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U.S. Nuclear Regulatory Commission
11555 Rockville Pike
Document Control Desk
Rockville, MD 20852

Subject: **Response to Portion of NRC Request for Additional Information Letter No. 324 Related to ESBWR Design Certification Application - RAI 14.3-402 Supplement 1**

Enclosure 1 contains the GE Hitachi Nuclear Energy (GEH) response to Request for Additional Information (RAI) Number 14.3-402 Supplement 1 from the U.S. Nuclear Regulatory Commission (NRC) sent by NRC letter dated April 2, 2009. Enclosure 2 contains the DCD markup pages associated with the response. Verified DCD changes associated with this RAI response are identified in the enclosed DCD markups by enclosing the text within a black box or as defined in the RAI response.

If you have any questions or require additional information, please contact me.

Sincerely,

Richard E. Kingston

Richard E. Kingston
Vice President, ESBWR Licensing

Reference:

1. MFN 09-228, Letter from U.S. Nuclear Regulatory Commission to Jerald G. Head, *Request for Additional Information Letter No. 324 Related to ESBWR Design Certification Application*, dated April 2, 2009.

Enclosures:

1. Response to Portion of NRC Request for Additional Information Letter No. 324 Related to ESBWR Design Certification Application – RAI Number 14.3-402 Supplement 1

2. Response to Portion of NRC Request for Additional Information Letter No. 324 Related to ESBWR Design Certification Application – DCD Markups for RAI Number 14.3-402 Supplement 1

cc:

AE Cubbage	USNRC (with enclosures)
JG Head	GEH/Wilmington (with enclosures)
DH Hinds	GEH/Wilmington (with enclosures)
eDRF Sections:	0000-0100-9292 (14.3-402 S01)

MFN 09-355

Enclosure 1

Response to Portion of NRC Request for Additional Information Letter No. 324 Related to ESBWR Design Certification Application

RAI Number 14.3-402 Supplement 1

NRC RAI 14.3-402 S01

The staff reviewed GEH response to 14.3-402 and discussed their concerns with GEH during conference calls and a meeting held on February 6,2009. The staff identified concerns that still need to be addressed by GEH. The staff requests GEH to address the comments below.

A. The information provided in Tier 2, Section 14.3.3.2 is good information and will definitely help to understand the information and documents expected to be included for close-out of the ITMC for Software Development; however, this level of information is too design-specific for inclusion in 14.3. The staff determined that it is more appropriate to locate this information in appropriate sections in Chapter 7. As an example, piping DAC is discussed only at the summary level in Section 14.3 and there is no detailed discussion of the closure of piping DAC for individual piping systems in Section 14.3 or an Appendix to Section 14.3. The discussions regarding software development for Q-DCIS and N-DCIS is more appropriately discussed in the Tier 2 sections that discuss a-DCIS and N-DCIS. Also, the references to LTRs, "'ESBWR Software Management Plan," and "ESBWR I&C Software Quality Assurance Plan" in section 14.3.11 should be moved to 7.1.1

Also, the following statement is made in Tier 2 Section, 14.3.3.2, "(1) The platform or network segment software plans and cyber security program for each platform or network segment are developed in accordance with the following criteria." The items listed in section 14.3.3.2 do not read as criteria. The items read more like the characteristics identified for each plan in BTP 7-14. Therefore, staff suggests GEH consider revising the statement to delete the word "criteria" and use "characteristics".

B. The first Tier 2 paragraph in Section 7.1.1 discusses that the SMPM and SQAPM provide the bases for the development of the project software plans. A similar statement needs to be made to state that Cyber Security Program Plan (CySPP) provides the bases for the project Cyber Security Programs (CySP). This would include referencing NEDE-33295P.*

C. The staff identified some concerns with ITAAC in Tier 1 table 3.2-1. One of the concerns is that there is not a clear link to a document that contains the criteria for the software plans. For example, the acceptance criteria for ITAAC 2a1 through 3a1 in Tier 1 Table 3.2-1 states that software project complies with BRR criteria. It is not clear where the BRR criteria are located. The other concern is that the staff does not have a clear understanding of how some of the design commitments (DC) were developed. Some of the design commitments read like they are verification actions that should be inspections, tests. analyses (ITAs). The staff requests that GEH consider revising the ITAAC in Tier 1 Table 3.2-1 as stated in the examples below. In the examples below, the staff believes that the cyber security software program plan (CySPP) should be referenced in the ITAAC along with the software management

program manual (SMPM) and software quality assurance program manual (SQAPM). The examples use cyber security program manual (CySPM) to be consistent with SMPM and SQAPM; however, the use of cyber security program plan (CySPP)would be acceptable. The intent of including the references is to provide clear reference to documents that contain the criteria or requirements by which the developed software plans and cyber security plan will be judged to be acceptable.

The following are a few examples of how the staff would like GEH to revise the acceptance criteria (AC) for the ITAACs that are in group one in Tier 1 Table 3.2-1:

ITMC 1a2. AC: A report exists and concludes that the SMP for the NMS software project complies with the criteria contained in the SMPM. ITMC 1g2. AC: A report exists and concludes that the SOAP for the NMS software project complies with the criteria contained in the SQAPM.

ITMC 1l2. AC: A report exists and concludes that the CySP for the NMS software project complies with the criteria in the CySPM. The following is an example of how the staff would like GEH to revise the ITAAC that are in group two in Tier 1 Table 3.2-1.

ITAAC 2a2 DC: The planning phase activities detailed in the NMS software plans and CySP are completed for the NMS project

ITAAC 2a2 ITA: The planning phase outputs are inspected and analyzed for the NMS software project.

ITAAC 2a2 AC: A Planning Phase Summary BRR exists and concludes that the NMS software project planning phase activities were performed in compliance with NMS software plans and CySP as derived from SMPM,SQAPM, and CySPM.

The following are a few examples of how the staff would like GEH to revise the ITAAC that are in group three in Tier 1 Table 3.2.1:

ITAAC 3b1 DC: The installation phase activities detailed in the NMS software plans and CysP are completed for the NMS software project.

ITAAC 3b1 ITA: The installation phase outputs for the NMS software project, including NMS FAT and NMS Cyber Security FAT are inspected and analyzed

ITAAC 3b1 AC: Installation Phase Summary BRR exists and concludes that the NMS software project installation phase activities were performed in compliance with the NMS software plans and CySP as derived from the SMPM, SQAPM, and CySPM.

ITAAC 3b2 DC: The NMS software project performs as designed

ITAAC 3b2 ITA: FAT is performed on the NMS software project

ITTAC 3b2 AC: An NMS FAT report exist and concludes that the NMS software project is in compliance with the NMS software plans as derived from the SMPM, SQAPM, and CySPM.

ITAAC 3j2 DC: The NMS software project performs as designed.

ITAAC 3j2 ITA: An NMS software cyber security SAT is performed.

ITAAC 3j2 AC: An NMS cyber security SAT report exists and concludes that the NMS software project is in compliance with the NMS CySP as derived from the SMPM, SQAPM, and CySPM.

ITAAC 3h DC: The complete ESBWR instrumentation and control systems with sensors and actuators is capable of operating as designed.

ITAAC 3h ITA: An overlapping and encompassing SAT is performed on the as-built platforms and network segments

ITAAC 3h AC: The Installation Phase Summary BRR for the complete ESBWR instrumentation and control system SAT exists and concludes that the complete ESBWR instrumentation and control system with sensors and actuators is capable of operating as designed and is in compliance with the software project plans and CySP as derived from the SMPM, SQAPM and CySPM.

GEH Response

A. The information provided in Tier 2, Section 14.3.3.2 is good information and will definitely help to understand the information and documents expected to be included for close-out of the ITMC for Software Development; however, this level of information is too design-specific for inclusion in 14.3. The staff determined that it is more appropriate to locate this information in appropriate sections in Chapter 7. As an example, piping DAC is discussed only at the summary level in Section 14.3 and there is no detailed discussion of the closure of piping DAC for individual piping systems in Section 14.3 or an Appendix to Section 14.3. The discussions regarding software development for Q-DCIS and N-DCIS is more appropriately discussed in the Tier 2 sections that discuss a-DCIS and N-DCIS. Also, the references to LTRs, "'ESBWR Software Management Plan," and "ESBWR I&C Software Quality Assurance Plan" in section 14.3.11 should be moved to 7.1.1

Concur. Subsections 14.3.3.2 and 14.3.11 (References 14.3-4 and 14.3-5), Table 14.3-4, and Table 14.3-5, will be deleted and the contents will be moved and will be renumbered in DCD Revision 6 to Chapter 7, Appendix 7B. Section (1)a, Software Management Plan, will be revised in Revision 6 to reflect changes made in the Software Management Program Manual (SMPM) to better itemize the criteria for the content of the SMP. Table 7B-2 will be expanded in Revision 6 to show the full scope of the N-DCIS network segments beyond those required in Tier 1, Table 2.2.11-1. Editorial changes will be made to revise the word “or” with the word “and”. Specific changes will be made to Appendix B are described below:

1. Appendix 7B.1, 3rd paragraph. Will revise paragraph as shown: “A software life cycle phase baseline review process regulates the passage of the platform and

network segment design from one software life cycle phase to the next software life cycle phase. A software life cycle phase baseline review record (BRR) comprises a software life cycle phase requirements traceability analysis report, a software life cycle phase software safety analysis report, a software life cycle phase verification and validation report, a software life cycle phase cyber security analysis report, a software life cycle configuration management assessment, and a software life cycle phase baseline review team (BRT) report. BRRs exist at the end of each software life cycle phase and conclude that the design process has been followed and that the design elements are adequate to pass through to the next software life cycle phase. The summary BRR provides assurance that the project software plans are implemented and producing adequate results at the end of each software life cycle phase. The platform and network segment BRR documentation will support closure of ITAAC including {{Design Acceptance Criteria}} ITAAC."

2. Appendix 7B.1, Item (1).b, 2nd Bullet. Will delete "engineering".

3. Appendix 7B.1, Item (1).b, 5th Bullet. Will replace "engineering" with "life cycle" to be consistent with software lifecycle phase description.

4. Appendix 7B.1, Item (1).b, Bullet 8-10. Will delete, these are also described in Item (1).c.

5. Appendix 7B.1, Item (1).c, 3rd Bullet. Will replace "testing" with "validating" to be consistent with SMPM.

6. Appendix 7B.1, Item (1).c, 4th Bullet. Will replace "SFT" with "test" to be consistent with SMPM.

7. Appendix 7B.1, Item (1).c, 5th Bullet. Will delete "functional", replace "schedule" with "scheduling", and "resources" with "resource planning" to be consistent with SMPM.

8. Appendix 7B.1, Item (1).c, 6th Bullet. Will revise as follows: "Describe the methods for software testing" to be consistent with SMPM.

9. Appendix 7B.1, Item (1).c, 7th and 8th Bullet. Will delete "functional" to be consistent with SMPM.

10. Appendix 7B.1, Item (1).d, 4th Bullet. Will replace "schedule" with "scheduling", and "resources" with "resource planning" to be consistent with SMPM.

11. Appendix 7B.1, Item (1).e, 1st Bullet. Will delete as purpose and scope of SOMP has changed in SMPM Rev 4.

12. Appendix 7B.1, Item (1).e, 2nd Bullet. Will revise as follows: "Defines requirements, methods, and considerations for problem reporting, disposition of change request, backup media maintenance and disaster recovery operations during the Operation and Maintenance Phase" to be consistent with SMPM.

13. Appendix 7B.1, Item (1).e, 3rd Bullet. Will revise as follows: “Addresses the activities required to support the licensee during the Operation and Maintenance phase” to be consistent with SMPM.

14 Appendix 7B.1, Item (1).f, 3rd Bullet. Will revise “in developing” to “to develop” and “training manual” to “training program and manual” to be consistent with SMPM.

15. Appendix 7B.1, Item (1).h, 1st Bullet. Will delete “intended” to be consistent with SMPM.

16. Appendix 7B.1, Item (1).h, 4th Bullet. Will revise “safety requirements” to “safety-critical requirements” to be consistent with SMPM.

17. Appendix 7B.1, Item (1).k. Will add new bullet. “Defines the purpose, format and content for each test document” to be consistent with the SQAPM.

18. Appendix 7B.1, Item (1).l. 1st and 2nd Bullet. Will delete as CySPP Rev 1 is being revised to clarify the purpose and scope of CySPP.

19. Appendix 7B.1, Item (1).l. Will add new bullets to be consistent with the CySPP.

- Provides guidance for developing the ESBWR Cyber Security Program (CySP) for critical digital assets (CDAs)·
- Provides a framework for managing a cyber security program that includes description of roles and responsibilities, development of policies and procedures, development of cyber security defensive model, evaluation of third party networks, development training and awareness program, development of contingency and disaster recovery plans, performance of periodic threat and vulnerability review, and preparation of cyber security assessment report·
- Provides specific guidance for the implementation of cyber security requirements throughout the life cycle phases of software development·
- Addresses cyber security quality assurance requirements·
- Provides requirements for an incident response and recovery plan

20. Appendix 7B.1, Item (3).a. Will revise as follows: “Installation Phase Summary BRR are produced for the each software project in accordance with the criteria described in the SMPM, Section 5.11.10 (Reference 7B.3-1). The Installation Phase BR will assess the results summary report to ensure the Factory Acceptance Test (FAT) performed in accordance with the criteria described in the SQAPM, Sections 7.4 and 7.5 (Reference 7B.3-2), and confirms …” to be consistent with the description used in item (2).

21. Appendix 7B.1, Item (3).b. Will revise as follows: “Installation Phase Summary BRR are produced for the each software project in accordance with the criteria described in the SMPM, Section 5.11.10 (Reference 7B.3-1). The Installation Phase BR will assess the results summary report for the Site Acceptance Test (SAT), and

confirms that the as-built platforms or network segments, when integrated, are capable of operating as designed as a complete ESBWR instrumentation and control system with sensors and actuators using overlapping tests in conjunction with the during SAT" to be consistent with: ·

- the description used in item (2) and 4th paragraph of 7B.1·
- design is not documented in FAT report ·
- delete "in conjunction" as it this implies there are other tests than SAT.

22. Appendix 7B.2. Will add new sentence "Assignment of software classification is described in the SQAPM (reference 7B.3-2)" to clarify software classification.

Also, the following statement is made in Tier 2 Section, 14.3.3.2, "(1) The platform or network segment software plans and cyber security program for each platform or network segment are developed in accordance with the following criteria." The items listed in section 14.3.3.2 do not read as criteria. The items read more like the characteristics identified for each plan in BTP 7-14. Therefore, staff suggests GEH consider revising the statement to delete the word "criteria" and use "characteristics".

No change will be made. The use of the word "criteria" is considered to be correct within the context of its use in Section 14.3.3.2 and consistent with its use within BTP HICB-14, Section 3.1, *Acceptance Criteria for Software Life Cycle Process Planning*, which states: "Acceptance criteria are divided into three sets: management characteristics, implementation characteristics, and resource characteristics." The dual use of criteria is supported by its common definition. Criteria is the plural form of criterion. Two definitions of "criterion" are given in the Merriam-Webster Online Dictionary: (1) a standard on which a judgment or decision may be based, and (2) a characterizing trait or mark. A definition of "characteristic" given in the Meriam-Webster Online Dictionary is a distinguishing trait, quality, or property. A distinguishing trait, quality, or property that is a characteristic or characterizing trait that is the basis of a judgment or decision is a criterion; thus, a criterion is also a characteristic.

B. The first Tier 2 paragraph in Section 7.1.1 discusses that the SMPM and SQAPM provide the bases for the development of the project software plans. A similar statement needs to be made to state that Cyber Security Program Plan (CySPP) provides the bases for the project Cyber Security Programs (CySP). This would include referencing NEDE-33295P.*

Concur. Section 7.1.1 will be revised in Revision 6 to state that the software development process is described in Appendix 7B. Appendix 7B will be revised in Revision 6 to state that the ESBWR Cyber Security Program Plan (CySPP) (reference 7B.3-3) provides the bases for the project Cyber Security Programs (CySP).

C. The staff identified some concerns with ITAAC in Tier 1 table 3.2-1. One of the concerns is that there is not a clear link to a document that contains the criteria for

the software plans. For example. The acceptance criteria for ITAAC 2a1 through 3a1 in Tier 1 Table 3.2-1 states that software project complies with BRR criteria. It is not clear where the BRR criteria are located.

Concur. Table 3.2-1 acceptance criteria will be revised in Revision 6 in accordance with the examples, except as noted below.

C.1. The other concern is that the staff does not have a clear understanding of how some of the design commitments (DC) were developed. Some of the design commitments read like they are verification actions that should be inspections, tests. analyses (ITAs). The staff requests that GEH consider revising the ITAAC in Tier 1 Table 3.2-1 as stated in the examples below. In the examples below, the staff believes that the cyber security software program plan (CySPP) should be referenced in the ITAAC along with the software management program manual (SMPM) and software quality assurance program manual (SQAPM). The examples use cyber security program manual (CySPM) to be consistent with SMPM and SQAPM; however, the use of cyber security program plan (CySPP)would be acceptable. The intent of including the references is to provide clear reference to documents that contain the criteria or requirements by which the developed software plans and cyber security plan will be judged to be acceptable.

Concur. The design commitments in Table 3.2-1 will be revised in Revision 6 in accordance with the examples, except as noted below.

C.2. The following are a few examples of how the staff would like GEH to revise the acceptance criteria (AC) for the ITAACs that are in group one in Tier 1 Table 3.2-1:

ITMC 1a2. AC: A report exists and concludes that the SMP for the NMS software project complies with the criteria contained in the SMPM. ITMC 1g2. AC: A report exists and concludes that the SOAP for the NMS software project complies with the criteria contained in the SQAPM.

Concur. Table 3.2-1, ITAAC 1a2, acceptance criteria will be revised in Revision 6 in accordance with the example.

C.3. ITMC 1l2. AC: A report exists and concludes that the CySP for the NMS software project complies with the criteria in the CySPM.

Concur. Table 3.2-1, ITAAC 1l2, acceptance criteria will be revised in Revision 6 in accordance with the example.

The following is an example of how the staff would like GEH to revise the ITAAC that are in group two in Tier 1 Table 3.2-1.

C.4. ITAAC 2a2 DC: The planning phase activities detailed in the NMS software plans and CySP are completed for the NMS project

Concur. The design commitments in Table 3.2-1, ITAAC 2a2, will be revised in Revision 6 in accordance with the examples.

C.5. ITAAC 2a2 ITA: The planning phase outputs are inspected and analyzed for the NMS software project.

Concur. The inspections, tests, and analyses in Table 3.2-1, ITAAC 2a2, will be revised in Revision 6 in accordance with the example.

C.6. ITAAC 2a2 AC: A Planning Phase Summary BRR exists and concludes that the NMS software project planning phase activities were performed in compliance with NMS software plans and CySP as derived from SMPM,SQAPM, and CySPM.

Concur. Table 3.2-1, ITAAC 2a2, acceptance criteria will be revised in Revision 6 in accordance with the example.

The following are a few examples of how the staff would like GEH to revise the ITAAC that are in group three in Tier 1 Table 3.2.1:

C.7. ITAAC 3b1 DC: The installation phase activities detailed in the NMS software plans and CysP are completed for the NMS software project.

Concur. The design commitments in Table 3.2-1, ITAAC 3b1, will be revised in Revision 6 in accordance with the examples.

C.8. ITAAC 3b1 ITA: The installation phase outputs for the NMS software project, including NMS FAT and NMS Cyber Security FAT are inspected and analyzed

Concur. The inspections, tests, and analyses in Table 3.2-1, ITAAC 3b1, will be revised in Revision 6 in accordance with the example.

C.9. ITAAC 3b1 AC: Installation Phase Summary BRR exists and concludes that the NMS software project installation phase activities were performed in compliance with the NMS software plans and CySP as derived from the SMPM, SQAPM, and CySPM.

Concur. Table 3.2-1, ITAAC 3b1, acceptance criteria will be revised in Revision 6 in accordance with the example.

C.10. ITAAC 3b2 DC: The NMS software project performs as designed

Concur. The design commitments in Table 3.2-1, ITAAC 3b2, will be revised in Revision 6 in accordance with the examples.

C.11. ITAAC 3b2 ITA: FAT is performed on the NMS software project

Concur. The inspections, tests, and analyses in Table 3.2-1, ITAAC 3b2, will be revised in Revision 6 in accordance with the example.

C.12. ITTAC 3b2 AC: An NMS FAT report exist and concludes that the NMS software project is in compliance with the NMS software plans as derived from the SMPM, SQAPM, and CySPM.

Concur. Table 3.2-1, ITAAC 3b2, acceptance criteria will be revised in Revision 6 in accordance with the example.

C.13. ITAAC 3j2 DC: The NMS software project performs as designed.

Concur, except the 3k2 design commitment will be revised in Revision 6 to "The NMS software project is cyber secure."

C.14. ITAAC 3j2 ITA: An NMS software cyber security SAT is performed.

Concur. The inspections, tests, and analyses in Table 3.2-1, ITAAC 3k2, will be revised in Revision 6 in accordance with the example.

C.15. ITAAC 3j2 AC: An NMS cyber security SAT report exists and concludes that the NMS software project is in compliance with the NMS CySP as derived from the SMPM, SQAPM, and CySPM.

Concur. Table 3.2-1, ITAAC 3k2, acceptance criteria will be revised in Revision 6 in accordance with the example.

C.16. ITAAC 3h DC: The complete ESBWR instrumentation and control systems with sensors and actuators is capable of operating as designed.

Concur. The design commitment in Table 3.2-1, ITAAC 3i, will be revised in Revision 6 in accordance with the example.

C.17. ITAAC 3h ITA: An overlapping and encompassing SAT is performed on the as-built platforms and network segments

Concur. The inspections, tests, and analyses in Table 3.2-1, ITAAC 3i, will be revised in Revision 6 in accordance with the example.

C.18. ITAAC 3h AC: The Installation Phase Summary BRR for the complete ESBWR instrumentation and control system SAT exists and concludes that the complete ESBWR instrumentation and control system with sensors and actuators is capable of operating as designed and is in compliance with the software project plans and CySP as derived from the SMPM, SQAPM and CySPM.

Concur. Table 3.2-1 acceptance criteria in Table 3.2-1, ITAAC 3i, will be revised in Revision 6 in accordance with the example.

DCD Impact

DCD Tier 2, Subsections 14.3.3.2 and 14.3.11 (References 14.3-4 and 14.3-5), and Tables 14.3-4 and 14.3-5, will be deleted in Revision 6 as noted in the attached markups.

DCD Tier 2, Subsection 7.1.1, will be revised in Revision 6 as noted in the attached markup.

DCD Tier 2, Appendix 7B, will be revised in Revision 6 as noted in the attached markup.

DCD Tier 1, Section 3.2 and Table 3.2-1, will be revised in Revision 6 as noted in the attached markups.

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Enclosure 2

Response to Portion of NRC Request for Additional Information Letter No. 324 Related to ESBWR Design Certification Application

DCD Markups for RAI Number 14.3-402 Supplement 1

7B. ~~(DELETED)~~SOFTWARE DEVELOPMENT

7B.1 SOFTWARE DEVELOPMENT

The safety-related Distributed Control and Information Systems (Q-DCIS) comprise the platforms that are defined in Table 7B-1. The nonsafety-related Distributed Control and Information Systems (N-DCIS) comprise the network segments that are defined in Table 7B-2. These platforms and network segments comprise systems of integrated software and hardware elements. Software projects are developed for the various platforms and network segments.

[*Project software plans control the development of each platform and network segment using a software life cycle process. The ESBWR Software Management Program Manual (SMPM, reference 7B.3-1) and ESBWR Software Quality Assurance Program Manual (SQAPM, reference 7B.3-2) provide the bases for developing project software plans and the software life cycle model that will control the software development process. The ESBWR Cyber Security Program Plan (CySPP) (reference 7B.3-3) provides the bases for the project Cyber Security Programs (CySP). These software plans and programs comprise the data that define the platform and network segment design processes.*

A software life cycle phase baseline review process regulates the passage of the platform and network segment design from one software life cycle phase to the next software life cycle phase. A software life cycle phase baseline review record (BRR) comprises a software life cycle phase requirements traceability analysis report, a software life cycle phase software safety analysis report, a software life cycle phase verification and validation report, a software life cycle phase cyber security analysis report, a software life cycle configuration management assessment, and a software life cycle phase baseline review team (BRT) report. BRRs exist at the end of each software life cycle phase and conclude that the design process has been followed and that the design elements are adequate to pass through to the next software life cycle phase. The summary BRR provides assurance that the project software plans are implemented and producing adequate results at the end of each software life cycle phase. The platform and network segment BRR documentation will support closure of ITAAC including {{Design Acceptance Criteria}} ITAAC.

A multiple-phase test process, using a series of overlapping tests, confirms that the as-built platform and network segment performs as designed. The Factory Acceptance Test (FAT) confirms that each part of a platform and network segment performs as designed. The Site Acceptance Test (SAT) confirms that the platforms and network segments are capable of operating as shown in the FAT and operate as designed as an integrated ESBWR instrumentation and control system]*

In support of the above described software development process, the following software design commitments are made:

(1) The platform software plans, network segment software plans, and cyber security programs for each platform software project and network segment software project are developed in accordance with the following design acceptance criteria shown for each software development software life cycle phase plan and cyber security program:

a. Software Management Plan (SMP):

- [*Establish project management activities, which include but are not limited to the following activities:*
  - *Project planning and scheduling*
  - *Project monitoring and control*
  - *Project execution*
  - *Post delivery and closeout*]*
- [*Define the organization and responsibilities of individuals or groups involved in the various design and V&V activities*]*
- [*Define risks management process*]*
- [*Establish the methods and tools for project management*]*
- [*Define financial (budget) responsibilities and controls*]*
- [*Define security (including cyber security) requirements*]*
- [*Define training requirements and qualification of project personnel*]*

b. Software Development Plan (SDP)

- [*Describes the plan for technical project development of the I&C software which performs the monitoring, control, and protection functions for all modes of plant operation*]*
- [*Describes the software development process for each phase of the software product's software life cycle process, i.e., Planning, Requirements, Design, Implementation, Test, Installation, Operations & Maintenance (O&M), and Retirement*]*
- [*Establishes the standards, methods, tools, and procedures for the software design and development process*]*
- [*Defines the activities performed for each phase of the software development*]*
- [*Defines how requirements are traced to lower levels of the software life cycle phases from planning phase to test phase*]*
- [*Specifies how the safety-related requirements are documented, evaluated, reviewed, verified, and tested during the design process to minimize unknown, unreliable, and abnormal conditions*]*
- [*Describes the organization and responsibilities of individuals or groups involved in the various V&V and review activities*]*
- [*Addresses metrics that include error tracking, cyber security tracking, and resolution*]*

c. Software Integration Plan (SIntP)

- [*Describes the process for integrating the various software modules together to form single programs*]*
- [*Describes the process for integrating the software module integration result with the hardware and instrumentation*]*

- [*Describes the process for validating the resulting integrated product*]*
- [*Describes the organization and responsibilities of individuals or groups involved in the test activities*]*
- [*Describes software test management (e.g., scheduling, resource planning, security, risks and contingency planning, anomaly, problem reporting, and training needs)*]*
- [*Describes the methods for software testing*]*
- [*Provides the requirements and guidelines necessary to prepare, execute, and document software tests*]*
- [*Defines required software test documentation*]*
- [*Defines measurements and metrics for error tracking and resolution, and assess the success or failure of the software integration and software test effort*]*

d. Software Installation Plan (SIP)

- [*Describes the software installation process and activities performed during the Installation phase*]*
- [*Defines the installation phase activities*]*
- [*Describes the installation procedures*]*
- [*Describes the software installation management. This includes, but is not limited to, scheduling, resource planning, security, risks and contingency planning, anomaly and problem reporting, and training needs*]*
- [*Provides the requirements and guidelines necessary to prepare, execute, and document software installation*]*

e. Software Operation and Maintenance Plan (SOMP)

- [*Defines requirements, methods, and considerations for problem reporting, disposition of change request, backup media maintenance and disaster recovery operations during the Operation and Maintenance Phase*]*
- [*Addresses the activities required to support the licensee during the Operation and Maintenance phase*]*

f. Software Training Plan (STrngP)

- [*Describes the software training activities to be carried out before and during the operation of software products for the plant*]*
- [*Addresses management, implementation and resource characteristics*]*
- [*Defines the requirements and methods used to develop the training program and manual*]*
- [*Defines the training needs of appropriate plant staff, including operators, I&C engineers, and technicians*]*
- [*Defines a general description of the training facilities*]*

- [*Defines the organization supporting the training effort including interfaces and responsibilities*]*

g. Software Quality Assurance Plan (SQAP)

- [*Defines the management organization, techniques, procedures, and methodologies used to assure the delivery of software which meets specified requirements*]*
- [*Assures that software development, evaluation and acceptance standards, are implemented, documented, and followed*]*
- [*Assures that the results of software quality reviews and audits will be given to appropriate management within the scope of the SQAPM*]*
- [*Assures that test results adhere to acceptance standards*]*

h. Software Safety Plan (SSP)

- [*Establishes the processes and activities to ensure that the safety concerns of the software products are properly considered during the software development*]*
- [*Describes the roles and responsibilities of the Software Safety Team (SST)*]*
- [*Describes the Software Safety Analysis (SSA) process*]*
- [*Ensures that all system safety-critical requirements have been satisfied by the software life cycle phases*]*
- [*Ensures that no additional hazards have been introduced by the work done during the software life cycle activity*]*

i. Software Verification & Validation Plan (SVVP)

- [*Establishes the V&V tasks for the software designed and developed for software products*]*
- [*Ensure that the developed software meets its specified requirements, performs its intended functions correctly, and does not perform any unintended function*]*
- [*Ensure that the final software product meets the contract requirements, required industry and regulatory standards, and licensing commitments*]*
- [*Ensure that the final software product is correct, complete, accurate, and traceable to requirements specified in the design documents and outputs*]*

j. Software Configuration Management Plan (SCMP)

- [*Establishes the Software Configuration Management (SCM) activities during the design and development of the software products*]*
- [*Describes the individual with the overall responsibility and authority for the SCM and organizations responsible for supporting the SCM activities*]*
- [*Defines the SCM tasks, including methods, timing, and responsibility for the implementation of design control and design change control*]*
- [*Identifies the tools, procedures, and individuals needed to execute or support each SCM task*]*

- [*Identifies the SCM required schedule and coordination with the design activities and the Quality tasks described in this SQAPM*]*

k. Software Test Plan (STP)

- [*Prescribes the scope, approach, resources, and schedule of the testing activities associated with the software development process*]*
- [*Identifies the items being tested, the features to be tested, the testing tasks to be performed, the personnel responsible for each task, and the risks associated with this plan*]*
- [*Defines the purpose, format and content for each test document*]*

l. Cyber Security Program (CySP)

- [*Provides guidance for developing the ESBWR Cyber Security Program (CySP) for critical digital assets (CDAs)*]*·
- [*Provides a framework for managing a cyber security program that includes description of roles and responsibilities, development of policies and procedures, development of cyber security defensive model, evaluation of third party networks, development training and awareness program, development of contingency and disaster recovery plans, performance of periodic threat and vulnerability review, and preparation of cyber security assessment report*]*
- [*Provides specific guidance for the implementation of cyber security requirements throughout the life cycle phases of software development*]*·
- [*Addresses cyber security quality assurance requirements*]*·
- [*Provides requirements for an incident response and recovery plan*]*

(2) Implementation of the software projects for each platform and network segment in accordance with the approved software plans ensures that adequate software products are produced at the conclusion of each software life cycle phase baseline as documented by the following software life cycle phase Summary Baseline Review Records.

a. [*Planning Phase Summary BRR are produced for each hardware and software platform or network segment accordance with the criteria described in the SMPM, Section 5.6.5 (Reference 7B.3-1)*]*

b. [*Requirements Phase Summary BRR are produced for each hardware and software platform or network segment in accordance with the criteria described in the SMPM, Section 5.7.12 (Reference 7B.3-1)*]*

c. [*Design Phase Summary BRR are produced for each hardware and software platform or network segment in accordance with the criteria described in the SMPM, Section 5.8.3.13 (Reference 7B.3-1)*]*

d. [*Implementation Phase Summary BRR are produced for each hardware and software platform or network segment in accordance with the criteria described in the SMPM, Section 5.9.3.10 (Reference 7B.3-1)*]*

e. [*Test Phase Summary BRR are produced for each hardware and software platform or network segment in accordance with the criteria described in the SMPM, Section 5.10.9 (Reference 7B.3-1)*]*

(3) A multiple-phase test process performed as part of the installation phase will be used to confirm that each as-built platform or network segment performs in accordance with its defined criteria.

a. [*Installation Phase Summary BRR are produced for the each software project in accordance with the criteria described in the SMPM, Section 5.11.10 (Reference 7B.3-1). The Installation Phase baseline review will assess the results summary report for the Factory Acceptance Test (FAT) to ensure the FAT was performed in accordance with the criteria described in the SQAPM, Sections 7.4 and 7.5 (Reference 7B.3-2), and confirms that each part of the as-built software project performs as designed. The FAT is documented in two parts in accordance with the SQAPM, Section 7.7 (Reference 7B.3-2), such that, a FAT and a cyber security FAT will be performed on each platform or network segment.*]*

b. [*Installation Phase Summary BRR are produced for the each software project in accordance with the criteria described in the SMPM, Section 5.11.10 (Reference 7B.3-1). The Installation Phase baseline review will assess the results summary report for the Site Acceptance Test (SAT) and will confirm, using overlapping tests during SAT, that the as-built platforms or network segments, when integrated, are capable of operating as designed as a complete ESBWR instrumentation and control system with sensors and actuators.*]*

Text sections that are bracketed and italicized with an asterisk following the brackets are designated as Tier 2. Prior NRC approval is required to change.

7B.2 TREATMENT OF SYSTEMS DESIGNATED AS RTNSS

Table 19A-2 defines the structures, systems, and components (SSC) that perform significant safety, special event, or post-accident recovery functions that will be subject to additional regulatory oversight under the RTNSS program. The N-DCIS network segment SSC that perform these RTNSS functions are identified Table 7B-2. RTNSS SSC are subject to Maintenance Rule (10 CFR 50.65), the Availability Control Manual (ACM; Chapter 19, Appendix ACM), and verification by the inspections, tests, analyses, and acceptance criteria (ITAAC) in Tier 1. RTNSS SSC follow existing design processes. Thus, the software development process does not distinguish between RTNSS and non-RTNSS SSC. RTNSS SSC are developed using the software classification assigned to the network segment. The SQAPM (reference 7B.3-2) describes software classification.

7B.3 REFERENCES

7B.3-1 [*GE-Hitachi Nuclear Energy, "ESBWR – Software Management Program Manual," NEDO-33226, Class I (Non-proprietary); and "ESBWR – Software Management Program Manual," NEDE-33226P, Class III (Proprietary), Revision 3, June 2008*]*

7B.3-2 [*GE-Hitachi Nuclear Energy, "ESBWR – Software Quality Assurance Program Manual," NEDO-33245, Class I (Non-proprietary); and "ESBWR – Software Quality Assurance Program Manual," NEDE-33245P, Class III (Proprietary), Revision 3, July 2008*]*

7B.3-3 [*GE-Hitachi Nuclear Energy, "ESBWR Cyber Security Program Plan," NEDO-33295, Class I (Non-proprietary); and "ESBWR Cyber Security Program Plan," NEDE-33295P, Class III (Proprietary), Revision 0, October 2007*]*

References that are bracketed and italicized with an asterisk following the brackets are designated as Tier 2. Prior NRC approval is required to change.

Table 7B-1
~~(Deleted)~~Q-DCIS Platforms

Platform	Software Project
Reactor Trip & Isolation System Function Neutron Monitoring System (RTIF-NMS)	RTIF
	NMS
Safety System Logic & Control / Engineered Safety Features (SSLC/ESF) Platform	SSLC/ESF
Independent Control Platform (ICP)	VBIF
	ATWS/SLC
	HP CRD Isolation Bypass Function

Table 7B-2
~~(Deleted)~~N-DCIS Network Segments†

GENE (DPS)
PIP A and PIP B (FAPCS and supporting systems)
BOP
PCF

†Network segments are described in Subsection 7.1.4.8. RTNSS components of the network segments are identified in parentheses.

- Piping design is based on detailed piping arrangement information as well as the geometry and dynamic characteristics of the as-procured equipment that forms part of the piping system. This detailed plant-specific information is unavailable at the time of design certification and cannot therefore be used to develop detailed design information. This precludes certification of specific piping designs.
- An extensive definition of design methodologies is contained in Tier 2, Chapter 3. These methodologies are not considered to be part of Tier 1 but are one of several methods for executing the design process steps defined in the piping design. In addition, sample design calculations have been performed with these methods to provide confidence that they are complete and yield acceptable design information.
- Piping design for nuclear plants is a well-understood process based on straightforward engineering principles. This, together with Tier 2 methodology definition and sample calculations, provides confidence that future design work by individual applicants/licensees results in acceptable designs that properly implement the applicable requirements.

The technical material in the piping design Tier 1 entry was selected using the criteria and methodology as discussed above for Tier 1, Section 2 system entries.

14.3.3.2 (Deleted)~~Software Development~~

~~Development of the associated ESBWR Instrumentation and Controls (I&C) software applications is dependent upon the detailed, as-procured characteristics of the hardware to be used. An example would be the microprocessors to be used for the programmable digital control features. Consequently, software development cannot be completed at the time of design certification without first selecting the specific implementation hardware. In addition to the technology issue discussed below, this would be incompatible with the principle that certification should not define vendor-specific (i.e., as-procured) design characteristics for components.~~

~~All aspects of digital, microprocessor based control technology are expected to undergo significant changes as the technology continues to evolve. These future changes are expected to be beneficial and involve both the software and the hardware. Certification of specific software details at this time would preclude future site-specific applicants from taking advantage of these technology advances.~~

~~Development of software for programming of real-time microprocessor based controllers is being continually upgraded by techniques like automated development of system requirements and automated verification activities. These trends, coupled with ongoing industry efforts to establish standards for software development, provide confidence that future execution of this Tier 1 entry results in I&C equipment, which fully comply with ESBWR requirements and all Tier 2 commitments.~~

~~The software development process is discussed in detail in Appendix 7C. This material is not considered part of Tier 1; however, it provides one of several acceptable methods for implementing the ITAAC in the Tier 1.~~

3.2 SOFTWARE DEVELOPMENT

Inspections, Tests, Analyses, and Acceptance Criteria Summary

Design Description

The safety-related Distributed Control and Information Systems (Q-DCIS) comprise the platforms that are defined in Table 2.2.10-1. A subset of the nonsafety-related Distributed Control and Information Systems (N-DCIS) comprise the network segments that are defined in Table 2.2.11-1. These platforms and network segments comprise systems of integrated software and hardware elements. Software project are developed for the various platforms and network segments.

Each platform and network segment software project follows a development process that comprises the following 3-stages:

(1) Develop the platform and network segment software plans and cyber security programs for each platform. {{Design Acceptance Criteria}}

(2) Implement the software project for each platform and network segment in accordance with the approved platform and network segment software plans and cyber security programs to ensure the process produces adequate software products at the conclusion of each software life-cycle phase baseline as documented by the life-cycle phase Summary Baseline Review Records (BRR).

(3) Perform a multiple-phase test process as part of the installation phase to confirm that the as-built platform and network segment performs as designed.

In support of the above described software development process, the following 3-stage software design commitments are made:

1a1. The SMP is developed for the RTIF software project.

1a2. The SMP is developed for the NMS software project.

1a3. The SMP is developed for the SSLC/ESF software project.

1a4. The SMP is developed for the ATWS/SLC software project.

1a5. The SMP is developed for the VBIF software project.

1a6. The SMP is developed for the GENE DPS software project.

1a7. The SMP is developed for the PIP software project.

1a8. The SMP is developed for the HP CRD Isolation Bypass Function software project.

1b1. The SDP is developed for the RTIF software project.

1b2. The SDP is developed for the NMS software project.

1b3. The SDP is developed for the SSLC/ESF software project.

1b4. The SDP is developed for the ATWS/SLC software project.

1b5. The SDP is developed for the VBIF software project.

1b6. The SDP is developed for the GENE DPS software project.

1b7. The SDP is developed for the PIP software project.

1b8. The SDP is developed for the HP CRD Isolation Bypass Function software project.

1c1. The SIntP is developed for the RTIF software project.

1c2. The SIntP is developed for the NMS software project.

1c3. The SIntP is developed for the SSLC/ESF software project.

1c4. The SIntP is developed for the ATWS/SLC software project.

1c5. The SIntP is developed for the VBIF software project.

1c6. The SIntP is developed for the GENE DPS software project.

1c7. The SIntP is developed for the PIP software project.

1c8. The SIntP is developed for the HP CRD Isolation Bypass Function software project.

1d1. The SIP is developed for the RTIF software project.

1d2. The SIP is developed for the NMS software project.

1d3. The SIP is developed for the SSLC/ESF software project.

1d4. The SIP is developed for the ATWS/SLC software project.

1d5. The SIP is developed for the VBIF software project.

1d6. The SIP is developed for the GENE DPS software project.

1d7. The SIP is developed for the PIP software project.

1d8. The SIP is developed for the HP CRD Isolation Bypass Function software project.

1e1. The SOMP is developed for the RTIF software project.

1e2. The SOMP is developed for the NMS software project.

1e3. The SOMP is developed for the SSLC/ESF software project.

1e4. The SOMP is developed for the ATWS/SLC software project.

1e5. The SOMP is developed for the VBIF software project.

1e6. The SOMP is developed for the GENE DPS software project.

1e7. The SOMP is developed for the PIP software project.

1e8. The SOMP is developed for the HP CRD Isolation Bypass Function software project.

1f1. The STrngP is developed for the RTIF software project.

1f2. The STrngP is developed for the NMS software project.

1f3. The STrngP is developed for the SSLC/ESF software project.

1f4. The STrngP is developed for the ATWS/SLC software project.

1f5. The STrngP is developed for the VBIF software project.

1f6. The STrngP is developed for the GENE DPS software project.

1f7. The STrngP is developed for the PIP software project.

1f8. The STrngP is developed for the HP CRD Isolation Bypass Function software project.

1g1. The SQAP is developed for the RTIF software project.

1g2. The SQAP is developed for the NMS software project.

1g3. The SQAP is developed for the SSLC/ESF software project.

1g4. The SQAP is developed for the ATWS/SLC software project.

1g5. The SQAP is developed for the VBIF software project.

1g6. The SQAP is developed for the GENE DPS software project.

1g7. The SQAP is developed for the PIP software project.

1g8. The SQAP is developed for the HP CRD Isolation Bypass Function software project.

1h1. The SSP is developed for the RTIF software project.

1h2. The SSP is developed for the NMS software project.

1h3. The SSP is developed for the SSLC/ESF software project.

1h4. The SSP is developed for the ATWS/SLC software project.

1h5. The SSP is developed for the VBIF software project.

1h6. The SSP is developed for the GENE DPS software project.

1h7. The SSP is developed for the PIP software project.

1h8. The SSP is developed for the HP CRD Isolation Bypass Function software project.

1i1. The SVVP is developed for the RTIF software project.

1i2. The SVVP is developed for the NMS software project.

1i3. The SVVP is developed for the SSLC/ESF software project.

1i4. The SVVP is developed for the ATWS/SLC software project.

1i5. The SVVP is developed for the VBIF software project.

1i6. The SVVP is developed for the GENE DPS software project.

1i7. The SVVP is developed for the PIP software project.

1i8. The SVVP is developed for the HP CRD Isolation Bypass Function software project.

1j1. The SCMP is developed for the RTIF software project.

1j2. The SCMP is developed for the NMS software project.

1j3. The SCMP is developed for the SSLC/ESF software project.

1j4. The SCMP is developed for the ATWS/SLC software project.

1j5. The SCMP is developed for the VBIF software project.

1j6. The SCMP is developed for the GENE DPS software project.

1j7. The SCMP is developed for the PIP software project.

1j8. The SCMP is developed for the HP CRD Isolation Bypass Function software project.

1k1. The STP is developed for the RTIF software project.

1k2. The STP is developed for the NMS software project.

1k3. The STP is developed for the SSLC/ESF software project.

1k4. The STP is developed for the ATWS/SLC software project.

1k5. The STP is developed for the VBIF software project.

1k6. The STP is developed for the GENE DPS software project.

1k7. The STP is developed for the PIP software project.

1k8. The STP is developed for the HP CRD Isolation Bypass Function software project.

1l1. The CySP is developed for the RTIF software project.

1l2. The CySP is developed for the NMS software project.

1l3. The CySP is developed for the SSLC/ESF software project.

1l4. The CySP is developed for the ATWS/SLC software project.

1l5. The CySP is developed for the VBIF software project.

1l6. The CySP is developed for the GENE DPS software project.

1l7. The CySP is developed for the PIP software project.

1l8. The CySP is developed for the HP CRD Isolation Bypass Function software project.

2a1. The planning phase activities detailed in the RTIF software plans and CySP are completed for the RTIF software project..

2a2. The planning phase activities detailed in the NMS software plans and CySP are completed for the NMS software project.

2a3. The planning phase activities detailed in the SSLC/ESF software plans and CySP are completed for the SSLC/ESF software project.

2a4. The planning phase activities detailed in the ATWS/SLC software plans and CySP are completed for the ATWS/SLC software project.

2a5. The planning phase activities detailed in the VBIF software plans and CySP are completed for the VBIF software project.

2a6. The planning phase activities detailed in the GENE DPS software plans and CySP are completed for the GENE DPS software project.

2a7. The planning phase activities detailed in the PIP software plans and CySP are completed for the PIP software project.

2a8. The planning phase activities detailed in the HP CRD Isolation Bypass Function software plans and CySP are completed for the HP CRD Isolation Bypass Function software project.

2b1. The requirements phase activities detailed in the RTIF software plans and the CySP are completed for the RTIF software project.

2b2. The requirements phase activities detailed in the NMS software plans and the CySP are completed for the NMS software project.

2b3. The requirements phase activities detailed in the SSLC/ESF software plans and the CySP are completed for the SSLC/ESF software project.

2b4. The requirements phase activities detailed in the ATWS/SLC software plans and the CySP are completed for the ATWS/SLC software project.

2b5. The requirements phase activities detailed in the VBIF software plans and the CySP are completed for the VBIF software project.

2b6. The requirements phase activities detailed in the GENE DPS software plans and the CySP are completed for the GENE DPS software project.

2b7. The requirements phase activities detailed in the PIP software plans and the CySP are completed for the PIP software project.

2b8. The requirements phase activities detailed in the HP CRD Isolation Bypass Function software plans and the CySP are completed for the HP CRD Isolation Bypass Function software project.

2c1. The design phase activities detailed in the RTIF software plans and the CySP are completed for the RTIF software project.

2c2. The design phase activities detailed in the NMS software plans and the CySP are completed for the NMS software project.

2c3. The design phase activities detailed in the SSLC/ESF software plans and the CySP are completed for the SSLC/ESF software project.

2c4. The design phase activities detailed in the ATWS/SLC software plans and the CySP are completed for the ATWS/SLC software project.

2c5. The design phase activities detailed in the VBIF software plans and the CySP are completed for the VBIF software project.

2c6. The design phase activities detailed in the GENE DPS software plans and the CySP are completed for the GENE DPS software project.

2c7. The design phase activities detailed in the PIP software plans and the CySP are completed for the PIP software project.

2c8. The design phase activities detailed in the HP CRD Isolation Bypass Function software plans and the CySP are completed for the HP CRD Isolation Bypass Function software project.

2d1. The implementation phase activities detailed in the RTIF software plans and CySP are completed for the RTIF software project.

2d2. The implementation phase activities detailed in the NMS software plans and CySP are completed d for the NMS software project.

2d3. The implementation phase activities detailed in the SSLC/ESF software plans and CySP are completed for the SSLC/ESF software project.

2d4. The implementation phase activities detailed in the ATWS/SLC software plans and CySP are completed for the ATWS/SLC software project.

2d5. The implementation phase activities detailed in the VBIF software plans and CySP are completed for the VBIF software project.

2d6. The implementation phase activities detailed in the GENE DPS software plans and CySP are completed for the GENE DPS software project.

2d7. The implementation phase activities detailed in the PIP software plans and CySP are completed for the PIP software project.

2d8. The implementation phase activities detailed in the HP CRD Isolation Bypass Function software plans and CySP are completed for the HP CRD Isolation Bypass Function software project.

2e1. The test phase activities detailed in the RTIF software plans and CySP are completed for the RTIF software project.

2e2. The test phase activities detailed in the NMS software plans and CySP are completed for the NMS software project.

2e3. The test phase activities detailed in the SSLC/ESF software plans and CySP are completed for the SSLC/ESF software project.

2e4. The test phase activities detailed in the ATWS/SLC software plans and CySP are completed for the ATWS/SLC software project.

2e5. The test phase activities detailed in the VBIF software plans and CySP are completed for the VBIF software project.

2e6. The test phase activities detailed in the GENE DPS software plans and CySP are completed for the GENE DPS software project.

2e7. The test phase activities detailed in the PIP software plans and CySP are completed for the PIP software project.

2e8. The test phase activities detailed in the HP CRD software plans and CySP are completed for the HP CRD Isolation Bypass Function software project.

3a1. The installation phase activities detailed in the RTIF software plans and CySP are completed for the RTIF software project.

3a2. The RTIF software project performs as designed.

3a3. The RTIF software project is cyber secure.

3b1. The installation phase activities detailed in the NMS software plans and CySP are completed for the NMS software project.

3b2. The NMS software project performs as designed.

3b3. The NMS software project is cyber secure.

3c1. The installation phase activities detailed in the SSLC/ESF software plans and CySP are completed for the SSLC/ESF software project

3c2. The SSLC/ESF software project performs as designed.

3c3. The SSLC/ESF software project is cyber secure.

3d1. The installation phase activities detailed in the ATWS/SLC software plans and CySP are completed for the ATWS/SLC software project.

3d2. The ATWS/SLC software project performs as designed.

3d3. The ATWS/SLC software project is cyber secure.

3e1. The installation phase activities detailed in the VBIF software plans and CySP are completed for the VBIF software project.

3e2. The VBIF software project performs as designed.

3e3. The VBIF software project is cyber secure.

3f1. The installation phase activities detailed in the GENE DPS software plans and CySP are completed for the GENE DPS software project.

3f2. The GENE DPS software project performs as designed.

3f3. The GENE DPS software project is cyber secure.

3g1. The installation phase activities detailed in the PIP software plans and CySP are completed for the PIP software project.

3g2. The PIP software project performs as designed.

3g3. The PIP software project is cyber secure.

3h1. The installation phase activities detailed in the HP CRD Isolation Bypass Function software plans and CySP are completed for the HP CRD Isolation Bypass Function software project.

3h2. The HP CRD Isolation Bypass Function software project performs as designed.

3h3. The HP CRD Isolation Bypass Function software project is cyber secure.

3i. The complete ESBWR instrumentation and control systems with sensors and actuators is capable of operating as designed.

3j1. The RTIF software project performs as designed.

3j2. The RTIF software project is cyber secure.

3k1. The NMS software project performs as designed.

3k2. The NMS software project is cyber secure.

3l1. The SSLC/ESF software project performs as designed.

3l2. The SSLC/ESF software project is cyber secure.

3m1. The ATWS/SLC software project performs as designed.

3m2. The ATWS/SLC software project is cyber secure.

3n1. The VBIF software project performs as designed.

3n2. The VBIF software project is cyber secure.

3o1. The GENE DPS software project performs as designed.

3o2. A cyber security SAT is performed on the GENE DPS software project is cyber secure.

3p1. The PIP software project performs as designed.

3p2. The PIP software project is cyber secure.

3q1. The HP CRD Isolation Bypass Function software project performs as designed.

3q2. The HP CRD Isolation Bypass Function software project is cyber secure.

Inspections, Tests, Analyses and Acceptance Criteria

Table 3.2-1 defines the inspections, tests and analyses, together with associated acceptance criteria, which will be applied to the software and hardware platforms and network segments.

To avoid issues associated with rapid obsolescence of instrumentation and control system structures, systems, and components, details of the system design may not be complete before the NRC issuance of a design certification. Therefore, the portions of the system design that define the governing design processes and develop the system acceptance criteria are marked as {{Design Acceptance Criteria}}.

Table 3.2-1
ITAAC For Software Development

Design Commitment	Inspections, Tests, Analyses	Acceptance Criteria
1a1. The SMP is developed for the RTIF software project.	Inspection of the SMP for the RTIF software project will be performed. {{Design Acceptance Criteria}}	Report(s) exist and conclude that the SMP for the RTIF software project complies with the criteria contained in the SMPM. {{Design Acceptance Criteria}}
1a2. The SMP is developed for the NMS software project.	Inspection of the SMP for the NMS software project will be performed. {{Design Acceptance Criteria}}	Report(s) exist and conclude that the SMP for NMS software project complies with the criteria contained in the SMPM. {{Design Acceptance Criteria}}
1a3. The SMP is developed for the SSLC/ESF software project.	Inspection of the SMP for the SSLC/ESF software project will be performed. {{Design Acceptance Criteria}}	Report(s) exist and conclude that the SMP for SSLC/ESF software project complies with the criteria contained in the SMPM. {{Design Acceptance Criteria}}
1a4 The SMP is developed for the ATWS/SLC software project.	Inspection of the SMP for the ATWS/SLC software project will be performed. {{Design Acceptance Criteria}}	Report(s) exist and conclude that the SMP for ATWS/SLC software project complies with the criteria contained in the SMPM. {{Design Acceptance Criteria}}
1a5. The SMP is developed for the VBIF software project.	Inspection of the SMP for the VBIF software project will be performed. {{Design Acceptance Criteria}}	Report(s) exist and conclude that the SMP for VBIF software project complies with the criteria contained in the SMPM. {{Design Acceptance Criteria}}
1a6. The SMP is developed for the GENE DPS software project.	Inspection of the SMP for the GENE DPS software project will be performed. {{Design Acceptance Criteria}}	Report(s) exist and conclude that the SMP for GENE DPS software project complies with the criteria contained in the SMPM. {{Design Acceptance Criteria}}

Table 3.2-1
ITAAC For Software Development

Design Commitment	Inspections, Tests, Analyses	Acceptance Criteria
1a7. The SMP is developed for the PIP software project.	Inspection of the SMP for the PIP software project will be performed. {{Design Acceptance Criteria}}	Report(s) exist and conclude that the SMP for PIP software project complies with the criteria contained in the SMPM. {{Design Acceptance Criteria}}
1a8. The SMP is developed for the HP CRD Isolation Bypass Function software project.	Inspection of the SMP for the HP CRD Isolation Bypass Function software project will be performed. {{Design Acceptance Criteria}}	Report(s) exist and conclude that the SMP for HP CRD Isolation Bypass Function software project complies with the criteria contained in the SMPM. {{Design Acceptance Criteria}}
1b1. The SDP is developed for the RTIF software project.	Inspection of the SDP for the RTIF software project will be performed. {{Design Acceptance Criteria}}	Report(s) exist and conclude that the SDP for the RTIF software project complies with the criteria contained in the SMPM. {{Design Acceptance Criteria}}
1b2. The SDP is developed for the NMS software project.	Inspection of the SDP for the NMS software project will be performed. {{Design Acceptance Criteria}}	Report(s) exist and conclude that the SDP for NMS software project complies with the criteria contained in the SMPM. {{Design Acceptance Criteria}}
1b3. The SDP is developed for the SSLC/ESF software project.	Inspection of the SDP for the SSLC/ESF software project will be performed. {{Design Acceptance Criteria}}	Report(s) exist and conclude that the SDP for SSLC/ESF software project complies with the criteria contained in the SMPM. {{Design Acceptance Criteria}}
1b4 The SDP is developed for the ATWS/SLC software project.	Inspection of the SDP for the ATWS/SLC software project will be performed. {{Design Acceptance Criteria}}	Report(s) exist and conclude that the SDP for ATWS/SLC software project complies with the criteria contained in the SMPM. {{Design Acceptance Criteria}}

Table 3.2-1
ITAAC For Software Development

Design Commitment	Inspections, Tests, Analyses	Acceptance Criteria
1b5. The SDP is developed for the VBIF software project.	Inspection of the SDP for the VBIF software project will be performed. {{Design Acceptance Criteria}}	Report(s) exist and conclude that the SDP for VBIF software project complies with the criteria contained in the SMPM. {{Design Acceptance Criteria}}
1b6. The SDP is developed for the GENE DPS software project.	Inspection of the SDP for the GENE DPS software project will be performed. {{Design Acceptance Criteria}}	Report(s) exist and conclude that the SDP for GENE DPS software project complies with the criteria contained in the SMPM. {{Design Acceptance Criteria}}
1b7. The SDP is developed for the PIP software project.	Inspection of the SDP for the PIP software project will be performed. {{Design Acceptance Criteria}}	Report(s) exist and conclude that the SDP for PIP software project complies with the criteria contained in the SMPM. {{Design Acceptance Criteria}}
1b8. The SDP is developed for the HP CRD Isolation Bypass Function software project.	Inspection of the SDP for the HP CRD Isolation Bypass Function software project will be performed. {{Design Acceptance Criteria}}	Report(s) exist and conclude that the SDP for HP CRD Isolation Bypass Function software project complies with the criteria contained in the SMPM. {{Design Acceptance Criteria}}
1c1. The SIntP is developed for the RTIF software project.	Inspection of the SIntP for the RTIF software project will be performed. {{Design Acceptance Criteria}}	Report(s) exist and conclude that the SIntP for the RTIF software project complies with the criteria contained in the SMPM. {{Design Acceptance Criteria}}
1c2. The SIntP is developed for the NMS software project.	Inspection of the SIntP for the NMS software project will be performed. {{Design Acceptance Criteria}}	Report(s) exist and conclude that the SIntP for NMS software project complies with the criteria contained in the SMPM. {{Design Acceptance Criteria}}

Table 3.2-1
ITAAC For Software Development

Design Commitment	Inspections, Tests, Analyses	Acceptance Criteria
1c3. The SIntP is developed for the SSLC/ESF software project.	Inspection of the SIntP for the SSLC/ESF software project will be performed. {{Design Acceptance Criteria}}	Report(s) exist and conclude that the SIntP for SSLC/ESF software project complies with the criteria contained in the SMPM. {{Design Acceptance Criteria}}
1c4. The SIntP is developed for the ATWS/SLC software project.	Inspection of the SIntP for the ATWS/SLC software project will be performed. {{Design Acceptance Criteria}}	Report(s) exist and conclude that the SIntP for ATWS/SLC software project complies with the criteria contained in the SMPM. {{Design Acceptance Criteria}}
1c5. The SIntP is developed for the VBIF software project.	Inspection of the SIntP for the VBIF software project will be performed. {{Design Acceptance Criteria}}	Report(s) exist and conclude that the SIntP for VBIF software project complies with the criteria contained in the SMPM. {{Design Acceptance Criteria}}
1c6. The SIntP is developed for the GENE DPS software project.	Inspection of the SIntP for the GENE DPS software project will be performed. {{Design Acceptance Criteria}}	Report(s) exist and conclude that the SIntP for GENE DPS software project complies with the criteria contained in the SMPM. {{Design Acceptance Criteria}}
1c7. The SIntP is developed for the PIP software project.	Inspection of the SIntP for the PIP software project will be performed. {{Design Acceptance Criteria}}	Report(s) exist and conclude that the SIntP for PIP software project complies with the criteria contained in the SMPM. {{Design Acceptance Criteria}}
1c8. The SIntP is developed for the HP CRD Isolation Bypass Function software project.	Inspection of the SIntP for the HP CRD Isolation Bypass Function software project will be performed. {{Design Acceptance Criteria}}	Report(s) exist and conclude that the SIntP for HP CRD Isolation Bypass Function software project complies with the criteria contained in the SMPM. {{Design Acceptance Criteria}}

Table 3.2-1
ITAAC For Software Development

Design Commitment	Inspections, Tests, Analyses	Acceptance Criteria
1d1. The SIP is developed for the RTIF software project.	Inspection of the SIP for the RTIF software project will be performed. {{Design Acceptance Criteria}}	Report(s) exist and conclude that the SIP for the RTIF software project complies with the criteria contained in the SMPM. {{Design Acceptance Criteria}}
1d2. The SIP is developed for the NMS software project.	Inspection of the SIP for the NMS software project will be performed. {{Design Acceptance Criteria}}	Report(s) exist and conclude that the SIP for NMS software project complies with the criteria contained in the SMPM. {{Design Acceptance Criteria}}
1d3. The SIP is developed for the SSLC/ESF software project.	Inspection of the SIP for the SSLC/ESF software project will be performed. {{Design Acceptance Criteria}}	Report(s) exist and conclude that the SIP for SSLC/ESF software project complies with the criteria contained in the SMPM. {{Design Acceptance Criteria}}
1d4. The SIP is developed for the ATWS/SLC software project.	Inspection of the SIP for the ATWS/SLC software project will be performed. {{Design Acceptance Criteria}}	Report(s) exist and conclude that the SIP for ATWS/SLC software project complies with the criteria contained in the SMPM. {{Design Acceptance Criteria}}
1d5. The SIP is developed for the VBIF software project.	Inspection of the SIP for the VBIF software project will be performed. {{Design Acceptance Criteria}}	Report(s) exist and conclude that the SIP for VBIF software project complies with the criteria contained in the SMPM. {{Design Acceptance Criteria}}
1d6. The SIP is developed for the GENE DPS software project.	Inspection of the SIP for the GENE DPS software project will be performed. {{Design Acceptance Criteria}}	Report(s) exist and conclude that the SIP for GENE DPS software project complies with the criteria contained in the SMPM. {{Design Acceptance Criteria}}

Table 3.2-1
ITAAC For Software Development

Design Commitment	Inspections, Tests, Analyses	Acceptance Criteria
1d7. The SIP is developed for the PIP software project.	Inspection of the SIP for the PIP software project will be performed. {{Design Acceptance Criteria}}	Report(s) exist and conclude that the SIP for PIP software project complies with the criteria contained in the SMPM. {{Design Acceptance Criteria}}
1d8. The SIP is developed for the HP CRD Isolation Bypass Function software project.	Inspection of the SIP for the HP CRD Isolation Bypass Function software project will be performed. {{Design Acceptance Criteria}}	Report(s) exist and conclude that the SIP for HP CRD Isolation Bypass Function software project complies with the criteria contained in the SMPM. {{Design Acceptance Criteria}}
1e1. The SOMP is developed for the RTIF software project.	Inspection of the SOMP for the RTIF software project will be performed. {{Design Acceptance Criteria}}	Report(s) exist and conclude that the SOMP for the RTIF software project complies with the criteria contained in the SMPM. {{Design Acceptance Criteria}}
1e2. The SOMP is developed for the NMS software project.	Inspection of the SOMP for the NMS software project will be performed. {{Design Acceptance Criteria}}	Report(s) exist and conclude that the SOMP for NMS software project complies with the criteria contained in the SMPM. {{Design Acceptance Criteria}}
1e3. The SOMP is developed for the SSLC/ESF software project.	Inspection of the SOMP for the SSLC/ESF software project will be performed. {{Design Acceptance Criteria}}	Report(s) exist and conclude that the SOMP for SSLC/ESF software project complies with the criteria contained in the SMPM. {{Design Acceptance Criteria}}
1e4. The SOMP is developed for the ATWS/SLC software project.	Inspection of the SOMP for the ATWS/SLC software project will be performed. {{Design Acceptance Criteria}}	Report(s) exist and conclude that the SOMP for ATWS/SLC software project complies with the criteria contained in the SMPM. {{Design Acceptance Criteria}}

Table 3.2-1
ITAAC For Software Development

Design Commitment	Inspections, Tests, Analyses	Acceptance Criteria
1e5. The SOMP is developed for the VBIF software project.	Inspection of the SOMP for the VBIF software project will be performed. {{Design Acceptance Criteria}}	Report(s) exist and conclude that the SOMP for VBIF software project complies with the criteria contained in the SMPM. {{Design Acceptance Criteria}}
1e6. The SOMP is developed for the GENE DPS software project.	Inspection of the SOMP for the GENE DPS software project will be performed. {{Design Acceptance Criteria}}	Report(s) exist and conclude that the SOMP for GENE DPS software project complies with the criteria contained in the SMPM. {{Design Acceptance Criteria}}
1e7. The SOMP is developed for the PIP software project.	Inspection of the SOMP for the PIP software project will be performed. {{Design Acceptance Criteria}}	Report(s) exist and conclude that the SOMP for PIP software project complies with the criteria contained in the SMPM. {{Design Acceptance Criteria}}
1e8. The SOMP is developed for the HP CRD Isolation Bypass Function software project.	Inspection of the SOMP for the HP CRD Isolation Bypass Function software project will be performed. {{Design Acceptance Criteria}}	Report(s) exist and conclude that the SOMP for HP CRD Isolation Bypass Function software project complies with the criteria contained in the SMPM. {{Design Acceptance Criteria}}
1f1. The STrngP is developed for the RTIF software project.	Inspection of the STrngP for the RTIF software project will be performed. {{Design Acceptance Criteria}}	Report(s) exist and conclude that the STrngP for the RTIF software project complies with the criteria contained in the SMPM. {{Design Acceptance Criteria}}
1f2. The STrngP is developed for the NMS software project.	Inspection of the STrngP for the NMS software project will be performed. {{Design Acceptance Criteria}}	Report(s) exist and conclude that the STrngP for NMS software project complies with the criteria contained in the SMPM. {{Design Acceptance Criteria}}

Table 3.2-1
ITAAC For Software Development

Design Commitment	Inspections, Tests, Analyses	Acceptance Criteria
1f3. The STrngP is developed for the SSLC/ESF software project.	Inspection of the STrngP for the SSLC/ESF software project will be performed. {{Design Acceptance Criteria}}	Report(s) exist and conclude that the STrngP for SSLC/ESF software project complies with the criteria contained in the SMPM. {{Design Acceptance Criteria}}
1f4. The STrngP is developed for the ATWS/SLC software project.	Inspection of the STrngP for the ATWS/SLC software project will be performed. {{Design Acceptance Criteria}}	Report(s) exist and conclude that the STrngP for ATWS/SLC software project complies with the criteria contained in the SMPM. {{Design Acceptance Criteria}}
1f5. The STrngP is developed for the VBIF software project.	Inspection of the STrngP for the VBIF software project will be performed. {{Design Acceptance Criteria}}	Report(s) exist and conclude that the STrngP for VBIF software project complies with the criteria contained in the SMPM. {{Design Acceptance Criteria}}
1f6. The STrngP is developed for the GENE DPS software project.	Inspection of the STrngP for the GENE DPS software project will be performed. {{Design Acceptance Criteria}}	Report(s) exist and conclude that the STrngP for GENE DPS software project complies with the criteria contained in the SMPM. {{Design Acceptance Criteria}}
1f7. The STrngP is developed for the PIP software project.	Inspection of the STrngP for the PIP software project will be performed. {{Design Acceptance Criteria}}	Report(s) exist and conclude that the STrngP for PIP software project complies with the criteria contained in the SMPM. {{Design Acceptance Criteria}}
1f8. The STrngP is developed for the HP CRD Isolation Bypass Function software project.	Inspection of the STrngP for the HP CRD Isolation Bypass Function software project will be performed. {{Design Acceptance Criteria}}	Report(s) exist and conclude that the STrngP for HP CRD Isolation Bypass Function software project complies with the criteria contained in the SMPM. {{Design Acceptance Criteria}}

Table 3.2-1
ITAAC For Software Development

Design Commitment	Inspections, Tests, Analyses	Acceptance Criteria
1g1. The SQAP is developed for the RTIF software project.	Inspection of the SQAP for the RTIF software project will be performed. {{Design Acceptance Criteria}}	Report(s) exist and conclude that the SQAP for the RTIF software project complies with the criteria contained in the SQAPM. {{Design Acceptance Criteria}}
1g2. The SQAP is developed for the NMS software project.	Inspection of the SQAP for the NMS software project will be performed. {{Design Acceptance Criteria}}	Report(s) exist and conclude that the SQAP for NMS software project complies with the criteria contained in the SQAPM. {{Design Acceptance Criteria}}
1g3. The SQAP is developed for the SSLC/ESF software project.	Inspection of the SQAP for the SSLC/ESF software project will be performed. {{Design Acceptance Criteria}}	Report(s) exist and conclude that the SQAP for SSLC/ESF software project complies with the criteria contained in the SQAPM. {{Design Acceptance Criteria}}
1g4. The SQAP is developed for the ATWS/SLC software project.	Inspection of the SQAP for the ATWS/SLC software project will be performed. {{Design Acceptance Criteria}}	Report(s) exist and conclude that the SQAP for ATWS/SLC software project complies with the criteria contained in the SQAPM. {{Design Acceptance Criteria}}
1g5. The SQAP is developed for the VBIF software project.	Inspection of the SQAP for the VBIF software project will be performed. {{Design Acceptance Criteria}}	Report(s) exist and conclude that the SQAP for VBIF software project complies with the criteria contained in the SQAPM. {{Design Acceptance Criteria}}
1g6. The SQAP is developed for the GENE DPS software project.	Inspection of the SQAP for the GENE DPS software project will be performed. {{Design Acceptance Criteria}}	Report(s) exist and conclude that the SQAP for GENE DPS software project complies with the criteria contained in the SQAPM. {{Design Acceptance Criteria}}

Table 3.2-1
ITAAC For Software Development

Design Commitment	Inspections, Tests, Analyses	Acceptance Criteria
1g7. The SQAP is developed for the PIP software project.	Inspection of the SQAP for the PIP software project will be performed. {{Design Acceptance Criteria}}	Report(s) exist and conclude that the SQAP for PIP software project complies with the criteria contained in the SQAPM. {{Design Acceptance Criteria}}
1g8. The SQAP is developed for the HP CRD Isolation Bypass Function software project.	Inspection of the SQAP for the HP CRD Isolation Bypass Function software project will be performed. {{Design Acceptance Criteria}}	Report(s) exist and conclude that the SQAP for HP CRD Isolation Bypass Function software project complies with the criteria contained in the SQAPM. {{Design Acceptance Criteria}}
1h1. The SSP is developed for the RTIF software project.	Inspection of the SSP for the RTIF software project will be performed. {{Design Acceptance Criteria}}	Report(s) exist and conclude that the SSP for the RTIF software project complies with the criteria contained in the SQAPM. {{Design Acceptance Criteria}}
1h2. The SSP is developed for the NMS software project.	Inspection of the SSP for the NMS software project will be performed. {{Design Acceptance Criteria}}	Report(s) exist and conclude that the SSP for NMS software project complies with the criteria contained in the SQAPM. {{Design Acceptance Criteria}}
1h3. The SSP is developed for the SSLC/ESF software project.	Inspection of the SSP for the SSLC/ESF software project will be performed. {{Design Acceptance Criteria}}	Report(s) exist and conclude that the SSP for SSLC/ESF software project complies with the criteria contained in the SQAPM. {{Design Acceptance Criteria}}
1h4. The SSP is developed for the ATWS/SLC software project.	Inspection of the SSP for the ATWS/SLC software project will be performed. {{Design Acceptance Criteria}}	Report(s) exist and conclude that the SSP for ATWS/SLC software project complies with the criteria contained in the SQAPM. {{Design Acceptance Criteria}}

Table 3.2-1
ITAAC For Software Development

Design Commitment	Inspections, Tests, Analyses	Acceptance Criteria
1h5. The SSP is developed for the VBIF software project.	Inspection of the SSP for the VBIF software project will be performed. {{Design Acceptance Criteria}}	Report(s) exist and conclude that the SSP for VBIF software project complies with the criteria contained in the SQAPM. {{Design Acceptance Criteria}}
1h6. The SSP is developed for the GENE DPS software project.	Inspection of the SSP for the GENE DPS software project will be performed. {{Design Acceptance Criteria}}	Report(s) exist and conclude that the SSP for GENE DPS software project complies with the criteria contained in the SQAPM. {{Design Acceptance Criteria}}
1h7. The SSP is developed for the PIP software project.	Inspection of the SSP for the PIP software project will be performed. {{Design Acceptance Criteria}}	Report(s) exist and conclude that the SSP for PIP software project complies with the criteria contained in the SQAPM. {{Design Acceptance Criteria}}
1h8. The SSP is developed for the HP CRD Isolation Bypass Function software project.	Inspection of the SSP for the HP CRD Isolation Bypass Function software project will be performed. {{Design Acceptance Criteria}}	Report(s) exist and conclude that the SSP for HP CRD Isolation Bypass Function software project complies with the criteria contained in the SQAPM. {{Design Acceptance Criteria}}
1i1. The SVVP is developed for the RTIF software project.	Inspection of the SVVP for the RTIF software project will be performed. {{Design Acceptance Criteria}}	Report(s) exist and conclude that the SVVP for the RTIF software project complies with the criteria contained in the SQAPM. {{Design Acceptance Criteria}}
1i2. The SVVP is developed for the NMS software project.	Inspection of the SVVP for the NMS software project will be performed. {{Design Acceptance Criteria}}	Report(s) exist and conclude that the SVVP for NMS software project complies with the criteria contained in the SQAPM. {{Design Acceptance Criteria}}

Table 3.2-1
ITAAC For Software Development

Design Commitment	Inspections, Tests, Analyses	Acceptance Criteria
1i3. The SVVP is developed for the SSLC/ESF software project.	Inspection of the SVVP for the SSLC/ESF software project will be performed. {{Design Acceptance Criteria}}	Report(s) exist and conclude that the SVVP for SSLC/ESF software project complies with the criteria contained in the SQAPM. {{Design Acceptance Criteria}}
1i4. The SVVP is developed for the ATWS/SLC software project.	Inspection of the SVVP for the ATWS/SLC software project will be performed. {{Design Acceptance Criteria}}	Report(s) exist and conclude that the SVVP for ATWS/SLC software project complies with the criteria contained in the SQAPM. {{Design Acceptance Criteria}}
1i5. The SVVP is developed for the VBIF software project.	Inspection of the SVVP for the VBIF software project will be performed. {{Design Acceptance Criteria}}	Report(s) exist and conclude that the SVVP for VBIF software project complies with the criteria contained in the SQAPM. {{Design Acceptance Criteria}}
1i6. The SVVP is developed for the GENE DPS software project.	Inspection of the SVVP for the GENE DPS software project will be performed. {{Design Acceptance Criteria}}	Report(s) exist and conclude that the SVVP for GENE DPS software project complies with the criteria contained in the SQAPM. {{Design Acceptance Criteria}}
1i7. The SVVP is developed for the PIP software project.	Inspection of the SVVP for the PIP software project will be performed. {{Design Acceptance Criteria}}	Report(s) exist and conclude that the SVVP for PIP software project complies with the criteria contained in the SQAPM. {{Design Acceptance Criteria}}
1i8. The SVVP is developed for the HP CRD Isolation Bypass Function software project.	Inspection of the SVVP for the HP CRD Isolation Bypass Function software project will be performed. {{Design Acceptance Criteria}}	Report(s) exist and conclude that the SVVP for HP CRD Isolation Bypass Function software project complies with the criteria contained in the SQAPM. {{Design Acceptance Criteria}}

Table 3.2-1
ITAAC For Software Development

Design Commitment	Inspections, Tests, Analyses	Acceptance Criteria
1j1. The SCMP is developed for the RTIF software project.	Inspection of the SCMP for the RTIF software project will be performed. {{Design Acceptance Criteria}}	Report(s) exist and conclude that the SCMP for the RTIF software project complies with the criteria contained in the SQAPM. {{Design Acceptance Criteria}}
1j2. The SCMP is developed for the NMS software project.	Inspection of the SCMP for the NMS software project will be performed. {{Design Acceptance Criteria}}	Report(s) exist and conclude that the SCMP for NMS software project complies with the criteria contained in the SQAPM. {{Design Acceptance Criteria}}
1j3. The SCMP is developed for the SSLC/ESF software project.	Inspection of the SCMP for the SSLC/ESF software project will be performed. {{Design Acceptance Criteria}}	Report(s) exist and conclude that the SCMP for SSLC/ESF software project complies with the criteria contained in the SQAPM. {{Design Acceptance Criteria}}
1j4. The SCMP is developed for the ATWS/SLC software project.	Inspection of the SCMP for the ATWS/SLC software project will be performed. {{Design Acceptance Criteria}}	Report(s) exist and conclude that the SCMP for ATWS/SLC software project complies with the criteria contained in the SQAPM. {{Design Acceptance Criteria}}
1j5. The SCMP is developed for the VBIF software project.	Inspection of the SCMP for the VBIF software project will be performed. {{Design Acceptance Criteria}}	Report(s) exist and conclude that the SCMP for VBIF software project complies with the criteria contained in the SQAPM. {{Design Acceptance Criteria}}
1j6. The SCMP is developed for the GENE DPS software project.	Inspection of the SCMP for the GENE DPS software project will be performed. {{Design Acceptance Criteria}}	Report(s) exist and conclude that the SCMP for GENE DPS software project complies with the criteria contained in the SQAPM. {{Design Acceptance Criteria}}

Table 3.2-1
ITAAC For Software Development

Design Commitment	Inspections, Tests, Analyses	Acceptance Criteria
1j7. The SCMP is developed for the PIP software project.	Inspection of the SCMP for the PIP software project will be performed. {{Design Acceptance Criteria}}	Report(s) exist and conclude that the SCMP for PIP software project complies with the criteria contained in the SQAPM. {{Design Acceptance Criteria}}
1j8. The SCMP is developed for the HP CRD Isolation Bypass Function software project.	Inspection of the SCMP for the HP CRD Isolation Bypass Function software project will be performed. {{Design Acceptance Criteria}}	Report(s) exist and conclude that the SCMP for HP CRD Isolation Bypass Function software project complies with the criteria contained in the SQAPM. {{Design Acceptance Criteria}}
1k1. The STP is developed for the RTIF software project.	Inspection of the STP for the RTIF software project will be performed. {{Design Acceptance Criteria}}	Report(s) exist and conclude that the STP for the RTIF software project complies with the criteria contained in the SQAPM. {{Design Acceptance Criteria}}
1k2. The STP is developed for the NMS software project.	Inspection of the STP for the NMS software project will be performed. {{Design Acceptance Criteria}}	Report(s) exist and conclude that the STP for NMS software project complies with the criteria contained in the SQAPM. {{Design Acceptance Criteria}}
1k3. The STP is developed for the SSLC/ESF software project.	Inspection of the STP for the SSLC/ESF software project will be performed. {{Design Acceptance Criteria}}	Report(s) exist and conclude that the STP for SSLC/ESF software project complies with the criteria contained in the SQAPM. {{Design Acceptance Criteria}}
1k4. The STP is developed for the ATWS/SLC software project.	Inspection of the STP for the ATWS/SLC software project will be performed. {{Design Acceptance Criteria}}	Report(s) exist and conclude that the STP for ATWS/SLC software project complies with the criteria contained in the SQAPM. {{Design Acceptance Criteria}}

Table 3.2-1
ITAAC For Software Development

Design Commitment	Inspections, Tests, Analyses	Acceptance Criteria
1k5. The STP is developed for the VBIF software project.	Inspection of the STP for the VBIF software project will be performed. {{Design Acceptance Criteria}}	Report(s) exist and conclude that the STP for VBIF software project complies with the criteria contained in the SQAPM. {{Design Acceptance Criteria}}
1k6. The STP is developed for the GENE DPS software project.	Inspection of the STP for the GENE DPS software project will be performed. {{Design Acceptance Criteria}}	Report(s) exist and conclude that the STP for GENE DPS software project complies with the criteria contained in the SQAPM. {{Design Acceptance Criteria}}
1k7. The STP is developed for the PIP hardware and software project.	Inspection of the STP for the PIP software project will be performed. {{Design Acceptance Criteria}}	Report(s) exist and conclude that the STP for PIP software project complies with the criteria contained in the SQAPM. {{Design Acceptance Criteria}}
1k8. The STP is developed for the HP CRD Isolation Bypass Function hardware and software project.	Inspection of the STP for the HP CRD Isolation Bypass Function software project will be performed. {{Design Acceptance Criteria}}	Report(s) exist and conclude that the STP for HP CRD Isolation Bypass Function software project complies with the criteria contained in the SQAPM. {{Design Acceptance Criteria}}
1l1. The CySP is developed for the RTIF software project.	Inspection of the CySP for the RTIF software project will be performed. {{Design Acceptance Criteria}}	Report(s) exist and conclude that the CySP for the RTIF software project complies with the criteria contained in the CySPP. {{Design Acceptance Criteria}}
1l2. The CySP is developed for the NMS software project.	Inspection of the CySP for the NMS software project will be performed. {{Design Acceptance Criteria}}	Report(s) exist and conclude that the CySP for NMS software project complies with the criteria contained in the CySPP. {{Design Acceptance Criteria}}

Table 3.2-1
ITAAC For Software Development

Design Commitment	Inspections, Tests, Analyses	Acceptance Criteria
113. The CySP is developed for the SSLC/ESF software project.	Inspection of the CySP for the SSLC/ESF software project will be performed. {{Design Acceptance Criteria}}	Report(s) exist and conclude that the CySP for SSLC/ESF software project complies with the criteria contained in the CySPP. {{Design Acceptance Criteria}}
114. The CySP is developed for the ATWS/SLC software project.	Inspection of the CySP for the ATWS/SLC software project will be performed. {{Design Acceptance Criteria}}	Report(s) exist and conclude that the CySP for ATWS/SLC software project complies with the criteria contained in the CySPP. {{Design Acceptance Criteria}}
115. The CySP is developed for the VBIF software project.	Inspection of the CySP for the VBIF software project will be performed. {{Design Acceptance Criteria}}	Report(s) exist and conclude that the CySP for VBIF software project complies with the criteria contained in the CySPP. {{Design Acceptance Criteria}}
116. The CySP is developed for the GENE DPS software project.	Inspection of the CySP for the GENE DPS software project will be performed. {{Design Acceptance Criteria}}	Report(s) exist and conclude that the CySP for GENE DPS software project complies with the criteria contained in the CySPP. {{Design Acceptance Criteria}}
117. The CySP is developed for the PIP software project.	Inspection of the CySP for the PIP software project will be performed. {{Design Acceptance Criteria}}	Report(s) exist and conclude that the CySP for PIP software project complies with the criteria contained in the CySPP. {{Design Acceptance Criteria}}
118. The CySP is developed for the HP CRD Isolation Bypass Function software project.	Inspection of the CySP for the HP CRD Isolation Bypass Function software project will be performed. {{Design Acceptance Criteria}}	Report(s) exist and conclude that the CySP for HP CRD Isolation Bypass Function software project complies with the criteria contained in the CySPP. {{Design Acceptance Criteria}}

Table 3.2-1
ITAAC For Software Development

Design Commitment	Inspections, Tests, Analyses	Acceptance Criteria
2a1. The planning phase activities detailed in the RTIF software plans and CySP are completed for the RTIF software project.	The planning phase outputs are inspected and analyzed for the RTIF software project. {{Design Acceptance Criteria}}	Planning Phase Summary BRR(s) exist and conclude that the RTIF software project planning phase activities were performed in compliance with the RTIF software plans and CySP as derived from SMPM, SQAPM, and CySPP. {{Design Acceptance Criteria}}
2a2. The planning phase activities detailed in the NMS software plans and CySP are completed for the NMS software project.	The planning phase outputs are inspected and analyzed for the NMS software project. {{Design Acceptance Criteria}}	Planning Phase Summary BRR(s) exist and conclude that the NMS software project planning phase activities were performed in compliance with the NMS software plans and CySP as derived from SMPM, SQAPM, and CySPP. {{Design Acceptance Criteria}}
2a3. The planning phase activities detailed in the SSLC/ESF software plans and CySP are completed for the SSLC/ESF software project.	The planning phase outputs are inspected and analyzed for the SSLC/ESF software project. {{Design Acceptance Criteria}}	Planning Phase Summary BRR(s) exist and conclude that the SSLC/ESF software project planning phase activities were performed in compliance with the SSLC/ESF software plans and CySP as derived from SMPM, SQAPM, and CySPP. {{Design Acceptance Criteria}}
2a4. The planning phase activities detailed in the ATWS/SLC software plans and CySP are completed for the ATWS/SLC software project.	The planning phase outputs are inspected and analyzed for the ATWS/SLC software project. {{Design Acceptance Criteria}}	Planning Phase Summary BRR(s) exist and conclude that the ATWS/SLC software project planning phase activities were performed in compliance with the ATWS/SLC software plans and CySP as derived from SMPM, SQAPM, and CySPP. {{Design Acceptance Criteria}}

Table 3.2-1
ITAAC For Software Development

Design Commitment	Inspections, Tests, Analyses	Acceptance Criteria
2a5. The planning phase activities detailed in the VBIF software plans and CySP are completed for the VBIF software project.	The planning phase outputs are inspected and analyzed for the VBIF software project. {{Design Acceptance Criteria}}	Planning Phase Summary BRR(s) exist and conclude that the VBIF software project planning phase activities were performed in compliance with the VBIF software plans and CySP as derived from SMPM, SQAPM, and CySPP. {{Design Acceptance Criteria}}
2a6. The planning phase activities detailed in the GENE DPS software plans and CySP are completed for the GENE DPS software project.	The planning phase outputs are inspected and analyzed for the GENE DPS software project. {{Design Acceptance Criteria}}	Planning Phase Summary BRR(s) exist and conclude that the GENE DPS software project planning phase activities were performed in compliance with the GENE DPS software plans and CySP as derived from SMPM, SQAPM, and CySPP. {{Design Acceptance Criteria}}
2a7. The planning phase activities detailed in the PIP software plans and CySP are completed for the PIP software project.	The planning phase outputs are inspected and analyzed for the PIP software project. {{Design Acceptance Criteria}}	Planning Phase Summary BRR(s) exist and conclude that the PIP software project planning phase activities were performed in compliance with the PIP software plans and CySP as derived from SMPM, SQAPM, and CySPP. {{Design Acceptance Criteria}}

Table 3.2-1
ITAAC For Software Development

Design Commitment	Inspections, Tests, Analyses	Acceptance Criteria
2a8. The planning phase activities detailed in the HP CRD Isolation Bypass Function software plans and CySP are completed for the HP CRD Isolation Bypass Function software project.	The planning phase outputs are inspected and analyzed for the HP CRD Isolation Bypass Function software project. {{Design Acceptance Criteria}}	Planning Phase Summary BRR(s) exist and conclude that the HP CRD Isolation Bypass Function software project planning phase activities were performed in compliance with the HP CRD Isolation Bypass Function software plans and CySP as derived from SMPM, SQAPM, and CySPP. {{Design Acceptance Criteria}}
2b1. The requirements phase activities detailed in the RTIF software plans and CySP are completed for the RTIF software project.	The requirements phase outputs are inspected and analyzed for the RTIF software project. {{Design Acceptance Criteria}}	Requirements Phase Summary BRR(s) exist and conclude that the RTIF software project requirements phase activities were performed in compliance with the RTIF software plans and CySP as derived from SMPM, SQAPM, and CySPP. {{Design Acceptance Criteria}}
2b2. The requirements phase activities detailed in the NMS software plans and CySP are completed for the NMS software project.	The requirements phase outputs are inspected and analyzed for the NMS software project. {{Design Acceptance Criteria}}	Requirements Phase Summary BRR(s) exist and conclude that the NMS software project requirements phase activities were performed in compliance with the NMS software plans and CySP as derived from SMPM, SQAPM, and CySPP. {{Design Acceptance Criteria}}

Table 3.2-1
ITAAC For Software Development

Design Commitment	Inspections, Tests, Analyses	Acceptance Criteria
2b3. The requirements phase activities detailed in the SSLC/ESF software plans and CySP are completed for the SSLC/ESF software project.	The requirements phase outputs are inspected and analyzed for the SSLC/ESF software project. {{Design Acceptance Criteria}}	Requirements Phase Summary BRR(s) exist and conclude that the SSLC/ESF software project requirements phase activities were performed in compliance with the SSLC/ESF software plans and CySP as derived from SMPM, SQAPM, and CySPP. {{Design Acceptance Criteria}}
2b4. The requirements phase activities detailed in the ATWS/SLC software plans and CySP are completed for the ATWS/SLC software project.	The requirements phase outputs are inspected and analyzed for the ATWS/SLC software project. {{Design Acceptance Criteria}}	Requirements Phase Summary BRR(s) exist and conclude that the ATWS/SLC software project requirements phase activities were performed in compliance with the ATWS/SLC software plans and CySP as derived from SMPM, SQAPM, and CySPP. {{Design Acceptance Criteria}}
2b5. The requirements phase activities detailed in the VBIF software plans and CySP are completed for the VBIF software project.	The requirements phase outputs are inspected and analyzed for the VBIF software project. {{Design Acceptance Criteria}}	Requirements Phase Summary BRR(s) exist and conclude that the VBIF software project requirements phase activities were performed in compliance with the VBIF software plans and CySP as derived from SMPM, SQAPM, and CySPP. {{Design Acceptance Criteria}}

Table 3.2-1
ITAAC For Software Development

Design Commitment	Inspections, Tests, Analyses	Acceptance Criteria
2b6. The requirements phase activities detailed in the GENE DPS software plans and CySP are completed for the GENE DPS software project.	The requirements phase outputs are inspected and analyzed for the GENE DPS software project. {{Design Acceptance Criteria}}	Requirements Phase Summary BRR(s) exist and conclude that the GENE DPS software project requirements phase activities were performed in compliance with the GENE DPS software plans and CySP as derived from SMPM, SQAPM, and CySPP. {{Design Acceptance Criteria}}
2b7. The requirements phase activities detailed in the PIP software plans and CySP are completed for the PIP software project.	The requirements phase outputs are inspected and analyzed for the PIP software project. {{Design Acceptance Criteria}}	Requirements Phase Summary BRR(s) exist and conclude that the PIP software project requirements phase activities were performed in compliance with the PIP software plans and CySP as derived from SMPM, SQAPM, and CySPP. {{Design Acceptance Criteria}}
2b8. The requirements phase activities detailed in the HP CRD Isolation Bypass Function software plans and CySP are completed for the HP CRD Isolation Bypass Function software project.	The requirements phase outputs are inspected and analyzed for the HP CRD Isolation Bypass Function software project. {{Design Acceptance Criteria}}	Requirements Phase Summary BRR(s) exist and conclude that the HP CRD Isolation Bypass Function software project requirements phase activities were performed in compliance with the HP CRD Isolation Bypass Function software plans and CySP as derived from SMPM, SQAPM, and CySPP. {{Design Acceptance Criteria}}

Table 3.2-1
ITAAC For Software Development

Design Commitment	Inspections, Tests, Analyses	Acceptance Criteria
2c1. The design phase activities detailed in the RTIF software plans and CySP are completed for the RTIF software project.	The design phase outputs are inspected and analyzed for the RTIF software project. {{Design Acceptance Criteria}}	Design Phase Summary BRR(s) exist and conclude that the RTIF software project design phase activities were performed in compliance with the RTIF software plans and CySP as derived from SMPM, SQAPM, and CySPP. {{Design Acceptance Criteria}}
2c2. The design phase activities detailed in the NMS software plans and CySP are completed for the NMS software project.	The design phase outputs are inspected and analyzed for the NMS software project. {{Design Acceptance Criteria}}	Design Phase Summary BRR(s) exist and conclude that the NMS software project design phase activities were performed in compliance with the NMS software plans and CySP as derived from SMPM, SQAPM, and CySPP. {{Design Acceptance Criteria}}
2c3. The design phase activities detailed in the SSLC/ESF software plans and CySP are completed for the SSLC/ESF software project.	The design phase outputs are inspected and analyzed for the SSLC/ESF software project. {{Design Acceptance Criteria}}	Design Phase Summary BRR(s) exist and conclude that the SSLC/ESF software project design phase activities were performed in compliance with the SSLC/ESF software plans and CySP as derived from SMPM, SQAPM, and CySPP. {{Design Acceptance Criteria}}
2c4. The design phase activities detailed in the ATWS/SLC software plans and CySP are completed for the ATWS/SLC software project.	The design phase outputs are inspected and analyzed for the ATWS/SLC software project. {{Design Acceptance Criteria}}	Design Phase Summary BRR(s) exist and conclude that the ATWS/SLC software project design phase activities were performed in compliance with the ATWS/SLC software plans and CySP as derived from SMPM, SQAPM, and CySPP. {{Design Acceptance Criteria}}

Table 3.2-1
ITAAC For Software Development

Design Commitment	Inspections, Tests, Analyses	Acceptance Criteria
2c5. The design phase activities detailed in the VBIF software plans and CySP are completed for the VBIF software project.	The design phase outputs are inspected and analyzed for the VBIF software project. {{Design Acceptance Criteria}}	Design Phase Summary BRR(s) exist and conclude that the VBIF software project design phase activities were performed in compliance with the VBIF software plans and CySP as derived from SMPM, SQAPM, and CySPP. {{Design Acceptance Criteria}}
2c6. The design phase activities detailed in the GENE DPS software plans and CySP are completed for the GENE DPS software project.	The design phase outputs are inspected and analyzed for the GENE DPS software project. {{Design Acceptance Criteria}}	Design Phase Summary BRR(s) exist and conclude that the GENE DPS software project design phase activities were performed in compliance with the GENE DPS software plans and CySP as derived from SMPM, SQAPM, and CySPP. {{Design Acceptance Criteria}}
2c7. The design phase activities detailed in the PIP software plans and CySP are completed for the PIP software project.	The design phase outputs are inspected and analyzed for the PIP software project. {{Design Acceptance Criteria}}	Design Phase Summary BRR(s) exist and conclude that the PIP software project design phase activities were performed in compliance with the PIP software plans and CySP as derived from SMPM, SQAPM, and CySPP. {{Design Acceptance Criteria}}

Table 3.2-1
ITAAC For Software Development

Design Commitment	Inspections, Tests, Analyses	Acceptance Criteria
2c8. The design phase activities detailed in the HP CRD Isolation Bypass Function software plans and CySP are completed for the HP CRD Isolation Bypass Function software project.	The design phase outputs are inspected and analyzed for the HP CRD Isolation Bypass Function software project. {{Design Acceptance Criteria}}	Design Phase Summary BRR(s) exist and conclude that the HP CRD Isolation Bypass Function software project design phase activities were performed in compliance with the HP CRD Isolation Bypass Function software plans and CySP as derived from SMPM, SQAPM, and CySPP. {{Design Acceptance Criteria}}
2d1. The implementation phase activities detailed in the RTIF software plans and CySP are completed for the RTIF software project.	The implementation phase outputs are inspected and analyzed for the RTIF software project.	Implementation Phase Summary BRR(s) exist and conclude that the RTIF software project implementation phase activities were performed in compliance with the RTIF software plans and CySP as derived from SMPM, SQAPM, and CySPP.
2d2. The implementation phase activities detailed in the NMS software plans and CySP are completed for the NMS software project.	The implementation phase outputs are inspected and analyzed for the NMS software project.	Implementation Phase Summary BRR(s) exist and conclude that the NMS software project implementation phase activities were performed in compliance with the NMS software plans and CySP as derived from SMPM, SQAPM, and CySPP.
2d3. The implementation phase activities detailed in the SSLC/ESF software plans and CySP are completed for the SSLC/ESF software project.	The implementation phase outputs are inspected and analyzed for the SSLC/ESF software project.	Implementation Phase Summary BRR(s) exist and conclude that the SSLC/ESF software project implementation phase activities were performed in compliance with the SSLC/ESF software plans and CySP as derived from SMPM, SQAPM, and CySPP.

Table 3.2-1
ITAAC For Software Development

Design Commitment	Inspections, Tests, Analyses	Acceptance Criteria
2d4. The implementation phase activities detailed in the ATWS/SLC software plans and CySP are completed for the ATWS/SLC software project.	The implementation phase outputs are inspected and analyzed for the ATWS/SLC software project.	Implementation Phase Summary BRR(s) exist and conclude that the ATWS/SLC software project implementation phase activities were performed in compliance with the ATWS/SLC software plans and CySP as derived from SMPM, SQAPM, and CySPP.
2d5. The implementation phase activities detailed in the VBIF software plans and CySP are completed for the VBIF software project.	The implementation phase outputs are inspected and analyzed for the VBIF software project.	Implementation Phase Summary BRR(s) exist and conclude that the VBIF software project implementation phase activities were performed in compliance with the VBIF software plans and CySP as derived from SMPM, SQAPM, and CySPP.
2d6. The implementation phase activities detailed in the GENE DPS software plans and CySP are completed for the GENE DPS software project.	The implementation phase outputs are inspected and analyzed for the GENE DPS software project.	Implementation Phase Summary BRR(s) exist and conclude that the GENE DPS software project implementation phase activities were performed in compliance with the GENE DPS software plans and CySP as derived from SMPM, SQAPM, and CySPP.
2d7. The implementation phase activities detailed in the PIP software plans and CySP are completed for the PIP software project.	The implementation phase outputs are inspected and analyzed for the PIP software project.	Implementation Phase Summary BRR(s) exist and conclude that the PIP software project implementation phase activities were performed in compliance with the PIP software plans and CySP as derived from SMPM, SQAPM, and CySPP.

Table 3.2-1
ITAAC For Software Development

Design Commitment	Inspections, Tests, Analyses	Acceptance Criteria
2d8. The implementation phase activities detailed in the HP CRD Isolation Bypass Function software plans and CySP are completed for the HP CRD Isolation Bypass Function software project.	The implementation phase outputs are inspected and analyzed for the HP CRD Isolation Bypass Function software project.	Implementation Phase Summary BRR(s) exist and conclude that the HP CRD Isolation Bypass Function software project implementation phase activities were performed in compliance with the HP CRD Isolation Bypass Function software plans and CySP as derived from SMPM, SQAPM, and CySPP.
2e1. The test phase activities detailed in the RTIF software plans and CySP are completed for the RTIF software project.	The test phase outputs are inspected and analyzed for the RTIF software project.	Test Phase Summary BRR(s) exist and conclude that the RTIF software project test phase activities were performed in compliance with the RTIF software plans and CySP as derived from SMPM, SQAPM, and CySPP.
2e2. The test phase activities detailed in the NMS software plans and CySP are completed for the NMS software project.	The test phase outputs are inspected and analyzed for the NMS software project.	Test Phase Summary BRR(s) exist and conclude that the NMS software project test phase activities were performed in compliance with the NMS software plans and CySP as derived from SMPM, SQAPM, and CySPP.
2e3. The test phase activities detailed in the SSLC/ESF software plans and CySP are completed for the SSLC/ESF software project.	The test phase outputs are inspected and analyzed for the SSLC/ESF software project.	Test Phase Summary BRR(s) exist and conclude that the SSLC/ESF software project test phase activities were performed in compliance with the SSLC/ESF software plans and CySP as derived from SMPM, SQAPM, and CySPP.

Table 3.2-1
ITAAC For Software Development

Design Commitment	Inspections, Tests, Analyses	Acceptance Criteria
2e4. The test phase activities detailed in the ATWS/SLC software plans and CySP are completed for the ATWS/SLC software project.	The test phase outputs are inspected and analyzed for the ATWS/SLC software project.	Test Phase Summary BRR(s) exist and conclude that the ATWS/SLC software project test phase activities were performed in compliance with the ATWS/SLC software plans and CySP as derived from SMPM, SQAPM, and CySPP.
2e5. The test phase activities detailed in the VBIF software plans and CySP are completed for the VBIF software project.	The test phase outputs are inspected and analyzed for the VBIF software project.	Test Phase Summary BRR(s) exist and conclude that the VBIF software project test phase activities were performed in compliance with the VBIF software plans and CySP as derived from SMPM, SQAPM, and CySPP.
2e6. The test phase activities detailed in the GENE DPS software plans and CySP are completed for the GENE DPS software project.	The test phase outputs are inspected and analyzed for the GENE DPS software project.	Test Phase Summary BRR(s) exist and conclude that the GENE DPS software project test phase activities were performed in compliance with the GENE DPS software plans and CySP as derived from SMPM, SQAPM, and CySPP.
2e7. The test phase activities detailed in the PIP software plans and CySP are completed for the PIP software project.	The test phase outputs are inspected and analyzed for the PIP software project.	Test Phase Summary BRR(s) exist and conclude that the PIP software project test phase activities were performed in compliance with the PIP software plans and CySP as derived from SMPM, SQAPM, and CySPP.

Table 3.2-1
ITAAC For Software Development

Design Commitment	Inspections, Tests, Analyses	Acceptance Criteria
2e8. The test phase activities detailed in the HP CRD Isolation Bypass Function software plans and CySP are completed for the HP CRD Isolation Bypass Function software project.	The test phase outputs are inspected and analyzed for the HP CRD Isolation Bypass Function software project.	Test Phase Summary BRR(s) exist and conclude that the HP CRD Isolation Bypass Function software project test phase activities were performed in compliance with the HP CRD Isolation Bypass Function software plans and CySP as derived from SMPM, SQAPM, and CySPP.
3a1. The installation phase activities detailed in the RTIF software plans and CySP are completed for the RTIF software project.	The installation phase outputs for the RTIF software project, including RTIF FAT and RTIF Cyber Security FAT, are inspected and analyzed .	Installation Phase Summary BRR(s) exist and conclude that the RTIF software project installation phase activities were performed in compliance with the RTIF software plans and CySP as derived from SMPM, SQAPM, and CySPP.
3a2. The RTIF software project performs as designed.	FAT is performed on the RTIF software project.	RTIF FAT report(s) exist and concludes that the RTIF software project is in compliance with the RTIF software plans as derived from the SMPM, SQAPM, and CySPP.
3a3. The RTIF software project is cyber secure.	A cyber security FAT will be performed for the RTIF software project.	RTIF cyber security FAT report(s) exist and conclude that the RTIF software project is in compliance with the RTIF cyber security program requirements as derived from the SMPM, SQAPM, and CySPP.

Table 3.2-1
ITAAC For Software Development

Design Commitment	Inspections, Tests, Analyses	Acceptance Criteria
3b1. The installation phase activities detailed in the NMS software plans and CySP are completed for the NMS software project.	The installation phase outputs for the NMS software project, including NMS FAT and NMS Cyber Security FAT, are inspected and analyzed.	Installation Phase Summary BRR(s) exists and concludes that the NMS software project installation phase activities were performed in compliance with the NMS software plans and CySP as derived from SMPM, SQAPM, and CySPP.
3b2. The NMS software project performs as designed.	FAT is performed on the NMS software project.	NMS FAT report(s) exist and conclude that the NMS software project is in compliance with the NMS software plans as derived from the SMPM, SQAPM, and CySPP.
3b3. The NMS software project is cyber secure.	A cyber security FAT will be performed for the NMS software project.	NMS cyber security FAT report(s) exist and conclude that the NMS software project is in compliance with the NMS cyber security program requirements as derived from the SMPM, SQAPM, and CySPP.
3c1. The installation phase activities detailed in the SSLC/ESF software plans and CySP are completed for the SSLC/ESF software project.	The installation phase outputs for the SSLC/ESF software project, including SSLC/ESF FAT and SSLC/ESF Cyber Security FAT, are inspected and analyzed.	Installation Phase Summary BRR(s) exist and conclude that the SSLC/ESF software project installation phase activities were performed in compliance with the SSLC/ESF software plans and CySP as derived from SMPM, SQAPM, and CySPP.

Table 3.2-1
ITAAC For Software Development

Design Commitment	Inspections, Tests, Analyses	Acceptance Criteria
3c2. The SSLC/ESF software project performs as designed.	FAT is performed on the SSLC/ESF software project.	SSLC/ESF FAT report(s) exist and conclude that the SSLC/ESF software project is in compliance with the SSLC/ESF software plans as derived from the SMPM, SQAPM, and CySPP.
3c3. The SSLC/ESF software project is cyber secure.	A cyber security FAT will be performed for the SSLC/ESF software project.	SSLC/ESF cyber security FAT report(s) exist and conclude that the SSLC/ESF software project is in compliance with the SSLC/ESF CySP as derived from the SMPM, SQAPM, and CySPP.
3d1. The installation phase activities detailed in the ATWS/SLC software plans and CySP are completed for the ATWS/SLC software project.	The installation phase outputs for the ATWS/SLC software project, including ATWS/SLC FAT and ATWS/SLC Cyber Security FAT, are inspected and analyzed.	Installation Phase Summary BRR(s) exist and conclude that the ATWS/SLC software project installation phase activities were performed in compliance with the ATWS/SLC software plans and CySP as derived from SMPM, SQAPM, and CySPP.
3d2. The ATWS/SLC software project performs as designed.	FAT is performed on the ATWS/SLC software project.	ATWS/SLC FAT report exist and conclude that the ATWS/SLC software project is in compliance with the ATWS/SLC software plans as derived from the SMPM, SQAPM, and CySPP.
3d3. The ATWS/SLC software project is cyber secure.	A cyber security FAT will be performed for the ATWS/SLC software project.	ATWS/SLC cyber security FAT report(s) exist and conclude that the ATWS/SLC software project is in compliance with the ATWS/SLC CySP as derived from the SMPM, SQAPM, and CySPP.

Table 3.2-1
ITAAC For Software Development

Design Commitment	Inspections, Tests, Analyses	Acceptance Criteria
3e1. The installation phase activities detailed in the VBIF software plans and CySP are completed for the VBIF software project.	The installation phase outputs for the VBIF software project, including VBIF FAT and VBIF Cyber Security FAT, are inspected and analyzed.	Installation Phase Summary BRR(s) exist and conclude that the VBIF software project installation phase activities were performed in compliance with the VBIF software plans and CySP as derived from SMPM, SQAPM, and CySPP.
3e2. The VBIF software project performs as designed.	FAT is performed on the VBIF software project.	VBIF FAT report(s) exist and conclude that the VBIF software project is in compliance with the VBIF software plans as derived from the SMPM, SQAPM, and CySPP.
3e3. The VBIF software project is cyber secure.	A cyber security FAT will be performed for the VBIF software project.	VBIF cyber security FAT report(s) exist and conclude that the VBIF software project is in compliance with the VBIF CySP as derived from the SMPM, SQAPM, and CySPP.
3f1. The installation phase activities detailed in the GENE DPS software plans and CySP are completed for the GENE DPS software project.	The installation phase outputs for the GENE DPS software project, including GENE DPS FAT and GENE DPS Cyber Security FAT, are inspected and analyzed.	Installation Phase Summary BRR(s) exist and conclude that the GENE DPS software project installation phase activities were performed in compliance with the GENE DPS software plans and CySP as derived from SMPM, SQAPM, and CySPP.
3f2. The GENE DPS software project performs as designed.	FAT is performed on the GENE DPS software project.	GENE DPS FAT report(s) exist and conclude that the GENE DPS software project is in compliance with the GENE DPS software plans as derived from the SMPM, SQAPM, and CySPP.

Table 3.2-1
ITAAC For Software Development

Design Commitment	Inspections, Tests, Analyses	Acceptance Criteria
3f3. The GENE DPS software project is cyber secure.	A cyber security FAT will be performed for the GENE DPS software project.	GENE DPS cyber security FAT report(s) exist and conclude that the GENE DPS software project is in compliance with the GENE DPS CySP as derived from the SMPM, SQAPM, and CySPP.
3g1. The installation phase activities detailed in the PIP software plans and CySP are completed for the PIP software project.	The installation phase outputs for the PIP software project, including PIP FAT and PIP Cyber Security FAT, are inspected and analyzed.	Installation Phase Summary BRR(s) exist and conclude that the PIP software project installation phase activities were performed in compliance with the PIP software plans and CySP as derived from SMPM, SQAPM, and CySPP.
3g2. The PIP software project performs as designed.	FAT is performed on the PIP software project.	PIP FAT report(s) exist and conclude that the PIP software project is in compliance with the PIP software plans as derived from the SMPM, SQAPM, and CySPP.
3g3. The PIP software project is cyber secure.	A cyber security FAT will be performed for the PIP software project.	PIP cyber security FAT report(s) exist and conclude that the PIP software project is in compliance with the PIP CySP as derived from the SMPM, SQAPM, and CySPP.
3h1. The installation phase activities detailed in the HP CRD Isolation Bypass Function software plans and CySP are completed for the HP CRD Isolation Bypass Function software project.	The installation phase outputs for the HP CRD Isolation Bypass Function software project, including HP CRD Isolation Bypass Function FAT and HP CRD Isolation Bypass Function Cyber Security FAT, are inspected and analyzed.	Installation Phase Summary BRR(s) exist and conclude that the HP CRD Isolation Bypass Function software project installation phase activities were performed in compliance with the HP CRD Isolation Bypass Function software plans and CySP as derived from SMPM, SQAPM, and CySPP.

Table 3.2-1
ITAAC For Software Development

Design Commitment	Inspections, Tests, Analyses	Acceptance Criteria
3h2. The HP CRD Isolation Bypass Function software project performs as designed.	FAT is performed on the HP CRD Isolation Bypass Function software project.	HP CRD Isolation Bypass Function FAT report(s) exist and conclude that the HP CRD Isolation Bypass Function software project is in compliance with the HP CRD Isolation Bypass Function software plans as derived from the SMPM, SQAPM, and CySPP.
3h3. The HP CRD Isolation Bypass Function software project is cyber secure.	A cyber security FAT will be performed for the HP CRD Isolation Bypass Function software project.	HP CRD Isolation Bypass Function cyber security FAT report(s) exist and conclude that the HP CRD Isolation Bypass Function software project is in compliance with the HP CRD Isolation Bypass Function CySP as derived from the SMPM, SQAPM, and CySPP.
3i. The complete ESBWR instrumentation and control systems with sensors and actuators is capable of operating as designed.	An overlapping and encompassing SAT is performed on the as-built platforms and network segments.	The Installation Phase Summary BRR for the complete ESBWR instrumentation and control system SAT exists and concludes that the complete ESBWR instrumentation and control system with sensors and actuators is capable of operating as designed and is in compliance with the software project plans and CySP as derived from the SMPM, SQAPM and CySPP.
3j1. The RTIF software project performs as designed.	A RTIF software project SAT is performed.	RTIF cyber security SAT report(s) exist and conclude that the RTIF software project is in compliance with the RTIF CySP as derived from the SMPM, SQAPM, and CySPP.

Table 3.2-1
ITAAC For Software Development

Design Commitment	Inspections, Tests, Analyses	Acceptance Criteria
3j2. The RTIF software project is cyber secure.	A RTIF software project cyber security SAT is performed.	RTIF cyber security SAT report(s) exist and conclude that the RTIF software project is in compliance with the RTIF CySP as derived from the SMPM, SQAPM, and CySPP.
3k1. The NMS software project performs as designed.	A NMS software project SAT is performed.	NMS SAT report(s) exist and conclude that the NMS software project is in compliance with the NMS software plans as derived from the SMPM, SQAPM, and CySPP.
3k2. The NMS software project is cyber secure.	A NMS software project cyber security SAT is performed.	NMS cyber security SAT report(s) exist and conclude that the NMS software project is in compliance with the NMS CySP as derived from the SMPM, SQAPM, and CySPP.
3l1. The SSLC/ESF software project performs as designed.	A SSLC/ESF software project SAT is performed.	SSLC/ESF SAT report(s) exist and conclude that the SSLC/ESF software project is in compliance with the SSLC/ESF software plans as derived from the SMPM, SQAPM, and CySPP.
3l2. The SSLC/ESF software project is cyber secure.	A SSLC/ESF software project cyber security SAT is performed.	SSLC/ESF cyber security SAT report(s) exist and conclude that the SSLC/ESF software project is in compliance with the SSLC/ESF CySP as derived from the SMPM, SQAPM, and CySPP.

Table 3.2-1
ITAAC For Software Development

Design Commitment	Inspections, Tests, Analyses	Acceptance Criteria
3m1. The ATWS/SLC software project performs as designed.	An ATWS/SLC software project SAT is performed.	ATWS/SLC SAT report(s) exist and conclude that the ATWS/SLC software project is in compliance with the ATWS/SLC software plans as derived from the SMPM, SQAPM, and CySPP.
3m2. The ATWS/SLC software project is cyber secure.	An ATWS/SLC software project cyber security SAT is performed.	ATWS/SLC cyber security SAT report(s) exist and conclude that the ATWS/SLC software project is in compliance with the ATWS/SLC CySP as derived from the SMPM, SQAPM, and CySPP.
3n1. The VBIF software project performs as designed.	A VBIF software project SAT is performed.	VBIF SAT report(s) exist and conclude that the VBIF software project is in compliance with the VBIF software plans as derived from the SMPM, SQAPM, and CySPP.
3n2. The VBIF software project is cyber secure.	A VBIF software project cyber security SAT is performed.	VBIF cyber security SAT report(s) exist and conclude that the VBIF software project is in compliance with the VBIF CySP as derived from the SMPM, SQAPM, and CySPP.
3o1. The GENE DPS software project performs as designed.	A GENE DPS software project SAT is performed.	GENE DPS SAT report(s) exist and conclude that the GENE DPS software project is in compliance with the GENE DPS software plans as derived from the SMPM, SQAPM, and CySPP.

Table 3.2-1
ITAAC For Software Development

Design Commitment	Inspections, Tests, Analyses	Acceptance Criteria
3o2. The GENE software project is cyber secure.	A GENE DPS software project cyber security SAT is performed.	GENE DPS cyber security SAT report(s) exist and conclude that the GENE DPS software project is in compliance with the GENE DPS CySP as derived from the SMPM, SQAPM, and CySPP.
3p1. The PIP software project performs as designed.	A PIP software project SAT is performed.	PIP SAT report(s) exist and conclude that the PIP software project is in compliance with the PIP software plans as derived from the SMPM, SQAPM, and CySPP.
3p2. The PIP software project is cyber secure.	A PIP software project cyber security SAT is performed.	PIP cyber security SAT report(s) exist and conclude that the PIP software project is in compliance with the PIP CySP as derived from the SMPM, SQAPM, and CySPP.
3q1. The HP CRD Isolation Bypass Function software project performs as designed.	A HP CRD Isolation Bypass Function software project SAT is performed.	HP CRD Isolation Bypass Function SAT report(s) exist and conclude that the HP CRD Isolation Bypass Function software project is in compliance with the HP CRD Isolation Bypass Function software plans as derived from the SMPM, SQAPM, and CySPP.
3q2. The HP CRD Isolation Bypass Function software project is cyber secure.	A HP CRD Isolation Bypass Function software project cyber security SAT is performed.	HP CRD Isolation Bypass Function cyber security SAT report(s) exist and conclude that the HP CRD Isolation Bypass Function software project is in compliance with the HP CRD Isolation Bypass Function CySP as derived from the SMPM, SQAPM, and CySPP.