Southern Nuclear

Regulatory Affairs Director

3535 Colonnade Parkway
Birmingham, AL 35243

July 9, 2025

Docket Nos.: 52-025
52-026

NL-25-0258
10 CFR 50.90

U. S. Nuclear Regulatory Commission
ATTN: Document Control Desk
Washington, D. C. 20555-0001

Vogtle Electric Generating Plant – Units 3 and 4
License Amendment Request: **Addition of RCS T_{cold} Engineered Safety Feature Actuation System (ESFAS) Instrumentation Function –**
Response to Request for Additional Information

On February 14, 2025, Southern Nuclear Operating Company (SNC) submitted a license amendment request (LAR) for Vogtle Electric Generating Plant, Units 3 and 4 (ADAMS Accession No. ML25045A166) and subsequently supplemented it by letter dated March 31, 2025 (ML25090A283). The proposed amendment revises Combined License (COL) Appendix A, Technical Specifications (TS) Table 3.3.8-1, "Engineered Safeguards Actuation System Instrumentation," a new Function 11.b, "Reactor Coolant System (RCS) Cold Leg Temperature (T_{cold}) – High," associated with the Protection and Safety Monitoring System (PMS) actuation logic for the Passive Residual Heat Removal (PRHR) Heat Exchanger (HX).

On May 28, 2025 the U.S. Nuclear Regulatory Commission (NRC) Staff provided a draft request for additional information (RAI). These RAIs were clarified on a call with the NRC Staff on the same day. The NRC staff's provided the final RAIs to SNC on June 25, 2025.

The Enclosure to this letter provides the SNC response to the RAIs.

The additional information provided in the Enclosure to this letter does not impact the regulatory evaluation (including the Significant Hazards Consideration Determination) or environmental considerations for the proposed changes provided in the February 14, 2025, submittal.

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

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

If you have any questions, please contact Ryan Joyce at (205) 992-6468.

I declare under penalty of perjury that the foregoing is true and correct. Executed on the 9th of July 2025.

Respectfully submitted,

Jamie Coleman

Digitally signed by JAMIEMCO
Date: 2025.07.09 12:29:38
-05'00'

Jamie M. Coleman
Director, Regulatory Affairs
Southern Nuclear Operating Company

Enclosure: Response to Request for Additional Information

Attachment: Vendor Oversight Plan Summary

cc: NRC Regional Administrator, Region ll
NRR Project Manager – Vogtle 3 & 4
Senior Resident Inspector – Vogtle 3 & 4
Director, Environmental Protection Division – State of Georgia
Document Services RTYPE: VND.LI.L00

The NRC request for additional information is repeated below and followed by the Southern Nuclear Operating Company (SNC) responses for Vogtle Electric Generating Plant (VEGP) Units 3 and 4.

REQUEST FOR ADDITIONAL INFORMATION (RAI)

By letter dated February 14, 2025 (Agencywide Documents Access and Management System Accession No. ML25045A166), as supplemented by letter dated March 31, 2025 (ML25090A283), Southern Nuclear Operating Company (SNC, the licensee) requested that the U.S. Nuclear Regulatory Commission (NRC) amend Vogtle Electric Generating Plant (Vogtle), Units 3 and 4, Combined License (COL) Numbers NPF-91 and NPF-92, respectively. The requested license amendment request (LAR) proposed to revise Technical Specifications (TS) 3.3.8, "Engineered Safeguards Actuation System Instrumentation."

The proposed amendments would add to TS Table 3.3.8-1, "Engineered Safeguards Actuation System Instrumentation," a new Function 11.b, "Reactor Coolant System (RCS) Cold Leg Temperature (T_{cold}) – High." The new Function 11.b would impact the Protection and Safety Monitoring System (PMS) actuation logic for the Passive Residual Heat Removal (PRHR) Heat Exchanger (HX). The logic for one of the PRHR HX actuation signals that currently requires Low-2 steam generator (SG) narrow range (NR) water level coincident with Low-2 startup feedwater (SFW) flow in any SG is being modified to require Low-2 SG NR water level coincident with Low-2 SFW flow in both SGs coincident with the new T_{cold} – High in either RCS loop.

To complete its review, the Nuclear Regulatory Commission (NRC) staff requests for additional information as shown below.

Regulatory Basis

The regulatory basis for these draft RAIs include Criterion III, "Design Control," Criterion VII, "Control of Purchased Material, Equipment, and Services," and Criterion XVI, "Corrective Action" of Appendix B, "Quality Assurance Criteria for Nuclear Power Plants and Fuel Reprocessing Plants," to Title 10 of the *Code of Federal Regulations* (10 CFR) Part 50, "Domestic Licensing of Production and Utilization Facilities."

NRC RAI #1

1. Provide the VOP title and revision number in the VOP summary.

SNC Response to NRC-RAI #1

The attached VOP Summary provides the requested changes to include the VOP title and revision number in the VOP summary.

NRC RAI #2

2. Section 6 of the VOP Summary states that "SNC is crediting the software development process defined in NRC approved WCAP-16096, "Software Program Manual for Common Q™ Systems," as modified by WCAP-15927," Design Process for AP1000 Common Q™ Safety under Westinghouse's QA program."

   The NRC staff is questioning if there is missing information in the above sentence. If so, the NRC staff requests that SNC revise the VOP Summary to accurately reflect the intent of this sentence.

SNC Response to NRC-RAI #2

The attached VOP Summary provides the requested change to accurately reflect the intent of this sentence, which includes correcting the quoted title of WCAP-15927.

NRC RAI #3

3. The NRC staff reviewed the VOP Summary and found the following documents were identified for owner's acceptance:

   - Software Hazards Analysis
   - Failure Modes and Effects Analysis
   - Requirements Traceability Matrix
   - Software Test Plan

   The NRC staff requests that SNC verify that the above list of documents are the only ones that will undergo owner's acceptance review for this project. If there is a more expansive list, the NRC staff requests that SNC revise the VOP Summary to reflect the complete set of documents that will undergo owner's acceptance review.

SNC Response to NRC-RAI #3

The attached VOP Summary provides the requested change to clarify that SNC will owner-accept delivered WEC documents, which are not strictly limited to those documents listed in the RAI. Refer to "Design Artifacts" subsection.

NRC RAI #4

4. The NRC staff reviewed the conditions identified in Section 8 of the VOP Summary that would trigger a condition report (CR) and needs clarification on the follow two conditions:

   - Westinghouse noncompliance with the Westinghouse quality program, software processes, or hardware processes,
   - Digital item quality is not assured, and identical or similar digital items are already installed in the facility, in other applications, and are considered operable or available.

   The PRHR actuation logic change modification, as described in the LAR, only requires modifications to the Protection and Monitoring System (PMS) software. However, the NRC staff finds that the above two conditions imply that there are hardware changes. As such, the NRC staff requests SNC to address this discrepancy, and if necessary revise the VOP Summary.

SNC Response to NRC-RAI #4

The attached VOP Summary provides the requested change, which removes discussions implying hardware changes may be associated with the requested Amendment.

NRC RAI #5

5. Questions regarding Plant Specific Action Items (PSAIs):

   Section D.5 (see page E-19) in the table regarding ISG-06 Enclosure B Identified Alternate Review Process Applicable Sections in Enclosure NL-25-0072, “Supplemental Information,” states that “The application of the NRC-approved Common Q Topical Reports (WCAP-16096 and WCAP-16097) to PMS, referenced in the VEGP 3&4 UFSAR, and the associated NRC Safety Evaluation Plant Specific Action Items were demonstrated satisfied during completion of ITAAC 2.5.02.12 [Index Number 551] as documented in NRC Integrated Inspection Reports 05200025/2019002, 05200026/2019002 [ML19220B678], are not affected by this LAR. SNC will provide oversight of the performance of the modification activities, in accordance with the VEGP 3&4 QA program and Vendor Oversight Plan per section C.2.2.”

   In addition, Section 6 of the VOP Summary identifies PSAI No. 23 (presumably it is PSAI 6.23 in WCAP-16096, “Common Q Software Program Manual” (SPM)) and PSAI No. 6 in the WCAP-16097, “Common Q Platform Topical Report.” Both of these PSAIs are regarding records of change for each topical report. The NRC staff reviewed the list of PSAIs in the Common Q SPM and Common Q Platform Topical Report and finds that it is not clear why the VOP Summary only addresses these two PSAIs. The NRC staff requests that SNC either

   - justify why only these two PSAIs are applicable to implement the PRHR actuation logic change modification, or

- revise the VOP Summary to provide criteria for how SNC will determine which PSAIs in the safety evaluation for WCAP-16096 and WCAP-16097 are applicable to the PRHR actuation logic change modification

SNC Response to NRC-RAI #5

The attached VOP Summary provides the requested clarification by deleting the two PSAIs mentioned in the “Configuration Management” subsection. All PSAIs in the Common Q SPM and Common Q Platform Topical Reports will be addressed as stated in the “Plant Specific Action Items (PSAIs)” subsection.

Attachment

Vendor Oversight Plan Summary

Vogtle Electric Generating Plant, Units 3 and 4
Passive Residual Heat Removal Actuation Logic Modification Project
Vendor Oversight Plan (VOP), SNC1628211VOP Revision 2, Summary

1. Background

By letter dated March 3, 2025 (ADAMS Accession No. ML25045A166), Southern Nuclear Corporation (SNC) has submitted a license amendment request (LAR) for Vogtle Electric Generating Plant, Units 3 and 4 (VEGP 3&4) to add a new Technical Specification that will reflect revised actuation logic for the Passive Residual Heat Removal (PRHR) Heat Exchanger Engineered Safety Feature that is part of the Protection and Safety Monitoring System (PMS). SNC has developed a Vendor Oversight Plan SNC1628211VOP (VOP), Rev. 2 based on the guidance in Section C.2.2.1 of DI&C-ISG-06. SNC developed the VOP in support of the PRHR Actuation Logic Change modification to describe oversight activities and document conformance. This VOP will confirm that WEC executes the project consistent with:

- SNC specification and procurement documents
- The SNC 10 CFR 50 Appendix B Quality Assurance program
- The NRC-approved WEC Software Program Manual (SPM)
- The WEC 10 CFR 50 Appendix B Quality Assurance program

SNC has developed the VOP as a revisable document controlled by SNC Quality Assurance Records Administrative procedure NMP-AD-025, “Quality Assurance and Non-Quality Records Administration” and the VOP change requirements described in section 3 of this VOP Summary and in section 1.4 of the VOP. The VOP provides a description of SNC’s activities that, when executed, will provides assurance that WEC software changes will meet process, technical, and regulatory requirements. The VOP identifies the committed series of interactions between SNC and WEC throughout the entire system development life cycle. The VOP Table of Contents is provided below.

Vogtle Electric Generating Plant, Units 3 and 4
Passive Residual Heat Removal Actuation Logic Modification Project
Vendor Oversight Plan (VOP), SNC1628211VOP, Revision 2, Summary

2. Vendor Oversight Plan (VOP) Scope

The scope of the VOP addresses the WEC processes and products for the PRHR Actuation Logic Change software modification. This includes design and testing deliverables that WEC will provide. This VOP excludes any hardware changes associated with the PRHR Actuation Logic Change modification since those hardware changes are governed by other procedures and processes. This VOP is exclusively for the safety related software change described in the LAR. The WEC processes and procedures include software and design documentation. The VOP does not address oversight of the modification process or licensing activities as these have existing oversight process implementations.

SNC's vendor oversight activities include:

- Conducting scheduled and structured on-site or remote surveillances of WEC software design and development processes, as well as vendor surveillances.
- Conducting on-going quality and design-related review interactions (e.g., owner's acceptance reviews) with WEC to confirm the final product meets the intended functions and constraints.
- Conducting Quality audits of vendor activities in accordance with SNC Nuclear Development Quality Assurance Manual (NDQAM) (Note: These audits are governed by existing SNC Nuclear Oversight (NO) procedures, referenced in Section 4 of the VOP, and are not intended to be detailed in this summary document).
- Providing input to WEC design and development activities, as well as reviewing/confirming specific WEC activities.
- Performing owner's acceptance reviews of WEC design and Verification and Validation (V&V) artifacts (e.g., specifications, procedures, traceability matrices).
- Observing or witnessing specific WEC validation and testing activities.
- Participating directly in specific vendor activities.
- Coordinating multi-discipline interactions among various stakeholders.
- Periodically communicating status, schedule, and results of oversight activities through SNC/WEC Project Management team teleconferences, SNC/WEC Engineering team teleconferences, and SNC/WEC Licensing team teleconferences.
- Capturing issues in SNC corrective action program.
- Elevating emerging risks and issues (if necessary) to decision makers with higher authority.
- Updating the VOP (if necessary) based on emerging results.
- Conducting scheduled Risk Review Meetings.

The VOP establishes four strategic objectives through the use of SNC processes and procedures:

- Verify WEC activities are fulfilling the contract and regulatory obligations through identified audits and review activities.
- Document performance of oversight activities and results.
- Perform timely and adequate follow up and closure
- Verify WEC inspectors have the necessary knowledge and skills to successfully validate acceptance criteria.

The results of the VOP will confirm that the activities related to software development coincide with the WEC specified software lifecycle activities, as described in the WEC SPM.

3. Procedural Basis for VOP

The SNC Nuclear Development Quality Assurance Manual (NDQAM) implements 10 CFR 50 Appendix B for VEGP 3&4 and is implemented through the use of approved procedures (e.g., policies, directives, procedures, instructions, or other documents) which provide written guidance for the control of quality related activities and provide for the development of documentation to provide objective evidence of compliance.

The VOP is designed to be an umbrella document covering the range of activities in which SNC is engaged to perform effective vendor oversight. A hierarchy of SNC procedures ensure the effectiveness of vendor quality activities and products. These procedures fall under quality management, supply chain management, project management, design control, risk management, and corrective action.

The following key documents provide input to vendor oversight activities:

- SNC Quality program, procurement, project management, supply chain management, design control, and risk management procedures
- SNC-WEC Procurement contract and other associated documents
- NRC-approved WCAP-16096-P-A, “Common Qualified Platform Software Program Manual” (SPM)
- Electric Power Research Institute (EPRI) Technical Report 3002011816, “Digital Engineering Guide (DEG)”
- EPRI Topical Report 1011710, “Handbook for Evaluating Critical Digital Equipment and Systems”

The hierarchy of SNC procedures, and the role of each in the effective oversight of WEC is described in VOP Section 4.0, as summarized below. In addition, the information below includes a description of the administrative controls that SNC will utilize for any changes to the VOP.

Stakeholders identified in VOP Section 5 will participate in vendor oversight activities. The level of vendor oversight follows a graded approach, based on project, technical, and vendor performance risk factors, which will be described in VOP Section 6. All levels of the graded approach will include specifically defined performance measures and acceptance criteria, which are described in VOP Section 7. The various levels of graded oversight activities will be described in VOP Section 8. The SNC Corrective Action Program (CAP) (i.e., SNC procedure NMP-GM-002, “Corrective Action Program”) will be used to document and provide resolution of issues/problems. This is described in VOP Section 9. Finally, oversight results will be documented as described in VOP Section 10.

VOP Change Process

As described in VOP Section 1.4, "Revisions to the Vendor Oversight Plan," the VOP is considered a Controlled Document. Changes to the VOP that are identified require the following actions, prior to implementation:

- Initiation of a Condition Report (CR) in the SNC Corrective Action Program to track and document the approval, implementation, and communication (i.e., to all stakeholders) of the change.

- Review, approval, and administration of the change in accordance with SNC procedures B-GEN-ENG-038, “Vogtle 3&4 Startup Engineering Change Procedure,” NMP-ES-045-001, “Technical Oversight Reviews of Engineering Products,” and NMP-AD-025, “Quality Assurance and Non-Quality Records Administration.”

- Review of the NRC Safety Evaluation approving the digital upgrade license amendment to confirm that the proposed VOP changes will not adversely impact the basis or requirements for NRC approval (i.e., as described in VOP Section 1.4).

Quality Management

The NDQAM is the NRC-approved SNC 10 CFR 50 Appendix B Program for VEGP 3&4 and is implemented through the use of approved procedures (e.g., policies, directives, procedures, instructions, or other documents). These procedures provide written guidance for the control of quality related activities and provide for the development of documentation to provide objective evidence of compliance. With respect to the PRHR Actuation Logic Change modification, the primary implementing procedures for the NDQAM are as follows:

NOS-201, "Supplier Quality Program Evaluation" sets forth the general administrative requirements for the supplier quality evaluation program, including the maintenance of the SNC Qualified Suppliers List (QSL).

NOS-204, "Supplier Audit/Survey Report Review" provides instructions and guidelines for the performance of audit/survey report reviews to verify report acceptability for the qualification of suppliers to be included on the SNC QSL.

ND-QA-005, "Quality Assurance Reviews," This procedure provides requirements and guidance for the performance of reviews conducted by Nuclear Development Quality Assurance (NDQA). It specifically addresses procedure reviews and reviews associated with corrective actions related to NDQA audits and surveillances.

*ND-QA-008, "Training and Qualification of Quality Assurance Personnel," p*rovides the requirements and guidance for the training and qualification of Nuclear Development Quality Assurance (QA) personnel. This procedure implements ASME NQA-1-1994 and the SNC NDQAM for the initial and recurring certification of QA personnel as a qualified Lead Auditor. This procedure also provides guidance to QA personnel for Surveillance Lead qualification and departmental training independent of NQA-1-1994 requirements.

ND-QA-019, "Vogtle 3 & 4 Supplier Qualification" describes the process for qualification and oversight of VEGP 3&4 Suppliers.

NOS-202, "Supplier Safety-Related Program Audits," defines Quality Assurance Audits conducted by SNC Nuclear Oversight (NOS) for suppliers and prospective suppliers that supply equipment, materials, and services for nuclear power plant safety related applications to SNC. The purpose of the audit is to evaluate the ability of the supplier to meet applicable SNC, regulatory, and industry requirements and standards. This procedure applies to supplier quality assurance audits performed by NOS or contracted personnel to evaluate Safety Related suppliers for inclusion on the SNC QSL. All audits incorporate performance-based auditing concepts, along with programmatic elements, as necessary, to conclude that items produced, and services provided by the suppliers' processes will meet the established requirements. When the audit is a Nuclear Procurement Issues Corporation (NUPIC) Joint Audit led by SNC, there are NUPIC guidelines that must be in compliance with this procedure and NUPIC documents. In the event of a conflict between the NUPIC process and SNC procedure, SNC processes and procedures will be followed to perform audit activities

NOS-401, "Supplier Quality Surveillance," The purpose of this procedure is to set forth the requirements for the Nuclear Oversight (NOS) supplier quality surveillance program. Supplier quality surveillance may be performed:

- To supplement or provide additional confidence in a supplier's quality assurance program when the design and/or manufacturing processes are complex or have been found to be deficient in some area(s).
- To witness pre-determined points in the manufacturing, inspection, and/or testing process.
- To confirm supplier compliance with purchase order requirements.
- To verify that a supplier of commercial grade items adequately controls specified critical characteristics

<u>Supply Change Management</u>

The following is the principal Supply Chain Management procedure that will be used for the PRHR Actuation Logic Change modification.

NMP-GM-011, "Procurement, Receipt, and Control of Materials and Services" establishes the processes and responsibilities for non-Supply Chain Management (SCM) personnel and the interface with SCM personnel involved in the procurement, receipt, and control of materials and services for SNC.

Project Management

With respect to the PRHR Actuation Logic Change modification, the primary implementing procedures and instructions for project management are as follows:

NMP-ES-067, "*Major Project Management,*" defines the roles, responsibilities, and the multi-phase process by which major projects are managed by the SNC Fleet Projects group.

NMP-ES-067-004, "Major Project Management Instruction" establishes the responsibilities, requirements, and provides instruction for SNC Project Managers, Program Managers, and Fleet Capital Cost Controls Staff throughout the lifecycle of a project. It describes the steps needed to successfully deliver a project that meets it technical, functional, and business objectives. The process described in this instruction is based on the SNC Project Management Body of Knowledge (PMBOK) and INPO 09-002, "Excellence in Nuclear Project Management."

NMP-ES-067-005, "Fast Track Project Instruction," supplements the project management requirements in NMP-ES-067-004, Major Project Management Instruction, and establishes the responsibilities, requirements, and provides instruction for all projects where the standard project process will not support established project milestones, outage readiness milestones, on-line work milestones or work completion commitment dates. This procedure provides additional guidance to ensure that the project is successfully implemented

NMP-ES-067-009, "*SNC Major Project Management Procurement Strategy Development*," provides guidance to SNC project managers on contracting, including interface with the procurement management process. This guidance provides a consistent approach for understanding and collaboration with Supply Chain Management on the procurement management process. The requirements are applied in a graded approach where the level of analysis, documentation and detail provided in project deliverables are established commensurate with the scope, complexity, budget, schedule, and other relevant factors of the project.

Project Management procedures *NMP-ES-067-003, "Graded Approach to Major Project Management,"* and *NMP-ES-067-006, "Project Risk Management,"* are described below under "Risk Management."

Engineering and Design Control Procedures

The following lists and describes the Engineering and Design Control procedures that will be used for the PRHR Actuation Logic Change modification.

NMP-ES-040-001, "Preparation and Revision of Procurement Specifications for Engineered Components," establishes the requirements for preparation of new or revision to existing procurement specifications for engineered equipment, systems, and components. As stated in this instruction, an SNC procurement specification presents SNC's technical requirements, including vendor oversight expectations and vendor document submittal requirements.

NMP-ES-042, "Design Input and Verification Process" provides instructions for establishing and documenting design inputs and design verifications that are required for individual design processes.

NMP-ES-045, "Design Authority," defines and implements the SNC design authority. This is accomplished by defining the divisions of responsibilities for design-related activities and by endorsing processes and procedures used to control design activities.

NMP-ES-045-001, "Technical Oversight Reviews of Engineering Products," provides guidance for conducting the technical oversight reviews required for engineering technical activities developed by external contractors, as well as engineering products prepared internally by SNC.

B-GEN-ENG-038, "Vogtle 3&4 Startup Engineering Change Procedure" establishes the Owner's

Acceptance Review process for design change products produced by WEC following Design Authority Turnover (DATO).

NMP-ES-050, "Requests for Engineering Review" sets for the responsibilities, requirements, instructions, and guidance for initiating and responding to Requests for Engineering Review (RERs). This process may be used for but is not limited to requesting technical information or requesting an engineering evaluation, study, recommendation and/or decision.

NMP-ES-095, Interface Procedure for IP-ENG-001, 'Standard Design Process'," endorses industry procedure IP-ENG-001, "Standard Design Process" (Revision 3), as written, including the associated forms. Industry procedure. This procedure provides cross-references of the generic SDP terminology to SNC-specific terms, guidance on roles and responsibilities, reference tables on interfacing procedures with instructions, transition instructions, records, and addresses SNC and site-specific regulatory commitments. This procedure also endorses industry procedure NISP-EN-04, "Standard Digital Engineering Process", as written. Industry procedure NISP-EN-04 supplements the SDP by addressing additional engineering activities applicable to modifications involving programmable electronic equipment.

NMP-GM-007, "Acquisition and Development of Technology Solutions for Southern Nuclear," defines standard processes to acquire, develop, and implement new or upgraded Technology Solutions that will help SNC achieve strategic objectives or address operational needs. The procedure requires:

- SNC policies are considered and applied, including the Technology Policy, Technology Acquisition Standard, and the Business Technology Delivery Framework
- The Technology Organization is appropriately engaged, investments are reviewed, prioritized, and approved, and the appropriate Supply Chain Management (SCM) organization is leveraged.
- A sustainable support model is planned, defined, and mobilized before a new Technology Solution is implemented.
- The objectives of plant safety and reliability are fully supported

NMP-MA-014, "Post Maintenance Testing/Post Modification Testing," and *NMP-MA-014-001 "Post Maintenance Testing Guidance,"* establish the requirements and process that SNC will use to develop and conduct Post Modification testing to confirm that modified equipment will perform its intended function when returned to service upon completion of the modification. For the PRHR Actuation Logic Change modification, Post Modification Testing will include a Factory Acceptance Test (FAT) and Site Acceptance Test (SAT).

- SNC will witness the FAT for the lead unit.

- SNC will witness the FAT for the subsequent unit, performed in accordance with the WEC SPM.

NMP-GM-014, "Cyber Security for Digital Plant Systems," describes the requirements and responsibilities for the effective implementation of the SNC Cyber Security Plan (CSP) consistent with the requirements of 10 CFR 73.54, "Protection of Digital Computer and Communication Systems and Networks."

B-GEN-CSEC-002, "Cyber Security Team (CST) Implementation Instructions," establishes the roles and responsibilities of the CST in accordance with the VEGP 3&4 CSP and document the governing process for the CST.

Risk Management Procedures

NMP-AD-050, "Integrated Risk Management," provides the overall Risk Management philosophy and governance for SNC. The overall goal of these policies and procedures is to eliminate or reduce risk to an acceptable level. SNC has numerous areas where risks are identified, evaluated, and managed. This procedure provides a typical flow chart demonstrating how the risks are handled from initial identification through implementation in the field.

NMP-ES-067-006, "Project Risk Management" describes the responsibilities, requirements, and instructions associated with managing risk on major projects. Project Risk Management is the systematic process of identifying, analyzing, and responding to project risks. This includes maximizing the probability and/or consequences of positive risk events (opportunities) and minimizing or eliminating the probability and/or consequences of negative risk events (threats) that could impact project objectives.

NMP-ES-067-003, "Graded Approach to Major Project Management," establishes and describes the process in which a graded approach to project management is applied to individual major projects based on the SNC Project Risk Profile rating. This includes defining project tool requirements, project management sponsorship requirements, and establishing a consistent, scalable approach to the application of Project Readiness Assessments and oversight.

NMP-GM-027, "Plant Health Process," describes the process to identify, screen, develop, assess, rank and approve resolutions for issues affecting plant equipment reliability or health. It establishes an effective process to increase equipment reliability and unit availability by aligning the organization's focus on correcting material condition issues, maintaining a risk elimination bias, and improving system performance, achieved through critical challenge of system, component, program health issues, risk mitigation and bridging strategies, and action plans.

Corrective Action Procedures

NMP-GM-002, "Corrective Action Program," outlines roles and responsibilities, provides definitions, and establishes a general outline of the regulatory-required SNC Corrective Action Program (CAP). It encompasses the processes for documenting, as a Condition Report (CR), Significant Conditions Adverse to Quality (SCAQs), Conditions Adverse to Quality (CAQs), Conditions Adverse to Regulatory Compliance (CARCs), as well as non-regulatory Business Items.

4. Project Organization and Roles

The following key organizational roles and responsibilities for the project are described in the VOP.

SNC Project Team
Project Manager
Nuclear Oversight
Responsible Design Engineer
DI&C Engineers
Cyber Security Engineer
Information Technology (IT) Representative
System Engineer
Supply Chain Management Representative
Licensing Engineer
Operations Representative
Senior Test Director
Test Director

WEC Project Team
Project Manager
Quality Manager
Design Engineers
Test Engineers and Software V&V Engineers
Technical Advisor
Technical Lead
Licensing Lead

5. Development and Assessment of Potential Project and Technical Risk Factors

SNC procedures NMP-AD-050, NMP-ES-067-003, and NMP-ES-067-006 provide direction for the risk assessment of technical work, senior management notifications of results, pre-job briefs, independent third-party reviews (ITPR), and post-job briefs to capture lessons learned. Based on the risk categorization, SNC's vendor oversight activities have been prioritized as described in VOP Section 7.0 and summarized below in Section 7 of this VOP Summary.

This approach is consistent with and implements the guidance in both the EPRI DEG and NISP-EN-04 on the use of a graded approach for oversight of DI&C engineering activities and products. With respect to vendor oversight planning, this guidance includes identification and assessment of potential vendor risk factors and application of the appropriate level of oversight (i.e., graded approach) based on the relative risk of each factor.

6. Performance Measures and Acceptance Criteria

Performance measures and their acceptance criteria will be included in the VOP. The performance measures will be divided into three categories with acceptance criteria provided for each:

- Critical Characteristics: The important design, material, and performance characteristics of a system that, once verified, will provide reasonable assurance that the system will perform its intended critical functions.

- Design Artifacts: The set of design output documents produced by WEC

- Programmatic Elements: These include WEC's programs and processes relevant to the project, as described in the WEC SPM

Critical Characteristics

The critical characteristics applicable to PRHR Actuation Logic Change modification (i.e., a software-only change) are divided into the following categories:

- Performance
- Cyber

In that hardware changes that are part of the PRHR Actuation Logic Change modification are excluded from this VOP, the Physical and Environmental Critical Characteristics are not applicable.

Oversight of critical characteristics utilizes the following vendor oversight activities:

- Conducting vendor audits and quality surveillances in accordance with the SNC NDQAM
- Conducting pre-planned on-site or remote vendor surveillances.
- Conducting on-going quality and design-related review interactions with and providing feedback to WEC to confirm the final product meets the intended functions and constraints.
- Reviewing WEC design output documents
- Participating in Factory Acceptance Testing
- Conducting Site Acceptance Testing
- Observing or witnessing specific vendor testing activities
- Capturing issues in SNC/WEC corrective action programs

Performance Critical Characteristics

- Verify the logic functions being modified, focusing on the relevant aspects of the system that have been included in the requirements traceability matrix (RTM).
  - Acceptance criteria: Requirements from the design inputs and the SNC purchase and design specifications are source inputs to the RTM.

- Verify that the modified logic functions perform as required.
  - Acceptance criteria: Successful completion of FAT and SAT.
- Verify changes to the original design requirements and specifications for component modifications are identified as new requirements.
  - Acceptance criteria: Changes from the original design requirements and specifications have been documented as new design requirements.

While not an exhaustive list, the following will be reviewed as part of owner's acceptance reviews for the performed as a minimum for the VEGP 3&4 PRHR Actuation Logic Change modification project.

- Confirm input ranges and setpoints. This can be done as part of the factory acceptance testing or as part of the site acceptance testing.
  - Acceptance criteria: Correct input ranges and setpoints.

- Confirm outputs, output ranges, and data types are appropriate for interfacing systems. This can be done as part of the factory acceptance testing or as part of the site acceptance testing.
  - Acceptance criteria: Correct outputs, output ranges, and data types are appropriate for interfacing systems.

- Verify that the features that are provided for surveillance testing or calibration are in accordance with the procurement specification and are included in the RTM.
  - Acceptance criteria: The software requirements associated with testing are included in the RTM.

- Confirm that the response time requirements are included in the Requirements Traceability Analysis.
  - Acceptance criteria: Response time requirements are documented and traced through design and testing.

- Confirm that the Central Processing Unit (CPU) maximum load requirements are addressed.
  - Acceptance criteria: CPU maximum load requirements are specified and traced through the development and testing process.

Cyber Critical Characteristics

Oversight of cyber security critical characteristics are addressed as a Programmatic Element.

Design Artifacts

SNC will perform owner's acceptance review of applicable WEC design artifacts in accordance with B-GEN-ENG-038. Oversight of WEC design artifacts involves the following vendor oversight activities.

Generic Design Artifact Oversight Activities

SNC is crediting the software development process defined in NRC approved WCAP-16096, "Software Program Manual for Common Q™ Systems," as modified by WCAP-15927, "Design Process for AP1000 Common Q™ Safety Systems," under Westinghouse's QA program.

- Conduct vendor quality audits in accordance with the SNC NDQAM and associated implementation procedures.
  - Acceptance criteria: Completion of required audits.

- Conduct on-going quality and design-related review interactions with and provide feedback to WEC.
  - Acceptance criteria: Documentation of quality and design-related review interactions exists and is documented as part of the owner's acceptance of the design documents, which are WEC deliverables.

- Review the software-related WEC design output documents delivered as part of the project.
  - Acceptance criteria: Owner's acceptance review the software-related WEC design outputs and deliverables provided as part of the project, and the completion of VOP surveillance reports.

- Verify completion and documentation of multi-discipline interactions among various stakeholders.
  - Acceptance criteria: Multi-discipline interactions conducted and documented.

- Review and evaluate the WEC corrective action program procedures and other processes for capturing issues.
  - Acceptance criteria: Verification of a process to capture issues including a correction action program.

- Capture issues in WEC corrective action program.
  - Acceptance criteria: Issues meeting the WEC corrective action program criteria have been entered into the program tracking.

Oversight of Specific Documents

Documents and test reports developed by WEC and issued to SNC will receive, as a minimum an owner's acceptance review. More detailed technical reviews of important documents may be performed as determined in detail project planning or as a result of oversight review findings.

- Verify that VEGP 3&4-specific requirements are correct, understandable, unambiguous, fulfill the purchase specification, and are developed in accordance with SPM Section 10.2.1.
  - Acceptance criteria: Requirements from the DC design inputs and the SNC procurement documents have been included in the RTM as a source input. This item is a design input or design requirement consideration for the DC. Similar RTM verifications are listed in other steps.

- Verify requirements that are adopted without modification are validated using Requirements Phase IV&V and Design Phase IV&V surveillances.
  - Acceptance criteria: RTM inputs match the RTM requirements source inputs.

- Verify requirements that are adopted without modification are validated by factory acceptance testing, including a system validation test.
  - Acceptance criteria: Successful completion of FAT and SAT.

- Verify the requirements in the Software Requirements Specification (SRS) are correct, understandable, unambiguous, fulfill the purchase specification, and are developed in accordance with SPM Section 10.2.2. Each requirement will be traceable to one or more system requirements, and the RTM will show where in the software or application logic the required action is performed and where the particular requirement is tested. The SRS will be developed in accordance with SPM Section 10.2.2.
  - Acceptance criteria: RTM SRS requirements match the SRS requirements.

- Review the IV&V report on the software or logic design specifications, including all identified problems documented by the IV&V team. If the software or logic design specifications is reviewed after completion of the IV&V effort, no errors are expected.
  - Acceptance criteria: All issues or problems are resolved.

- Verify the SDD is developed in accordance with SPM Section 10.3.
  - Acceptance criteria: The SDD complies with the SPM process.

- Verify that the Software Hazards Analysis (SHA) identifies the hazardous states, sequences of actions that can cause the system to enter a hazardous state, and sequences of actions intended to return the system from a hazardous state to a non-hazardous state and is developed in accordance with the SPM Section 3.4.1.
  - Acceptance criteria: The SHA is part of the owner's acceptance for this WEC deliverable. RTM SHA requirements match the SHA, and that the SHA requirements are traced to at least one SRS requirement.

- Verify that WEC provides a Failure Modes and Effects Analysis (FMEA) that demonstrates compliance with the procurement specification. The WEC FMEA will identify the effects that result from credible failures of individual components and modules.
  - Acceptance criteria: Owner's acceptance of the FMEA.

Programmatic Elements

The Programmatic Elements include WEC programs and processes relevant to the project. The elements of the system lifecycle are described in the WEC SPM. The SPM describes the requirements for the software design, development, and revision process. The SPM also describes the requirements for the use of software in Common Q™ systems. The WEC software development process documents that will be revised by Westinghouse to implement this change will be based on the credited Westinghouse development and revision process.

- Review selected WEC deliverables to validate the scope of documents revised to implement this change is consistent with the credited change process.
  - Acceptance criteria: Owner's acceptance review of the documents.

- Review the factory acceptance test (FAT) procedure.
  - Acceptance criteria: Validate that the FAT procedure covers the complete scope of functions in the modified software.

- Witness the FAT and the resolution of any anomalies.
  - Acceptance criteria: Completion of FAT test report.

Requirements Traceability

WEC will perform a software requirements traceability analysis (RTA) and maintain a requirements traceability matrix (RTM). The WEC team shall be responsible for the RTM to the point of identifying the requirements and the testing that is performed to validate the requirements.

- Review the RTM for the adequacy and accuracy of the software requirements tracing.
  - Acceptance criteria: Owner's acceptance review of the RTM.

The IV&V team will verify that WEC complies with the IV&V requirements in the NRC-approved Common Q™ SPM for RTA. A review of the WEC documentation, as described in the following statements, will be performed to determine the effectiveness of the WEC IV&V efforts.

> *WCAP-16096, RTA*
> *"The Requirements Traceability Analysis (RTA) is the task of ensuring the completeness and accuracy of the RTM; all lower-level requirements and design features are derived from higher level requirements, and that all higher level requirements are allocated to lower requirements, design features, and tests. The traceability analysis also provides a method to cross-reference each software requirement against all of the documents and other software items in which it is addressed. The purpose of this analysis is to verify that the design team addresses every requirement throughout the design life cycle process. The IV&V team is responsible for performing the RTA."*

The team will confirm that WEC documentation will exist that shows that the IV&V tasks have been successfully accomplished for each life cycle activity group. Specific performance measures and acceptance criteria are:

- Verify that the software RTA is performed in accordance with the NRC-approved Common Q™ SPM for RTA.
  - Acceptance criteria: SPM requirements are being used for the RTA and the RTM process.

- Verify that the IV&V requirements are performed in accordance with the NRC-approved Common Q™ SPM.
  - Acceptance criteria: SPM requirements are being used for the IV&V process. Problems identified by the IV&V effort are documented and tracked through resolution, together with any action items required to mitigate or eliminate each problem. A record is kept of actions taken in response to the action items and the appropriate configuration management activities are performed.

- Identify the process used for documenting problems identified by the IV&V effort.
  - Acceptance criteria: Process used to document problems during the IV&V effort complies with the SPM.

- Verify problems identified during the IV&V effort are documented and resolved in accordance with the process.
  - Acceptance criteria: A sample of problems found during the IV&V effort were documented and resolved in accordance with the process.

In parallel to the review of the WEC IV&V, SNC will review segments of the RTM by examining the upstream and downstream document references for correct linkage. WEC will combine and load VEGP 3&4 requirements into the WEC Dynamic Object-Oriented Requirements System (DOORS) tool, becoming a source requirements module for traceability to lower-level documentation. The RTM is an output product of the WEC DOORS tool. The fulfillment of SNC requirements by project-specific documentation will be shown by linkages between DOORS module renditions of the project-specific documentation or by a DOORS index module(s) (e.g., an index module containing a list of documents). The RTM document will be updated throughout the project, as identified in the project schedule as different types of definition and design/implementation level documentation are created.

WCAP-16096, RTM
"The Requirements Traceability Matrix (RTM) is either a table of information prepared manually, or a report generated from a requirements database. The RTM associates requirements with the documentation and software that satisfies them. Requirements are entered in the matrix and are organized into successive lower level requirements as described in each document. The requirements are then traced through the software lifecycle to the design, code, and test documentation. The design team is responsible for creating the RTM to the point of identifying the code satisfying the requirement. IV&V will complete the RTM identifying validation of the requirement."

SNC will review the current version of the RTM for the PRHR Actuation Logic Change modification project to verify the system design RTM details are correctly addressed in this document to demonstrate the fulfilment of the technical and process as specified in the SNC Purchase Specification.

- Identify the phases of the project (e.g., Requirements Phase IV&V, Design Phase IV&V) for performing surveillances of the RTM.
  - Acceptance criteria: RTM surveillance activities provide for 100% verification of the RTM.

- Verify that the RTM contains the requirements from the procurement and design specifications, and that these requirements are traceable through the downstream documents including the FAT.
  - Acceptance criteria: All requirements from the procurement and design specifications have been identified in the RTM, and all requirements are traceable to implementation.

Quality Assurance

SNC will verify the desired level of quality in the service and product to confirm specified requirements are met and are in alignment with the SNC NDQAM and software quality design attributes discussed in the LAR. To accomplish this, SNC will perform the following.

- Confirm that WEC complies with the requirements of Appendix B to 10 CFR Part 50 and 10 CFR Part 21 to control the quality of SR materials, equipment, and services.
  - Acceptance criteria: Completion of supplier audit program described in the NDQAM, and verification of WEC compliance.

- Confirm the SQA program, in accordance with the SPM, is effective in controlling the software development process to confirm quality and meets the commitments described in the LAR for SQA.
  - Acceptance criteria: WEC SPM and SQA (if applicable) are in compliance with NMP-GM-007.

Configuration Management

As required by the SPM, a WEC configuration control board will exist with the authority to authorize all changes to baselines. Problem reports will be prepared to describe anomalous and inconsistent software or logic and documentation. Problem reports that require corrective action will invoke the change control activity. Change control will preserve the integrity of configuration items and baselines by providing protection against their change. To confirm this, SNC will perform the following.

- Verify that the WEC Configuration Management Release Reports identify, name, and describe the documented physical and functional characteristics of the code, specifications, design, and data elements to be controlled for the project and will verify that WEC follows the configuration management process in the NRC-approved Common Q™ SPM.
  - Acceptance criteria: The WEC Configuration Management process is in compliance with the SPM.

- Verify the use of a configuration control board, and the implementation of problems reports as part of the Configuration Management process.
  - Acceptance criteria: Based on a sample, configuration changes resulting from problem reports are implemented based on the WEC Configuration Management process.

- Conduct quality audits of life cycle activities to confirm that configuration management procedures were carried out in the life cycle process implementation.
  - Acceptance criteria: Correct execution of configuration management procedures.

Software Independent Verification and Validation (IV&V)

The management of IV&V spans all life cycle phases. Software development is a cyclic and iterative process. Documentation will exist that shows that the IV&V tasks have been successfully accomplished for each life cycle activity group. The acceptance criterion for software or logic IV&V implementation is that the tasks in the IV&V plan have been carried out in their entirety. In particular, the documentation will show that the requirements, design, implementation, test phase, and applicable installation/checkout design outputs satisfy the specified system requirements. The test phase IV&V activities will demonstrate that unit and subsystem tests required by the IV&V plan were successfully completed. The final test phase IV&V report will describe the procedures followed and the tests performed during integration. The IV&V effort shall re-perform previous IV&V tasks or initiate new IV&V tasks to address software changes.

- Review the Requirements Traceability associated with the software IV&V. The methods identified in this section will be used to verify the software IV&V effort is in compliance with the SPM for Requirements Traceability.
  - Acceptance criteria: Based on the specific method used, no errors with the IV&V Requirements Traceability and no unresolved problems are identified.

- Verify that IV&V verification reviews have been completed successfully and that anomalies have been resolved, with the results reviewed and retested appropriately.
  - Acceptance criteria: No unresolved anomalies exist in the IV&V reports. Anomaly reports comply with the SPM and IV&V process.

- Verify that validation and acceptance tests and reports required by the IV&V plan were successfully completed.
  - Acceptance criteria: The IV&V tests and reports are complete and follow the IV&V plan as discussed.

- Review procedures for handling errors and anomalies encountered during the reviews and tests. These procedures include correction procedures (including configuration management) and provision for re-review and re-test to confirm the problems are resolved. A final report summarizing the IV&V testing is provided.
  - Acceptance criteria: The anomaly resolution process complies with the IV&V process and the SPM.

- Verify the implementation of source code in the software development environment.
  - Acceptance criteria: The software development environment is in compliance with the SPM.

Software Regression Analysis IV&V

NOTE: The term regression analysis is only applicable to software regression analysis, and the definition for this is based on the WEC SPM. Per the SPM, regression analysis is performed by the WEC design team or the IV&V Team. Based on the SPM, regression analysis shall be performed to determine the extent of re-testing activities that may be necessary to re-verify and/or re-validate any changes to a tested element. As DCs are introduced, regression analysis must be performed to determine what tests need to be repeated or introduced to maintain the level of system validation achieved during the first-of-a-kind test program. The SPM requires a regulated change process, described in Section 9, that consists of a formal software change request process for documenting and approving changes and performing regression analyses on changes.

A Baseline Change Assessment by WEC will evaluate proposed software changes for effects on previously completed IV&V tasks. When changes are made, iteration of affected tasks is conducted, and includes re-performing previous IV&V tasks or initiating new IV&V tasks to address the software changes.

An IV&V report shall document the IV&V activities regarding the modification. This must include, or reference, a regression analysis, including test requirements and results.

Regression analysis shall be performed to determine the extent of re-testing activities that may be necessary to re-verify and/or re-validate any changes to a tested element. Design modifications or detection of latent design errors or programming bugs may bring about these changes.

The SPM requires a regulated change process, described in Section 9, that consists of a formal software change request process for documenting and approving changes and performing regression analyses on changes.

- Verify software regression analysis is performed in accordance with the SPM as discussed above.
  - Acceptance criteria: Based on a sample, software changes are in compliance with the SPM for IV&V regression analysis.

Software Test Plan

The Software Test Plan defines the process for testing Common Q™ safety systems. This plan identifies testing activities and test documentation required to verify and validate a Common Q™ safety system throughout the software life cycle.

- Review and verify Software Test Plan and the system validation test as discussed above for compliance with the SPM and the design requirements.
  - Acceptance criteria: Owner's acceptance of the Software Test Plan and the system validation test is complete.

Software Safety

- Verify that WEC follows the requirements in the NRC-approved Common Q™ SPM, Section 3 for Software Safety Plan. The safety plan describes the safety analysis implementation tasks that are to be performed.
  - Acceptance criteria: SPM Section 3 criteria are part of the Software Safety Plan.

- Verify that documentation exists to show that the safety analysis activities have been successfully accomplished for each life cycle activity group.
  - Acceptance criteria: Safety analysis activities are complete with documentation that complies with the Software Safety Plan.

Secure Development Environment (SDE)

- Verify that WEC has a development environment that complies with the requirements of the Common Q™ SPM, Section 12 and that SDE documentation exists for key attributes.
  - Acceptance criteria: The SDE is in compliance with Section 12 of the SPM, with specific emphasis on required documentation.

Cyber Security

- Review the activities associated with addressing controls for system and services acquisition, as set forth in the NRC-approved SNC CSP.
  - Acceptance criteria: The applicable activities are in compliance with the VEGP 3&4 CSP

Software Life Cycle Processes

SNC will verify that WEC plans and performs application software life cycle activities in a traceable and orderly manner in accordance with the SPM. The VOP evaluates the following life cycle areas, and SNC will perform the described actions in each of these areas.

- Software Requirements – Confirm that project requirements are examined, understandable, and unambiguous. Reference is made to applicable drawings, specifications, codes, standards, regulations, procedures, or instructions. Verify that security requirements are specified commensurate with the risk from unauthorized access or use. The requirements traceability shows where in the software or application logic design the required action is performed as well as providing traceability back to the system requirements that generated these software requirements.
  - Acceptance criteria: Successful completion of the RTM and IV&V verification activities previously discussed for the software requirements.

- Software Design – Verify that the architecture is sufficiently detailed to allow for understanding the operation, flow of data, and the deterministic nature of the software or logic. Verify the technical adequacy of the design and verify internal completeness, consistency, clarity, and correctness of the software design. In addition, the software or logic design specification will be reviewed to determine that it is understandable and traceable to the software requirements. While the software design will consider the operating environment, measures to mitigate the consequences of problems will also be an integral part of the design.
  - Acceptance criteria: Successful completion of the RTM and IV&V verification activities previously discussed for the software requirements.

- Software Implementation – Verify that as software components and modules are implemented, they are individually tested and then combined into larger units for testing. Verify that designers are not serving as reviewers or testers. Verify that sufficient review is performed of the implementation. Verify traceability back to Software Design. The SPM addresses crediting regression analysis for software components and modules.

  - Acceptance criteria: Successful completion of the RTM and IV&V verification activities previously discussed for the software requirements.

- Software Integration – A software integration process is developed to describe the methods for integrating software components and modules into software units. Aggregates of components and modules tested during implementation are integrated into a software unit. Prior to delivery, the licensee reviews the system build documents to verify that the software or logic delivered and installed on the safety system is the same software or logic which underwent the IV&V process, and which was factory acceptance tested, as identified by version and revision. The build documentation identifies software or logic by version, revision, and date. Confirm that the software and configuration provided do not have unintended functions in the default configuration and that the complete configuration, including the default configuration, is documented and verified. The SPM addresses crediting regression analysis for software.
  - Acceptance criteria: Successful completion of the RTM and IV&V verification activities previously discussed for the software requirements.

- Software Testing – Verify comprehensive test procedures exist that demonstrate the software was fully tested and adequately performs all intended functions. Testing demonstrates that the software properly handles abnormal conditions and events as well as credible failures, does not perform adverse unintended functions, and does not degrade the system either by itself or in combination with other functions or configuration items. Any abnormal conditions and events that cannot be tested are documented, and the documentation notes where earlier testing was performed. When changes are made during software development, documented regression testing confirms that there are no unintended effects, and the system or component still complies with its specified requirements. The SPM addresses crediting regression analysis for software testing.
  - Acceptance criteria: Successful completion of the RTM and IV&V verification activities previously discussed for the software requirements. Successful completion of unit tests, module tests, functional tests, integrated tests, and factory acceptance tests.

<u>Plant Specific Action Items (PSAIs)</u>

- Verify that PSAIs identified in the WEC platform topical reports are addressed in WEC deliverables.
  - Acceptance criteria: Owner’s acceptance of these documents, which are WEC deliverables.

7. Implementation of Appropriate Oversight Methods

Oversight of WEC is based on the various Risk Factors (VOP Section 6) and Performance Measures (VOP Section 7). SNC may adjust the risk factors as the project progresses.

LOW RISK factors indicate continued use of routine oversight methods, such as:
- Periodic Audits
- Periodic Surveillances
- Routine Design Reviews
- Routine Project Meetings

MODERATE RISK factors indicate a need for supplemental oversight methods, such as:
- Increased surveillance frequency
- Interim design reviews
- Challenge boards
- Increased frequency of project meetings

HIGH RISK factors indicate a need for extraordinary oversight methods, such as:
- Placement of oversight staff inside the vendor’s organization
- Management intervention
- Stop work order and implement recovery plan

8. Perform Corrective Actions

In accordance with NMP-GM-002, “Corrective Action Program,” condition reports (CRs) will be the entry point into the corrective action program to document vendor performance or quality that is in question. The following conditions, as a minimum, trigger the initiation of a CR:

- WEC noncompliance with the WEC quality program or software processes
- Nuclear safety may be adversely impacted if the digital software or information item is installed and operated
- Unit generation may be adversely impacted if the digital software or information item is installed and operated
- Digital software or information item quality cannot be assured
- Digital software or information item quality cannot be assured without a significant project delay
- Periodic meetings to discuss and resolve issues
- Additional technical reviews or surveillances
- Management Intervention
- Stop work and implement recovery plan

9. Documentation

As discussed in the EPRI DEG, for high consequence and high technology configurability, vendor oversight must be documented. This documentation will help provide assurance to external stakeholders that SNC has been conducting oversight of WEC through the system development lifecycle.

Vendor oversight can be documented through multiple methods:

- Formal audit plans/reports
- Comments/feedback on design artifacts through the owner acceptance engineering process
- Teleconference notes
- Emails
- Written correspondence between SNC and WEC

Documentation format may vary, but the content will provide the vendor oversight level of detail and corrective actions (if any).

10. Attachments

The VOP includes the following attachment:

Engineering Surveillance and Design Review Report and Observation Template