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Your ref: Docket No. 52-006
Our ref: DCP/NRC2504

May 27, 2009

Subject: AP1000 Response to Request for Additional Information (SRP 7)

Westinghouse is submitting a response to the NRC request for additional information (RAI) on SRP Section 7. This RAI response is submitted in support of the AP1000 Design Certification Amendment Application (Docket No. 52-006). The information included in this response is generic and is expected to apply to all COL applications referencing the AP1000 Design Certification and the AP1000 Design Certification Amendment Application.

Enclosure 1 provides the response for the following RAI(s):

RAI-SRP7.1-ICE-05 R1
RAI-SRP7.1-ICE-09 R1

Questions or requests for additional information related to the content and preparation of this response should be directed to Westinghouse. Please send copies of such questions or requests to the prospective applicants for combined licenses referencing the AP1000 Design Certification. A representative for each applicant is included on the cc: list of this letter.

Very truly yours,

Robert Sisk, Manager
Licensing and Customer Interface
Regulatory Affairs and Standardization

/Enclosure

1. Response to Request for Additional Information on SRP Section 7

DO63
NRO

ljb.doc

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ENCLOSURE 1

Response to Request for Additional Information on SRP Section 7

AP1000 TECHNICAL REPORT REVIEW

Response to Request For Additional Information (RAI)

RAI Response Number: RAI-SRP7.1-ICE-05
Revision: 1

Question (Revision 0):

Provide a detailed higher level document which would serve as supervisory document for Testing Process for Common Q Safety Systems (WNA-PT-00058-GEN).

The aforementioned document serves as the testing process, rather than the test plan, as would be expected when dealing in the first phase of the design process for the software life cycle. Per BTP 7-14 which references Regulatory Guide 1.173, which endorses IEEE Standard 1074-1995, an activity to test planned information should be conducted.

Westinghouse Response (Revision 0):

The Common Q Software Program Manual (WCAP-16096-NP-A) defines the licensing commitment for activities to be conducted in all the life cycle phases defined in IEEE 1074-1995. The Common Q Software Program Manual, in the Software Safety Plan, states in Section 3.3.5.7.1, Test Plans:

"The test plans provide a high level description of all tests that will be conducted for the Common Q project. They shall contain the requirements for all acceptance test procedures and defines each required test to be conducted. They also define the methodology for the disposition of test exceptions (errors). This document is verified against the outputs generated from the requirements phase of V&V for completeness. All prerequisites for testing shall also be identified. Section 4.3.2.2 describes the requirements for a test plan."

Section 4.3.2.2, in the Common Q Software Program Manual describes the commitments for the V&V Requirements phase in the Software Quality Assurance Plan. In that section it describes the requirements for a test plan:

"A Common Q specific test plan shall start to be developed in accordance with Reference 14, Section 3, to identify how the test activities will be implemented. It shall include the following topics as a minimum:

- General approach including: identification of test procedures and test cases, general test methods, documentation of results, and traceability methods to the SRS and SDD.
- Requirements for testing including: test boundary conditions on inputs and unexpected input conditions.
- Test management including: personnel, resources, organization, and responsibilities.
- Procedures for qualification and control of the hardware to be used in testing.
- Qualification and use of software tools.
- Installation test requirements for existing software that is used without modification.
- Regression test requirements for previously qualified software to be modified. "

The Testing Process for Common Q Safety Systems (WNA-PT-0058-GEN) addresses all these elements for a test plan called out in the Common Q Software Program Manual. Therefore the Common Q Software Program Manual serves as the higher level supervisory document for the Testing Process for Common Q Safety Systems (WNA-PT-0058-GEN).

Westinghouse REVISED response based on NRC comments from the January 29-30 meeting (Revision 1):

The NRC requested a correlation table showing how WNA-PT-00058-GEN, "Testing Process for Common Q Safety Systems" (Reference 1), meets the requirements for test planning in WCAP-16096-NP-A, "Software Program Manual for Common Q Systems" (Reference 2). Attachment 1 provides this correlation.

The NRC questioned the following description of the site acceptance test (SAT) in WNA-PT-00058-GEN:

> "The SAT is based on contractual obligations. The SAT is a two-part test verifying correct functionality and performance after the system is installed at the customer's site. This test shall be defined and shall be under the control of the site test personnel."

The concern was raised that this description could be interpreted to mean that the SAT is not a required test in the software life cycle phase. For AP1000™, a standardized site acceptance test will be used by the site startup organization at all AP1000 Plants during startup to verify the applicable as-designed and installed software attributes. This standardized site acceptance test will be developed by the AP1000 Procedures group and provided to each onsite startup organization. WNA-PT-00058-GEN will be revised as follows to incorporate the AP1000 plan for SAT:

> "The SAT is a two-part test verifying correct functionality and performance after the system is installed at the customer's site. This test shall be under the control of the site test personnel."

The NRC expressed concern with the following description in WNA-PT-00058-GEN:

> "Since the safety system design requires redundancy in functionality, a redundant code module shall be analyzed for differences from the tested code module. This shall be accomplished by using the ExamDiff Pro software tool to compare source code of the redundant processors. When differences are apparent, the documented analysis shall identify additional testing procedures."

The NRC was concerned that this could be interpreted to mean that the sole source for determining differences in code in redundant systems is by using a tool. If that is the case, then the tool should be qualified to the same pedigree as the safety software. WEC confirms that this is not the sole method used for determining differences in code for redundant systems. In addition to using the ExamDiff Pro software, a comprehensive code review of all submitted function block diagrams is conducted. This is described in WNA-PT-00058-GEN, Section 3.1.4, "Processor Module Software Tests," which states:

> "A code review of the processor module software shall be conducted on the Function Charts produced by the ACC Function Chart Builder. This review shall trace the processor functionality through the Software Design Descriptions to the Composite Block Diagram (CBD) and/or the Functional Block Diagram (FBD) (see Reference 4 for definitions). The code review shall verify that all input and output signals of the application software are documented in the Program-Wide Database (PWD)."

Therefore, as each processor's software module undergoes a code review, redundancy in functionality will be apparent and will be verified.

References:

1. WNA-PT-00058-GEN, Rev. 0, "Testing Process for Common Q Safety Systems," Westinghouse Electric Company LLC.

2. WCAP-16096-NP-A, Rev. 1A, "Software Program Manual for Common Q Systems," Westinghouse Electric Company LLC.

3. WNA-PD-00042-WAPP, Rev. 1, "NuStart/DOE Design Finalization Protection and Safety Monitoring System Software Development Plan," Westinghouse Electric Company LLC.

Design Control Document (DCD) Revision:
None

PRA Revision:
None

Technical Report (TR) Revision:
None

Attachment 1
Correlation Table Between WCAP-16096-NP-A and WNA-PT-00058-GEN

WCAP-16096-NP-A (SPM)		WNA-PT-00058-GEN (Testing Process)
3.3.5.7.1 Test Plans The test plans provide a high level [of]: (1) description of all tests that will be conducted for the Common Q project. They shall contain the (2) requirements for all acceptance test procedures and defines each (3) required test to be conducted. They also define the (4) methodology for the disposition of test exceptions (errors). This document is verified against the outputs generated from the requirements phase of V&V for completeness. All (5) prerequisites for testing shall also be identified. Section 4.3.2.2 describes the requirements for a test plan.	Item 1	**3.1 TESTING METHODOLOGY** The testing methodology shall follow a low-level to high-level scheme, from component up through system integration testing as shown in Table 3 -1. "Sections 3.1.1 through 3.1.7 provide a description of tests conducted for the Common Q project."
	Item 2	**2.7 FEATURES AND FUNCTIONS TO BE TESTED** All requirements for Common Q safety system features and functions shall be tested with explicit acceptance criterion. **3.2.3 Pass/Fail Criteria** The Safety System must satisfy specified functional and performance requirements, e.g., those identified in the project's "Safety System Functional Requirements". Specific pass/fail criteria shall be provided in the applicable test procedure. For expected numerical test results, an acceptable range shall be provided. For expected test results that are logical conditions or alarm states, the specific digital value or state shall be provided. Pass/fail acceptance criteria shall be captured in the test procedure's data sheets. **4.1 TEST PROCEDURES** Test procedures shall describe the hardware and software environment (Section 2.5), including calibration of test equipment. They shall include the actual test steps to be performed. Expected results shall be provided with acceptance criteria on data sheets. Specification and use of test cases and input and output specifications shall be included, as applicable. A rational for test case values shall be provided when complex algorithms are being tested.

	Item 3	**2.4 SCHEDULE** The following lists the prescribed sequence of testing for Common Q Safety Systems (See Section 3.1 for a discussion of each level of testing.): • Element Software Test (EST, also known as Module Test) – An EST must be completed before the PC Element or Type Circuit is used in an application released for validation testing. • Processor Module Software Tests (PMST) – All PMSTs for a cabinet must be complete before the CIT is completed. • Subassembly Hardware Test (SHT) – A SHT may be run in parallel with an EST and/or PMST. • Cabinet Hardware Tests (CHT) – A CHT may be run in parallel with an EST and/or PMST, but after the SHT. • Cabinet Integration Test (CIT) – The CIT shall be executed prior to running the SIT. • System Integration Test (SIT) – The SIT shall be executed prior to running the FAT. • Factory Acceptance Test (FAT) – The FAT shall be executed and must be satisfactorily completed prior to shipment of the safety system to the customer. Site Acceptance Test (SAT) – The SAT shall be executed upon completion of installation of the safety system at the customer's site. • Operational Acceptance Test (OAT) – The OAT shall be executed following operational readiness of the safety system and is the final testing process.
	Item 4	**4.2 TEST LOGS** Errors requiring hardware and software revisions, or deviations in the procedure requiring a procedure modification that are found during testing, shall be recorded in the test log in ink. At the completion of the test, these items shall be entered into the Anomaly Report database (Section 4.4) for tracking and resolution. After the errors and/or deviations are entered into the Anomaly Report database, the Anomaly Report number shall be

		recorded in the test log next to the associated error or deviation. **4.4 ANOMALY REPORTS** As per NA 4.19.3, "RRAS Automation Level 3 Policy/Procedure – Software Problem Reporting and Resolution" (Reference 3), anomaly reports shall document each discrepancy found during the testing process (Section 4.2). These reports shall be uniquely identified, shall stay active until a closed status is achieved and shall be included in a project designated error-reporting database.
	Item 5	**2.4 SCHEDULE** Testing activities begin with the preparation of test procedures for components that are developed for a Common Q safety system. Formal validation testing of a component begins with the release (see glossary of terms) of the component by the Design Team. The following lists the prescribed sequence of testing for Common Q Safety Systems (See Section 3.1 for a discussion of each level of testing.): • Element Software Test (EST, also known as Module Test) – An EST must be completed before the PC Element or Type Circuit is used in an application released for validation testing. • Processor Module Software Tests (PMST) – All PMSTs for a cabinet must be complete before the CIT is completed. • Subassembly Hardware Test (SHT) – A SHT may be run in parallel with an EST and/or PMST. • Cabinet Hardware Tests (CHT) – A CHT may be run in parallel with an EST and/or PMST, but after the SHT. • Cabinet Integration Test (CIT) – The CIT shall be executed prior to running the SIT. • System Integration Test (SIT) – The SIT shall be executed prior to running the FAT. • Factory Acceptance Test (FAT) – The FAT shall be executed and must be satisfactorily completed prior to shipment of the safety system to the customer. Site Acceptance Test (SAT) – The SAT shall be executed upon

		completion of installation of the safety system at the customer's site. • Operational Acceptance Test (OAT) – The OAT shall be executed following operational readiness of the safety system and is the final testing process.
4.3.2.2 Software Requirements Phase A Common Q specific test plan shall start to be developed in accordance with Reference 14, Section 3, (IEEE Std 829-1998, "IEEE Standard for Software Test Documentation") to identify how the test activities will be implemented. It shall include the following topics as a minimum: 1. General approach including: identification of test procedures and test cases, general test methods, documentation of results, and traceability methods to the SRS and SDD. 2. Requirements for testing including: test boundary conditions on inputs and unexpected input conditions. 3. Test management including: personnel, resources, organization, and responsibilities. 4. Procedures for qualification and control of the hardware to be used in testing. 5. Qualification and use of software tools. 6. Installation test requirements for existing software that is used without modification. 7. Regression test requirements for previously qualified software to be modified.	Item 1	**3.1 TESTING METHODOLOGY** The testing methodology shall follow a low-level to high-level scheme, from component up through system integration testing as shown in Table 3 -1. **4.1 TEST PROCEDURES** Test procedures shall be documented in accordance with IEEE Std 829-1998, "IEEE Standard for Software Test Documentation", Section 6 (Reference 2) and described in Section 6.2 of the V&V Process (Reference 6). NA 11.0.2, "RRAS Automation Level 3 Policy/Procedure – Test Procedures" (Reference 13) establishes the responsibilities and requirements for generation, review, approval, control, distribution and use of test procedures. **4.3 TEST REPORTS** Test reports shall be documented in accordance with IEEE Std 829-1998, "IEEE Standard for Software Test Documentation", Section 10 (Reference 2) and described in Section 6.3 of the V&V Process (Reference 6). Test reports shall summarize the results of the designated testing activities and provide evaluations based on these results. NA 11.0.4, "RRAS Automation Level 3 Policy/Procedure – Test Results" (Reference 14) establishes the responsibilities and requirement for documentation, evaluation, interpretation, retention and use of test results. **2.7 FEATURES AND FUNCTIONS TO BE TESTED** All requirements for Common Q safety system features and functions shall be tested with explicit acceptance criterion. Section 3.1 provides details on requirements testing. The requirements shall be derived from the RM&T process identified by a project plan. Each feature and function identified within the Requirements

		Traceability Matrix (RTM) shall be tested with a procedure that is traceable to the item within the RTM. Maintenance of a RTM shall provide evidence of complete test coverage of Common Q safety system features and functions.
	Item 2	**3.1.3 Element Software Tests** The following test items shall be included in an EST: • Initialization – all variables, pointers and I/O points shall be initialized • Range Checking – all inputs shall check for maximum and minimum values • Error Handling – potential errors (divide by zero, out of range, etc.) shall be handled with known consequences • Calculations – the accuracy of any calculation performed shall be verified • Timing – the timing requirements of a module shall be verified • Code Coverage – for a custom PC Element, all code within the module shall be executed. For a Type Circuit, all PC Elements within the Type Circuit shall be executed. **3.1.4 Processor Module Software Tests** The following test items shall be included in a PMST: • Supervisory Logic – all supervisory logic implemented in an application program shall be tested for completeness and correctness • Process Logic – all process logic implemented in an application program shall be tested for completeness and correctness • Quality Signals – all quality signals created in an application program shall be tested for completeness and correctness • In-Test Signals – all in-test signals created in an application program shall be tested for completeness and correctness **3.1.5 Channel Integration Tests** The following test items shall be included in a CIT: • Error Handling – potential errors shall be handled with known consequences

		• Communications – all defined outputs shall be broadcast and received correctly within the channel • Redundancy – all shared inputs shall produce the same output from redundant processors • Diversity – all functionally diverse signals shall be verified for correctness in termination **3.1.6 System Integration Tests** The following test items shall be included in the SIT: • Error Handling – potential errors shall be handled with known consequences • Reactor Trip – outputs to the Reactor Trip Breakers shall be verified • Reactor Trip/Bypass – actuations shall be tested with M-out-of-N logic having good inputs, bad quality conditions and default conditions • Communications – all defined outputs shall be broadcast and received correctly within the safety system • Manual Commands – all manual commands shall be received correctly • HSI – all input screen formats, printed report formats, operator dialog sequences, test sequences, and data displays for the FPD shall be verified
	Item 3	2.1 ORGANIZATION 2.2 STAFFING AND TRAINING 2.2.1 Duties 2.2.2 Qualifications 2.3 RESPONSIBILITIES
	Item 4	**2.6 TEST TOOLS** Test equipment specified for use by a test procedure and requiring calibration shall be calibrated and maintained under configuration control throughout the testing process.
	Item 5	**2.6 TEST TOOLS** Test equipment specified for use by a test procedure and requiring calibration shall be calibrated and maintained under configuration

		control throughout the testing process. **Note: Qualification of software test tools falls under qualification of general purpose software in the SPM.**
	Item 6	**3.1 TESTING METHODOLOGY** Modification of the test items or test environment comprised of hardware, software, and/or test procedures made during the testing process shall be performed in accordance with the appropriate change control procedures described in the SPM.
	Item 7	**3.2.4 Regression Testing** Safety System changes can occur for several reasons. For example, changes can be made at the direction of the Customer or as a result of problems discovered during testing. It is normal for hardware and software modifications to be required during the system test period. All changes shall be formally documented and controlled according to established safety system project procedures. **Note: The procedures are identified in Section 4.3.2 of WNA-PD-00042-WAP**
4.5.2.2 Software Testing Standards Software (1) testing methodologies, policies and practices shall be described in the project specific Test Plan. (2) Specific format and content for test procedures (with test cases) and test reports shall also be provided in the Test Plan and shall be consistent with Reference 14, Sections 6 and 10 (IEEE Std 829-1998, "IEEE Standard for Software Test Documentation").	Item 1	**3.1 TESTING METHODOLOGY** The testing methodology shall follow a low-level to high-level scheme, from component up through system integration testing as shown in Table 3 -1. **2.10 STANDARDS, PRACTICES AND CONVENTIONS** Standards, practices and conventions for the testing effort that differ from those stated in this process shall be specifically stated and justified in a Project Quality Plan or Software V&V Plan. As per Section 5.5 of the V&V Process (Reference 6), these differences shall be summarized in the V&V summary report.
	Item 2	**4.1 TEST PROCEDURES** Test procedures shall be documented in accordance with IEEE Std 829-1998, "IEEE Standard for Software Test Documentation", Section 6 (Reference 2) and described in Section 6.2 of the V&V

		Process (Reference 6). NA 11.0.2, "RRAS Automation Level 3 Policy/Procedure – Test Procedures" (Reference 13) establishes the responsibilities and requirements for generation, review, approval, control, distribution and use of test procedures. **4.3 TEST REPORTS** Test reports shall be documented in accordance with IEEE Std 829-1998, "IEEE Standard for Software Test Documentation", Section 10 (Reference 2) and described in Section 6.3 of the V&V Process (Reference 6). Test reports shall summarize the results of the designated testing activities and provide evaluations based on these results. NA 11.0.4, "RRAS Automation Level 3 Policy/Procedure – Test Results" (Reference 14) establishes the responsibilities and requirement for documentation, evaluation, interpretation, retention and use of test results.
5.8.1 Test Plan The test plan documents the (1) scope, approach, resources, and schedule for the testing activities of the project. It identifies the (2) test items, the requirements to be tested, the testing tasks, and the required resources to perform these tasks	Item 1	**1.2 SCOPE** The scope of this document includes the testing processes for both Common Q platform components and applications developed with the Common Q platform. The information presented in this document augments that contained in the V&V Process (Reference 6) and provides the prescribed details for a testing program. **1.3 OBJECTIVE** The objective of the Common Q Safety Systems testing process is to validate the functional requirements of the Common Q Safety Systems being applied to a specific project and/or a component being developed for the Common Q platform. It is the objective of this document to guide a qualified test team in the preparation of detailed test procedures that conform to the Common Q Safety Systems criteria. **2.2 STAFFING AND TRAINING** This section describes the general duties and qualifications for the V&V Test Team. The V&V Test Team is defined here to be members of the V&V Team or Design Team that are assigned to

		perform testing functions (preparation of plans, procedures and reports and conducting tests). Additional duties and qualifications shall be based on project-specific requirements. **2.4 SCHEDULE** A detailed test schedule prepared by the V&V Team leader shall be available for integration into the project schedule by the project team. This schedule shall be actively maintained and updated jointly by the V&V Team leader and project team. The Lead Test Engineer shall be involved with any decision that causes a deviation in the order of testing described below.
	Item 2	**2.5 TESTING ENVIRONMENT** This section describes the properties of the testing environment that shall be addressed in the test procedures (Section 4.1). Each procedure shall identify the physical characteristics of the specific testing hardware, the communications, system software and any other software or supplies needed to support the test. Each procedure shall identify special testing needs such as test tools, software, publications, documentation and testing area. **2.7 FEATURES AND FUNCTIONS TO BE TESTED** All requirements for Common Q safety system features and functions shall be tested with explicit acceptance criterion. Section 3.1 provides details on requirements testing. The requirements shall be derived from the RM&T process identified by a project plan. Each feature and function identified within the Requirements Traceability Matrix (RTM) shall be tested with a procedure that is traceable to the item within the RTM. Maintenance of a RTM shall provide evidence of complete test coverage of Common Q safety system features and functions. **2.2 STAFFING AND TRAINING** This section describes the general duties and qualifications for the V&V Test Team. The V&V Test Team is defined here to be members of the V&V Team or Design Team that are assigned to perform testing functions (preparation of plans, procedures and reports and conducting tests). Additional duties and qualifications

		shall be based on project-specific requirements. **2.6 TEST TOOLS** Test equipment specified for use by a test procedure and requiring calibration shall be calibrated and maintained under configuration control throughout the testing process.

AP1000 TECHNICAL REPORT REVIEW

Response to Request For Additional Information (RAI)

RAI Response Number: RAI-SRP7.1-ICE-09
Revision: 1

Question (Revision 0):

Item 4 of WNA-PJ-00071-GEN, "AP1000 NuStart PMS Software Project Plan," Appendix A, states that the Test/System Integration Phase I V&V is not within the scope of the AP1000 NuStart project. The software project will be frozen at the processor module software test for Division B software.

- Does this mean Division A, C, and D software will not be tested? Thus all software is considered "in-process" and incomplete. Provide the basis for this statement.
- In addition, if the software is considered incomplete, when will the software be completed?

It appears that Divisions A and D are different from Divisions B and C software because of the interaction between Qualified Data Processing System and Divisions B and C only. How will testing of Division B software validate the software for Divisions A and D?

Westinghouse Response (Revision 0):

The deliverable for the cited plan is a detailed design up to and including the software design. This includes a software demonstration system using a test bed configured for Division B. It was not intended to validate all software for all divisions. The demonstration software for Division B marks the conclusion of the plan's scope.

Once the demonstration software for Division B is complete, a software development plan will be developed to complete the software development life cycle taking credit for work completed in first plan. This would include activities for unit testing, code review, channel integration test for all four divisions, and system integration test, as well as the life cycle V&V activities.

The completed Division B software is a sufficient sample to close the DAC software open issue and the V and V issue, because the completed development of Division B software will demonstrate all of the representative software subroutines included in all of the divisions (i.e., the RPS, ESFAS and QDPS functions).

Westinghouse REVISED Response based on NRC comments from the January 29-30 meeting (Revision 1):

In its meetings with the NRC, WEC has correlated the scope for the NuStart/DOE Design Finalization as the completion of the Protection and Monitoring System (PMS) Inspections, Tests, Analyses, and Acceptance Criteria (ITAAC) description in the "AP1000 Design Control Document" "DCD" for the phase titled "hardware and software development phase, consisting of hardware and software design and implementation." This entails two software life cycle phases

as defined in both WCAP-16096-NP-A, "Software Program Manual for Common Q Systems," and the Design Phase and Implementation Phase of WNA-PV-00009-GEN, "Verification and Validation Process for the Common Q Safety Systems." The completion of each of these phases is documented by a Verification and Validation (V&V) Phase Summary report.

The processor module software tests are the testing activity associated with the Implementation Phase as described in WNA-PV-00009-GEN. These are individual tests of each application program in each processor module that is applicable to all four divisions. These processor module software tests, as described in WNA-PV-00009-GEN, can be performed on "surrogate/test bed equipment representative of the delivered system." Therefore, the completion of the DCD ITAAC phase "hardware and software development phase, consisting of hardware and software design and implementation" is defined as the issuance of the V&V Implementation Phase Summary Report, and would cover all four divisions of the PMS through this phase.

The next phase defined in the DCD is the "system integration and test phase." This phase corresponds to the software life cycle phase, system integration, in WNA-PV-00009-GEN and the Test Phase in WCAP-16096-NP-A. The testing activities associated with this phase are described in WNA-PV-00009-GEN as: 1) the Channel Integration Test, and 2) the System Integration Test. Per WNA-PV-00009-GEN, these tests are to be performed on production hardware.

WNA-PD-00042-WAPP, "Protection and Safety Monitoring System Software Development Plan," will be revised to clarify that the completion of the NuStart/DOE Design Finalization project will be the completion of the V&V Implementation Phase as defined in WNA-PV-00009-GEN, and will cover all four divisions of the PMS. The revised plan will be submitted for NRC review by June 30, 2009. Following design finalization, a new build software development plan will be issued to cover the remaining software life cycle phases after the Implementation Phase.

References:

1. WCAP-16096-NP-A, Rev. 1A, "Software Program Manual for Common Q Systems," Westinghouse Electric Company LLC.
2. WNA-PV-00009-GEN, Rev. 3, "Verification and Validation Process for the Common Q Safety Systems," Westinghouse Electric Company LLC.
3. WNA-PD-00042-WAPP, Rev. 1, "Protection and Safety Monitoring System Software Development Plan," Westinghouse Electric Company LLC.

Design Control Document (DCD) Revision: None

PRA Revision: None

Technical Report (TR) Revision: None