

Draft

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U. S. EPR Standard Design Certification

AREVA NP Inc.

Docket No. 52-020

SRP Section: 14.03.03 - Piping Systems and Components - Inspections, Tests, Analyses, and Acceptance Criteria

SRP Section: 14.03.04 - Reactor Systems - Inspections, Tests, Analyses, and Acceptance Criteria

SRP Section: 14.03.06 - Electrical Systems - Inspections, Tests, Analyses, and Acceptance Criteria

SRP Section: 14.03.07 - Plant Systems - Inspections, Tests, Analyses, and Acceptance Criteria

SRP Section: 14.03.12 - Physical Security Hardware - Inspections, Tests, Analyses, and Acceptance Criteria

Application Section: FSAR Section 14.3

QUESTIONS for Construction Inspection and Allegations Branch (CCIB)

14.03.03-10

ITAAC Item number 7.2 in Table 2.2.3-3

The AC states the minimum storage volume per accumulator is 1942.3 cubic feet. In Tier 2 in Section 6.3 .2.2.2, it states that each accumulator has a total volume of approximately 1950 cubic feet and is filled with approximately 1250-1400 cubic feet of water and approximately 550-700 cubic feet of pressurized nitrogen. Where is the number 1942.3 cubic feet derived from given the numbers stated for cubic feet of water and nitrogen stated in Tier 2? The numbers shown in the AC of ITAAC and in Table 6.3-1 are different from those shown in Tier 2 material in Section 6.3.2.2.2. The 1942.3 cubic feet is not the minimum storage volume of water for an accumulator given that some of that space is filled with pressurized nitrogen. The number 1942.3 cubic feet is at a specified water volume, specified pressurized nitrogen volume, and given pressure inside of the tank. It would seem that the crucial number would be the volume of borated water in the tank at a given pressure.

14.03.03-11

ITAAC Item 7.3 in Table 2.2.3-3

What is the required maximum head loss coefficient, the .3941 sq ft flow area is based on ? What points is the piping segment length measurement based on ?

14.03.03-12

ITAAC Item number 7.4 in Table 2.2.3-3

The terms 'sufficient' and 'adequate' used in the three columns of this ITAAC are ambiguous. The pumps in Table 2.2.3-1 consist of RHR, MHSI, and LHSI pumps. A better definition of what the required head for these pumps is should be determined and

stated here. For example, is NPSHA greater than NPSHR at maximum analyzed runout flow?

Also applicable to following ITAAC:

ITAAC Item number 7.1 in Table 2.2.4-3  
ITAAC Item number 7.2 in Table 2.2.5-3  
ITAAC Item number 7.1 in Table 2.2.7-3  
ITAAC Item number 7.2 in Table 2.7.1-3  
ITAAC Item number 7.2 in Table 2.7.2-3  
ITAAC Item number 7.3 in Table 2.7.5-3  
ITAAC Item number 7.2 in Table 2.7.11-3

Evaluate these deficiencies and revise/respond as necessary.

14.03.03-13

ITAAC Item number 7.6 in Table 2.2.4-3

The EFW Steam Generator Isolation Valves 30LAR11, 21, 31, &41,AA006 and the EFW Discharge Header Isolation Valves 30LAR14, 24, 34, &44,AA001 can be controlled from both MCR and RSS per table 2.2.4-2. Should not the ITAAC also state that EFWS pumps can be aligned to any SG by the RSS also?

14.03.03-14

ITAAC Item 7.1 in Table 2.2.5-3

The Commitment Wording states that FPCS heat exchangers have the capacity to transfer design heat load to the CCW system. The ITA also refers to heat exchangers. However, in the AC the reference is to one FPCS train having the capacity to remove design heat load. The FPCS has two trains with each having one heat exchanger. So the ITAAC should state that the FPCS has the capacity to perform this operation assuming a single failure. Evaluate this deficiency and revise/respond as necessary.

14.03.03-15

ITAAC Item 7.5 in Table 2.2.6-3

The AC for Table 2.2.6-3, Item 7.5 states that the chemical and volume control charging pumps provide a minimum seal water flow rate of 8 gpm to each reactor coolant pump. How many CVCS pumps are required to operate to provide this flow rate?

14.03.03-16

ITAAC Item 7.1 in Table 2.2.3-3

SRP 14.3 App. A IV.4.B states that acceptance criteria should be objective and unambiguous.

The AC for Table 2.2.3-3, Item 7.1 states that the minimum design heat load per all four heat exchangers = 1.2479E+08. Is this heat transfer the sum of all four, or for each heat exchanger? What is the heat load during a single failure of one heat exchanger?

14.03.03-17

ITAAC Item 7.8 in Table 2.2.3-3

SRP 14.3 App. A IV.4.B states that acceptance criteria should be objective and unambiguous.

The AC Table for Table 2.2.3-3, Item 7.8 states that the flow test line allows SIS/RHRS pump flow back to the recirculation path. What is the required flow rate back to the recirculation path? Is this a full-flow test line? In otherwords, is the flow test just to determine there is flow or for verifying a specific flowrate?

14.03.03-18

ITAAC Item 4.4 in Table 2.2.3-3

SRP 14.3 App. A IV.4.B describes the three column format for ITAAC including the provision that the acceptance criteria in Column 3 for the inspections, test, or analyses described in Column 2 which, if met, demonstrate that the Design Commitments in Column 1 have been met.

The presentation of information in Table 2.2.3-3, Item 4.4 is ambiguous and confusing. First, the Commitment Wording states 'the SIS/RHRS has system interlocks: for opening of the accumulator injection path, opening authorization of RHRS suction path from RCS, and opening authorization of the hot leg SIS path'. The ITA states that 'tests will be performed using simulated signals to verify the interlock'. The AC states that 'The interlock functions in response to a simulated signal'.

The AC should state the interlock(s) respond to the simulated signal by the expected responses listed in the Commitment Wording when the interlock is activated.

Evaluate the deficiency and revise/respond as necessary.

14.03.04-2

ITAAC Item 2.4 in Table 2.3.2-1

This ITAAC has two requirements in Commitment Wording. This ITAAC should become two ITAAC.

Each requirement in the Commitment Wording would be one ITAAC with separate ITA and the Acceptance Criteria as split already.

Evaluate this deficiency and revise/respond as necessary.

14.03.04-3

ITAAC Item 3.4 in Table 2.3.3-3

This ITAAC and similar ITAAC should be constructed as shown below:

**The 2nd column ITA**

- a. Type tests, analyses, or a combination of type tests and analyses will be performed on the Seismic Category I equipment identified in Table 2.3.3-1 using analytical assumptions, or under conditions, which bound the Seismic Category I design requirements.
- b. Inspections will be performed of the as-installed seismic Category I equipment listed in Table 2.3.3-1 to verify that the equipment including anchorage is seismically bounded by the tested or analyzed conditions.

**The 3rd column AC**

- a. Test/analysis reports exist and conclude that the seismic Category I equipment listed in Table 2.3.3-1 can withstand seismic design basis loads without loss of safety function.
- b. Inspection reports exist and conclude that the as-built installed seismic Category I equipment listed in Table 2.3.3-1 including anchorage are seismically bounded by the tested or analyzed conditions.

This ITAAC is also applicable to following ITAAC:

- ITAAC Item 3.3 in Table 2.6.1-3
- ITAAC Item 3.3 in Table 2.6.3-3
- ITAAC Item 3.3 in Table 2.6.4-3
- ITAAC Item 3.3 in Table 2.6.6-3
- ITAAC Item 3.3 in Table 2.6.7-3
- ITAAC Item 3.4 in Table 2.6.8-4
- ITAAC Item 3.3 in Table 2.6.9-3
- ITAAC Item 3.3 in Table 2.6.13-3
- ITAAC Item 3.4 in Table 2.7.1-3
- ITAAC Item 3.4 in Table 2.7.2-3
- ITAAC Item 3.2 in Table 2.7.5-3
- ITAAC Item 3.4 in Table 2.7.11-3
- ITAAC Item 3.3 in Table 2.8.2-3
- ITAAC Item 3.4 in Table 2.8.6-3
- ITAAC Item 3.3 in Table 2.8.7-3
- ITAAC Item 3.1 in Table 2.9.4-3
- ITAAC Item 3.4 in Table 3.5-3

Evaluate these deficiencies and revise/respond as necessary.

14.03.04-4

ITAAC Item 5.1 in Table 2.3.3-3

Each of the ITA and AC for this ITAAC should be numbered since they require separate actions.

Evaluate this deficiency and revise/respond as necessary.

14.03.06-13

ITAAC Item 5.10 in Table 2.5.1-3

SRP 14.3, App. A IV.4.B describes the three column format for ITAAC including the provision that the acceptance criteria in Column 3 for the inspections, test, or analyses described in Column 2 which, if met, demonstrate that the Design Commitments in Column 1 have been met. The Table 2.5.1-3, Item 5.10

Commitment Wording states, "Physical separation or electrical isolation exists between Class 1E divisions and between Class 1E divisions and non-Class 1E cables." The ITA column states only that an inspection will be performed. Although inspection is appropriate to assess physical separation, it is not an adequate method to assess electrical isolation. Since the Commitment Wording requires either physical separation or electrical isolation, where physical separation does not exist, the inspector will require a suitable method to assess whether electrical isolation exists. This is generally accomplished by tests, analyses, or a combination of these. Physical separation and electrical independence are not the same in all cases. Why doesn't the ITA column provide for an appropriate method to assess electrical isolation or independence?

This is also applicable to the following ITAAC:

ITAAC Item 5.9 in Table 2.5.2-3

14.03.06-14

ITAAC Item 5.11 in Table 2.5.1-3

SRP 14.3, App. A IV.4.B describes the three column format for ITAAC including the provision that the acceptance criteria in Column 3 for the inspections, test, or analyses described in Column 2 which, if met, demonstrate that the Design Commitments in Column 1 have been met. The Commitment Wording states that EPSS switchgear, load centers, MCCs, and transformers, and their feeder and load breakers are sized to supply their load requirements. The ITA column states only that an inspection will be performed. It is more appropriate to state that an inspection and analyses were performed. An inspection is adequate to confirm that the stated equipment is consistent with design documents, but not to satisfy the Commitment Wording requirement that they are adequately sized. The correct sizing of switchgear, load centers, MCCs, and breakers is generally accomplished by an analyses of electrical distribution system loads under normal and accident conditions, and the evaluation of fault currents available at those equipment. Consequently, it appears that the ITA and Acceptance Criteria columns should verify not only that the installed breakers are consistent with design documents, but also that an analysis exists that establishes the application of the switchgear, load centers, MCCs, and breakers within their ratings. The ITA should have an extra step for the performance of analyses for sizing of the equipment both for worst case loadings and also fault currents.

Suggested wording for ITAs and ACs is as follows:

1st ITA -An inspection will be performed to the verify the ratings of the as-built equipment are per the analysis.

1st AC - A report exists and concludes that the ratings of as-built equipment is per the analyses.

2nd ITA - An analysis will be performed to size equipment for worst case loads and fault currents.

2nd AC - A report exists and concludes that the analysis results determined that the EPSS switchgear, load centers, MCCs, transformers, and their feeder and load breakers are sized for worst case loads and fault currents.

This is also applicable to the following ITAAC:

ITAAC Item 5.10 in Table 2.5.2-3

Evaluate these deficiencies and revise/respond and necessary.

14.03.06-15

ITAAC Item 5.12 in Table 2.5.1-3

SRP 14.3, App. A IV.4.B describes the three column format for ITAAC including the provision that the acceptance criteria in Column 3 for the inspections, test, or analyses described in Column 2 which, if met, demonstrate that the Design Commitments in Column 1 have been met. The Table 2.5.1-3, Item 5.12 Commitment Wording states that EPSS cables and busses are sized to supply their assigned load requirements. The ITA column states only that an inspection will be performed. An inspection is adequate to confirm that the field installed cable or bus is consistent with design documents, but not to satisfy the Commitment Wording requirement they are adequately sized. Correct sizing of equipment is generally accomplished by an analysis of electrical distribution system loads. The ITA and Acceptance Criteria columns should verify not only that the installed cables and buses are consistent with design documents, but also that an analysis exists that establishes their application within their ratings. Why don't the ITA and Acceptance Criteria columns provide for verification of analyses that establish the adequate cable and bus sizing?

Suggested wording for ITAs and ACs is as follows:

1st ITA -An inspection will be performed to the verify the ratings of the as-built cables and buses are per the analysis.

1st AC - A report exists and concludes that the ratings of as-built cables and buses are per the analyses.

2nd ITA - An analysis will be performed to size the cables and buses for worst case loads and fault currents.

2nd AC - A report exists and concludes that the analysis results determined that the cables and buses are sized for worst case loads and fault currents.

This is also applicable to the following ITAAC:

ITAAC Item 5.11 in Table 2.5.2-3

ITAAC Item 4.3 in Table 2.5.5-1 in that sizing of transformers and cables is done by analysis.

Evaluate these deficiencies and revise/respond as necessary.

14.03.06-16

ITAAC Item 6.1 in Table 2.5.1-3

SRP 14.3, App. A IV.4.B describes the three column format for ITAAC including the provision that the acceptance criteria in Column 3 for the inspections, test, or analyses described in Column 2 which, if met, demonstrate that the Design Commitments in Column 1 have been met. The Acceptance Criteria column for Table 2.5.1-3, Item 6.1 states, "Each EPSS division has an assigned EDG that *proves* power if there is a loss of offsite power." The word "proves" appears to be a typographical error, intended to be "provides", consistent with the Commitment Wording. Should the correct word be "provides"?

14.03.06-17

ITAAC Item 6.3 in Table 2.5.1-3

SRP 14.3, App. A IV.4.B describes the three column format for ITAAC including the provision that the acceptance criteria in Column 3 for the inspections, test, or analyses described in Column 2 which, if met, demonstrate that the Design Commitments in Column 1 have been met. The Commitment Wording states that the EPSS provides voltage at the supplied safety related equipment terminals that is greater than the minimum voltage. The ITA column states only that tests will be performed. In general, it is not practical to measure voltage at the terminals of electrical equipment such as motors. Consistent with this consideration, the Tier 2 information describes tests consisting of *bus* voltage measurements to verify results of voltage calculations. Note that the Commitment Wording goes beyond committing to the existence of the test validating the voltage analysis and requires "...voltage at the supplied safety related equipment terminals that is greater than the minimum voltage." Since the *tests* described in Tier 2 cannot by themselves verify the adequacy voltage at equipment terminals, it appears that ITA column should specify a combination of tests and analyses to demonstrate the Commitment Wording has been satisfied. Why doesn't the ITA provide for a combination of tests and analyses? Some configurations of the electrical distribution can not be evaluated by test because of the starting of large motors during accident conditions or restarting of reactor coolant pumps. Typically this is done through analysis.

Suggested wording is as follows:

Commitment Wording - The EPSS provides voltages at the safety-related equipment including those for worst case scenarios that exceed the minimum required operating voltages of that equipment.

ITA - Analysis and tests will be performed to verify that the EPSS provides voltages at the safety-related equipment including those for worst case scenarios that exceed the minimum required operating voltages of that equipment.

AC - A report exists and concludes that the tests and analyses results and tests determined that the EPSS provides voltages at the safety-related equipment including those for worst case scenarios that exceed the minimum required operating voltages of that equipment.

Evaluate these deficiencies and revise/respond as necessary.

14.03.06-18

ITAAC Items 5.8 and 5.9 in Table 2.5.2-3

SRP 14.3, App. A IV.4.B describes the three column format for ITAAC including the provision that the acceptance criteria in Column 3 for the inspections, test, or analyses described in Column 2 which, if met, demonstrate that the Design Commitments in Column 1 have been met. The ITA and Acceptance Criteria columns state, "See Tier 1 Section 2.5.1.5.9", and "See Tier 1 Section 2.5.1.5.10", respectively. The referenced sections cover the same topics as the referencing ITAAC but they are design commitments, not ITA or Acceptance Criteria. Consequently, this format does not appear to conform to the three column format described in the SRP. If the intent of this format is that ITAAC for the EUPS is adequately covered by the preceding chapter, then the Section 2.5.2 ITAAC may simply be omitted. Why don't Table 2.5.2-3 Items 5.8 and 5.9 ITA and Acceptance Criteria contain proper entries? It seems that these entries are to be similar to those for the EPSS ITAAC Items 5.9 and 5.10 in Table 2.5.1-3.

The reference is to Tier 1 material not to another ITAAC. What actions are necessary to determine if the cables and raceways are marked properly and that electrical isolation exists between Class 1E divisions and between Class 1 E divisions and non-Class 1E equipment? Sections 2.5.1.5.9 and 10 merely state what is in the Commitments for these two ITAAC. What is the criteria that must be met for these two ITAAC?

14.03.06-19

Table 2.5.2-3, Item 5.12

The Commitment states battery is able to provide power for starting and operating design loads, whereas acceptance criteria states battery can supply design loads. There is a difference between starting and supplying loads. Either the Commitment or acceptance criteria needs to be changed.

Also applicable to the following ITAAC:

ITAAC Item 3.1 in Table 2.5.11-1in regard to sizing batteries.

Evaluate these deficiencies and revise/respond as necessary.

14.03.06-20

ITAAC Item 3.1 in Table 2.5.3-2

SRP 14.3, App. A IV.4.B describes the three column format for ITAAC including the provision that the acceptance criteria in Column 3 for the inspections, test, or analyses described in Column 2 which, if met, demonstrate that the Design Commitments in Column 1 have been met. SRP 14.3, App. A IV.1.A.x defines “inspections” as visual observations, physical examinations, or review of records of this type activity that compare the SSC condition to one or more design commitments. Table 2.5.3-2, Item 3.1 ITA column requires verifying the independence of SBODG air start system from the EDG air start system by “inspection.” The air start system includes electrical components. Electrical system independence is typically established by tests, analyses, or both since it is usually not practical to verify its independence by visual observation. Should the ITA column for SBODG air start system independence include tests and/or analyses?

14.03.06-21

ITAAC Item 2.3 in Table 2.5.4-3

SRP 14.3, App. A IV.4.B describes the three column format for ITAAC including the provision that the acceptance criteria in Column 3 for the inspections, test, or analyses described in Column 2 which, if met, demonstrate that the Design Commitments in Column 1 have been met. SRP 14.3, App. A IV.1.A.x defines “inspections” as visual observations, physical examinations, or review of records of this type activity that compare the SSC condition to one or more design commitments. Table 2.5.4-3, Item 2.3 requires verifying that there are four *independent* EDGs by “inspection.” The EDGs are complex systems consisting of several electrical and mechanical subsystems whose independence cannot be practically verified by visual observation or physical examinations. Should the ITA column specify inspections, tests, analyses, or a combination of these to verify independence?

14.03.06-22

ITAAC Item 5.2 in Table 2.5.4-3

The Commitment should be rewritten to state 'The equipment loads listed in Table 2.5.4-2 are powered from the respective divisions listed in Table 2.5.4-2.'

The AC should be rewritten to state 'A test signal is provided in each division and is present at the respective Class 1E equipment loads identified in Table 2.5.4-2.'

Evaluate these deficiencies and revise/respond as necessary.

14.03.06-23

ITAAC Item 5.3 in Table 2.5.4-3

EDGs are sized by analyses to determine if their power ratings are sufficient to supply the connected loads. Should the ITA and AC include additional words, respectively, about an analysis being performed and the analysis and test results determining the capability of each EDG to supply its connected loads?

14.03.06-24

ITAAC Item 4.1 in Table 2.5.5-1

The Commitment Wording and AC both state that each EAT is connected to the four EPSS divisions. In Tier 2, Section 8.1.4.1, it states that each EAT is normally aligned to two EPSS divisions, and each serves as the alternate power source for the other two EPSS divisions. Each EAT is sized to provide power to loads in all four EPSS divisions under postulated design basis conditions.

The ITAAC should more clearly convey what is described in Tier 2 or vice versa whichever is correct.

Evaluate this deficiency and revise/respond as necessary.

14.03.06-25

ITAAC Item 3.2 in Table 2.5.9-1

There is a wording mistake in the first AC, the operative acronym should be MCR not RSS.

Evaluate this error and revise/respond as necessary.

14.03.06-26

ITAAC Item 2.1 in Table 2.5.9-1

Should not the ACs address the anchorage of the lighting fixtures being able to withstand seismic design basis loads?

Evaluate this deficiency and revise/respond as necessary.

14.03.06-27

ITAAC Item 3.1 in Table 2.5.1-3

It is recommended that these and similar ITAAC be revised to have the following wording for clarification and to be consistent with the standards for ITAAC that have been accepted for other certified designs.

For the second column, "Inspection, Tests, Analysis":

- a. Type tests, analyses, or a combination of type tests and analyses of seismic Category I equipment will be performed using analytical assumptions, or under conditions, which bound the Seismic Category I design requirements.
- b. Inspection will be performed of the as-installed seismic Category I equipment listed in Table 2.5.1-2 to verify that the equipment including anchorage is seismically bounded by the tested or analyzed conditions.

For the third column, "Acceptance Criteria":

- a. Test/analysis reports exist and conclude that the seismic Category I equipment can withstand seismic design basis loads without loss of safety function.
- b. Inspection reports exist and conclude that the as-installed seismic Category I equipment listed in Table 2.5.1-2 including anchorage are seismically bounded by the tested or analyzed conditions.

Other ITAAC to which wording above applies are the following:

- ITAAC Item 3.1 in Table 2.5.2-3
- ITAAC Item 3.7 in Table 2.5.4-3
- ITAAC Item 3.8 in Table 2.5.4-3
- ITAAC Item 3.1 in Table 2.5.10-2

14.03.06-28

ITAAC Item 5.1 in Table 2.2.1-5

There is an apparent typo in the AC for Table 2.2.1-5, Item 5.1. Table 2.2.1.3 should be Table 2.2.1-3, in two places.

Evaluate this deficiency and revise/respond as necessary.

14.03.06-29

ITAAC Item 5.1 in Table 2.4.16-2

SRP 14.3 App. A IV.1.A defines "inspection" as visual observations, physical observations, or a review of records of these activities. "Test" is defined as the actuation, or operation, or establishment or specified conditions to evaluate the performance of components.

The IAT for Table 2.4.16-2, Item 5.1 requires inspection to verify that the RPVL conditioning cabinets receive power from their respective Class 1E division. This type of verification is generally not possible by inspection and usually requires a test. Should the IAT for this item require a test?

14.03.06-30

ITAAC Item 19 in Table 3.1-1

SRP 14.3 App. A IV.1.A defines “type test” a test on one or more sample components of the same type and manufacturer to qualify other components of that same type and manufacturer. A type test is not necessarily a test of the as-built structures, systems or components. “Tests” are defined as the actuation or operation, or establishment of specified conditions, to evaluate the performance or integrity of as-built structures, systems, or components, unless explicitly stated otherwise.

The ITA for Table 3.1-1, Item 19 specifies type tests, analysis, or a combination of these, of the of the security communications system. The Commitment and AC appears to be directed at the as-built facility and requires tests and/or inspections of the installed communications facilities rather than type tests or only analyses. Should the ITA also specify tests and/or inspections of the as-built facility?

Also applicable to the following ITAAC:

ITAAC Item 20 in Table 3.1-1

Evaluate these deficiencies and revise/respond as necessary.

#### 14.03.07-2

ITAAC Item 3.1 in Table 2.6.1-3

SRP 14.3, App. A IV.4.B describes the three column format for ITAAC including the provision that the acceptance criteria (AC) in Column 3 for the inspections, test, or analyses (IAT) described in Column 2 which, if met, demonstrate that the Design Commitments in Column 1 have been met.

Table 2.6.1-3, Item 3.1 IAT wording does not align with the Commitment Wording or AC. The Commitment Wording and AC wording both state CRACS equipment listed in Table 2.6.1-1 is *designed, inspected, and tested in accordance with ASME AG-1*. The ITA states that *analysis and inspections* will be done, but does not state that *testing* will be performed. Why is the word *testing* not used in the IAT?

This RAI is also applicable to following ITAAC:

ITAAC Item 3.1 in Table 2.6.3-3

ITAAC Item 3.1 in Table 2.6.4-3

ITAAC Item 3.1 in Table 2.6.6-3

ITAAC Item 3.1 in Table 2.6.7-3

ITAAC Item 3.1 & 3.2 in Table 2.6.8-4

ITAAC Item 3.1 in Table 2.6.9-3

ITAAC Item 3.1 in Table 2.6.13-3

Evaluate these deficiencies and revise/respond as necessary.

#### 14.03.07-3

ITAAC Item 4.3 in Table 2.6.1-3, the ITA should be split into two paragraphs.

The design commitment states this requirement: 'Actuators listed as being controlled by a PACS module in Table 2.6.1-2 are controlled by a PACS module.' Table 2.6.1-2 does not list actuators just equipment. It is more appropriate to refer to equipment instead of their actuators. The design commitment seems to specify verification that those equipment have PACS modules which actuate them, whereas the ITA and AC only verify that the actuators actuate to different states dependent on that requested by a test signal.

The design commitment is better stated as follows: 'Equipment and valves listed as being controlled by a PACS module in Table 2.6.1-2 actuate to the state requested by a test signal.'

*Applicable also to following ITAAC:*

*ITAAC 4.3 in Table 2.6.3-3*

*ITAAC 4.3 in Table 2.6.4-3*

*ITAAC 4.3 in Table 2.6.6-3*

*ITAAC 4.3 in Table 2.6.7-3*

*ITAAC 4.3 in Table 2.6.9-3*

*ITAAC 4.3 in Table 2.6.13-3*

*ITAAC 4.3 in Table 2.7.1-3*

*ITAAC 4.3 in Table 2.7.2-3*

*ITAAC 4.3 in Table 2.7.5-3*

*ITAAC 4.3 in Table 2.7.11-3*

*ITAAC 4.3 in Table 2.8.2-3*

*ITAAC 4.3 in Table 2.8.6-3*

*ITAAC 4.3 in Table 2.8.7-3*

*Evaluate these deficiencies and revise/respond as necessary.*

14.03.07-4

ITAAC Item 3.2 in Table 2.6.1-3

The AC for this ITAAC states 'equipment changes position as listed in Table 2.6.1-1'. This table includes mostly dampers, heaters, and fans. Dampers change position, but heaters and fans do not. The correct terminology would be to repeat what is in the Commitment Wording 'equipment listed in Table 2.6.1-1 can perform the functions listed in that table under system design basis conditions'.

This RAI is also applicable to the following ITAAC:

ITAAC Item 3.2 in Table 2.6.3-3

ITAAC Item 3.2 in Table 2.6.4-3

ITAAC Item 3.2 in Table 2.6.6-3

ITAAC Item 3.2 in Table 2.6.7-3

ITAAC Item 3.3 in Table 2.6.8-4

ITAAC Item 3.2 in Table 2.6.9-3

ITAAC Item 3.2 in Table 2.6.13-3

Evaluate and revise /respond as necessary.

14.03.07-5

ITAAC Item 6.1 in Table 2.6.1-3

The word 'conforms' in the AC should be 'confirms'.

Evaluate this deficiency and revise/respond as necessary.

14.03.07-6

ITAAC Item 6.2 in Table 2.6.1-3

SRP 14.3, App. A IV.4.B states that acceptance criteria should be objective and unambiguous.

The Table 2.6.1-3, Item 6.2 AC requires in item (c) that a CRE recirculation flow rate  $>$  or  $=$  to 3000 *cfm* be demonstrated. Is the flow rate measured in *acfm* or *scfm*?

The word 'conforms' in AC for steps a) and b) should be 'confirms'.

For the ITA for step c) and the AC for step c), there should be a design commitment in the Commitment Wording since these require an additional requirement not stated in the Commitment Wording.

Evaluate these deficiencies and revise/respond as necessary.

14.03.07-7

ITAAC Item 5.1 in Table 2.6.1-3

The second ITAAC for alternate feed is rather confusing as written considering that alternate feed is related to divisional pair not individual divisions. How is each division to be checked independently?

This is applicable to following ITAAC also:

ITAAC Item 5.1 in Table 2.6.3-3

ITAAC Item 5.1 in Table 2.6.4-3

ITAAC Item 5.1 in Table 2.6.6-3

ITAAC Item 5.1 in Table 2.6.7-3

ITAAC Item 5.1 in Table 2.7.1-3

ITAAC Item 5.1 in Table 2.7.2-3

ITAAC Item 5.1 in Table 2.7.5-3

ITAAC Item 5.1 in Table 2.7.11-3

ITAAC Item 5.1 in Table 2.8.2-3

ITAAC Item 5.1 in Table 2.8.6-3

ITAAC Item 5.1 in Table 2.8.7-3

Evaluate these deficiencies and revise/respond as necessary.

14.03.07-8

ITAAC Item 7.2 in Table 2.6.3-3

SRP 14.3 App. C.III.9 states that the third column of the ITAAC (Acceptance Criteria) should specify numerical values.

The Table 2.6.3-3, Item 7.2 AC states, in part, that... “upon receipt of a containment isolation signal (the) following actions occur automatically.”

- a. “The normal operating train is isolated by closing the isolation dampers.”
  - a.1. What are the isolation damper equipment ID numbers?
  - a.2. Why is there no requirement to measure the stroke time of closing of the isolation air dampers? If there is a required time, then the analysis should be part of the Commitment Wording and IAT.
- b. “The accident filtration train starts automatically, and the exhaust dampers to the iodine filtration train are aligned to the open position.”
  - b.1. What are the exhaust dampers to the iodine filtration train equipment ID numbers?
  - b.2. Why is there no requirement to measure the stroke time of opening of the exhaust dampers to the iodine filtration train? If there is a required time, then the analysis should be part of the Commitment Wording and IAT.
  - b.3. Why is there no requirement to measure the time of starting of the accident filtration train? If there is a required time, then the analysis should be part of the Commitment Wording and IAT.

14.03.07-9

ITAAC Item 2.3 in Table 2.6.4-3

SRP 14.3, App. A IV.4.B describes the three column format for ITAAC including the provision that the acceptance criteria (AC) in Column 3 for the inspections, test, or analyses (IAT) described in Column 2 which, if met, demonstrate that the Design Commitments in Column 1 have been met.

The Table 2.6.4-3, Item 2.3 IAT and AC wording do not align with the Commitment Wording. The Commitment Wording states that 'the FBVS is divided into two subsystems referred to as cells. The cells separate the ventilation system serving the systems in the Fuel Building. Each cell serves approximately half of the building'. The Commitment Wording contains more than one requirement, but none of those are related to the present ITA and AC on the topic of the two subsystems being in separate areas of FB.

Please provide a more appropriate Commitment Wording about the two subsystems being in separate areas of FB..

14.03.07-10

ITAAC Item 7.1 in Table 2.6.4-3

SRP 14.3 App. C.III.9 states that the third column of the ITAAC (Acceptance Criteria) should specify numerical values.

The Table 2.6.4-3, Item 7.1 AC states that the FBVS maintains a negative pressure in the FB relative to the environment, but no numerical value is given. What is the numerical value for negative pressure in the FB relative to the environment?

This RAI is also applicable to following ITAAC:

ITAAC Item 7.1 in Table 2.6.6-3 for negative pressure in SB relative to the environment.

ITAAC Item 7.1 in Table 2.6.8-4 for negative pressure in Containment Building relative to the environment.

Evaluate these deficiencies and revise/respond as necessary.

14.03.07-11

ITAAC Item 6.1 in Table 2.6.7-3

The Commitment Wording states that 'the SBVSE automatically controls the ambient conditions', but the AC states that 'the SBVSE automatically maintains recirculation airflows and exhaust airflows'. These two statements are different. The AC should focus on maintaining the ambient conditions by maintaining recirculation airflows and exhaust airflows.

Evaluate this deficiency and revise/respond as necessary.

14.03.07-12

ITAAC Item 7.2 in Table 2.6.4-3

SRP 14.3 App. C.III.9 states that the third column of the ITAAC (Acceptance Criteria) should specify numerical values.

The Table 2.6.4-3, Item 7.2 AC states, in part, that... "upon receipt of containment isolation signal or high radiation alarm signal in the Reactor Building, the FB is isolated from the NABVS by automatically closing the air supply and exhaust isolation dampers."

1. What are the equipment ID numbers of the air supply and exhaust isolation dampers?
2. Why is there no requirement to measure the stroke time of closing of the air supply and exhaust isolation dampers? If there is a required time, then the analysis of required time should be part of the Commitment Wording and IAT.

14.03.07-13

ITAAC Item 7.2 in Table 2.6.6-3

The Commitment Wording states that 'the SBVS iodine filtration train starts automatically and the accident air is directed through iodine filtration train'. The ITA states something similar but

also states' the exhaust dampers to the iodine filtration train are aligned to open position' The AC states something similar to the ITA. What exhaust dampers are being referred to here and which SBVS iodine filtration trains? The ITA and AC specifies that each Safeguard Building division and each iodine filtration train tested. How many tests are required here?

Also applicable to following ITAAC:

ITAAC Item 7.3 in Table 2.6.6-3 - Which exhaust dampers?

ITAAC Item 7.4 in Table 2.6.6-3 - Which exhaust dampers? Also what is the value of the negative pressure inside FB and SB in the AC?

Evaluate these deficiencies and revise/respond as necessary.

#### 14.03.07-14

ITAAC Item 6.2 in Table 2.6.7-3

SRP 14.3 App. C.III.9 states that the third column of the ITAAC (Acceptance Criteria) should specify numerical values.

The Table 2.6.7-3, Item 6.2 AC states that the recirculation cooling units start automatically when the pump room temperature reaches a *preset maximum temperature*. However, no numerical value for *preset maximum temperature* is given. What is the numerical value for *preset maximum temperature* for automatically starting the recirculation cooling unit?

#### 14.03.07-15

ITAAC Item 5.1 in Table 2.6.8-4

The word 'component' in AC should be 'components'.

Also applicable to following ITAAC:

ITAAC Item 5.1 in Table 2.6.9-3

ITAAC Item 5.1 in Table 2.6.13-3

Evaluate these deficiencies and revise/respond as necessary.

#### 14.03.07-16

ITAAC Item 2.3 in Table 2.6.9-3

In the AC, the type of system should be defined by adding words 'independent heating, ventilation, and air conditioning' in front of system, and the type of division should be defined by adding words 'of the EPGBs' after division.

Applicable also to following ITAAC:

ITAAC Item 2.3 in Table 2.6.9-3 - Define word 'building' by placing words 'ESWS Pump' in front of it, and define word 'system' by placing word 'ventilation' in front of it. In addition, the Commitment Wording should be changed to the following : 'Physical separation exists between the four divisions of the ESWPBVS.'

Evaluate these deficiencies and revise/respond as necessary.

14.03.07-17

ITAAC Item 6.1 in Table 2.6.9-3

SRP 14.3 App. C.III.9 states that the third column of the ITAAC (Acceptance Criteria) should specify numerical values.

The Table 2.6.9-3, Item 6.1AC states that a separate test for each division verifies that *adequate flow rate* is maintained for ventilation of the EPGBs. However, no numerical value for adequate flow rate is given. What is the numerical value for adequate flow rate for ventilation of the EPGBs?

Applicable also to following ITAAC:

ITAAC Item 6.1 in Table 2.6.13-3

Evaluate these deficiencies and revise/respond as necessary.

14.03.07-18

ITAAC Item 4.4 in Table 2.7.1-3

In the Commitment Wording, replace the word 'auto' with the word 'automatically'. The AC should follow more closely the words in the Commitment Wording, for example, 'For a simulated CCWS low flow condition, the LHSI/RHR HX outlet valve is automatically opened.'

This is also applicable to following ITAAC:

ITAAC Item 4.5 in Table 2.7.1-3 In the Commitment Wording, replace the word 'auto' with the word 'automatically'. The AC should follow more closely the words in the Commitment Wording, for example, 'For a simulated surge tank level of MIN3, the associated train common header switchover valves are automatically isolated.'

ITAAC Item 4.6 in Table 2.7.1-3 In the Commitment Wording, replace the word 'auto' with the word 'automatically'. The AC should follow more closely the words in the Commitment Wording, for example, 'For a simulated surge tank level of MIN4, the associated CCWS pump is automatically tripped.'

ITAAC Item 4.7 in Table 2.7.1-3 In the Commitment Wording, replace the word 'auto' with the word 'automatically'. The AC should follow more closely the words in the Commitment Wording, for example, 'For a simulated flow rate difference between the supply and return from NAB and RWB, the non-safety related branch is automatically isolated.'

ITAAC Item 4.8 in Table 2.7.1-3 In the Commitment Wording, replace the word 'auto' with the word 'automatically'. The AC should follow more closely the words in the Commitment Wording, for example, 'For a simulated loss of one CCWS train, the cooling of the common "a" and/or "b" headers is automatically initiated.'

ITAAC Item 4.9 in Table 2.7.1-3 In the Commitment Wording, replace the word 'auto' with the word 'automatically'. The AC should follow more closely the words in the Commitment Wording, for example, 'For a simulated drop of surge tank level to MIN 4, the CCWS pump is automatically tripped.' **What is the difference between this ITAAC and the one for Item 4.6 in this same table?**

ITAAC Item 4.4 in Table 2.7.2-3 The AC should follow more closely the words in the Commitment Wording, for example, 'For a simulated trip of the running recirculation pump, the standby recirculation pump is automatically started.' The only pumps listed in Tables 2.7.2-1 and 2.7.2-2 are the Chilled Water Circulation pumps for Divisions 1 - 4. There is no mention of the recirculation pumps referred to in this ITAAC. What recirculation pumps are being referred to in this ITAAC??

ITAAC Item 3.3 in Table 2.7.6-1 The Commitment Wording does not state what initiates the CRACS maintaining the suppressant concentration in the floor. The AC should follow more closely the words in the Commitment Wording, for example, 'For a simulated running of the MCR air conditioning system (CRACS), the suppressant agent concentration within MCR sub-floor area enclosure is maintained.'

Evaluate these deficiencies and revise/respond as necessary.

14.03.07-19

ITAAC Item 7.2 in Table 2.7.1-3

The Commitment Wording, ITA, and AC refer to either sufficient or adequate NPSHA. What do sufficient or adequate NPSHA mean? Either the result of having NPSHA should be provided or a numerical value that equates to sufficient or adequate NPSHA.

14.03.07-20

ITAAC Item 7.3 in Table 2.7.1-3

SRP 14.3 App. C.III.9 states that the third column of the ITAAC (Acceptance Criteria) should specify numerical values.

The Table 2.7.1-3, Item 7.3 AC states, "A report exists and concludes that the CCWS starts within the following required time in response to a simulated SIS actuation signal." No time (numerical value) is given in the AC. What is the numerical value for... "CCWS starts within the following required time"?

Also applicable to following ITAAC:

ITAAC Item 7.1 in Table 2.7.2-3 - In the AC, either state what having the required temperature allows the system to do like in the Commitment Wording or state the actual temperature needed.

ITAAC Item 7.3 in Table 2.7.2-3 - The Commitment Wording should be split into two requirements. One for the required flow rate and the other for required response time. In the AC for required time, either state what having the required response time allows the system to do like in the Commitment Wording or state the actual response time needed. The type of wording could be either of these: 'A report exists and concludes that the SCWS starts within the required time to permit safety-related room and equipment cooling for design basis events.' or 'A report exists and concludes that the SCWS starts within "some stated time" in response to a simulated SCWS actuation signal.'

Evaluate these deficiencies and revise/respond as necessary.

14.03.07-21

ITAAC Item 7.7 in Table 2.7.1-3

In the AC, the first four words should be 'The as-installed valves change'.

Also applicable to following ITAAC:

ITAAC Item 7.8 in Table 2.7.1-3

In the AC, the word 'pump' should be plural if flow consists of flow from both pumps at same time which is what the Commitment Wording and IAT suggest. Proposed words -The flow test line allows flow of the CCWS pumps to flow back to the surge tank.'

ITAAC Item 7.9 in Table 2.7.1-3

In the AC, either an actual time should be stated or the words used in the Commitment Wording 'within the containment isolation response time' should be used.

ITAAC Item 7.5 in Table 2.7.5-3

In the AC, the word 'pump' should be plural if flow consists of flow from both pumps at same time which is what the Commitment Wording and IAT suggest. Proposed words -The flow test line allows flow of the fire water distribution system pumps to flow back to the fire water storage tank.'

ITAAC Item 8.1 in Table 2.7.5-3

In the AC, either an actual flowrate should be stated or the words used in the Commitment Wording should be used. The words 'required flow' are not very descriptive and leaves the acceptance criteria open-ended.

Evaluate these deficiencies and revise/respond as necessary.

14.03.07-22

ITAAC Item 7.5 in Table 2.7.2-3

SRP 14.3, App. A IV.4.B describes the three column format for ITAAC including the provision that the acceptance criteria (AC) in Column 3 for the inspections, test, or analyses (IAT) described in Column 2 which, if met, demonstrate that the Design Commitments in Column 1 have been met.

IAT wording for Table 2.7.2-3, Items 7.5 does not align with the AC wording. The IAT states: "Testing of flow of the SCWS **through the recirculation loop** back to the pump suction will be performed." To be consistent with the IAT, why doesn't the AC state "**through** the recirculation loop", instead of "**back** to the recirculation loop"?

14.03.07-23

ITAAC Item 7.2 in Table 2.7.5-3

The Commitment Wording and AC are incorrect and lacking in sufficient detail. Preferably, they should say the following:

'The FWDS pumps consist of at least one electric motor-driven pump and one diesel engine-driven pump.' or 'The FWDS pumps are at least two pumps with one electric motor-driven and one diesel engine-driven.'

Evaluate this deficiency and revise/respond as necessary.

14.03.07-24

ITAAC Item 7.7 in Table 2.7.5-3

SRP 14.3, App. A IV.4.B describes the three column format for ITAAC including the provision that the acceptance criteria (AC) in Column 3 for the inspections, test, or analyses (IAT) described in Column 2 which, if met, demonstrate that the Design Commitments in Column 1 have been met.

The Table 2.7.5-3, Item 7.7 IAT wording does not align with the Commitment Wording. The Commitment Wording requires a function to be achieved. The word "systems" does not appear in the IAT.

The AC wording is confusing. What is meant by 'approximately 75 gpm per hose stream for any two hose stations'.? How many hose streams are there per hose station or per two hose stations?

14.03.07-25

ITAAC Item 4.1 in Table 2.7.6-1

SRP 14.3 App. C.III.9 states that the third column of the ITAAC (Acceptance Criteria) should specify numerical values.

The Table 2.7.5-3, Item 8.1

The Commitment Wording should be split into two requirements - one is GFES will provide required clean agent concentration within the required discharge time, and the second one is GFES will maintain clean agent concentration once released for the required soak time to extinguish a fire within the MCR sub-floor enclosure. The Commitment Wording refers to 'clean agent' whereas the IAT and the AC refer to 'suppression agent'. The design description refers to 'clean agent' not 'suppression agent' even though that may be correct terminology..

The ITA should also be split into two actions one for each requirement in the Commitment Wording.

The AC is already split into two criteria that must be met. The AC states, “the gaseous fire extinguishing system will deliver the *required concentration* of suppression agent in the *required discharge timeframe*.” And... “the gaseous fire extinguishing system will maintain the *required suppression agent concentration for the required soak time*.” No *required concentration, required discharge timeframe, required suppression agent concentration for the required soak time* (numerical values) are given in the AC. What are the numerical values for the *required concentration, required discharge timeframe, required suppression agent concentration for the required soak time*?

Evaluate these deficiencies and revise/respond as necessary.

14.03.12-7

Table 3.1-1, General (2)

The numbering scheme of the design commitments in the Tier 1, Chapter 3 text and the ITAAC tables is not the same as used in Tier 1, Chapter 2. Chapter 2 uses a decimal numbering system corresponding to the paragraph heading such as “3.1”, whereas Chapter 3 sequentially numbers all design commitments in each section of the chapter (1, 2, 3, etc.). Why do these chapters exhibit different numbering formats? All ITAAC should be numbered in a consistent manner to allow both the licensee and the NRC to inspect them. This is in regard to the numbering scheme and also the numbering of each ITAAC that has a distinct ITA and AC identified.

14.03.12-8

ITAAC Item 1 in Table 3.1-1

SRP 14.3, App. A IV.4.B describes the three column format for ITAAC including the provision that the acceptance criteria in Column 3 for the inspections, test, or analyses described in Column 2 which, if met, demonstrate that the Design Commitments in Column 1 have been met. The wording of the ITA for Table 3.1-1, Item 1 states, “Test, inspect, or perform a combination of tests *or* inspections....” This should state, “Test, inspect, or perform a combination of tests and inspections...” to provide a meaningful choice of activities.

Similar for following ITAAC in Table 3.1-1.

ITAAC Item 2, 3, 5, 6, 13, and 15

Evaluate these deficiencies and revise/respond as necessary.

14.03.12-9

ITAAC Item 5 in Table 3.1-1

Neither commitment 5 in the text nor ITAAC Table 3.1-1, item 5 are grammatically correct since neither contains a verb. It seems the Commitment and AC are not in agreement. The Commitment could be better stated as following:

'The physical barriers for the protected area perimeter are physically separated from any barriers for the vital area.'

Evaluate this deficiency and revise/respond as necessary.

14.03.12-10

ITAAC Item 6 in Table 3.1-1

SRP 14.3, App. A IV.4.B describes the three column format for ITAAC including the provision that the acceptance criteria in Column 3 for the inspections, test, or analyses described in Column 2 which, if met, demonstrate that the Design Commitments in Column 1 have been met. The Commitment for Table 3.1-1, Item 6 is not aligned with the AC. The Commitment describes the isolation zones around barriers as permitting observation on either side of the barrier. The AC describes them as, "...at least as large as specified in the Physical Security Plan." Revise the wording such that the AC that aligns with the Commitment.

14.03.12-11

ITAAC Item 8 in Table 3.1-1

SRP 14.3 App. A IV.1.A defines "inspection" as visual observations, physical observations, or a review of records of these activities. Table 3.1-1, Item 8 concerns verification of adequate illumination in exterior areas of the protected area. The ITA only provides for type tests, analysis, or a combination of these. These activities should be confirmed by physical observation of the as-built facility to ensure that the illumination is installed and functioning as intended. Consequently, the ITA and AC should include provision for inspection activities. Evaluate this deficiency and revise/respond as necessary.

14.03.12-12

ITAAC Item 9 in Table 3.1.-1

SRP 14.3, App. A IV.4.B describes the three column format for ITAAC including the provision that the acceptance criteria in Column 3 for the inspections, test, or analyses described in Column 2 which, if met, demonstrate that the Design Commitments in Column 1 have been met. The Commitment, ITA, and AC for this item are not aligned, as follows:

The Commitment states that external parts of MCR and central alarm area and the “last access control function for access to the protected area” are bullet resistant. The ITA and AC do not mention this item.

Evaluate this deficiency and revise/respond as necessary.

14.03.12-13

ITAAC Item 10 in Table 3.1-1

The design commitment refers to the term 'vehicle control measures' but only the vehicle barrier systems are referred to in the ITA and the AC.

The Commitment is better described if it referred to only the vehicle barrier systems as in the following:

'Vehicle barrier systems protect against malevolent use of a land vehicle.'

For the AC, the vehicle barriers are stood off from what design feature ?

Should the AC be stated as follows?

'A report exists and concludes that the vehicle barrier systems meet or exceed the design and standoff distance and protect against malevolent use of a land vehicle.'

In addition, in the Commitment, it is pointed out that the vehicle barrier systems is only one of the vehicle control measures to protect against malevolent use of a land vehicle. The Commitment and AC should both address the contribution of the vehicle barrier system as just one of those vehicle control measures.

Evaluate these deficiencies and revise/respond as necessary.

14.03.12-14

ITAAC Item 12 in Table 3.1-1

SRP 14.3, App. A IV.4.B describes the three column format for ITAAC including the provision that the acceptance criteria in Column 3 for the inspections, test, or analyses described in Column 2 which, if met, demonstrate that the Design Commitments in Column 1 have been met. The ITA only requires type tests, analysis, or a combination of these, and omits inspections. The ITA is sufficient to demonstrate the design but not whether the as-built facility satisfies the Commitment requirement for a security control access system. The ITA and AC should provide for inspections and suitable acceptance criteria to demonstrate that the as-built facility conforms to the requirements of the design.

The AC should include word 'security' in front of access control system.

Evaluate these deficiencies and revise/respond as necessary.

14.03.12-15

ITAAC Item 15 in Table 3.1-1

SRP 14.3 App. A IV.4.B states that Acceptance Criteria should be objective and unambiguous. The AC is not as specific as the Commitment. The Commitment states that the secondary security power supply system for alarm annunciator equipment and non portable communications equipment is located within a vital area. The AC states only that the secondary security power supply equipment is located within a vital area. For clarity, the Commitment and the AC should use similar phrasing.

Evaluate this deficiency and revise/respond as necessary.

14.03.12-16

ITAAC Item 17 in Table 3.1-1

In the Commitment and AC, the verbage is confusing because the examples of alarm annunciation include false alarms, alarm checks, and tamper indications not locations of alarms.

Suggested wording for Commitment and AC:

'The security alarm system will record each alarm annunciation including any false alarm, alarm check, and tamper indication by recording the alarm type, circuit, location, date, and time.'

Evaluate this deficiency and revise/respond as necessary.

14.03.12-17

ITAAC Item 18 in Table 3.1-1

SRP 14.3 App. A IV.1.A defines "type test" as a test on one or more sample components of the same type and manufacturer to qualify other components of that same type and manufacturer. A type test is not necessarily a test of the as-built structures, systems or components. "Tests" are defined as the actuation or operation, or establishment of specified conditions, to evaluate the performance or integrity of as-built structures, systems, or components, unless explicitly stated otherwise. The ITA for item 18 specifies type tests, analysis, or a combination of these, of the emergency exits from vital areas to demonstrate the Commitment requirement for alarms on these exits. The Commitment and AC appears to be directed at the as-built facility and requires tests of the installed alarms rather than type tests or only analyses. Should the ITA also specify tests of the as-built facility?

Applicable also to following ITAAC:

Items 19 and 20 in Table 3.1-1

14.03.12-18

ITAA Item 19 in Table 3.1-1

SRP 14.3, App. A IV.4.B describes the three column format for ITAAC including the provision that the acceptance criteria in Column 3 for the inspections, test, or analyses described in Column 2 which, if met, demonstrate that the Design Commitments in Column 1 have been met. None of the three columns are aligned with respect to communication types or capabilities. The Commitment refers to “conventional telephone service and other means of communication with law enforcement authorities,” the ITA refers to the “security communications system,” while the AC refers to “communication capabilities with local law enforcement authorities listed in the Physical Security Plan.” Revise the ITAAC to show consistent references to communication facilities.