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ND-16-1572
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10 CFR 52.98

U.S. Nuclear Regulatory Commission
Document Control Desk
Washington, DC 20555-0001

Southern Nuclear Operating Company
Vogtle Electric Generating Plant Units 3 and 4
Request for License Amendment:
Incorporate Revisions to WCAP-17179 in UFSAR Appendix 7A (LAR-16-021)

Ladies and Gentlemen:

Pursuant to 10 CFR 52.98(c) and in accordance with 10 CFR 50.90, Southern Nuclear Operating Company (SNC), the licensee for Vogtle Electric Generating Plant (VEGP) Units 3 and 4, requests an amendment to Combined License Numbers NPF-91 and NPF-92, for VEGP Units 3 and 4, respectively. The requested amendment proposes changes to the UFSAR in the form of departures from the plant-specific DCD Tier 2* information.

The proposed changes revise the Combined Licenses (COLs) to clarify information in WCAP-17179, "AP1000® Component Interface Module Technical Report" which demonstrates design compliance with licensing bases requirements. The requested amendment also proposes a change to the CIM internal power supply which will enable proper functioning of the field programmable gate arrays (FPGA).

Enclosure 1P provides the description, technical evaluation, regulatory evaluation (including the Significant Hazards Consideration Determination), and environmental considerations for the proposed changes in the License Amendment Request (LAR).

Enclosure 1NP provides the redacted version of the description, technical evaluation, regulatory evaluation (including the Significant Hazards Consideration Determination), and environmental considerations for the proposed changes in the License Amendment Request (LAR).

Enclosure 2P provides the proposed changes to the licensing basis documents.

Enclosure 2NP provides the redacted version of proposed changes to the licensing basis documents.

Enclosures 1P and 2P contain information that is considered proprietary; therefore these enclosures are requested to be withheld from disclosure to the public under 10 CFR 2.390.

An affidavit from SNC supporting withholding under 10 CFR 2.390 is provided as Enclosure 3. Enclosure 4 is Westinghouse's Proprietary Information Notice, Copyright Notice and CAW-16-4444, Application for Withholding Proprietary Information from Public Disclosure and Affidavit. The affidavit sets forth the basis upon which the information may be withheld from public disclosure by the Commission and addresses with specificity the considerations listed in paragraph (b)(4) of Section 2.390 of the Commission's regulations. Accordingly, it is respectfully requested that the information that is proprietary to Westinghouse be withheld from public disclosure in accordance with 10 CFR Section 2.390 of the Commission's regulations.

Correspondence with respect to the copyright or proprietary aspects of the items listed above or the supporting Westinghouse affidavit should reference CAW-16-4444 and should be addressed to J. A. Gresham, Manager, Regulatory Compliance, Westinghouse Electric Company, 1000 Westinghouse Drive, Building 3 Suite 310, Cranberry Township, Pennsylvania 16066. Correspondence with respect to proprietary aspects of this letter and its enclosures should also be addressed to Brian H. Whitley at the contact information within this letter.

This letter contains no regulatory commitments.

SNC requests staff approval of this license amendment by December 22, 2016, to support installation of the PMS cabinets. Delayed approval of this licensing request could result in delay of the associated construction activity and subsequent dependent construction activities. South Carolina Electric & Gas Company (SCE&G) has stated that the current requested approval date for V.C. Summer Nuclear Station (VCSNS) Units 2 and 3 is April 17, 2017. SNC expects to implement this proposed amendment within the VEGP Units 3 and 4 UFSAR within 30 days of approval of the requested changes.

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.

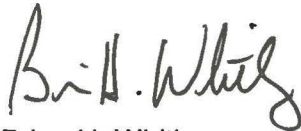
Should you have any questions, please contact Mr. Christopher L. Whitfield at (205) 992-5071.

(Oath and Affirmation on next page)

Mr. Brian H. Whitley states that: he is the Regulatory Affairs Director of Southern Nuclear Operating Company; he is authorized to execute this oath on behalf of Southern Nuclear Operating Company; and to the best of his knowledge and belief, the facts set forth in this letter are true.

Respectfully submitted,

SOUTHERN NUCLEAR OPERATING COMPANY



Brian H. Whitley



BHW/CLW/ljs

Sworn to and subscribed before me this 31st day of August, 2016

Notary Public: Lisa Myrick Spears

My commission expires: June 18, 2019

- Enclosures: 1NP) Vogtle Electric Generating Plant (VEGP) Units 3 and 4 – Request for License Amendment: Incorporate Revisions to WCAP-17179 in UFSAR Appendix 7A (LAR-16-021)
- 1P) Vogtle Electric Generating Plant (VEGP) Units 3 and 4 – Request for License Amendment: Incorporate Revisions to WCAP-17179 in UFSAR Appendix 7A (LAR-16-021) **(Withheld Information)**
- 2NP) Vogtle Electric Generating Plant (VEGP) Units 3 and 4 – Proposed Changes to the Licensing Basis Documents (LAR-16-021)
- 2P) Vogtle Electric Generating Plant (VEGP) Units 3 and 4 – Proposed Changes to the Licensing Basis Documents (LAR-16-021) **(Withheld Information)**
- 3) Vogtle Electric Generating Plant (VEGP) Units 3 and 4 – Affidavit from Southern Nuclear Operating Company for Withholding Under 10 CFR 2.390 (LAR-16-021)
- 4) Vogtle Electric Generating Plant (VEGP) Units 3 and 4 – CAW-16-4444, Application for Withholding Proprietary Information from Public Disclosure, Affidavit, Proprietary Information Notice, and Copyright Notice

cc:

Southern Nuclear Operating Company / Georgia Power Company

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Mr. A. F. Dohse
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Mr. B. Kitchen, Duke Energy
Mr. S. Franzone, Florida Power & Light

Southern Nuclear Operating Company

ND-16-1572

Enclosure 1NP

Vogtle Electric Generating Plant (VEGP) Units 3 and 4

Request for License Amendment:

Incorporate Revisions to WCAP-17179 in UFSAR Appendix 7A

(LAR-16-021)

(Enclosure 1 consists of 12 pages, including this cover page)

ND-16-1572

Enclosure 1NP

Request for License Amendment: Incorporate Revisions to WCAP-17179 in UFSAR Appendix 7A (LAR-16-021)

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ND-16-1572

Enclosure 1NP

Request for License Amendment: Incorporate Revisions to WCAP-17179 in UFSAR Appendix 7A (LAR-16-021)

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

The proposed changes revise the Combined Licenses (COLs) to clarify information in WCAP-17179, "AP1000® Component Interface Module Technical Report" which demonstrates design compliance with licensing bases requirements. The requested amendment also proposes a change to voltage used by [

] ^{a,c}

The license amendment request (LAR) proposes revision of Appendix 7A to Updated Final Safety Analysis Report (UFSAR) Chapter 7 to revise information related to CIM-SRNC design, as presented in a Tier 2* document, WCAP-17179, which is incorporated by reference in the UFSAR. The proposed revision of UFSAR Chapter 7, Appendix 7A, Instrumentation and Controls Licensing Basis Document Changes, modifies information contained in WCAP-17179, "AP1000® Component Interface Module Technical Report," Revision 2 [ADAMS Accession No. ML102170265].

2. DETAILED DESCRIPTION

As described in WCAP-17179, APP-GW-GLR-143, "AP1000® Component Interface Module Technical Report," the CIM is a subsystem of the protection and safety monitoring system (PMS). The two main components of the CIM subsystem, [

] ^{a,c} The CIM is designed to provide the interface between field component and the PMS and the Plant Control System (PLS). [

] ^{a,c} The CIM communicates with the PMS using the SRNC assembly and it communicates with the PLS using a Remote Node Controller (RNC). The CIM provides the interface between the PMS Engineered Safety Feature Actuation System (ESFAS) functions and plant components.

The PMS is the reactor protection system for the AP1000 reactor system. The PMS includes the reactor trip system (RTS) and the ESFAS. As described in plant specific Tier 1 section 2.5.2, the PMS initiates reactor trip and actuation of engineered safety features in response to plant conditions monitored by process instrumentation and provides safety-related displays.

WCAP-17179 is incorporated by reference (IBR) into the UFSAR to provide additional details regarding the CIM system design. WCAP-17179 does not provide input to the CIM design; rather, WCAP-17179 reflects the CIM design. The proposed WCAP changes do not materially impact the CIM design.

A license compliance matrix was performed to separate plant-specific Design Control Document (DCD) Chapter 7 incorporated by reference document, WCAP-17179, into its individual, specific commitments to allow tracing of the WCAP commitments to DCD design commitments, to show compliance with DCD design commitments. As a result of the comparison, several occurrences in WCAP-17179 were discovered where demonstration of compliance with license basis commitments was not demonstrated or could be clarified. Independent review of 6105-10004 – “SRNC FPGA Specification” and 6105-20004 – “CIM FPGA Specification” documents against Institute of Electrical and Electronics Engineers (IEEE) Std 830-1993, “IEEE Recommended Practice for Software Requirements Specifications” (IEEE 830- 1993), showed the FPGA specification documents were not written in compliance with IEEE 830 requirements. IEEE 830-1993 is endorsed by NRC Regulatory Guide 1.172, “Software Requirements Specifications for Digital Computer Software Used in Safety Systems of Nuclear Power Plants.” IEEE 830-1993 specifies that the software requirements specifications should not describe design or implementation details; however, the current FPGA specifications include both design and implementation details. Also, software requirements specifications are traceable if the origin of each of its requirements is clear and facilitates the referencing of each requirement in development or enhancement documentation. These changes are proposed to improve requirements tracing between the licensing documents and design documents to improve demonstration of license basis compliance.

The CIM FPGA Specification document, 6105-20004, referenced in WCAP-17179 section 2.3.1.2, was separated into “CIM FPGA Software Requirements Specification” 6105-20004 and “CIM FPGA Software Design Description” 6105-20014 to be compliant with IEEE Standard 830-1993. The software design description is used in WCAP-17179 instead of the specification document, as WCAP-17179 is a descriptive, not a requirements, document. The proposed activity changes the reference to the software design description from the software requirements specification. This change is a non-technical change.

The proposed activity moves the priority and component control logic implemented with the CIM logic figure, referenced in WCAP-17179 section 2.3.1.2, from WNA-DS-01271-GEN, “Component Interface Module Hardware Requirements Specification,” to WNA-DS-02331-GEN, “Component Interface Module Logic Specification,” and changes the reference number from Reference 8 to Reference 26 to reflect the inclusion of additional references. The information in the paragraph in WCAP-17179 section 2.3.1.2 refers to WNA-DS-01271-GEN. The correct reference is WNA-DS-02331-GEN. This change is a nontechnical change.

The SRNC FPGA Specification document, 6105-10004, referenced in WCAP-17179 section 2.3.2.2, was separated into “SRNC FPGA Software Requirements Specification” 6105-10004 and “SRNC FPGA Software Design Description” 6105-10014 to be compliant with IEEE Standard 830-1993. The proposed activity changes the reference to the software design description from the software requirements specification. The software design description is used in WCAP-17179 instead of the specification document, as WCAP-17179 is a descriptive, not a requirements, document. This change is a non-technical change.

Westinghouse Electric Company now owns the SRNC and CIM intellectual property previously held by CS Innovations, referred to in WCAP-17179 section 2.5.1.1.1. The proposed activity removes the reference to CS Innovations' intellectual property. This change is a non-technical change.

During an engineering review of the CIM design, a change to the design of the FPGA used in the CIM subsystem was identified. The proposed activity requests approval of the changes to the [

] ^{a,c} A change is proposed to WCAP-17179 Section 2.5.1.1.2, first and third sections to allow the use of the [^{a,c}

Licensing Basis Change Description

The following changes are proposed to UFSAR Appendix 7A, "Instrumentation and Controls Licensing Basis Document Changes," Section 7A.2.

Revise Section 7A.2, WCAP-17179-P and WCAP-17179-NP, "AP1000® Component Interface Module Technical Report" to reflect the changes from WCAP-17179 as described below:

- Revise the REFERENCES, Section 2.3.1.2, and Section 2.3.2.2 to reflect the change from SRNC and CIM FPGA Software Specification to SRNC and CIM FPGA Software Design Description and SRNC and CIM FPGA software design descriptions, and change the reference number for the CIM logic specification
- Revise Section 2.5.1.1.1, Safety Path Testing, to remove the reference to CS Innovations
- Revise Section 2.5.1.1.2, Additional Continuous Diagnostics, to reflect the change to the internal power supply outputs monitored by the SRNC and CIM monitors in the first and third sections.

3. TECHNICAL EVALUATION

The proposed design change of the [

] ^{a,c} Evaluating the change to the CIM internal power supply against the design and capacity of the 24 Vdc supply, Westinghouse Electric Company Engineering determined the change from [^{a,c} has a negligible effect on the 24 Vdc supplies and ultimately the plant electrical system load and has no adverse effect on the [^{a,c} The CIM FPGAs have been shown to perform appropriately through commercial dedication. The function of the internal power supply has no input to plant safety analysis. The change has no adverse effect on the function of the CIM-FPGA.

The proposed change to separate the CIM FPGA and SRNC FPGA specification documents into software design description documents and software requirements specification documents more closely complies with code requirements endorsed by Regulatory Guide 1.172, "Software Requirements Specifications for Digital Computer Software Used in Safety Systems of Nuclear Power Plants." WCAP-17179, "AP1000® Component Interface Module Technical Report" is a design description document and this requires changing the references to refer to the new description documents, and not to the requirements documents. The proposed changes clarify how design documentation demonstrates compliance with license basis requirements and are not technical changes.

The proposed change removing the reference to the CS Innovations' intellectual property reflects the acquisition of the SRNC and CIM intellectual property by Westinghouse Electric Company. The proposed change removing reference to the CS Innovations' intellectual property is not a technical change.

The proposed changes do not affect any function or feature used for the prevention and mitigation of accidents or their safety analyses. No safety-related structure, system, component (SSC) or function is involved. The proposed changes do not involve nor interface with any SSC accident initiator or initiating sequence of events related to the accidents evaluated in the plant-specific DCD or UFSAR. The proposed changes do not affect the radiological source terms (i.e., amounts and types of radioactive materials released, their release rates and release durations) used in the accident analyses. No system or design function or equipment qualification is adversely affected by the proposed changes. The changes do not result in a new failure mode, malfunction or sequence of events that could adversely affect a radioactive material barrier or safety-related equipment. The proposed changes do 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. The proposed changes do not adversely affect any design code limit allowable value, design analysis, nor do they adversely affect any safety analysis input or result, or design/safety margin.

Summary

The change to the CIM internal power supply enables the FPGA to function properly. The change has no adverse effect on the function of the FPGA. The changes clarifying how design documentation demonstrates compliance with license basis requirements are not technical changes. The proposed design/procedure/test changes would not adversely affect any safety-related equipment or function, a radioactive material barrier or a safety analysis. In addition, no nonsafety-related design function/procedure/test described in the licensing basis would be adversely affected.

4. REGULATORY EVALUATION**4.1 Applicable Regulatory Requirements/Criteria**

10 CFR Part 52, Appendix D, VIII.B.6 requires prior NRC approval for departure from Tier 2* information. The proposed changes to the modify information presented in WCAP-17179, which is referenced in the Updated Final Safety Analysis Report (UFSAR) as a Tier 2* document. Therefore, a license amendment request (LAR) (as supplied herein) is required.

10 CFR 50, Appendix A, General Design Criterion (GDC) 22, "Protection System Independence," requires that the protection system shall be designed to assure that the effects of natural phenomena, and of normal operating, maintenance, testing, and postulated accident conditions on redundant channels do not result in loss of the protection function, or shall be demonstrated to be acceptable on some other defined basis. Design techniques, such as functional diversity or diversity in component design and principles of operation, shall be used to the extent practical to prevent loss of the protection function. The change to the component interface module [

] ^{a,c} to

function properly and does not affect protection system independence. The proposed changes clarifying design process documentation and the associated licensing documents, and the change to the owner of safety remote node controller (SRNC) and CIM intellectual property are not technical changes and do not affect protection system independence. No changes were made which would affect functional diversity or diversity in component design and principles of operation. This clarification will not change the CIM products but makes revisions to information within design process and licensing documentation that are required as there are inconsistencies in the design documentation as identified in the WCAP-17179, a Tier 2* document. Therefore, the CIM design remains in compliance with GDC 22.

10 CFR 50, Appendix A, GDC 24, "Separation of Protection and Control Systems," requires that the protection system shall be separated from control systems to the extent that failure of any single control system component or channel, or failure or removal from service of any single protection system component or channel which is common to the control and protection systems leaves intact a system satisfying all reliability, redundancy, and independence requirements of the protection system. The change to the CIM internal power supply enables the FPGA to function properly and does not affect the separation of protection and control systems. The proposed changes clarifying the satisfaction of license basis requirements with design documentation, and the change to the owner of SRNC and CIM intellectual property, are not technical changes and do not affect the separation of protection and control systems. Interconnection of the protection and control systems remains limited; assuring that safety is not significantly impaired. Therefore, the CIM design remains in compliance with GDC 24.

4.2 Precedent

None.

4.3 Significant Hazards Consideration Determination

This evaluation supports a request to revise the Updated Final Safety Analysis Report (UFSAR) by clarifying how licensing basis CIM design documentation reflects compliance with license basis documents and ownership of SRNC and CIM intellectual property, and changes the CIM-SRNC internal power supply voltage. The requested amendment proposes changes to the UFSAR by incorporating by reference revisions to Tier 2* incorporated by reference document, WCAP-17179, "AP1000® Component Interface Module Technical Report."

The 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 change to the CIM internal power supply enables the field programmable gate array (FPGA) to function properly. The proposed change to the FPGA core power has no adverse effect on the operation of the output actuation relays. The function of the internal power supply has no input to plant safety analysis. The change to the CIM internal power supply has a negligible effect on the 24 Vdc supplies and ultimately the plant electrical system load and has no adverse effect on the CIM functionality.

The proposed changes to clarify how licensing basis design documentation reflects compliance with license basis requirements, and the proposed change to the ownership of safety remote node controller (SRNC) and CIM intellectual property, are not technical changes. The proposed changes do not affect any accident initiator in the UFSAR, or affect the radioactive material releases in the UFSAR accident analyses. The proposed change does not alter the ability of the facility to prevent and mitigate abnormal events, e.g., accidents, anticipated operational occurrences, earthquakes, floods and turbine missiles, or their safety or design analyses. No safety-related structure, system, or component (SSC) or function is adversely affected. The change does not involve or interface with any SSC accident initiator or initiating sequence of events, and thus, the probabilities of the accidents evaluated in the UFSAR are not affected. This activity does not involve a new fission product release path, nor a new fission product barrier failure mode, nor create a new sequence of events that would result in significant fuel cladding failures. Because the proposed changes do not change any safety-related SSC or function credited in the mitigation of an accident, the consequences of the accidents evaluated in the UFSAR are not affected.

Therefore, the requested 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 change to the CIM internal power supply enables the FPGA to function properly and does not involve accident initiators. The change to the CIM internal power supply has a negligible effect on the 24 Vdc supplies and ultimately the plant electrical system load and has no adverse effect on CIM functionality.

The proposed clarified descriptions and the proposed change to the ownership of SRNC and CIM intellectual property are not technical changes. The proposed changes do not affect other plant equipment or adversely affect the design of the CIM. Therefore, the proposed changes do not affect any safety-related equipment itself, nor do they affect equipment whose failure could initiate an accident or a failure of a fission product barrier. No analysis is adversely affected by the proposed changes. No system or design function or equipment qualification would be adversely affected by the proposed changes. Furthermore, the proposed changes do not result in a new failure mode, malfunction or sequence of events that could affect safety or safety-related equipment.

Therefore, the proposed amendment does not create the possibility of a new or different kind of accident from any accident previously evaluated.

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

Response: No

The proposed change to the CIM internal power supply enables the FPGA to function properly. The function of the internal power supply has no input to plant safety analysis. The change to the CIM internal power supplies has a negligible effect on the 24 Vdc supplies and ultimately the plant electrical system load and has no adverse effect on the CIM functionality.

The proposed clarified descriptions and the proposed change to the ownership of SRNC and CIM intellectual property are not technical changes. The proposed changes do not adversely affect the design, construction, or operation of any plant SSCs, including any equipment whose failure could initiate an accident or a failure of a fission product barrier. No analysis is adversely affected by the proposed changes. Furthermore, no system function, design function, or equipment qualification will be adversely affected by the changes. 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

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. The above evaluations demonstrate that the requested changes can be accommodated without an increase in the probability or consequences of an accident previously evaluated, without creating the possibility of a new or different kind of accident from any accident previously evaluated, and without a significant reduction in a margin of safety. Having arrived at negative declarations with regard to the criteria of 10 CFR 50.92, this assessment determined that the requested change does not involve a Significant Hazards Consideration.

5. ENVIRONMENTAL CONSIDERATIONS

The amendment request proposes to revise Updated Final Safety Analysis Report (UFSAR) Chapter 7, Appendix 7A. The proposed changes revise information presented in Tier 2* reference document, WCAP-17179, "AP1000[®] Component Interface Module Technical Report," to change the component interface module-safety remote node controller (CIM-SRNC) internal power supply and clarify how design documentation demonstrates compliance with license basis requirements.

The Licensee has determined that the anticipated construction and operational effects of the proposed amendment meet 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 license amendment request, 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." As discussed in Section 4.3 above, the change to the CIM internal power supply enables the FPGA to function properly and has no adverse effect on the function of the FPGA. The proposed changes clarifying how licensing basis design documentation in WCAP-17179 demonstrates compliance with license basis requirements are not technical changes. The No 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 change to the CIM internal power supply enables the FPGA to function properly and has no adverse effect on the function of the FPGA. The proposed changes clarifying how licensing basis design documentation in WCAP-17179 demonstrates compliance with license basis requirements are not technical changes. 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 change to the CIM internal power supply enables the FPGA to function properly and has no adverse effect on the function of the FPGA. The proposed changes clarifying how licensing basis design documentation in WCAP-17179 demonstrates compliance with license basis requirements are not technical changes. 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 proposed amendment, it has been determined that there are no anticipated construction and operational effects of the proposed amendment involving (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 proposed amendment meets the eligibility criteria for categorical exclusion set forth in 10 CFR 51.22(c)(9). Pursuant to 10 CFR 51.22(b), an environmental impact statement or environmental assessment of the proposed amendment is not required.

6. REFERENCES

None.

Southern Nuclear Operating Company

ND-16-1572

Enclosure 2NP

Vogtle Electric Generating Plant (VEGP) Units 3 and 4

**Proposed Changes to the Licensing Basis Documents
(LAR-16-021)**

Note:

Added text is shown as Blue Underline

Deleted text is shown as ~~Red Strikethrough~~

Omitted text is shown as three asterisks (***)

(Enclosure 2 consists of 3 pages, including this cover page)

[Note: For clarity, entirely new text that is being added to UFSAR Appendix 7A is depicted in blue font in these markups and additions to WCAP-17179 are depicted as blue underline. The existing markups in Appendix 7A that are unchanged by this LAR are depicted with black font (underlined or strike-out) as per the current UFSAR Appendix 7A.]

Licensing Basis Change Descriptions:

- **Revise UFSAR Appendix 7A, Section 7A.2 “REFERENCES” to reflect the changes from SRNC and CIM FPGA Software Specifications to SRNC and CIM FPGA Software Requirements Specifications, and add new documents for the SRNC and CIM FPGA Software Design Descriptions.**
- **Revise UFSAR Appendix 7A, Section 7A.2 to reflect changes made to Section 2.3.1.2 which revise the CIM FPGA Software Specifications document to the CIM FPGA Software Design Description document. In addition, update the reference number for CIM Logic Specification document.**
- **Revise UFSAR Appendix 7A, Section 7A.2 to reflect changes made to Section 2.3.2.2 which revise the SRNC FPGA Software Specifications document to the SRNC FPGA Software Design Description document.**
- **Revise UFSAR Appendix 7A, Section 7A.2 to reflect changes made in Section 2.5.1.1.1 to remove references to CS Innovations**
- **Revise UFSAR Appendix 7A, Section 7A.2 to reflect changes made in Section 2.5.1.1.2 to the internal power supply voltages of the SRNC and CIM monitors.**

7A.2 [WCAP-17179-P and WCAP-17179-NP, AP1000TM Component Interface Module Technical Report

* * *

- *Revise the REFERENCES as follows:*

* * *

20. 6105-10004 (Proprietary), Rev. 13, “SRNC FPGA Software Requirements Specification,” ~~CS Innovations,~~ Westinghouse Electric Company LLC.
21. 6105-20004 (Proprietary), Rev. 17, “CIM FPGA Software Requirements Specification,” ~~CS Innovations,~~ Westinghouse Electric Company LLC.
22. WCAP-17184-P (Proprietary), ~~Revision-1~~ 2 (as modified by changes provided in Appendix 7A), “AP1000 Diverse Actuation System Planning and Functional Design Summary Technical Report,” Westinghouse Electric Company LLC.
24. 6105-10014 (Proprietary), Rev. 5, “SRNC FPGA Software Design Description,” Westinghouse Electric Company LLC.

25. 6105-20014 (Proprietary), Rev. 5, "CIM FPGA Software Design Description,"
 Westinghouse Electric Company LLC.

- *Revise Section 2.3.1.2, FPGA Level Functional Description, as follows:*

[

$J^{a,c}$

- *Revise Section 2.3.2.2, FPGA Level Functional Description, as follows:*

[

$J^{a,c}$

- *Revise Section 2.5.1.1.1, Safety Path Testing, as follows:*

***[

$J^{a,C***}$

***[

$J^{a,C***}$

- *Revise Section 2.5.1.1.2, Additional Continuous Diagnostics, as follows:*

***[

$J^{a,C***}$

***[

$J^{a,C***}$

* * *

Southern Nuclear Operating Company

ND-16-1572

Enclosure 3

Vogtle Electric Generating Plant (VEGP) Units 3 and 4

**Affidavit from Southern Nuclear Operating Company for Withholding Under 10 CFR 2.390
(LAR-16-021)**

(Enclosure 3 consists of 2 pages, plus this cover page.)

Affidavit of Brian H. Whitley

1. My name is Brian H. Whitley. I am the Regulatory Affairs Director for Southern Nuclear Operating Company (SNC). I have been delegated the function of reviewing proprietary information sought to be withheld from public disclosure and am authorized to apply for its withholding on behalf of SNC.
2. I am making this affidavit on personal knowledge, in conformance with the provisions of 10 CFR Section 2.390 of the Commission's regulations, and in conjunction with SNC's filing on dockets 52-025 and 52-026, Vogtle Electric Generating Plant (VEGP) Units 3 and 4, Request for License Amendment: Incorporate Revisions to WCAP-17179 in UFSAR Appendix 7A (LAR-16-021). I have personal knowledge of the criteria and procedures used by SNC to designate information as a trade secret, privileged or as confidential commercial or financial information.
3. Based on the reason(s) at 10 CFR 2.390(a)(4), this affidavit seeks to withhold from public disclosure Enclosure 1P and 2P of SNC letter ND-16-1572 for Vogtle Electric Generating Plant (VEGP) Units 3 and 4, SNC LAR-16-021 (WEC LAR 137) : Incorporate Revisions to WCAP-17179 in UFSAR Appendix 7A (LAR-16-021).
4. The following is furnished for consideration by the Commission in determining whether the information sought to be withheld from public disclosure should be withheld.
 - a. The information sought to be withheld from public disclosure has been held in confidence by SNC and Westinghouse Electric Company.
 - b. The information is of a type customarily held in confidence by SNC and Westinghouse Electric Company and not customarily disclosed to the public.

- c. The release of the information might result in the loss of an existing or potential competitive advantage to SNC and/or Westinghouse Electric Company.
 - d. Other reasons identified in Enclosure 4 of SNC letter ND-16-1572 for Vogtle Electric Generating Plant (VEGP) Units 3 and 4, Request for License Amendment:
Incorporate Revisions to WCAP-17179 in UFSAR Appendix 7A (LAR-16-021) and those reasons are incorporated here by reference.
5. Additionally, release of the information may harm SNC because SNC has a contractual relationship with the Westinghouse Electric Company regarding proprietary information. SNC is contractually obligated to seek confidential and proprietary treatment of the information.
6. The information is being transmitted to the Commission in confidence and, under the provisions of 10 CFR Section 2.390, it is to be received in confidence by the Commission.
7. To the best of my knowledge and belief, the information sought to be protected is not available in public sources or available information has not been previously employed in the same original manner or method.

I declare under penalty of perjury that the foregoing is true and correct.



Brian H. Whitley

Executed on 8/31/16
Date

Southern Nuclear Operating Company

ND-16-1572

Enclosure 4

Vogtle Electric Generating Plant (VEGP) Units 3 and 4

**CAW-16-4444, Application for Withholding Proprietary Information from
Public Disclosure, Affidavit, Proprietary Information Notice, and Copyright Notice**

(Enclosure 4 consists of 10 pages, plus this cover page.)



Westinghouse Electric Company
New Plants and Major Projects
1000 Westinghouse Drive, Building 1
Cranberry Township, Pennsylvania 16066
USA

Document Control Desk
U S Nuclear Regulatory Commission
Washington, DC 20852-2738

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e-mail: russpa@westinghouse.com
Proj letter: SVP_SV0_004129

CAW-16-4444

August 31, 2016

APPLICATION FOR WITHHOLDING PROPRIETARY
INFORMATION FROM PUBLIC DISCLOSURE

Subject: Transmittal of License Amendment Request APP-FSAR-GLN-761, Revision 0 (Westinghouse LAR-137, Southern LAR-16-021 (Proprietary))

The proprietary information for which withholding is being requested in the above-referenced report is further identified in Affidavit CAW-16-4444 signed by the owner of the proprietary information, Westinghouse Electric Company LLC. The Affidavit, which accompanies this letter, sets forth the basis on which the information may be withheld from public disclosure by the Commission and addresses with specificity the considerations listed in paragraph (b)(4) of 10 CFR Section 2.390 of the Commission's regulations.

Accordingly, this letter authorizes the utilization of the accompanying Affidavit by Southern Nuclear Company.

Correspondence with respect to the proprietary aspects of the Application for Withholding or the Westinghouse Affidavit should reference CAW-16-4444, and should be addressed to James A. Gresham, Manager, Regulatory Compliance, Westinghouse Electric Company, 1000 Westinghouse Drive, Building 3 Suite 310, Cranberry Township, Pennsylvania 16066.

Very truly yours,

A handwritten signature in cursive script, reading 'Paul A. Russ', written over a horizontal line.

Paul A. Russ, Director

Licensing & Regulatory Support



Westinghouse Electric Company
New Plants and Major Projects
1000 Westinghouse Drive, Building 1
Cranberry Township, Pennsylvania 16066
USA

Enclosures to CAW-16-4444

1. AFFIDAVIT CAW-16-4444
2. PROPRIETARY INFORMATION NOTICE and COPYRIGHT NOTICE
3. Southern Nuclear Company, Letter for Transmittal to the NRC
4. APP-FSAR-GLN-761, Revision 0, "AP1000 Licensing Applicability Determination and 10 CFR 50.59 / 10 CFR 52 Appendix D Section VIII Screening: APP-GW-GEE-5133 – LAR-137" (Proprietary)

ENCLOSURE 1

CAW-16-4444

AFFIDAVIT

AFFIDAVIT

COMMONWEALTH OF PENNSYLVANIA:

ss

COUNTY OF BUTLER:

I, Paul A. Russ, am authorized to execute this Affidavit on behalf of Westinghouse Electric Company LLC (Westinghouse), and that the averments of fact set forth in this Affidavit are true and correct to the best of my knowledge, information, and belief.

A handwritten signature in black ink, appearing to read "Paul A. Russ", is written over a horizontal line.

Paul A. Russ, Director
Licensing & Regulatory Support

- (1) I am Director, Licensing & Regulatory Support, Westinghouse Electric Company LLC (Westinghouse), and as such, I have been specifically delegated the function of reviewing the proprietary information sought to be withheld from public disclosure in connection with nuclear power plant licensing and rule making proceedings, and am authorized to apply for its withholding on behalf of Westinghouse.
- (2) I am making this Affidavit in conformance with the provisions of 10 CFR Section 2.390 of the Commission's regulations and in conjunction with the Westinghouse Application for Withholding Proprietary Information from Public Disclosure accompanying this Affidavit.
- (3) I have personal knowledge of the criteria and procedures utilized by Westinghouse in designating information as a trade secret, privileged or as confidential commercial or financial information.
- (4) Pursuant to the provisions of paragraph (b)(4) of Section 2.390 of the Commission's regulations, the following is furnished for consideration by the Commission in determining whether the information sought to be withheld from public disclosure should be withheld.
 - (i) The information sought to be withheld from public disclosure is owned and has been held in confidence by Westinghouse.
 - (ii) The information is of a type customarily held in confidence by Westinghouse and not customarily disclosed to the public. Westinghouse has a rational basis for determining the types of information customarily held in confidence by it and, in that connection, utilizes a system to determine when and whether to hold certain types of information in confidence. The application of that system and the substance of that system constitute Westinghouse policy and provide the rational basis required.

Under that system, information is held in confidence if it falls in one or more of several types, the release of which might result in the loss of an existing or potential competitive advantage, as follows:

- (a) The information reveals the distinguishing aspects of a process (or component, structure, tool, method, etc.) where prevention of its use by any of

Westinghouse's competitors without license from Westinghouse constitutes a competitive economic advantage over other companies.

- (b) It consists of supporting data, including test data, relative to a process (or component, structure, tool, method, etc.), the application of which data secures a competitive economic advantage, e.g., by optimization or improved marketability.
 - (c) Its use by a competitor would reduce his expenditure of resources or improve his competitive position in the design, manufacture, shipment, installation, assurance of quality, or licensing a similar product.
 - (d) It reveals cost or price information, production capacities, budget levels, or commercial strategies of Westinghouse, its customers or suppliers.
 - (e) It reveals aspects of past, present, or future Westinghouse or customer funded development plans and programs of potential commercial value to Westinghouse.
 - (f) It contains patentable ideas, for which patent protection may be desirable.
- (iii) There are sound policy reasons behind the Westinghouse system which include the following:
- (a) The use of such information by Westinghouse gives Westinghouse a competitive advantage over its competitors. It is, therefore, withheld from disclosure to protect the Westinghouse competitive position.
 - (b) It is information that is marketable in many ways. The extent to which such information is available to competitors diminishes the Westinghouse ability to sell products and services involving the use of the information.
 - (c) Use by our competitor would put Westinghouse at a competitive disadvantage by reducing his expenditure of resources at our expense.

- (d) Each component of proprietary information pertinent to a particular competitive advantage is potentially as valuable as the total competitive advantage. If competitors acquire components of proprietary information, any one component may be the key to the entire puzzle, thereby depriving Westinghouse of a competitive advantage.
 - (e) Unrestricted disclosure would jeopardize the position of prominence of Westinghouse in the world market, and thereby give a market advantage to the competition of those countries.
 - (f) The Westinghouse capacity to invest corporate assets in research and development depends upon the success in obtaining and maintaining a competitive advantage.
- (iv) The information is being transmitted to the Commission in confidence and, under the provisions of 10 CFR Section 2.390, it is to be received in confidence by the Commission.
- (v) The information sought to be protected is not available in public sources or available information has not been previously employed in the same original manner or method to the best of our knowledge and belief.
- (vi) The proprietary information sought to be withheld in this submittal is that which is appropriately marked in APP-FSAR-GLN-761, Revision 0, "AP1000 Licensing Applicability Determination and 10 CFR 50.59 / 10 CFR 52 Appendix D Section VIII Screening: APP-GW-GEE-5133 – LAR-137," for submittal to the Commission, being transmitted by Southern Nuclear Company letter and Application for Withholding Proprietary Information from Public Disclosure, to the Document Control Desk. The proprietary information as submitted by Westinghouse is that associated with the NRC review of the License Amendment Request APP-FSAR-GLN-761, Revision 0 (Westinghouse LAR-137, Southern LAR-16-021), and may be used only for that purpose.

- (a) This information is part of that which will enable Westinghouse to:
 - (i) Manufacture and deliver products to utilities based on proprietary designs.
- (b) Further this information has substantial commercial value as follows:
 - (i) Westinghouse plans to sell the use of similar information to its customers for the purpose of licensing of new nuclear power stations.
 - (ii) Westinghouse can sell support and defense of industry guidelines and acceptance criteria for plant-specific applications.
 - (iii) The information requested to be withheld reveals the distinguishing aspects of a methodology which was developed by Westinghouse.

Public disclosure of this proprietary information is likely to cause substantial harm to the competitive position of Westinghouse because it would enhance the ability of competitors to provide similar technical evaluation justifications and licensing defense services for commercial power reactors without commensurate expenses. Also, public disclosure of the information would enable others to use the information to meet NRC requirements for licensing documentation without purchasing the right to use the information.

The development of the technology described in part by the information is the result of applying the results of many years of experience in an intensive Westinghouse effort and the expenditure of a considerable sum of money.

In order for competitors of Westinghouse to duplicate this information, similar technical programs would have to be performed and a significant manpower effort, having the requisite talent and experience, would have to be expended.

Further the deponent sayeth not.

ENCLOSURE 2

PROPRIETARY INFORMATION NOTICE and COPYRIGHT NOTICE

PROPRIETARY INFORMATION NOTICE

Transmitted herewith are proprietary and/or non-proprietary versions of documents furnished to the NRC in connection with requests for generic and/or plant-specific review and approval.

In order to conform to the requirements of 10 CFR 2.390 of the Commission's regulations concerning the protection of proprietary information so submitted to the NRC, the information which is proprietary in the proprietary versions is contained within brackets, and where the proprietary information has been deleted in the non-proprietary versions, only the brackets remain (the information that was contained within the brackets in the proprietary versions having been deleted). The justification for claiming the information so designated as proprietary is indicated in both versions by means of lower case letters (a) through (f) located as a superscript immediately following the brackets enclosing each item of information being identified as proprietary or in the margin opposite such information. These lower case letters refer to the types of information Westinghouse customarily holds in confidence identified in Sections (4)(ii)(a) through (4)(ii)(f) of the Affidavit accompanying this transmittal pursuant to 10 CFR 2.390(b)(1).

COPYRIGHT NOTICE

The reports transmitted herewith each bear a Westinghouse copyright notice. The NRC is permitted to make the number of copies of the information contained in these reports which are necessary for its internal use in connection with generic and plant-specific reviews and approvals as well as the issuance, denial, amendment, transfer, renewal, modification, suspension, revocation, or violation of a license, permit, order, or regulation subject to the requirements of 10 CFR 2.390 regarding restrictions on public disclosure to the extent such information has been identified as proprietary by Westinghouse, copyright protection notwithstanding. With respect to the non-proprietary versions of these reports, the NRC is permitted to make the number of copies beyond those necessary for its internal use which are necessary in order to have one copy available for public viewing in the appropriate docket files in the public document room in Washington, DC and in local public document rooms as may be required by NRC regulations if the number of copies submitted is insufficient for this purpose. Copies made by the NRC must include the copyright notice in all instances and the proprietary notice if the original was identified as proprietary.