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August 15, 2016

Docket Nos.: 52-025
52-026

ND-16-1391
10 CFR 50.90
10 CFR 2.390

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

Southern Nuclear Operating Company
Vogtle Electric Generating Plant Units 3 and 4
Supplement to Request for License Amendment:
Update of Common Qualified (Common Q) Platform
Software Program Manual and Topical Report (LAR-15-017S1)

Ladies and Gentlemen:

Pursuant to 10 CFR 52.98(c) and in accordance with 10 CFR 50.90, by letter ND-16-0083, dated February 15, 2016 [ADAMS Accession Number ML16046A009], Southern Nuclear Operating Company (SNC), the licensee for Vogtle Electric Generating Plant (VEGP) Units 3 and 4, requested an amendment to Combined License (COL) Numbers NPF-91 and NPF-92, for VEGP Units 3 and 4, respectively. This license amendment request (LAR), LAR-15-017, proposed 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 related changes to the associated plant-specific Tier 2* information.

This letter supplements LAR-15-017 to address a Request for Additional Information (RAI) [ADAMS Accession Number ML16190A263] from the NRC Staff to support review of LAR-15-017. This letter provides a response to the requested information with the exception of RAIs 1 through 3 regarding Enclosure 2 and RAI 1 regarding Enclosure 3. Responses to the remaining requested items will be provided by August 26, 2016.

Enclosure 7 provides additional information and proposed revised marked up UFSAR text to support RAI responses requested by the NRC Staff.

Enclosure 8 provides propriety text excerpts that are redacted from the RAI response information contained in Enclosure 7. The text excerpts in Enclosure 8 provide information that

is considered to be proprietary; therefore, **Enclosure 8 is requested to be withheld from disclosure to the public under 10 CFR 2.390.**

The supplemental information provided in Enclosure 7 does not change the scope, or affect the Technical Evaluation, or alter the conclusions of the Significant Hazards Consideration Determination or Environmental Considerations in LAR-15-017.

An affidavit from SNC supporting withholding under 10 CFR 2.390 is provided as Enclosure 9. Enclosure 10 is Westinghouse's Proprietary Information Notice, Copyright Notice and CAW-16-4443, 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-16-4443 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 November 17, 2016, to support installation of the Protection and Safety Monitoring System cabinets for Unit 3. Delayed approval of this licensing request could result in delay of the associated construction activity and subsequent dependent construction activities. SNC expects to implement the proposed amendment through incorporation into the licensing basis documents; e.g., the UFSAR, within 30 days of approval of the requested changes.

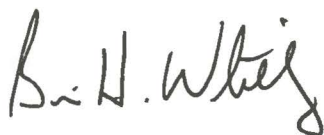
In accordance with 10 CFR 50.91, SNC is notifying the State of Georgia of this LAR by transmitting a copy of this letter and enclosures to the designated State Official.

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

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



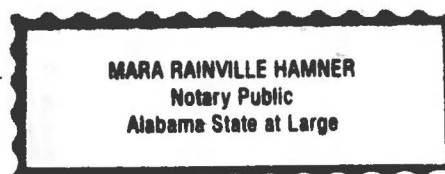
Brian H. Whitley

BHW/CLW/ljs

Sworn to and subscribed before me this 19 day of August, 2016

Notary Public: Mara Rainville Hamner

My commission expires: My Commission Expires
February 18, 2020



- Enclosures: 1) - 6) (previously submitted with the original LAR, LAR-15-017, in SNC letter ND-16-0083)
- 7) Vogtle Electric Generating Plant (VEGP) Units 3 and 4 – Response to NRC Staff Request for Additional Information (RAI) Regarding LAR-15-017 (LAR-15-017S1)
 - 8) Vogtle Electric Generating Plant (VEGP) Units 3 and 4 – Response to NRC Staff Request for Additional Information (RAI) Regarding LAR-15-017 (LAR-15-017S1) **(Withheld Information)**
 - 9) Vogtle Electric Generating Plant (VEGP) Units 3 and 4 – Affidavit from Southern Nuclear Operating Company for Withholding Under 10 CFR 2.390 (LAR-15-017S1)
 - 10) Vogtle Electric Generating Plant (VEGP) Units 3 and 4 – CAW-16-4443, Application for Withholding Proprietary Information from Public Disclosure, Affidavit, Proprietary Information Notice, and Copyright Notice

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Southern Nuclear Operating Company

ND-16-1391

Enclosure 7

Vogtle Electric Generating Plant (VEGP) Units 3 and 4

Response to NRC Staff Request for Additional Information (RAI)

Regarding LAR-15-017 (LAR-15-017S1)

(Enclosure 7 consists of 26 pages, including this cover page.)

Enclosure 2, “Plant-Specific Action Item and Generic Open Item Dispositions for WCAP-16096, Revision 4 and WCAP-16097, Revision 3”

WCAP-16097: Common Q Topical Report – Plant-Specific Action Items (PSAI)

NRC Question:

1. WCAP-16097, PSAI 6.18 (Pages 5-6 of Enclosure 2):

10 CFR 50.36 sets forth requirements for technical specifications to be included as part of the operating license for a nuclear power facility.

WCAP-16097, “Common Qualified Platform Topical Report,” Plant-Specific Action Item (PSAI) 6.18, states that, “...*administrative controls must be in place to ensure that changes to setpoints are only performed while the system is not being relied upon to perform its safety functions. In addition, the affected division of the Common Q safety system must be declared inoperable prior to implementation of setpoint changes.*” To address WCAP-16097 PSAI 6.18, the Licensee proposes to add a new Tier 2 Subsection 7.1.2.14.3, “Operational Process,” to describe the software operations plan and the administrative controls within it. The proposed markups for this new Subsection (see page 9 of Enclosure 4) states:

A software operations plan includes administrative controls to require that the PMS and its division room are in the appropriate configuration prior to making setpoint changes. This includes requiring a channel to be bypassed prior to making setpoint changes for reactor trip or ESFAS functions. In addition, the PMS division is declared inoperable prior to making setpoint changes for blocks and resets. The administrative controls prevent the protection and safety monitoring system division room environment from interfering with protection and safety monitoring system equipment when plant personnel are making setpoint changes. The administrative controls account for local emissions from nearby equipment and activities (e.g., welding) while the maintenance test cabinet (MTC) door is open.

In addition, the disposition to WCAP-16097 PSAI 6.18, states, in part, that:

Since the PMS division will remain operational during setpoint changes for reactor trip and ESFAS actuation functions, as described above, the PMS division room environment needs to be considered when opening the MTC door to make setpoint changes.

The requested amendment does not provide a discussion any specific details on how the administrative controls for implementing setpoint changes will affect the Technical Specifications. Therefore, the NRC staff requests the Licensee to:

- (1) Describe how the administrative controls for implementing setpoint changes will affect the Technical Specifications actions for the affected PMS division (e.g. one sub-channel bypassed, the other sub-channel fully operational, while the remainder of the safety divisions are operational etc.).

(2) The proposed markups for Tier 2 Subsection 7.1.2.14.3, states, in part, that:

...In addition, the PMS division is declared inoperable prior to making setpoint changes for blocks and resets...

Is this meant to include permissive signals that permit manual bypass of associated Function(s)? If so, discuss how the same procedural controls will apply to changing permissive setpoints for manually bypassing, and setpoints for automatic enabling of Functions that utilize such setpoints, within the same PMS division.

(3) The proposed markups for Tier 2 Subsection 7.1.2.14.3, states, in part, that:

Since the PMS division will remain operational during setpoint changes for reactor trip and ESFAS actuation functions...

It is not clear for the NRC staff what is meant by "operational," in the underline text shown above. Does operational mean "degraded but operable"? Define what is meant by "operational."

SNC Response:

SNC plans to respond to this question by August 26, 2016.

NRC Question:

2. WCAP-16097, PSAI 6.18 (Pages 5-6 of Enclosure 2):

WCAP-16097, "Common Qualified Platform Topical Report," Plant-Specific Action Item (PSAI) 6.18, states that, "...*administrative controls must be in place to ensure that changes to setpoints are only performed while the system is not being relied upon to perform its safety functions. In addition, the affected division of the Common Q safety system must be declared inoperable prior to implementation of setpoint changes.*"

In reviewing Section 2.2.6, Maintenance and Test Panel Subsystem of WCAP-16675, "AP1000™ Protection and Safety Monitoring System," Revision 5, the NRC staff understands there is one 'Function Enable' switch within each of the divisionally based Maintenance and Test Panels (MTPs). Section 2.2.6 of WCAP-16675 states, in part, that:

When the Function Enable keyswitch is disabled, all surveillance test conditions are removed and all external inputs to the safety system functions are restored.

In using this statement as a basis, it appears that when the "Function Enable keyswitch" is taken to the "Enable" position that surveillance test conditions for both sub-channels have the potential to be inserted and all, or many, of the external inputs to the division have been disabled. The NRC staff requests the Licensee to:

- (1) Describe how the voting logic in the other Protection and Safety monitoring System (PMS) divisions (e.g. one sub-channel bypassed, the other sub-channel fully operational, while the remainder of the safety divisions are operational etc.) would be affected for all reactor trip and engineered safety features actuation functions while implementing setpoint changes under all different operating conditions.
- (2) Describe actions that the License has taken to ensure that in the presence of a system designed for division-based maintenance (as evidenced by a singular Function Enable keyswitch per division and not two separate switches) that at least one sub-channel within the given division will remain operational.

Update the requested amendment accordingly.

SNC Response:

SNC plans to respond to this question by August 26, 2016.

NRC Question:

3. WCAP-16097, PSAI 6.20 (Page 6 of Enclosure 2)

WCAP-16097 PSAI 6.20 states that "A Licensee implementing an application based upon the Common Q platform that utilizes fiber optic cables to connect HSL's between safety divisions shall ensure that all plant specific environmental qualification requirements for this cabling are met." The disposition of WCAP-16097 PSAI 6.20 states:

For the AP1000, this issue was already included in the scope of the WCAP-16097 PSAI 6.4 disposition in APP-GW-GLR-017.

In the PSAI 6.4 Resolution in APP-GW-GLR-017 states:

The AP1000 temperature and humidity conditions for qualification of protection and safety monitoring system equipment are presented in DCD Appendix 3D (Reference 1). Temperature and humidity qualification of the protection and safety monitoring system equipment is covered by DCD Tier 1 (ITAAC) 2.5.2, Item 4 (Reference 1).

From the information contained in the disposition for WCAP-16097 PSAI 6.4 at APP-GWGLR- 017, it is not clear to the NRC staff how the plant specific environmental qualification requirements for the fiber optic cables are met. The NRC staff request the Licensee to describe how the plant specific environmental qualification shown above will bound the fiber optic cables. Update the requested amendment accordingly.

SNC Response:

SNC plans to respond to this question by August 26, 2016.

NRC Question:

4. WCAP-16097, PSAI 6.24 (Page 8)

WCAP-16097 PSAI 6.24 states that *“A licensee implementing an application based upon the Common Q platform that relies on the FPDS to perform safety critical functions shall perform an evaluation to address the added reliance on the FPDS to accomplish the required safety functions. The affects of not having the necessary information available on the FPDS during the design basis event should be considered and addressed in this evaluation.”* The disposition of WCAP-16097, PSAI 6.24 states, in part, that:

The evaluation concluded that the only safety critical functions based on the Common Q platform that rely on the Flat Panel Display System (FPDS) are those design basis events (DBE) that require operator action. The DBE are for Anticipated Operational Occurrences. No DBEs are limiting Design Basis Accidents. For these three DBEs, the information necessary for the operator to take action is captured on the FPDS and on alternate, non-safety related sources.

The NRC staff requests the Licensee to identify the three design basis events (DBE) that require operator action. In addition, please identify the alternate non-safety related sources and describe the effects of not having the necessary information available on the Flat Panel Display System during the DBEs. Update the requested amendment accordingly.

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Enclosure 7

Response to NRC Staff Request for Additional Information (RAI) Regarding LAR-15-017 (LAR-15-017S1)

SNC Response:

A review was performed of the design basis events (DBE) analyzed in Chapter 15, Chapter 6 (Section 6.2), and Appendix 19E for the AP1000 plant design. Those design basis events in which operator actions are credited for mitigation requiring PMS safety display information were identified as those to be analyzed (see table below). The table identifies the DBE and the mitigation if the required information is not available on the PMS Safety Display. Also included are the effects of not having the required information available on the safety displays.

(See Enclosure 8, Proprietary INSERT 1)

a,c

ND-16-1391

Enclosure 7

Response to NRC Staff Request for Additional Information (RAI) Regarding LAR-15-017 (LAR-15-017S1)

(See Enclosure 8, Proprietary INSERT 1)

a,c

(See Enclosure 8, Proprietary INSERT 1)

There are alternate sources of the same information for all three design basis events presented in the table above. For the first two events, procedures provide the guidance to use the alternate information on the Diverse Actuation System (DAS) so that the operators can reliably execute their emergency operating procedures. For the third event, there is an automatically initiated action PMS that provides a backup to the operator action that relies on the safety displays. There is also a procedure for manual actuation using alternate information provided by the DAS or the normal operator workstations. Therefore, the required actuations can still occur for all three events even if the required information is not available on the FPDS based safety displays.

License Amendment Request update

The disposition for PSAI 6.24 is updated as follows (underlined text represents new text):

PSAI 6.24 Disposition

There are no Regulatory Guide 1.97 Type A variables used in the AP1000 I&C safety system. An evaluation was performed to address the reliance on the safety displays to accomplish required safety functions and the effects of not having the necessary information available on the safety displays during the design basis event. The evaluation concluded that the only safety critical functions based on the Common Q platform that rely on the Flat Panel Display System (FPDS) are those design basis events (DBE) that require operator action. After reviewing the DBEs analyzed in Chapter 15, Chapter 6 (Section 6.2), and Appendix 19E for the AP1000 plant design, three DBEs were identified to require operator action. The DBEs are for Anticipated Operational Occurrences. No DBEs are limiting Design Basis Accidents.

For these three DBEs, the information necessary for the operator to take action is captured on the FPDS and on alternate, non-safety related sources. For two of the events, procedures provide the guidance to use the alternate information on the Diverse Actuation System (DAS) so that the operators can reliably execute their emergency operating procedures. For the third event, there is an automatically initiated actuation in PMS that provides a backup to the operator action that relies on the safety displays. There is also a procedure for manual actuation using alternate information provided by the DAS or the normal operator workstations. Therefore, the required action can still occur for all three events even if the required information is not available on the FPDS-based safety displays. No adverse safety consequences are expected if the safety system FPDS is not available.

Enclosure 3, “Common Q Platform Software Program Manual and Topical Report Alternatives and Justification”

WCAP-16096: Common Q Software Program Manual Alternatives

NRC Question:

1. Common Q SPM Sections, “Glossary of Terms: Project Quality Plan,” and 4.3.2.1, “Initiation (Concept) Phase – (Page 2 of Enclosure 3)”

The Licensee proposes an alternative to Common Q SPM Sections, “Glossary of Terms: Project Quality Plan,” and 4.3.2.1, “Initiation (Concept) Phase.” The alternative proposes to delete the following text from the Common Q SPM:

Any alternatives to the SPM processes or additional project specific information for the SQAP, SVVP, SCMP or SOMP shall be documented and justified in the PQP.

The justification of the alternative states:

The Project Plan identifies the Software Development Plan as the location for the SPM alternatives and justifications. The Software Development Plan also identifies itself as the companion document to the Project Plan. Both of these documents are approved by the Quality Organization.

The Licensee proposes to use the Software Development Plan as the location for the SPM alternatives to the SPM processes or additional project specific information for the SQAP, SVVP, SCMP or SOMP. The NRC staff requests the Licensee to:

- (1) Provide the relationship of the Project Plan and the Software Development Plan. Are these two documents at the same hierarchy level?
- (2) Demonstrate why it is acceptable to use Software Development Plan instead of the Project Plan as the location for the SPM alternatives to the SPM processes and/or additional project specific information.

Update the requested amendment accordingly.

SNC Response:

The SPM alternative should not have deleted the following text:

Any alternatives to the SPM processes or additional project specific information for the SQAP, SVVP, SCMP or SOMP shall be documented and justified in the PQP.

Therefore, the license amendment request will be updated to add this text back in.

License Amendment Request update

Alternative

A document that specifies alternatives or supplements to the Westinghouse Quality Management System (QMS), Level 2, or Level 3 procedures as required to meet contractual requirements or quality standards other than those specified in the Westinghouse QMS. When the SPM refers to a PQP, it includes the Project Quality Plan and Project Plan (including the Software Development Plan) defined in the Westinghouse Quality Procedures. Any alternatives to the SPM processes or additional project specific information for the SQAP, SVVP, SCMP or SOMP shall be documented and justified in the PQP.

- (1) The Project Plan (i.e., WNA-PD-00283-WAPP) and the Software Development Plan are the same hierarchy level. The AP1000 PMS uses the standard Westinghouse Project Plan template, which requires Software Development activities to be described in Part 5 of the Project Plan. Since the AP1000 PMS is a complex software project with numerous software development activities, this part of the project plan references WCAP-16096, "Software Program Manual for Common Q™ Systems" and WNA-PD-00042-WAPP, "AP1000 Protection and Safety Monitoring System Software Development Plan" for the details of the software development activities. This part of the project plan also provides details of the software project management and reviews performed on the AP1000 PMS software. The Software Development Plan is a companion document, and an extension, of the PMS Project Plan. The Software Development Plan is the appropriate place to capture alternative approaches used in the development of the PMS software.
- (2) As discussed in part 1 of this response, the Software Development Plan is at the same hierarchy level as the Project Plan, and is a companion document of the Project Plan. The Project Plan accounts for the SPM alternatives by referencing the Software Development Plan in Section 8.1:

The WCAP-16096-P-A (Reference 17) alternatives and justifications are documented in WNA-PD-00042-WAPP (Reference 15). See Section 16.0 for additional details.

Furthermore, both the Project Plan and the Software Development Plan are approved by Project and Engineering Management, and by the Quality organization. Lastly, software engineers are required to train on both the Project Plan and the Software Development Plan so they will be cognizant of any alternatives to the Common Q SPM.

NRC Question:

2. Common Q SPM Section 4.3.1, “Organization” / Exhibit 2-1 – Design/IV&V Team Organization (Page 3 of Enclosure 3)

The Licensee proposes an alternative to Common Q SPM Section 4.3.1, “Organization.” Section 4.3.1 of the SPM states, in part, that:

The NA organization includes an Operations group and an Engineering group. The design team is organized within the Engineering group and the IV&V team is organized within the Operations Organizations group.

The alternative proposes to update Exhibit 2-1 – Design/IV&V Team Organization to show that design team and the Independent Verification & Validation (IV&V) team are in separate organizations at least to the Director level. The justification of the alternative states:

The IV&V team and the design team are not under the same organization to maintain independence. This level of independence exceeds the criteria in the SPM.

The NRC staff requests the Licensee to describe how the proposed alternative to Exhibit 2-1 “exceeds the criteria in [Section 4.3.1 of] the SPM,” actually meets the site-specific requirements in the WCAP. Update the requested amendment accordingly.

SNC Response:

The organization chart depicted in Exhibit 2-1 of WCAP-16096-P-A, Rev. 4 reflected the current organization structure of Westinghouse Safety System development teams. The key takeaways from this organization chart are:

- Westinghouse has various levels of management:
 - 1st Level Management – Manager
 - 2nd Level Management – Director
 - 3rd Level Management – Vice President
 - 4th Level Management – Senior Vice President
- The Design Team and IV&V Team must be independent at the Director Level (i.e., 2nd Level Management). This means that the Design Team and IV&V Team must report to different directors; but, they can report to the same Vice President (i.e., 3rd Level Management).

- The Quality Team must be independent from the Design Team and IV&V Team at the Vice President Level (i.e., 3rd Level Management). This means that the Quality Team must report to a different Vice President than the Design and IV&V teams; but, they can report to the same Senior Vice President (i.e., 4th Level Management).

After the NRC-approved Common Q SPM was issued, the Westinghouse Safety System development organization structure changed. Instead of updating the organization chart to reflect the new organization, the amendment request clarifies that the organization chart is provided as an example only and is meant to reflect the minimum level of independence required by the SPM. This is consistent with how Exhibit 2-1 is referred to in Section 2 of the SPM. The actual organization structure may change in the future, but with the proposed changes it cannot change in such a way that would violate the independence requirements of Exhibit 2-1. This new organization chart (Figure A3-1) shows the same level of separation for the Design Team and IV&V Team as the current Exhibit 2-1, namely they are independent at the Director level.

However, the new organization chart should have shown the Quality Team being independent of the Design and IV&V Teams at the Vice President level instead of the Director level (as currently depicted). Therefore, the new organization chart in Figure A3-1 will be updated to show Quality independence at the Vice President Level.

The Westinghouse Safety System Development organization meets or exceeds the requirements from Exhibit 2-1 of the SPM and the newly proposed organization chart in Figure A3-1:

- The IV&V Team Director reports to a different Vice President than the Design Team Director. This exceeds the SPM requirement.
- The Independent Test Team (i.e., performing IV&V function) Director and Design Team Director report to the same Vice President. This meets the SPM requirement.
- The Quality Team reports to a different Senior Vice President than the Design and IV&V Teams. This exceeds the SPM requirement.

License Amendment Request update

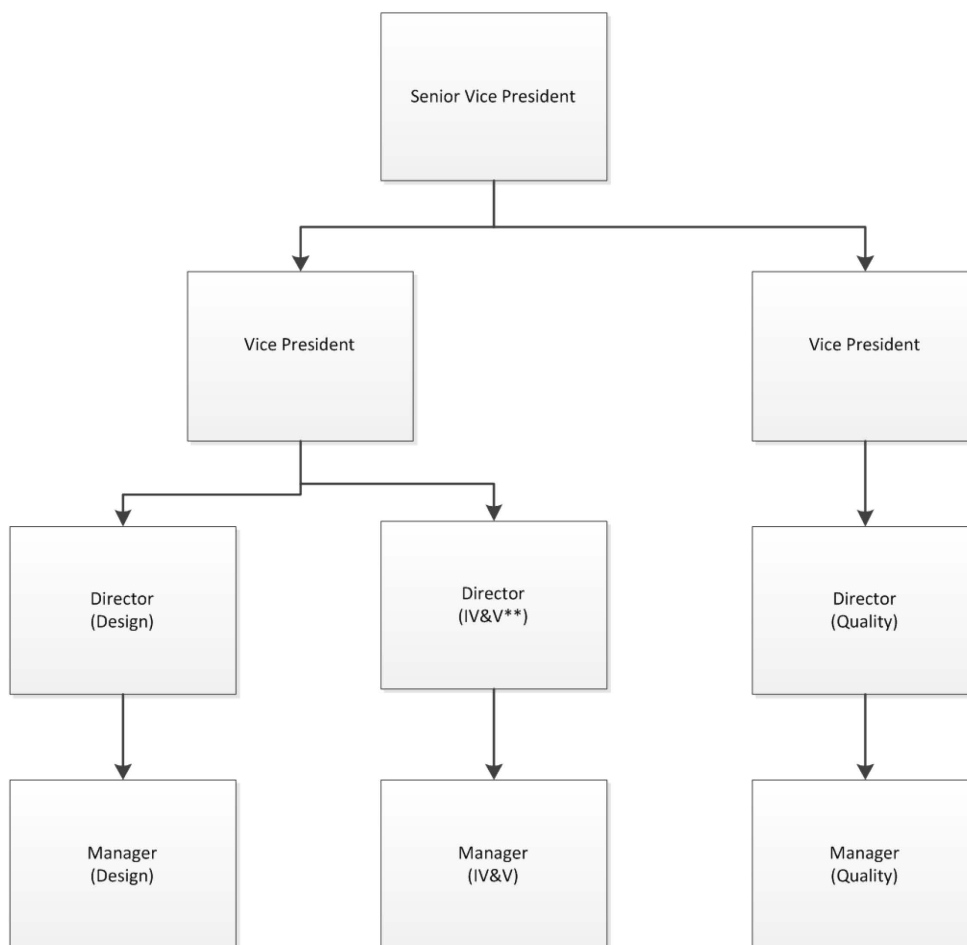
After reviewing the RAI it was determined that the justification for the SPM section 4.3.1 alternative needs to be changed, as follows (underlined text represents new text and strikethrough text represents deleted text):

Justification

The IV&V team and the design team are not under the same ~~organization director~~ to maintain independence. This level of independence ~~exceeds~~ meets the criteria in the SPM.

In addition, license amendment request Figure A3-1 (SPM Exhibit 2-1) is replaced by the corrected figure below.

Exhibit 2-1
Westinghouse Organization Chart*



*This example organization chart shows the minimum level of separation required for the Design, IV&V, and Quality Teams

**System level validation testing is performed by another group. This group meets the same minimum level of independence required for the IV&V group depicted in this organization chart

NRC Question:

3. Common Q SPM Section 4.3.2.6, “Site Installation and Checkout Phase” – (Page 3 of Enclosure 3)

The Licensee proposes an alternative to Common Q SPM Section 4.3.2.6, “Site Installation and Checkout Phase.” The alternative proposes to develop the site test plan in accordance with the overall digital I&C test strategy to support installation testing and the Initial Test Program. The justification of the alternative states:

A separate schedule is developed that governs the overall scheduling of AP1000 site testing. Site test planning is initiated during PMS development, but independent of any particular PMS development phase. This is an appropriate approach for a new build project.

The preparation of the site test plan is initiated during the requirements phase to support evaluation of requirement testability on-site. Demonstrate why the site test planning is independent of any particular PMS development phase. Update the requested amendment accordingly.

SNC Response:

SNC plans to respond to this question by August 26, 2016.

NRC Question:

4. Common Q SPM Section 4.3.2.10, “Post Mortem Review” – (Page 4 of Enclosure 3)

The Licensee proposes to use the Corrective Action, Prevention and Learning (CAPAL) system instead of Westinghouse Corrective Actions Process (CAP). The justification of the alternative to Section 4.3.2.10, “Post Mortem Review,” states:

Suggestions for improvement and best practices are captured in the CAPAL system. Therefore, the required content is still captured and intent of this commitment is still met.

The NRC staff requests the Licensee to document in the requested amendment how the CAPAL system meets the processes in the CAP system.

SNC Response:

The Corrective Action, Prevention and Learning (CAPAL) system is the company-wide tool used by Westinghouse for corrective action. The CAPAL system replaced the Corrective Action Program (CAP) system at a company-wide level in April 2014. This changed the corrective action database from being based on Lotus Notes to being based on Systems Applications and Products (SAP).

The Westinghouse corrective action program is governed by 10 CFR Part 50 Appendix B, Criterion XVI Corrective Action and the Westinghouse Quality Management System (QMS), which is incorporated by reference into the AP1000 licensing basis and approved by the NRC. The Westinghouse corrective action program continues to meet the requirements within these sources.

The licensing basis requires that suggestions for improvement and/or best practices that are identified during the Post Mortem review be documented in the corrective action program. Suggestions for improvement and best practices are captured in the CAPAL system.

Therefore, the Westinghouse corrective action program, via the CAPAL system, continues to meet the required regulatory and licensing requirements.

License Amendment Request update:

The justification for the WCAP-16096 alternative to Section 4.6.2.10 is updated for clarification purposes, as follows (underlined text represents new text):

Justification

Suggestions for improvement and best practices are captured in the CAPAL system. The Westinghouse corrective action program is governed by 10 CFR Part 50 Appendix B, Criterion XVI Corrective Action and the Westinghouse Quality Management System (QMS), which is incorporated by reference into the AP1000 licensing basis and approved by the NRC. The Westinghouse corrective action program continues to meet the requirements within these documents. Therefore, the required content is still captured and the intent of this commitment is still met.

NRC Question

5. Common Q SPM Section 6.3.2, “Configuration Change Control” – (Page 5 of Enclosure 3)

The Licensee proposes to use of Westinghouse Design Change Proposals (DCPs), Engineering & Design Coordination Reports (E&DCRs), the Westinghouse Level 3 Request for Engineering Change (REC) process, and the Westinghouse Level 3 Configuration Management (CM) procedure instead of Software Change Request (SCR) form. The justification of the alternative to Section 4.3.2.10, “Post Mortem Review,” states:

The Software Change Request (SCR) form is inadequate for tracking changes for a complex system. The use of Westinghouse DCP, E&DCR, REC, and CM processes is an appropriate, comprehensive approach to capturing plant-wide I&C system baseline changes. Westinghouse processes exceed this requirement by using an enhanced process.

The NRC staff requests the Licensee to document in the requested amendment how the use of Westinghouse DCP, E&DCR, REC, and CM processes documentation for tracking changes meets to the tracking documentation in the SCR form. Update the requested amendment accordingly.

SNC Response:

After further review, it was determined that the proposed alternative is not consistent with the scope Section 6.3, “Software Configuration Management Activities” or the subsection where this step resides. This subsection gives the “Software Change Request Procedure.” As such, this section is discussing the process for software changes, not system changes. The current statement in WCAP-16096, Revision 4 Section 6.3.2 that refers to “system” changes instead of “software” changes is a typographical error. The SCR form is the applicable tool for software changes. Therefore, an appropriate alternative and justification is provided below.

License Amendment Request update:

The alternative and justification for the WCAP-16096 alternative to Section 6.3.2 is updated, as follows (underlined text represents new text and strikethrough text represents deleted text):

Alternative

~~Design Change Proposals (DCPs), Engineering & Design Coordination Reports (E&DCRs), the Westinghouse Level 3 Request for Engineering Change (REC) process, and the Westinghouse Level 3 Configuration Management (CM) procedure are used as the basis to track all system changes, to verify that changes have been properly implemented, and to ensure that documentation has been updated.~~

Software Change Request Procedure, Step 5: Revised System Baseline: The SCR forms will be used as the basis to track all software changes and to verify that changes have been properly implemented and that documentation has been updated.

Justification

~~The Software Change Request (SCR) form is inadequate for tracking changes for a complex system. The use of Westinghouse DCP, E&DCR, REC, and CM processes is an appropriate, comprehensive approach to capturing plant-wide I&C system baseline changes. Westinghouse processes exceed this requirement by using an enhanced process. Section 6.3, "Software Configuration Management Activities" and the subsection "Software Change Request Procedure" are discussing the process for software changes, not system changes. The alternative corrects the typographical error which incorrectly refers to system changes instead of software changes.~~

NRC Question:

6. Common Q SPM Section 9.2.3, "Control" – (Page 6 of Enclosure 3)

In the alternative to Common Q SPM Section 9.2.3, "Control," the Licensee proposes to designate the Software Lead to confirm the AP1000 PMS software changes. Section 5.4.3.1.5, "Engineering Project Manager," of the SPM states that EPMs and Platform Leads may delegate the performance of necessary tasks to other persons but remain responsible for their execution.

The alternative states, in part, that:

The Software Lead shall confirm that the approved SCR is entered into this log. In the alternative to SPM Section 6.3.2, the Licensee states that the SCR form is inadequate for tracking changes for a complex system and instead proposes the use of Westinghouse DCP, E&DCR, REC, and CM processes. This information appears to be contradictory to the proposed alternative. The NRC staff requests the Licensee to:

- (1) Describe how the Platform Lead will remain responsible for the execution of the AP1000 PMS software changes.
- (2) Describe how the Westinghouse processes will be used to track changes instead of the SCR log.

Update the requested amendment accordingly.

SNC Response:

(1) The Platform Lead is not responsible for project-specific software changes. The Platform Lead is only responsible for generic Platform software changes. This is consistent with the SPM responsibilities for a Platform Lead, as is shown in the follow excerpts from the SPM:

- Glossary of Terms, "Engineering Project Manager": "The Common Q™ Platform Lead may be responsible for these functions for internal generic Common Q™ development activities...
EPMs and Platform Leads may delegate the performance of necessary tasks to other persons but remain responsible for their execution."
- Glossary of Terms, "Platform Lead": "The Common Q™ Platform Lead is responsible for the platform development meeting the continuing needs of the product family."
- Subsection 5.4.3.1.5, "Engineering Project Manager": "The Common Q™ Platform Lead may be responsible for these functions for internal generic Common Q™ development activities. The Common Q™ Platform Lead is responsible for the platform development meeting the continuing needs of the product family. Organizationally, EPMs and Platform Leads directly report to an Engineering Line Manager (ELM). EPMs and Platform Leads may delegate the performance of necessary tasks to other persons but remain responsible for their execution."
- Subsection 6.2.2.6, "Operations and Maintenance Phase": "The Platform Lead reviews sub-vendor software problem reports for sub-vendor software used in the delivered system to determine if any are applicable. If applicable, the problem should be identified to users of the software by issuing a Technical Bulletin (Reference 4). The Platform Lead is also responsible for software changes required to correct this error using the SCM procedures."
- Subsection 6.2.2.7, "Retirement Phase": "The Platform Lead should notify users of all software items that have entered the retirement phase."
- Subsection 9.2.3, "Control": "An SCR log shall be maintained for the specific Common Q™ system implementation. The Platform Lead shall confirm that the approved SCR is entered into this log."
- Section 11.3, "Error Reporting After Software Approval for Use": "The Platform Lead shall report errors to all users by issuing Technical Bulletins in accordance with Westinghouse Level II Policies and Procedures (Reference 4)."

License Amendment Request update

To clarify the Platform Lead and Software Lead responsibilities, the alternative for SPM section 9.2.3 in the amendment request will be changed to the following (underlined text represents new text and strikethrough text represents deleted text):

Alternative

~~Per the Common Q Automation Issue Tracking System (RITS) Work Instruction, the RITS system maintains the SCR log.~~

~~The Software Lead shall confirm that the approved SCR is entered into this log.~~

An SCR log shall be maintained for the specific Common Q™ system implementation.

The Platform Lead shall confirm that the approved SCR is entered into the SCR log for any internal generic software changes. The Lead Software Engineer shall confirm that the approved SCR is entered into the SCR log for any PMS-specific software changes.

- (2) The Software Change Request (SCR) process is only used for software changes; it is not used to track system changes. When system design changes are made, the change is evaluated against the Current Licensing Basis (CLB) for impacts. Depending on the impact to the CLB, the Design Change Proposal (DCP) process or the Engineering and Design Coordination Report (E&DCR) process will be invoked. See Enclosure 3, RAI 5 for more information. These quality processes for system changes are required to meet the commitments of the Westinghouse Quality Management System (QMS), which is incorporated by reference into the UFSAR and approved by the NRC. The Westinghouse QMS meets the requirements of 10 CFR Part 50 Appendix B, Regulatory Guide 1.28, "Quality Assurance Program Criteria" and NQA-1, "Quality Assurance Program Requirements for Nuclear Power Plants" as documented in UFSAR Appendix 1A and UFSAR Chapter 17.

NRC Question:

7. SPM Section 11.4, “Corrective Action” – (Page 7 of Enclosure 3)

In the alternative to Common Q SPM Section 11.4, “Corrective Action,” the Licensee proposes to document the corrective actions in the Common Q Automation Issue Tracking System (RITS), and for the independent RITS reviewer to close out the report. The NRC staff requires additional information in order to determine if an adequate level of independence has been established.

Please provide a complete listing of the reporting relationships established to demonstrate that an adequate level of separation exists between the design team and the independent RITS reviewer. Update the requested amendment accordingly.

SNC Response:

The requested amendment does not propose any changes to the licensing basis related to the independent review of corrective actions. Per WCAP-16096, Revision 4, an independent review of the corrective actions is still required. This independent reviewer meets the requirements of 10 CFR Appendix B, Criterion III Design Control. According to Appendix B, the independent reviewer is an individual or group other than those who performed the original design, but who may be from the same organization.

License Amendment Request update

The justification for the WCAP-16096 alternative to Section 11.4 is updated for clarification purposes, as follows (underlined text represents new text):

Justification

The RITS form contains the same information as the SPM Exception Report and Common Q Comment Record.

Though a signature is not required, RITS requires login credentials for the independent reviewer to close out the report. Login credentials satisfy the function of a signature.

The requirements for reviewer independence have not changed. The independent reviewer of the corrective action continues to meet the requirements of 10 CFR 50 Appendix B, Criterion III Design Control. The independent reviewer is an individual or group other than those who performed the original design, but who may be from the same organization.

NRC Question:

8. Common Q SPM Section 12, “Secure Development and Operational Environment Plan” – (Page 8 of Enclosure 3)

10 CFR 50.55a(h), “Protection and Safety Systems,” requires compliance with the requirements of IEEE Std. 603-1991, which is a system-level standard that contains requirements related to access controls. IEEE Std. 603-1991, Clause 5.9, provides access control requirements for safety systems.

The Licensee proposes to exclude WCAP-16096, Section 12, “Secure Development and Operational Environment Plan,” from being incorporated by reference into the UFSAR. The justification of the alternative to Section 12, “Secure Development and Operational Environment Plan” states:

The AP1000 PMS Computer Security Plan is specific for AP1000 and has been determined to be an acceptable method used to demonstrate how computer security is incorporated into the design and development of AP1000 safety systems. The AP1000 PMS Computer Security Plan is consistent with the Common Q SPM incorporated by reference information and, therefore, should be used in place of any Section 12 references made within the Common Q SPM.

The NRC staff requests the Licensee to describe in the requested amendment how the AP1000 PMS Computer Security Plan meets or exceeds the criteria in WCAP-16096, Section 12. Update the requested amendment accordingly.

SNC Response:

APP-GW-J0R-012, “AP1000 Protection and Safety Monitoring System Computer Security Plan” is incorporated by reference into the AP1000 licensing basis. The PMS computer security plan was part of the AP1000 design approval during design certification. Therefore, this alternate has already been reviewed, and in NUREG-1793 Supplement 2, the staff concluded that the AP1000 computer security plan met the 10 CFR 50 and GDC security requirements for PMS. The PMS computer security plan describes the process followed for the development of the PMS to maintain a secure development and operational environment. Unlike WCAP-16096 Revision 4, the WCAP-16096 incorporated by reference into the current licensing basis (i.e., WCAP-16096, Revision 01A) does not outline a computer security plan. WCAP-16096, Revision 4, which is proposed to be added in this amendment request, contains a generic computer security process for Common Q systems.

However there is no need to include this additional plan into the UFSAR which commits to the PMS-specific APP-GW-J0R-012. WCAP-16096, Revision 4 Section 12 has never been included in the licensing basis, nor is this proposed amendment requesting it to be added to the licensing basis. As such, the AP1000 PMS has never used WCAP-16096, Revision 4 Section 12, nor is there any plan to adopt this for the AP1000 PMS. Therefore, any comparison of the two computer security plans within the amendment request would be unnecessary.

WCAP-16097: Common Q Topical Report Alternatives
NRC Question:

1. Table A3-2, “Common Q Topical Report Alternatives” – (Page 10 of Enclosure 3)

The Licensee proposes to remove the revision number for the WCAP-17266 reference from the TR Section, “Reference.” The justification of the alternative states:

Removing the revision number for the WCAP-17266 reference is consistent with how the Common Q SPM references this document. WCAP-17266 is not an input into WCAP-16097, but a lower-level process document. Therefore, identifying a revision number is unnecessary. This document will continue to meet the commitment in WCAP-16097, Revision 3, Section 12 which requires it to describe the screening and evaluation process for determining what Common Q platform changes are available for audit, and which changes require re-submission to the NRC.

The NRC staff requests the Licensee to describe the configuration controls for WCAP-17266 to ensure errors the document is properly identified, captured, tracked, resolved and placed into a records management system to ensure the issue is available for historical reference. Update the requested amendment accordingly.

SNC Response:

Not including a revision number in the WCAP-16097 reference to WCAP-17266, does not imply that there is not revision control for this document. WCAP-17266 is, and will continue to be, under revision control within the Westinghouse Quality Records System in accordance with Westinghouse Quality Procedure W2-6.1-100, “Document Control.” Should an error be identified in WCAP-17266 a Corrective Action Issue would be identified and documented in accordance with Westinghouse Quality Procedures W2-5.1-100, “Westinghouse Corrective Action Program” and W2-5.1-101, “Westinghouse Corrective Action Program Procedure”, so that the error is captured, tracked, and resolved to ensure the issue is available for historical reference; and a new revision of WCAP-17266 is placed into the Westinghouse Quality Records System.

License Amendment Request update

The justification is updated as follows (underlined text represents new text):

Justification

Removing the revision number for the WCAP-17266 reference is consistent with how the Common Q SPM references this document. WCAP-17266 is not an input into WCAP-16097, but a lower-level process document. Therefore, identifying a revision number is unnecessary. This document will continue to meet the commitment in WCAP-16097, Revision 3, Section 12 which requires it to describe the screening and evaluation process for determining what Common Q platform changes are available for audit, and which changes require re-submission to the NRC.

Even though the revision number is removed from the reference section in WCAP-16097, WCAP-17266 itself will still be subject to the document control procedure under the Westinghouse Quality Procedure program. If an error is identified in WCAP-17266, then a corrective action issue would be identified and documented in accordance with Westinghouse Corrective Action Program. The Corrective Action Program is the means to capture, track, and resolve errors to ensure the issue is available for historical reference. The corrective action program is also the means to ensure a new revision of WCAP-17266 is placed into the Westinghouse Quality Records System.

Enclosure 5, "Resolution of Common Q NRC Items

NRC Question:

In the Record of Changes for Revision 2 of APP-GW-GLR-017, the Licensee states that DCD markups were updated to reference Revisions 1 and 2 of APP-GW-GLR-017. However, the NRC staff found changes to Sections 7.1.2.3, 7.1.2.8, "Communication Functions," 7.1.6, "Combined License Information"; 9A3.1.2.5.2, "Safe Shutdown Evaluation"; and the newly added Subsection 9A.3.1.2.8.4, "Safe Shutdown Evaluation." These DCD markups were not discussed in Enclosure 1 of the letter. The NRC staff requests the Licensee to describe the nature of the DCD markups. Update the requested amendment accordingly.

SNC Response:

The DCD markups in APP-GW-GLR-017 were provided during the design certification to facilitate NRC review prior to submittal of an amendment.

During AP1000 design certification Westinghouse used technical reports to close out Combined License (COL) information items. As documented in the AP1000 Design Control Document (DCD) Section 7.1.6.2, APP-GW-GLR-017 provides resolution for generic open items and plant-specific action items resulting from the NRC's review of the AP1000 I&C platform. Part of closing the COL information item involved documenting the applicable DCD changes in APP-GW-GLR-017 and incorporating them into the DCD. This included the reference to APP-GW-GLR-017 itself, listed in DCD Section 7.1.6. The DCD changes referenced in the RAI were part of the original design certification approval process and included in the approved AP1000 design.

The proposed amendment only revises APP-GW-GLR-017 to update PSAI 1, Table 3-1 and GOI 7.1, as described in the license amendment request. Because the revision number changed on APP-GW-GLR-017, the DCD markups within APP-GW-GLR-017 were also updated to change the revision number of APP-GW-GLR-017 itself. No other APP-GW-GLR-017 changes are being made.

License Amendment Request update

The following change is made to the license amendment request for clarification purposes (underlined text represents new text):

Proposed UFSAR Tier 2 Changes Due to WCAP-16096 and WCAP-16097 SE Plant Specific Action Items and a Generic Open Item

1. WCAP-16097 PSAI 6.1 and GOI 7.1: APP-GW-GLR-017 (Tier 2, IBR), Table 3-1 is revised to reflect the S600 I/O modules (AI687 and AI688) already existing in the certified design via WCAP-16675, "AP1000™ Protection and Safety Monitoring System Architecture Technical Report." The introduction section and GOI 7.1 resolution are updated to align with the revised PSAI 6.1 response. Accordingly, UFSAR Table 1.6-1 and UFSAR Section 7.1.7 are updated to reflect the new revision of APP-GW-GLR-017.

Note that APP-GW-GLR-017 contains DCD markups used to close the Combined Licensing information item in DCD Section 7.1.6. Part of these markups include a reference to APP-GW-GLR-017 itself. Therefore, the DCD markups are revised to reference APP-GW-GLR-017, Revision 2.

Southern Nuclear Operating Company

ND-16-1391

Enclosure 9

Vogtle Electric Generating Plant (VEGP) Units 3 and 4

**Affidavit from Southern Nuclear Operating Company for Withholding Under 10 CFR 2.390
(LAR-15-017S1)**

(Enclosure 9 consists of 3 pages, including 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, Supplement to Request for License Amendment: Update of Common Qualified (Common Q) Platform Software Program Manual and Topical Report (LAR-15-017S1). 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 8 of SNC letter ND-16-1391 for Vogtle Electric Generating Plant (VEGP) Units 3 and 4, APP-GW-GF-115, SNC LAR-15-017 (WEC LAR 52) Update of Common Qualified (Common Q) Platform Software Program Manual and Topical Report (LAR--15--017S1).
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 10 of SNC letter ND-16-1391 for Vogtle Electric Generating Plant (VEGP) Units 3 and 4, Supplement to Request for License Amendment: Update of Common Qualified (Common Q) Platform Software Program Manual and Topical Report (LAR-15-017S1), 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.

B. H. Whitley Executed on 8/19/16
Brian H. Whitley Date

Southern Nuclear Operating Company

ND-16-1391

Enclosure 10

Vogtle Electric Generating Plant (VEGP) Units 3 and 4

**CAW-16-4443, Application for Withholding Proprietary Information from
Public Disclosure, Affidavit, Proprietary Information Notice, and Copyright Notice**

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