be required to be included in the Initial Test Program (ITP) administrative manual. This aligns the COL to RG 1.68 which addresses preoperational and startup testing as comprising the ITP. There is no adverse impact to the health and safety of the public, as these tests will be conducted under 10 CFR Part 50, Appendix B, and NQA-1 1994 (see UFSAR Sections 17.1 and 17.5).

COL condition 2.D.12(f)9 states that a schedule shall identify the completion or implementation of the ITP procedures identified in UFSAR Section 14.2.3, including the "administrative manual (before the first component test)." This item is revised to require the "administrative manual (before the first preoperational test)." This change is consistent with the proposed removal of component testing as a phase of the ITP. RG 1.68, Section B, identifies several important considerations for development of the testing program. Of these, item (4) discusses the need for administrative controls to govern the development and conduct of the ITP. These controls should provide for turnover from construction to the preoperational testing group and ensure that the general prerequisites are satisfied prior to preoperational and/or startup tests of individual systems or components. The ITP Administrative Manual controls turnover and confirmation of the completion of the prerequisites, including required component tests, prior to performance of preoperational tests. This proposed change aligns the COL to RG 1.68 which addresses preoperational and

startup testing as comprising the ITP. There is no adverse impact to the health and safety of the public.

UFSAR Subsection 14.2.1 states, "For clarity, it is noted that construction and installation tests are performed by the construction organization to verify that the construction, installation, and assembly processes have been properly performed." This is revised to state, "For clarity, it is noted that the construction and installation tests, including component tests, are performed to verify that the construction, installation, and assembly processes have been properly performed." UFSAR subsection 14.2.1 continues, stating, "Construction and installation tests are routinely performed prior to component testing and are not considered part of the ITP." This is revised to state that, "Construction and installation tests, including component tests, are not considered part of the ITP." These changes reflect the removal of component testing as a phase of the ITP, consistent with the proposed Tier 1 and COL changes.

The first bullet under the fifth paragraph of UFSAR Subsection 14.2.1 states, "Component tests are performed following turnover from construction to prepare systems for preoperational testing. Component testing includes, as appropriate, preliminary operation of components and systems and various electrical and mechanical tests including cleaning and flushing, electrical checks, operability checks, and instrumentation calibration." Because these changes propose to remove component testing as a phase of the ITP, the first bullet under the fifth paragraph of UFSAR Subsection 14.2.1 is removed. The second bullet, which describes preoperational tests, states, "Preoperational tests are performed after associated component tests, but prior to initial fuel loading to demonstrate the capability of plant systems to meet performance requirements." This is revised to state:

"Preoperational tests are performed after associated prerequisites for the required test, such as a completion of associated construction activities, component and/or preliminary tests, and inspections, but prior to initial fuel loading to demonstrate the capability of plant systems to meet performance requirements. These prerequisites should be completed before beginning preoperational tests (to the degree that outstanding items could not be expected to affect the validity of test results)."

Additionally, UFSAR Subsection 14.2.1.1 describes Component Test Program Objectives. These changes propose to remove the Component Test Program as a phase of ITP, so the current UFSAR Subsection 14.2.1.1 is removed and subsequent section numbers are updated. UFSAR Subsection 14.2.1.1 (as updated), Preoperational Test Program Objectives, states that "Following component testing, preoperational tests are performed..." This subsection is revised to state, "Following completion of associated prerequisites, preoperational tests are performed..." These proposed changes align the ITP with RG 1.68, which does not address component testing as a phase of the ITP. There is no change to the technical requirements for component testing, and the same number of component tests will still be performed.

UFSAR Subsection 14.2.2, Organization, Staffing, and Responsibilities, states that SNC is responsible for “component, preoperational, and startup testing.” These changes propose to revise this to state, “... preoperational and startup testing.” This change is also reflected in UFSAR Subsections 14.2.2.1, 14.2.2.1.1, and 14.2.2.1.2.

UFSAR Subsection 14.2.2.1.3, Functional ITP Managers in Charge of Testing, lists the responsibilities of the functional managers in charge of testing. These changes propose to remove the fourth bullet, which states, “Preparing component test procedures and ensuring that the JTWG reviews and approves component test procedures as specified by the JTWG Chairman. The JTWG structure and responsibilities are defined in Subsection 14.2.2.3.” The proposed changes align the ITP more closely with RG 1.68. Component testing is removed as a phase of the ITP, and therefore, the test procedures for component testing will not be reviewed by the Joint Test Working Group (JTWG), as reflected in the proposed changes to UFSAR Subsection 14.2.2.3. The JTWG will continue to review Preoperational and Startup tests. This list of responsibilities in UFSAR Subsection 14.2.2.1.3 also includes “Supporting the transition from component testing to the preoperational testing phase,” which is proposed to be changed to “Supporting the transition from construction to the preoperational testing phase.” UFSAR Subsection 14.2.2.3 also lists generic details of key responsibilities, authorities, and interfaces of organizations that participate in the JTWG. Under the bullet for ITP Test Groups, it is stated that “[t]he ITP Test Groups have the primary responsibility for the development, maintenance and performance of component, preoperational, and startup procedures at the site.” This is revised to remove component procedures, as these changes propose removing component testing as a phase of the ITP.

UFSAR Subsection 14.2.2.4, ITP Test Groups, lists functions and scope of work as necessary to support the ITP. These changes propose removing component testing as a phase of the ITP. Therefore, the first bullet, “Perform component testing,” the second bullet, “Review and evaluate component test results,” and the third bullet, “Support component testing to preoperational testing transition,” are removed.

UFSAR Subsection 14.2.3, Test Specifications and Test Procedures, describes the controls that shall be included in the ITP Administrative Manual. The first bullet, which states, “For component tests, controls to provide test procedures and/or written work instructions that include appropriate prerequisites, precautions, method to direct and control test performance, and acceptance criteria by which the test is evaluated,” is replaced by “Controls to provide for turnover of plant systems and components from construction to the preoperational testing group. These administrative controls also ensure that general prerequisites are satisfied prior to preoperational and/or startup tests of individual systems or components.” The fifth bullet is revised to remove, “...and review component test procedures...” The proposed changes align with RG 1.68.

UFSAR Subsection 14.2.3.1, “Conduct of Initial Test Program,” describes the ITP Administrative Manual, stating, “The ITP Administrative Manual (procedure) governs the initial testing and is issued no later than 60 days prior to the beginning of the component test phase. Testing during all phases of the test program is conducted using approved test procedures, and/or written work instructions for the component test phase.” The proposed changes revise this first sentence to state that the ITP Administrative Manual is issued no later than 60 days prior to the beginning of the preoperational test phase. The statement, “...

and/or written work instructions for the component test phase,” is removed. Removing this phase of testing aligns the licensing basis with RG 1.68.

UFSAR Subsection 14.2.3.1.3, “System Turnover,” lists requirements for the system turnover process. The third bullet, which states, “Determining the construction-related inspections and tests that need to be completed before component testing begins” is revised to clarify that construction-related inspections and tests include component testing. The fourth bullet, which states, “Evaluating any open items for acceptability before commencing component, preoperational, or startup testing” is revised to remove component testing as a phase. Removing this phase of testing aligns the licensing basis more closely with RG 1.68.

### Test Specifications

The sixth paragraph of Tier 1, Section 3.4, states:

“Preoperational and startup tests are performed using test procedures, developed primarily from test specifications. These test procedures delineate the test methods to be used in the conduct of preoperational and startup testing and the applicable acceptance criteria against which performance is evaluated. Test specifications and procedures are developed and reviewed by qualified personnel. Copies of the test specifications and test procedures for preoperational tests are available to NRC personnel prior to the scheduled performance of these individual tests. Copies of the test specifications and test procedures for startup tests are available to NRC inspection personnel prior to the scheduled fuel loading date. Administrative procedures are used to control the conduct of the initial test program; the review, evaluation and approval of test results; and test record retention.”

This is revised to remove references to test specifications, as the proposed changes will allow procedures to be developed directly from source documents. This paragraph is revised to state, “Preoperational and startup tests are performed using test procedures, which delineate the test methods to be used in the conduct of preoperational and startup testing and the applicable acceptance criteria against which performance is evaluated. Test procedures are developed and reviewed by qualified personnel. Copies of the test procedures for preoperational tests are available to NRC personnel prior to the scheduled performance of these individual tests. Copies of the test procedures for startup tests are available to NRC inspection personnel prior to the scheduled fuel loading date. Administrative procedures are used to control the conduct of the initial test program; the review, evaluation and approval of test results; and test record retention.” Tier 1 currently reflects that test procedures are developed “...primarily from test specifications...”. The process is being revised such that procedures are developed directly from source documents (e.g. System Specification Documents, Safety Analysis, etc.). Associated changes are proposed to UFSAR Subsection 14.2.2.3, “Joint Test Working Group,” under the responsibilities of the Responsible Design Organization; UFSAR Subsection 14.2.3, Test Specifications and Test Procedures; and UFSAR Subsection 14.4.2, Test Specifications and Procedures.



The proposed changes are consistent with RG 1.68, Rev. 3, which does not require the development of test specifications. Rather, RG 1.68 requires that test procedures “should be developed and reviewed by personnel with appropriate technical backgrounds and experience, and should receive final approval by persons in designated management positions within the applicant’s organization. In addition, each test procedure should include acceptance criteria that account for the uncertainties used in transient and accident analyses. Principal design organizations should participate in establishing those test acceptance criteria and related performance requirements.” The ITP will continue to meet these RG 1.68 requirements, as personnel with appropriate technical backgrounds and experience develop and review test procedures (UFSAR Subsection 14.2.3) and the JTWG (i.e., designated management positions) approves preoperational and startup test procedures (UFSAR Subsection 14.2.2.3). Also, UFSAR Subsection 14.2.3 still requires that the ITP Administrative Manual includes controls “to provide for participation of the responsible design organizations in establishing test objectives, test acceptance criteria, and related performance requirements during the development of detailed test procedures. Each test procedure should include acceptance criteria that account for the uncertainties used in transient and accident analyses. . . .” Additionally, all information required to be contained in test specifications per UFSAR Subsection 14.2.3 (objectives for performing the test, test prerequisites, initial test conditions, data requirements, and acceptance criteria) are also required to be specified in test procedures; therefore, the test specifications are redundant and not needed. Since test specifications are not required per RG 1.68, test procedures will still meet all RG 1.68 requirements, and the scope of testing remains unchanged, the proposed changes will not reduce the effectiveness of preoperational and startup test procedures and do not affect the health and safety of the public.

### **3. Technical Evaluation**

**(included in Section 2).**

### **4. Regulatory Evaluation**

#### **4.1 Applicable Regulatory Requirements/Criteria**

10 CFR 52.98(f) requires NRC approval for any modification to, addition to, or deletion from the terms and conditions of a COL. This activity involves a departure from plant-specific Tier 1 information and a corresponding change to the COL; therefore, this activity requires an amendment to the COL. Accordingly, NRC approval is required prior to making the plant-specific changes in this license amendment request.

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 change involves a revision to plant-specific Tier 1 information (see Enclosure 2), thus requiring NRC approval for the Tier 1, COL, and associated Tier 2 departures.

10 CFR 52.79(a)(28) requires that the safety analysis report include "Plans for preoperational testing and initial operations." This proposed change addresses details that are beyond the scope of these required plan descriptions.

#### **4.2 Precedent**

None

#### **4.3 Significant Hazards Consideration Determination**

An amendment to the current licensing basis documents is requested to revise the administrative description and scope of the ITP. The requested amendment requires changes to the UFSAR in the form of departures from the incorporated plant-specific DCD Tier 2 information and involves changes to related plant-specific Tier 1 information, with corresponding changes to the associated COL information.

An evaluation to determine whether or not a significant hazards consideration is involved with the proposed amendment was completed by focusing on the three standards set forth in 10 CFR 50.92, "Issuance of amendment," as discussed below:

##### **4.3.1 Does the proposed amendment involve a significant increase in the probability or consequences of an accident previously evaluated?**

Response: No

The proposed amendment is related to the conduct of the ITP. The proposed changes are made in compliance with the applicable regulatory guides, are only related to the general aspects of how the program is executed and do not change any technical content for preoperational or startup tests. No changes are made to any design aspect of the plant. Therefore, the proposed amendment does not involve a significant increase in the probability or consequences of an accident previously evaluated.

##### **4.3.2 Does the proposed amendment create the possibility of a new or different kind of accident from any accident previously evaluated?**

Response: No

The proposed amendment is related to the conduct of the ITP. The proposed changes are made in compliance with the applicable regulatory guides, are only related to the general aspects of how the program is executed and do not change any technical content for preoperational or startup tests. These changes do not affect the design or analyzed operation of any system. Therefore, the proposed amendment does not create the possibility of a new or different kind of accident.

##### **4.3.3 Does the proposed amendment involve a significant reduction in a margin of safety?**

Response: No

The proposed amendment is related to the conduct of the ITP. The proposed changes are made in compliance with the applicable regulatory guides, are only related to the general aspects of how the program is executed and do not change any technical content for preoperational or startup tests.

No safety analysis or design basis acceptance limit/criterion is challenged or exceeded by the proposed changes, thus no margin of safety is reduced. Therefore, the proposed amendment does not involve a significant reduction in a margin of safety.

Based on the above, it is concluded that the proposed amendment does not involve a significant hazards consideration under the standards set forth in 10 CFR 50.92(c), and, accordingly, a finding of "no significant hazards consideration" is justified.

#### **4.4 Conclusions**

In conclusion, based on the considerations discussed above, (1) there is reasonable assurance that the health and safety of the public will not be endangered by operation in the proposed manner, (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 to the health and safety of the public. Pursuant to 10 CFR 50.92, the requested change does not involve a Significant Hazards Consideration.

#### **5. Environmental Considerations**

The details of the proposed changes to the licensing basis documents are provided in Enclosure 3 of this license amendment request.

An amendment to the current licensing basis documents is requested to revise the administrative description and scope of the ITP. The requested amendment proposes changes to the UFSAR in the form of departures from the incorporated plant-specific DCD Tier 2 information and involves changes to related plant-specific Tier 1 information (requested by Enclosure 2), with corresponding changes to the associated COL information.

This review has determined the proposed change requires an amendment to the COL. However, a review of the anticipated construction and operational effects of the requested amendment has determined the requested amendment meets the eligibility criteria for categorical exclusion set forth in 10 CFR 51.22(c)(9), in that:

*(i) There is no significant hazards consideration.*

As documented in Section 4.3, Significant Hazards Consideration Determination, of this enclosure, an evaluation was completed to determine whether or not a significant hazards consideration is involved by focusing on the three standards set forth in 10 CFR 50.92, "Issuance of amendment." The Significant Hazards Consideration determined that

(1) the requested amendment does not involve a significant increase in the probability or consequences of an accident previously evaluated; (2) the requested amendment does not create the possibility of a new or different kind of accident from any accident previously evaluated; and (3) the requested amendment does not involve a significant reduction in a margin of safety. Therefore, it is concluded that the requested amendment does not involve a significant hazards consideration under the standards set forth in 10 CFR 50.92(c), and accordingly, a finding of “no significant hazards consideration” is justified.

*(ii) There is no significant change in the types or significant increase in the amounts of any effluents that may be released offsite.*

The proposed changes in the requested amendment are related to the definition and execution of the initial test program. The proposed changes are unrelated to any aspect of plant construction or operation that would introduce any change to effluent types (e.g., effluents containing chemicals or biocides, sanitary system effluents, and other effluents), or affect any plant radiological or non-radiological effluent release quantities. Furthermore, the proposed changes do not affect any effluent release path or diminish the functionality of any design or operational features that are credited with controlling the release of effluents during plant operation. Therefore, it is concluded that the requested amendment does not involve a significant change in the types or a significant increase in the amounts of any effluents that may be released offsite.

*(iii) There is no significant increase in individual or cumulative occupational radiation exposure.*

The proposed changes are related to the definition and execution of the initial test program. Plant radiation zones (addressed in UFSAR Section 12.3) are not affected, and controls under 10 CFR 20 preclude a significant increase in occupational radiation exposure. Therefore, the requested amendment does not involve a significant increase in individual or cumulative occupational radiation exposure.

Based on the above review of the requested amendment, it has been determined that anticipated construction and operational effects of the requested amendment do not involve (i) a significant hazards consideration, (ii) a significant change in the types or significant increase in the amounts of any effluents that may be released offsite, or (iii) a significant increase in the individual or cumulative occupational radiation exposure. Accordingly, the requested amendment meets the eligibility criteria for categorical exclusion set forth in 10 CFR 51.22(c)(9). Therefore, pursuant to 10 CFR 51.22(b), an environmental impact statement or environmental assessment of the proposed exemption is not required.

## **6. References**

VEGP 3&4 LAR-14-010 dated November 21, 2014 (approved as Amendment No. 34, on June 5, 2015)

**Southern Nuclear Operating Company**

**ND-18-1120**

**Enclosure 2**

**Vogtle Electric Generating Plant (VEGP) Units 3 and 4**

**Exemption Request Regarding  
Administrative Changes to Align Initial Test Program (ITP) with Regulatory Guide 1.68**

**(LAR-18-024)**

(This Enclosure consists of 7 pages, including this cover page.)

## 1.0 Purpose

Southern Nuclear Operating Company (SNC or the "Licensee") requests a permanent exemption from the provisions of 10 CFR 52, Appendix D, Section III.B, "Design Certification Rule for the AP1000 Design, Scope and Contents," to allow a departure from elements of the certification information in Tier 1 of the Generic DCD. The regulation, 10 CFR 52, Appendix D, Section III.B, requires an applicant or licensee referencing Appendix D to 10 CFR Part 52 to incorporate by reference and comply with the requirements of Appendix D, including certified information in DCD Tier 1. The Tier 1 information for which a plant-specific departure and exemption is being requested includes changes to the administrative description and scope of Section 3.4, Initial Test Program.

This request for exemption will apply the requirements of 10 CFR 52, Appendix D, Section VIII.A.4 to allow departures from generic Tier 1 information due to the following proposed changes to the Initial Test Program (ITP) description in Tier 1 Section 3.4:

- Redefine the ITP scope to consist of preoperational and startup testing, which is consistent with Regulatory Guide (RG) 1.68. The descriptive detail in Tier 1 is updated to reflect this change appropriately.
- Discussions of test specifications and test procedures are changed to refer only to test procedures, which is also consistent with RG 1.68.

This request will provide for the application of the requirements for granting exemptions from design certification information, as specified in 10 CFR Part 52, Appendix D, Section VIII.A.4, and 10 CFR §§ 52.63, 52.7, and 50.12.

## 2.0 Background

SNC is the holder of Combined License Nos. NPF-91 and NPF-92, which authorize construction and operation of two Westinghouse Electric Company AP1000 nuclear plants, named Vogtle Electric Generating Plant (VEGP) Units 3 and 4, respectively. Tier 1 Section 3.4 is part of the current licensing basis of the plant and contains the design description of the ITP. Portions of Section 3.4 differ with the proposed implementation of RG 1.68, to which the Licensee is committed to for administrative aspects of the ITP. In order to reconcile the differences between the proposed implementation of RG 1.68 and Tier 1 Section 3.4, several changes are proposed to the text of the Section such that:

- References to component testing as a phase of ITP are removed.
- Discussions of test specifications and test procedures are changed to refer only to test procedures.

An exemption from elements of the AP1000 certified design information (Tier 1) to allow a departure from the ITP description is requested. The proposed departure would allow these changes and clarifications to be made to the ITP description in Tier 1 Section 3.4.

### **3.0 Technical Justification of Acceptability**

The proposed change to redefine the ITP scope to consist of preoperational and startup testing is consistent with RG 1.68 and 10 CFR 52.79(a)(28). This change does not affect the health and safety of the public because construction and related component testing, although not controlled by the ITP, is conducted under 10 CFR Part 50, Appendix B, and NQA-1 1994 (see UFSAR Sections 17.1 and 17.5). Preoperational and startup test specifications are proposed to be removed from the ITP. This change does not affect the health and safety of the public because all of the test specification information described in UFSAR Section 14.2.3 is contained in test procedures; additionally, this change is consistent with RG 1.68, Rev. 3.

The proposed changes do not affect the technical content of component, preoperational, or startup procedures. The proposed changes do not affect the scope of testing. There are no changes to any ITAAC performed during ITP. The ITP continues to meet its objective to demonstrate that the plant has been constructed as designed, that the systems perform consistent with the plant design, and that activities culminating in operation at full licensed power are performed in a controlled and safe manner. Therefore, there is no adverse impact to the health and safety of the public.

Detailed technical justification supporting this request for exemption is provided in Section 2 of the associated License Amendment Request in Enclosure 1 of this letter.

### **4.0 Justification of Exemption**

10 CFR Part 52, Appendix D, Section VIII.A.4 and 10 CFR 52.63(b)(1) govern the issuance of exemptions from elements of the certified design information for AP1000 nuclear power plants. Because the Licensee has identified changes to the Tier 1 information related to the administrative description and scope of the ITP, an exemption from the certified design information in Tier 1 is requested to further align ITP with RG 1.68.

10 CFR Part 52, Appendix D, and 10 CFR §§ 50.12, 52.7, and 52.63 state that the NRC may grant exemptions from the requirements of the regulations provided six conditions are met: 1) the exemption is authorized by law [§50.12(a)(1)]; 2) the exemption will not present an undue risk to the health and safety of the public [§50.12(a)(1)]; 3) the exemption is consistent with the common defense and security [§50.12(a)(1)]; 4) special circumstances are present [§50.12(a)(2)]; 5) the special circumstances outweigh any decrease in safety that may result from the reduction in standardization caused by the exemption [§52.63(b)(1)]; and 6) the design change will not result in a significant decrease in the level of safety [Part 52, App. D, VIII.A.1].

The requested exemption satisfies the criteria for granting specific exemptions, as described below.

**1. This exemption is authorized by law**

The NRC has authority under 10 CFR §§ 50.12, 52.7, and 52.63 to grant exemptions from the requirements of NRC regulations. Specifically, 10 CFR §§ 50.12 and 52.7 state that the NRC may grant exemptions from the requirements of 10 CFR Part 52 upon a proper showing. No law exists that would preclude the changes covered by this exemption request. Additionally, granting of the proposed exemption does not result in a violation of the Atomic Energy Act of 1954, as amended, or the Commission's regulations. Accordingly, this requested exemption is "authorized by law," as required by 10 CFR 50.12(a)(1).

**2. This exemption will not present an undue risk to the health and safety of the public**

The proposed exemption from the requirements of 10 CFR 52, Appendix D, Section III.B would allow changes to elements of the plant-specific Tier 1 DCD to depart from the AP1000 certified (Tier 1) design information. The plant-specific Tier 1 DCD will continue to reflect the approved licensing basis for the Licensee and will maintain a consistent level of detail with that which is currently provided elsewhere in Tier 1 of the plant-specific DCD. Therefore, no adverse safety impact which would present any additional risk to the health and safety of the public is present.

The ITP continues to meet its objective to demonstrate that the plant has been constructed as designed, that the systems perform consistent with the plant design, and that activities culminating in operation at full licensed power are performed in a controlled and safe manner. The changes do not introduce any new industrial, chemical, or radiological hazards that would represent a public health or safety risk, nor do they modify or remove any design or operational controls or safeguards that are intended to mitigate any existing on-site hazards. Furthermore, the proposed changes would not allow for a new fission product release path, result in a new fission product barrier failure mode, or create a new sequence of events that would result in significant fuel cladding failures.

Accordingly, these changes do not present an undue risk from any new equipment, systems, or administratively controlled processes. Therefore, the requested exemption from 10 CFR 52, Appendix D, Section III.B would not present an undue risk to the health and safety of the public.

**3. The exemption is consistent with the common defense and security**

The exemption from the requirements of 10 CFR 52, Appendix D, Section III.B would change elements of the plant-specific Tier 1 DCD by departing from the AP1000 certified (Tier 1) design information. The exemption does not alter the design, function, or operation of any structures or plant equipment that are necessary to maintain a safe and secure status of the plant. The proposed exemption has no impact on plant security or safeguards procedures. Therefore, the requested exemption is consistent with the common defense and security.



**4. Special circumstances are present**

10 CFR 50.12(a)(2) list six “special circumstances” for which an exemption may be granted. Pursuant to the regulation, it is necessary for one of these special circumstances to be present in order for the NRC to consider granting an exemption request. The requested exemption meets the special circumstances of 10 CFR 50.12(a)(2)(ii). That subsection defines special circumstances as when “Application of the regulation in the particular circumstances would not serve the underlying purpose of the rule or is not necessary to achieve the underlying purpose of the rule.”

The rule under consideration in this request for exemption is 10 CFR 52, Appendix D, Section III.B, which requires that a licensee referencing the AP1000 Design Certification Rule (10 CFR Part 52, Appendix D) shall incorporate by reference and comply with the requirements of Appendix D, including Tier 1 information. The VEGP Units 3 and 4 COLs reference the AP1000 Design Certification Rule and incorporate by reference the requirements of 10 CFR Part 52, Appendix D, including Tier 1 information. The underlying purpose of Appendix D, Section III.B is to describe and define the scope and contents of the AP1000 design certification, and to require compliance with the design certification information in Appendix D.

The proposed changes and clarifications to the ITP description in Tier 1 maintain the objective of the program to demonstrate that the plant has been constructed as designed, that the systems perform consistent with the plant design, and that activities culminating in operation at full licensed power are performed in a controlled and safe manner. There are no proposed changes to the technical content of any component, preoperational, or startup test procedures. These changes do not impact the ability of any structures, systems, or components to perform their functions or negatively impact safety. The detailed technical justification is provided in Enclosure 1 of this letter. Accordingly, this exemption from the certification information will enable the licensee to safely construct and operate the AP1000 facility consistent with the design certified by the NRC in 10 CFR 52, Appendix D.

Therefore, special circumstances are present, because application of the current generic certified design information in Tier 1 as required by 10 CFR Part 52, Appendix D, Section III.B, in the particular circumstances discussed in this request is not necessary to achieve the underlying purpose of the rule.

**5. The special circumstances outweigh any decrease in safety that may result from the reduction in standardization caused by the exemption**

Based on the nature of the changes to the plant-specific Tier 1 information and the understanding that these changes support the administrative description and scope of the ITP, it is likely that other AP1000 licensees will request this exemption. However, if this is not the case, the special circumstances continue to outweigh any decrease in safety from the reduction in standardization because the objective of the ITP associated with this request will continue to be maintained.

This exemption request and the associated marked-up text demonstrate that there is a minimal change from the generic AP1000 DCD, minimizing the reduction in standardization and consequently the safety impact from the reduction. Therefore, the special circumstances associated with the requested exemption outweigh any decrease in safety that may result from the reduction in standardization caused by the exemption.

**6. The design change will not result in a significant decrease in the level of safety.**

The exemption revises the plant-specific DCD Tier 1 information by altering and clarifying the description and scope of the ITP. The ITP continues to meet its objective to demonstrate that the plant has been constructed as designed, that the systems perform consistent with the plant design, and that activities culminating in operation at full licensed power are performed in a controlled and safe manner. Therefore, the changes will not result in a significant decrease in the level of safety.

**5.0 Risk Assessment**

A risk assessment was determined to be not applicable to address the acceptability of this request.

**6.0 Precedent Exemptions**

None.

**7.0 Environmental Consideration**

The proposed exemption is confined to the general aspects of how the ITP is executed and does not change any technical content for preoperational or startup tests. Accordingly, the proposed amendment meets the eligibility criterion for categorical exclusion set forth in 10 CFR 51.22(c)(10). Therefore, pursuant to 10 CFR 51.22(b), no environmental impact statement or environmental assessment need be prepared in connection with the proposed amendment.

**8.0 Conclusion**

The proposed changes to Tier 1 are necessary to revise the description of the ITP in the plant-specific DCD Tier 1. The exemption request meets the requirements of 10 CFR 52.63, "*Finality of design certifications*," 10 CFR 52.7, "*Specific exemptions*," 10 CFR 50.12, "*Specific exemptions*," 10 CFR 51.22, and 10 CFR 52 Appendix D, "*Design Certification Rule for the AP1000*." Specifically, the exemption request meets the criteria of 10 CFR 50.12(a)(1) in that the request is authorized by law, presents no undue risk to public health and safety, and is consistent with the common defense and security. Furthermore, approval of this request does not result in a significant decrease in the level of safety, presents special circumstances, does not present a significant decrease in safety as a result of a reduction in standardization, and meets the eligibility requirements for categorical exclusion.

ND-18-1120

Enclosure 2

Exemption Request Regarding Administrative Changes to Align Initial Test Program (ITP) with  
Regulatory Guide 1.68 (LAR-18-024)

## **9.0 References**

None

**Southern Nuclear Operating Company**

**ND-18-1120**

**Enclosure 3**

**Vogtle Electric Generating Plant (VEGP) Units 3 and 4**

**Licensing Basis Documents – Proposed Changes**

**(LAR-18-024)**

Added text is shown as Blue Underline  
Deleted Text is shown as ~~Red-Strikethrough~~  
Omitted text is shown as three asterisks (\* ... \* ... \*)

(This Enclosure consists of 13 pages, including this cover page)

**Revise plant-specific Tier 1 Section 3.4, Initial Test Program, as shown below.**

**3.4 Initial Test Program**

**Design Description**

The Licensee will implement an initial test program.

An initial test program is performed ~~after turnover from construction~~ for each AP1000 plant. ~~The initial test program~~ and consists of a series of tests categorized as ~~component~~, preoperational (prior to fuel load), and startup (during and after fuel load). Prerequisites for preoperational testing, such as completion of associated construction activities, component and/or preliminary tests, and inspections, should be completed before beginning preoperational tests (to the degree that outstanding items could not be expected to affect the validity of test results). All ITAAC will be completed prior to fuel load; therefore, no ITAAC are performed during the startup test phase of the initial test program.

~~Component tests are performed following turnover from construction to prepare systems for preoperational testing. Component testing includes, as appropriate, preliminary operation of components and systems and various electrical and mechanical tests including cleaning and flushing, electrical checks, operability checks, and instrumentation calibration.~~

Preoperational tests are performed for each system after associated ~~component tests~~ prerequisites are met, but prior to initial fuel loading to demonstrate that equipment and systems perform in accordance with design criteria so that initial fuel loading, initial criticality, and subsequent power operation can be safely undertaken. Preoperational tests include, as appropriate, logic and interlock tests, control and instrumentation functional tests, and system performance tests including expansion, vibration, and dynamic effects tests.

\* \* \*

Preoperational and startup tests are performed using test procedures, ~~developed primarily from test specifications. These test procedures~~ which delineate the test methods to be used in the conduct of preoperational and startup testing and the applicable acceptance criteria against which performance is evaluated. Test ~~specifications and~~ procedures are developed and reviewed by qualified personnel. Copies of the test ~~specifications and test~~ procedures for preoperational tests are available to NRC personnel prior to the scheduled performance of these individual tests. Copies of the test ~~specifications and test~~ procedures for startup tests are available to NRC inspection personnel prior to the scheduled fuel loading date. Administrative procedures are used to control the conduct of the initial test program; the review, evaluation and approval of test results; and test record retention.

**Revise COL Condition 2.D(10), Operational Program Implementation, as shown below.**

- D. The license is subject to, and SNC shall comply with, the conditions specified and incorporated below:

\* \* \*

(10) Operational Program Implementation

SNC shall implement the programs or portions of programs identified below, on or before the date SNC achieves the following milestones:

\* \* \*

(m) Initial Test Program (ITP)

- ~~1.~~ ~~Component Test Program implemented before the first component test;~~
- ~~2~~1. Preoperational Test Program implemented before the first preoperational test; and
- ~~3~~2. Startup Test Program implemented before initial fuel load;

\* \* \*



**Revise COL Condition 2.D(12), Site- and Unit-specific Conditions, as shown below.**

- D. The license is subject to, and SNC shall comply with, the conditions specified and incorporated below:

\* \* \*

(12) Site- and Unit-specific Conditions

\* \* \*

- (f) No later than 12 months after issuance of the COL, SNC shall submit to the Director of NRO, or the Director's designee, a schedule for implementation of the following license conditions. The schedule shall be updated every 6 months until 12 months before scheduled fuel loading, and every month thereafter until each license condition has been fully implemented. The schedule shall identify the completion of or implementation of the following:

\* \* \*

9. The ITP procedures identified in UFSAR Section 14.2.3:

- a. administrative manual (before the first preoperational ~~component~~ test)
- b. preoperational testing (before scheduled performance)
- c. startup testing (before initial fuel load)

\* \* \*

**Revise UFSAR Table 13.4-201, Operational Programs Required by NRC Regulations, as shown below.**

**Table 13.4-201 (Sheet 7 of 9)**  
**Operational Programs Required by NRC Regulations**

Item	Program Title	Program Source (Required by)	FSAR Section	Implementation	Requirement
				Milestone	
19.	Initial Test Program	10 CFR 50.34; 10 CFR 52.79(a)(28)	14.2	<p><del>Prior to the first component test being conducted for the Component Test Program</del></p> <p>Prior to the first preoperational test for the Preoperational Test Program</p> <p>Prior to initial fuel load for the Startup Test Program</p>	License Condition

\* \* \*



**Revise UFSAR Section 14.2, Specific Information to be included in Standard Safety Analysis Reports, as shown below. (Note that the proposed changes reflect a recently approved change which is not yet incorporated into the docketed UFSAR.)**

**14.2.1 Summary of Initial Test Program and Objectives**

The purpose of this section is to describe the initial test program that is performed for the AP1000 plant.

\* \* \*

The Initial Test Program (ITP) is implemented in ~~three~~ two phases, categorized as ~~component~~, preoperational, and startup testing. The individual programs for these ~~three~~ two phases, which make up the overall ITP, are discussed in Subsections 14.2.1.1, and 14.2.1.2, ~~and 14.2.1.3~~. For clarity, it is noted that construction and installation tests, including component tests, are performed ~~by the construction organization~~ to verify that the construction, installation, and assembly processes have been properly performed. Construction and installation tests, including component tests, ~~are routinely performed prior to component testing and~~ are not considered part of the ITP.

- ~~Component tests are performed following turnover from construction to prepare systems for preoperational testing. Component testing includes, as appropriate, preliminary operation of components and systems and various electrical and mechanical tests including cleaning and flushing, electrical checks, operability checks, and instrumentation calibration.~~
- Preoperational tests are performed after associated ~~component tests~~ prerequisites for the required test, such as a completion of associated construction activities, component and/or preliminary tests, and inspections, but prior to initial fuel loading to demonstrate the capability of plant systems to meet performance requirements. These prerequisites should be completed before beginning preoperational tests (to the degree that outstanding items could not be expected to affect the validity of test results).

\* \* \*

**~~14.2.1.1 Component Test Program Objectives~~**

~~The objective of component testing is to prepare systems for preoperational testing. Component tests are conducted following turnover from construction and include the following, as appropriate:~~

- ~~Cleaning and flushing~~
- ~~Checks of electrical wiring~~

- ~~Mechanical and electrical component initial setup and functional testing, including valve testing~~
- ~~Initial energization and operation of equipment~~
- ~~Calibration of instrumentation~~
- ~~Component and digital control system interface testing~~

~~Completion of component testing demonstrates that the tested components are ready for system preoperational testing.~~

~~Development of component tests is based on the engineering information for the equipment and systems installed.~~

#### ~~14.2.1.2~~ 14.2.1.1 Preoperational Test Program Objectives

Following ~~component testing~~ completion of associated prerequisites, preoperational tests are performed to demonstrate that equipment and systems perform in accordance with design criteria so that initial fuel loading, initial criticality, and subsequent power operation can be safely undertaken. Preoperational tests at elevated pressure and temperature are referred to as hot functional tests.

\* \* \*

#### ~~14.2.1.3~~ 14.2.1.2 Startup Test Program Objectives

The startup test program begins with initial fuel loading after the preoperational testing has been successfully completed.

\* \* \*

#### ~~14.2.1.4~~ 14.2.1.3 Testing of First of a Kind Design Features

First of a kind (FOAK) testing may occur in any of the phases, depending on the nature of the testing and required sequencing of the tests. When testing FOAK design features, applicable operating experience from previous test performance on other AP1000 plants is reviewed, where available, and the ITP modified as needed based on those lessons learned.

#### ~~14.2.1.5~~ 14.2.1.4 Credit for Previously Performed Testing of First of a Kind Design Features

In some cases, FOAK testing is required only for the first of a new design or for the first few plants of a standard design. In such cases, credit may be taken for the previously performed tests. A discussion is included in the test reports of the results of those tests that are credited.



#### **14.2.2 Organization, Staffing, and Responsibilities**

SNC has the overall responsibility to manage and conduct ~~component~~, preoperational, and startup testing.

\* \* \*

##### **14.2.2.1 ITP Organization**

The ITP organization is functionally comprised of testing groups and organizational support groups. The groups are responsible for supporting and conducting ~~component~~, preoperational and startup testing and may be divided by functional area. The ITP Organization structure (organizational chart) is included in the ITP Administrative Manual.

##### **14.2.2.1.1 Senior Managers Responsible for ITP**

The Senior Managers Responsible for ITP are responsible for:

- Staffing the ITP Organization.
- Developing and reviewing the administrative and technical procedures associated with ~~component~~, preoperational, and startup testing.
- Managing the ITP Organization.
- Implementing the ~~component~~, preoperational, and startup testing schedule.
- Managing contracts associated with ~~component~~, preoperational, and startup testing.

\* \* \*

##### **14.2.2.1.2 Functional Managers in Charge of ITP Organization Support**

The functional managers in charge of ITP Organization support report to the Senior Managers Responsible for ITP and are responsible for providing the necessary supporting structure and processes required for the effective implementation of the ITP. Specifically, these managers are responsible for:

- Planning and scheduling procedure development to support ~~component~~, preoperational, and startup testing

\* \* \*

##### **14.2.2.1.3 Functional ITP Managers in Charge of Testing**

The functional managers in charge of testing report to the Senior Managers Responsible for ITP and are responsible for:

\* \* \*

- ~~• Preparing component test procedures and ensuring that the JTWG reviews and approves component test procedures as specified by the JTWG Chairman. The JTWG structure and responsibilities are defined in Subsection 14.2.2.3.~~

\* \* \*

- Supporting the transition from construction ~~component testing~~ to the preoperational testing phase.

\* \* \*

#### 14.2.2.3 Joint Test Working Group

The Joint Test Working Group (JTWG) consists of an organizational group of authorized representative personnel from the Plant's operations and support group functions, Responsible Design Organization and other test support groups as identified below.

SNC has the overall responsibility for conduct of the ITP. The Senior Managers Responsible for ITP have been assigned overall responsibility and authority for technical direction of the ~~component testing~~, preoperational ~~testing~~, and startup testing and may act as the JTWG Chairman.

The JTWG Chairman reports to the Senior Managers Responsible for ITP, or designee(s), for matters of ~~component~~, preoperational, or startup testing authority and acceptance.

The JTWG provides the following administrative oversight activities associated with ~~component~~, preoperational, and startup testing:

- Review and approve ITP Administrative Manual.
- Review and approve preoperational and startup test procedures.
- ~~• Review and approve component test procedures, as specified by the JTWG chairman.~~
- Oversee the implementation of ~~component testing~~, preoperational ~~testing~~, and startup testing, including planning, scheduling, and performance.
- Review and approve preoperational and startup test results.

\* \* \*

- ITP Test Groups

The ITP Test Groups have the primary responsibility for the development, maintenance and performance of ~~component~~, preoperational, and startup procedures at the site. The primary interfaces for these groups are the Operations Group and Technical support organizations as well as the responsible design organization and the Construction Services Group.

\* \* \*

- Responsible Design Organization

The responsible design organization will vary and may be Westinghouse Electric Company (WEC), and/or Southern Company depending on the particular area or SSC in question. This organization has the primary responsibility for the approval of the ~~system test specification~~ document indicating that the ~~test and~~ acceptance criteria are in accordance with the current approved design \* \* \*.

#### 14.2.2.4 ITP Test Groups

The ITP Test Groups perform the following functions and scope of work as necessary to support the Initial Test Program:

- ~~Perform component testing.~~
- ~~Review and evaluate component test results.~~
- Support acceptance of construction turnover to the ITP organization.
- ~~Support component testing to preoperational testing transition.~~
- Support/perform initial energization and operation of plant equipment as well as functional performance tests at the component or sub-system level.

\* \* \*

#### 14.2.3 ~~Test Specifications and~~ Test Procedures

Preoperational and startup tests are performed using test procedures, ~~developed primarily from test specifications.~~

~~For the preoperational and startup tests, test specifications are written to specify the following:~~

- ~~Objectives for performing the test~~
- ~~Test prerequisites~~
- ~~Initial test conditions~~
- ~~Data requirements~~
- ~~Acceptance criteria~~

For each test, the test procedure specifies the following, as applicable:

- Objectives for performing the test
- Prerequisites that must be completed before the test can be performed
- Initial conditions under which the test is started



- Special precautions required for the safety of personnel or equipment
- Instructions delineating how the test is to be performed
- Identification of the required data to be obtained and the methods for documentation
- Data reduction analysis methods as appropriate
- Test acceptance criteria

Test ~~specifications and~~ procedures are developed and reviewed by personnel with appropriate technical backgrounds and experience. This includes the participation of responsible design organizations in the establishment of test performance requirements and acceptance criteria. ~~Specifically, the responsible design organizations will provide scoping documents (i.e., preoperational and startup test specifications) containing testing objectives and acceptance criteria applicable to its scope of design responsibility.~~

Available information on operating or testing experiences of operating reactors is factored into the ~~test specifications and~~ test procedures as appropriate.

Copies of the ~~test specifications and~~ test procedures for the startup tests are available to NRC inspection personnel not less than 60 days prior to the scheduled fuel loading date.

Copies of the ~~test specifications and~~ test procedures are available to NRC inspection personnel approximately 60 days prior to the scheduled performance of the following preoperational tests:

- Tests of systems/components that perform safety-related functions
- Tests of systems/components that are nonsafety-related but perform defense in-depth functions.

Test ~~specifications and test~~ procedures for preoperational tests described in Subsections 14.2.9.3 and 14.2.9.4 of the plant systems/components which perform no safety-related or defense-in-depth functions are available to NRC inspection personnel prior to the scheduled performance of these tests.

Preoperational and startup tests are performed with the quality assurance requirements as specified in **Section 17.5**.

The ITP Administrative Manual shall include the following controls:

- Controls to provide for turnover of plant systems and components from construction to the preoperational testing group. These administrative controls also ensure that general prerequisites are satisfied prior to preoperational and/or startup tests of individual systems or components. ~~For component tests, controls to provide test procedures and/or written work instructions that include appropriate prerequisites, precautions, method to direct and control test performance, and acceptance criteria by which the test is evaluated.~~

\* \* \*

- Controls to provide for personnel with appropriate technical backgrounds and experience to develop and review preoperational and startup test procedures, ~~and review component test procedures~~ and/or written work instructions. Persons filling designated management positions should perform final procedure review and approval.
- Controls to make the approved preoperational and startup test procedures for satisfying FSAR testing commitments available to NRC inspectors approximately 60 days prior to their intended use and prior to fuel load, respectively.

#### 14.2.3.1 Conduct of Initial Test Program

\* \* \*

The ITP Administrative Manual (procedure) governs the initial testing and is issued no later than 60 days prior to the beginning of the ~~component~~ preoperational test phase. Testing during all phases of the test program is conducted using approved test procedures, ~~and/or written work instructions for the component test phase~~.

\* \* \*

##### 14.2.3.1.3 System Turnover

During the construction phase, systems, subsystems, and equipment are completed and turned over in an orderly and well-coordinated manner. Guidelines are established to define the boundary and interface between related system/subsystem and are used to generate boundary scope documents; for example, marked-up piping and instrument diagrams (P&IDs) and electrical schematic diagrams are provided for scheduling and subsequent development of component and system turnover packages. The system turnover process includes requirements for the following:

- Documenting inspections performed by the construction organization (e.g., highlighted drawings showing areas inspected).
- Documenting results of construction testing.
- Determining the construction-related inspections and tests, including component testing, that need to be completed before ~~component~~ preoperational testing begins.
- Evaluating any open items for acceptability before commencing ~~component~~, preoperational, or startup testing.
- Developing and implementing plans for correcting adverse conditions and open items, and means for tracking such conditions and items.
- Verifying completeness of construction and documentation of incomplete items.

ND-18-1120

Enclosure 3

License Amendment Request (LAR-18-024): Administrative Changes to Align Initial Test Program (ITP) with Regulatory Guide 1.68

\* \* \*

**Revise UFSAR Section 14.4, Combined License Applicant Responsibilities, as shown below.**

\* \* \*

**14.4.2 Test ~~Specifications and~~ Procedures**

Preoperational and startup test ~~specifications and~~ procedures are available to the NRC in accordance with the requirements of Subsection 14.2.3. The controls for development of test

~~specifications and~~ procedures are also described in Subsection 14.2.3.

\* \* \*