KHNPDCDRAIsPEm Resource

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Cc: McCoppin, Michael; Ward, William; Santos, Cayetano; Tesfaye, Getachew
Subject: APR1400 Design Certification Application RAI 558-9456 [14.3.1 - ITAAC]
Attachments: APR1400 DC RAI 558 LB2 9456.pdf; APR1400 DC RAI 558 LB2 9456, Attachment 1.pdf

KHNP,

The attachments contain the subject request for additional information (RAI). This RAI was sent to you in draft form. Your licensing review schedule assumes technically correct and complete responses within 30 days of receipt of RAIs.

Please submit your RAI response to the NRC Document Control Desk.

Thank you,

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Hearing Identifier: KHNP_APR1400_DCD_RAI_Public
Email Number: 617

Mail Envelope Properties (BN7PR09MB28494812DA0FD92E856AEADE80D00)

Subject: APR1400 Design Certification Application RAI 558-9456 [14.3.1 - ITAAC]
Sent Date: 3/15/2018 6:34:30 PM
Received Date: 3/15/2018 6:35:07 PM
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Files	**Size**	**Date & Time**
MESSAGE	680	3/15/2018 6:35:07 PM
APR1400 DC RAI 558 LB2 9456.pdf	76841	
APR1400 DC RAI 558 LB2 9456, Attachment 1.pdf	3457830	

Options
Priority: Standard
Return Notification: No
Reply Requested: No
Sensitivity: Normal
Expiration Date:
Recipients Received:

REQUEST FOR ADDITIONAL INFORMATION 558-9456

Issue Date: 03/15/2018
Application Title: APR1400 Design Certification Review – 52-046
Operating Company: Korea Hydro & Nuclear Power Co. Ltd.
Docket No. 52-046
Review Section: 14.03.01 - [Reserved]
Application Section: 14.3.1

QUESTIONS

14.03.01-1

Please see the attachment to this Request for Additional Information.

Title 10, Section 52.47(b)(1) of the Code of Federal Regulations (CFR) requires that a design certification application contain the proposed inspections, tests, analyses, and acceptance criteria (ITAAC) that are necessary and sufficient to provide reasonable assurance that, if the inspections, tests, and analyses are performed and the acceptance criteria met, a facility that incorporates the design certification has been constructed and will operate in accordance with the design certification, the provisions of the Atomic Energy Act of 1954, as amended (AEA), and the NRC's rules and regulations. For the ITAAC to be "sufficient," (1) the inspections, tests, and analyses (ITA) must clearly identify those activities necessary to demonstrate that the acceptance criteria (AC) are met; (2) the AC must state clear design or performance objectives demonstrating that the Tier 1 design commitments (DCs) are satisfied; (3) the ITA and AC must be consistent with each other and the Tier 1 DC; (4) the ITAAC must be capable of being performed and satisfied prior to fuel load; and (5) the ITAAC, as a whole, must provide reasonable assurance that, if the ITAAC are satisfied, the facility has been constructed and will be operated in accordance with the design certification, the AEA, and the NRC's rules and regulations.

The staff has reviewed all DCD Rev. 1 Tier 1 ITAAC tables and Section 1 of Tier 1 against these objectives, and in light of NRC guidance, Commission policy, and lessons learned from plants that are currently under construction that are in the process of implementing ITAAC. Based on this review, the staff has compiled the attached list of ITAAC wording changes. The applicant is requested to make these changes in the Tier 1 ITAAC tables and in Section 1 of Tier 1, or otherwise show that the ITAAC comply with 10 CFR 52.47(b)(1). Additionally, the applicant is requested to address the following items, or otherwise show that the ITAAC comply with 10 CFR 52.47(b)(1):

1. In Table 2.4.1-4, ITAAC 9.a.iii, what does "full" as used in the ITA mean in this context? Where is "full" specifically defined? The AC seems to contemplate testing at a range of pressures (testing at pressures until the POSRVs open) while the ITA is about testing at one pressure level ("full"). If "full pressure" is more than 3% of test pressure, then how would one know that the AC is met? Does the ITA need to specify the pressure?

2. Since ITAAC 12 in Table 2.4.1-4 cannot be completed until after fuel load, please remove this item completely from the ITAAC table.

3. In Table 2.4.2-4, ITAAC 9.a, the ITA and AC are not specific as to whether the calculated volume is simply a total volume or more appropriately a useable volume which excludes inventory below the suction lines. It is also unclear if these volumes are overlapping or dedicated volumes. Clarify the volume being measured as total volume or useable volume. Clarify the volume being measured as overlapping or dedicated volumes.

4. In Table 2.4.2-4, ITAAC 9.c.ii, why is analysis required in the ITA?

5. In Table 2.4.2-4, ITAAC 9.c, the design commitment (DC) only reflects the design attribute in ITAAC 9.c.i. Provide a DC that reflects all of the various design attributes being verified by the ITAAC in 9.c.

6. In Table 2.4.2-4, ITAAC 9.c.iii, the ITA and AC are not compatible. How can one verify the acceptance criteria will be met based on the current wording of the ITA and AC? Please provide a specific AC that the top of the strainer can be evaluated against (i.e. the height of the top of the strainer is equal to or less than X ft. from Y). The AC includes the statement "under design basis accident condition" while the ITA does not. Please rectify this discrepancy.

7. In Table 2.4.2-4, ITAAC 9.c.v, the ITA is for all insulation in containment, whereas the AC is limited to insulation for component and piping. Please rectify this discrepancy.

8. In Table 2.4.2-4, ITAAC 9.d, the DC only reflects the AC for 9.d.i. Please provide a DC that reflects all of the various design attributes being verified by the ITAAC in 9.d.

9. In Table 2.4.2-4, ITAAC 9.e, the DC only reflects the AC for 9.e.i. Please provide a DC that reflects all of the various design attributes being verified by the ITAAC in 9.e.

10. In Table 2.4.3-4, ITAAC 9.a.i, the ITA lacks specificity. What is low tank pressure? Please specify a pressure band for the start of the test.

11. In Table 2.4.3-4, ITAAC 9.d, the DC and AC are not in alignment. The DC requires that the "...pumps deliver full flow...," and the AC requires that the "...pumps initiates and begins to deliver flow..." Please specify in the AC, the value of flow that must be provided within 40 seconds.

12. What is the purpose of ITAAC 9.f in Table 2.4.4-4? The DC identifies two specific attributes. The first is the SCP auto starts when aligned for the CSP function on either of two safety signals, and the second that the CSP does not auto start when not aligned for the CSP function if a safety signal is actuated. The ITA and AC are not aligned with this DC. Please ensure the DC, ITA, and AC align with one another. To verify that a signal starts a pump "only when" the pump is aligned a certain way, one would have to test the pump both when it is aligned that way and when it is not aligned that way. The ITA does not do this.

13. In Table 2.4.6-4, ITAAC 9.b please specify the minimum required flow rate to each pump in the AC.

14. In Table 2.4.7-1, ITAAC 1.a, the DC says "containment sump level monitor" while the ITA and AC say "containment sump level instruments." Please ensure the DC, ITA, and AC consistent.

15. In Table 2.4.7-1, ITAAC 1.c, the AC says "as-built containment sump level has the capability." Should the word "monitor" or "instruments" follow "as-built containment sump level"? This word should be consistent with the DC, ITA, and AC used in Table 2.4.7-1, ITAAC 1.

16. In Table 2.4.7-1, ITAAC 1.c and 1.d test the leak detection capacity of the containment sump level monitor and containment airborne particulate radioactivity monitor, but there is no ITAAC testing the leak detection capacity of the containment atmosphere humidity monitor. What is the reason for this?

17. In Table 2.4.7-1, ITAAC 2, use of the word "monitor" or "instruments" should be consistent with their use in Table 2.4.7-1, ITAAC 1. Please ensure the DC, ITA, and AC consistent between ITAAC 1 and 2 in Table 2.4.7-1.

18. In Table 2.6.2-3, ITAAC 14, the AC lacks sufficient detail to ensure the EDG function is maintained. Please provide criteria for separation of the intake and exhaust of each EDG.

19. Table 2.7.1.1-1, ITAAC 7 should be deleted because it is a programmatic ITAAC, which the Commission generally does not find necessary (SECY-05-0197), on a topic that is the responsibility of a COL applicant. If the COL applicant fully describes the program, then an ITAAC should not be necessary.

20. In Table 2.8-2, ITAAC 1, the AC is not valid because it provides no criteria to evaluate the as-built shielding against. Please revise the AC.

21. In Table 2.11.1-2, ITAAC 1, the AC is ambiguous in use of the word "large." Please define the size of the area as greater than or equal to a specific area.

22. In Table 2.11.1-2, ITAAC 3, the AC does not align with the DC and is not specific. Please specify the minimum required thickness of the concrete slab and any specifications for the type of concrete to be used.

23. In Table 2.11.4-3, ITAAC 2, why isn't this ITAAC similar to others with a 2.a, 2.b, and 2.c? Specifically, why is there no ITAAC 2.b, requiring type testing, analysis, or a combination of type testing and analysis of the seismic category I components? And why is there no ITAAC 2.c requiring an inspection of the as-built components, including supports and anchorages, to verify that the as-built components are bounded by the tested or analyzed conditions?

Finally, all changes to the wording of design commitments should also be reflected in the corresponding text in the Tier 1 design descriptions.

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

ACRONYM AND ABBREVIATION LIST

AAC	alternate alternating current
AB	auxiliary building
AC	alternating current
ACC	analysis computer cabinet
ACP	auxiliary charging pump
ACU	air cleaning unit
AFAS	auxiliary feedwater actuation signal
AFW	auxiliary feedwater
AFWS	auxiliary feedwater system
AFWST	auxiliary feedwater storage tank
AHU	air handling unit
ALARA	as low as reasonably achievable
ANSI	American National Standards Institute
AOO	anticipated operational occurrence
AOV	air-operated valve
APC	auxiliary process cabinet
ARMS	area radiation monitoring system
ASME	American Society of Mechanical Engineers
ATWS	anticipated transient without scram
BAMP	boric acid makeup pump
BAST	boric acid storage tank
BFTHHLAS	blowdown flash tank high-high level actuation signal
BISI	bypassed and inoperable status indication
BOP	balance of plant
CCF	common cause failure
CCS	component control system
CCW	component cooling water
CCWS	component cooling water system
CEA	control element assembly

CEACP	CEA change platform
CEAE	CEA elevator
CEDM	control element drive mechanism
CET	core exit thermocouple
CFR	Code of Federal Regulations
CFS	cavity flooding system
CGID	commercial grade item dedication
CHCS	containment hydrogen control system
CIAS	containment isolation actuation signal
CIS	containment isolation system
CIV	containment isolation valve
COL	combined license
COLSS	core operating limit supervisory system
CPC	core protection calculator
CPCS	core protection calculator system
CPIAS	containment purge isolation actuation signal
CRE	control room envelope
CREVAS	control room emergency ventilation actuation signal
CS	containment spray
CSAS	containment spray actuation signal
CSB	core support barrel
CSP	containment spray pump
CSS	containment spray system
CVCS	chemical and volume control system
CV	control valve
CW	circulating water
CWS	circulating water system
DAC	design acceptance criteria
DAW	dry active waste
DBA	design basis accident
DBE	design basis event

DC	direct current
DCD	design control document
DDT	deflagration to detonation transition
DFOT	diesel fuel oil tank
DIS	diverse indication system
DMA	diverse manual ESF actuation
DNBR	departure from nucleate boiling ratio
DPS	diverse protection system
DRCS	digital rod control system
DVI	direct vessel injection
EAB	exclusion area boundary
ECSBS	emergency containment spray backup system
ECWS	essential chilled water system
EDG	emergency diesel generator
EDT	equipment drain tank
EFDS	equipment and floor drainage system
EHC	electro-hydraulic control
E/H	electro-hydraulic
EMI	electromagnetic interference
EOC	emergency operations center
EOF	emergency operations facility
EPRI	Electric Power Research Institute
ERDS	emergency response data system
ESD	electrostatic discharge
ESF	engineered safety features
ESFAS	engineered safety features actuation system
ESF-CCS	engineered safety features-component control system
ESR	electro hydraulic spring return
ESW	essential service water
ESWS	essential service water system
FHEVAS	fuel handling area emergency ventilation actuation signal
FP	fire protection

FPD	flat panel display

FPS	fire protection system
FTS	fuel transfer system
FWCS	feedwater control system
GCB	generator circuit breaker
GDC	general design criteria (of 10 CFR Part 50, Appendix A)
GTG	gas turbine generator
GWMS	gaseous waste management system
HFE	human factors engineering
HJTC	heated junction thermo couple
HRAS	high radiation actuation signal
HSI	human-system interface
HVAC	heating, ventilation, and air conditioning
HVT	holdup volume tank
HX	heat exchanger
I&C	instrumentation and control
ICI	in-core instrumentation
IHA	integrated head assembly
IPS	information processing system
IRWST	in-containment refueling water storage tank
ISV	intermediate stop valve
ITAAC	inspections, tests, analyses, and acceptance criteria
ITP	interface and test processor
IV	intercept valve
IWSS	in-containment water storage system
LBB	leak before break
LC	load center
LCS	local control station
LLHS	light load handling system
LOCA	loss of coolant accident
LOOP	loss of offsite power
LPD	local power density

LPZ	low population zone
LTOP	low temperature overpressure protection
LWMS	liquid waste management system
MCC	motor control center
MCR	main control room
MFIV	main feedwater isolation valve
MG	motor-generator
MG Set	motor-generator set
MOV	motor-operated valve
MSADV	main steam atmospheric dump valve
MSIS	main steam isolation signal
MSIV	main steam isolation valve
MSLB	main steam line break
MSR	moisture separator reheater
MSS	main steam system
MSSV	main steam safety valve
MSV	main steam valve
MSVH	main steam valve house
MT	main transformer
MTP	maintenance and test panel
NDE	nondestructive examination
NFE	new fuel elevator
NFS	nuclear fuel system
NI	nuclear island
NNS	non-nuclear safety
NPCS	NSSS process control system
NPSH	net positive suction head
NPSHA	net positive suction head available
NR	narrow range
NRC	United States Nuclear Regulatory Commission
NSSS	nuclear steam supply system

NUREG	NRC technical report designation
OHLHS	overhead heavy load handling system
OM	operator module
OPC	open phase condition
OPD	open phase detection
OSC	operational support center
PAR	passive autocatalytic recombiner
PCB	power circuit breaker
P-CCS	process-component control system
PCS	power control system
PCWS	plant chilled water system
PERMSS	process and effluent radiation monitoring and sampling system
PLCS	pressurizer level control system
PMWP	probable maximum winter precipitation
PNS	permanent non-safety
POSRV	pilot operated safety relief valve
PPASS	process and post-accident sampling system
PPCS	pressurizer pressure control system
PPS	plant protection system
PSC	piping system and components
PSR	pneumatic spring return
PX	primary sampling system
PZR	pressurizer
QA	quality assurance
QIAS	qualified indication and alarm system
QIAS-N	qualified indication and alarm system – non-safety
QIAS-P	qualified indication and alarm system – post-accident monitoring
RAP	reliability assurance program
RCB	reactor containment building
RCFC	reactor containment fan cooler
RCGVS	reactor coolant gas vent system

RCP	reactor coolant pump
RCS	reactor coolant system
RFI	radio frequency interference
RG	regulatory guide
RM	refueling machine
RMWT	reactor makeup water tank
R/O	reverse osmosis
RPCS	reactor power cutback system
RPS	reactor protection system
RRS	reactor regulating system
RSR	remote shutdown room
RSSH	resin sluice supply header
RSPT	reed switch position transmitter
RTSG	reactor trip switchgear
RTSS	reactor trip switchgear system
RV	reactor vessel
SBCS	steam bypass control system
SBO	station blackout
SC	shutdown cooling
SCP	shutdown cooling pump
SCS	shutdown cooling system
SDCHX	shutdown cooling heat exchanger
SFHM	spent fuel handling machine
SFP	spent fuel pool
SFPCCS	spent fuel pool cooling and cleanup system
SG	steam generator
SGBS	steam generator blowdown system
SI	safety injection
SIAS	safety injection actuation signal
SIS	safety injection system
SIT	safety injection tank

SOV	solenoid-operated valve
SRDC	safety-related divisional cabinet
SSC	structures, systems, and components
SSE	safe shutdown earthquake
SWMS	solid waste management system
TDH	total dynamic head
T/G	turbine-generator
TGBCCW	turbine generator building closed cooling water
TGBOCWS	turbine generator building open cooling water system
TSC	technical support center
TSP	tri-sodium phosphate
UAT	unit auxiliary transformer
UGS	upper guide structure
UHS	ultimate heat sink
V&V	verification and validation
VCT	volume control tank
WR	wide range

1.0 Introduction

1.1 Definitions

The following definitions apply to terms used in the Design Descriptions and associated Inspections, Tests, Analyses, and Acceptance Criteria (ITAAC):

Acceptance Criteria means the performance, physical condition, or analysis result for a structure, system or component that demonstrates the Design Commitment is met.

Analysis means a calculation, mathematical computation, or engineering or technical evaluation. Engineering or technical evaluations could include, but are not limited to, comparisons with operating experience or design of similar structures, systems or components.

As-built means the physical properties of a structure, system, or component following the completion of its installation or construction activities at its final location at the plant site. In cases where it is technically justifiable, determination of physical properties of the as-built structure, system, or component may be based upon measurements, inspections, or tests that occur prior to installation, provided that subsequent fabrication, handling, installation, and testing do not alter the properties.

ASME Code means Section III of the American Society of Mechanical Engineers (ASME) Boiler and Pressure Vessel Code, unless a different Section of the ASME Code (such as Section XI) or a separate ASME Code (such as the ASME Code for Operation and Maintenance of Nuclear Power Plants (OM Code)) is specifically referenced.

ASME Code Data Report means a document, which certifies that a component or system was constructed in accordance with the requirements of the ASME Code. This data report shall be recorded on a form approved by the ASME.

Basic Configuration (for a Building) means the arrangement of building features (e.g., floors, ceilings, walls, basemat and doorways) and of the structures, systems, or components within, as specified in the building Design Description.

Channel means an arrangement of components and modules ~~are~~ required to generate a single protective action signal when required by a plant condition. A channel loses its identity where single protective action signals are combined.

Component, as used for reference to ASME Code components, means a vessel, concrete containment, pump, pressure relief valve, line valve, storage tank, piping system, or core support structure that is designed, constructed, and stamped in accordance with the rules of the ASME Code. It should be noted that ASME Code Section III classifies a metal containment as a vessel.

Design Commitment means that portion of the Design Description that is verified by ITAAC.

Design Description means that portion of the design that is certified.

Division (for electrical systems) is the designation applied to a given safety-related system or set of components which are physically, electrically, and functionally independent from other redundant sets of components.

Division (for mechanical systems or equipment) is the designation applied to a specific set of safety-related components within a system.

Exists, exists or existence, when used in the Acceptance Criteria, means that the item is present and meets the design description. installed in its required location and meets the design description. Detailed supporting information on what should be present to conclude that an item "exists" and meets the design description is contained in the appropriate sections of Tier 2 of the DCD.

Functional Arrangement (for a System) means the physical arrangement of systems and components to provide the service for which the system is intended, and which is described in the system Design Description.

Inspect or Inspection mean visual observations, physical examinations, or reviews of records based on visual observation or physical examination that compare the structure, system, or component condition to one or more Design Commitments. Examples include walkdowns, configuration checks, measurements of dimensions, or non-destructive examinations.

Inspect for Retrievability means to visually observe that the specified information appears on a monitor, display, or alarm when summoned by the operator.

Operate means the actuation and running of equipment.

Qualified for Harsh Environment means that equipment can withstand the environmental conditions that would exist before, during, and following a design basis accident without loss of its safety function, for the time required to perform the safety function. These environmental conditions include applicable time-dependent temperature and pressure profiles, humidity, chemical effects, radiation, aging, submergence, and their synergistic effects which have a significant effect on the equipment performance. Equipment identified in the Design Description as being Qualified for Harsh Environment includes the:

a. equipment itself

b. sensors, switches and lubricants that are an integral part of the equipment

c. electrical components connected to the equipment (wiring, cabling and terminations)

Items b and c are Qualified for Harsh Environment only when they are necessary to support operation of the equipment to meet its safety-related function listed in the Design

Description and to the extent such equipment is located in a harsh environment during or following a design basis accident.

Reconciliation or Reconciled means the identification, assessment, and disposition of differences between the design feature as described in the plant-specific DCD and the as-built plant design feature. For ASME Code piping systems, it is the reconciliation of differences between the approved design and the as-built piping system. For structural features, it is the reconciliation of differences between the approved design and the as-built structural feature.

~~**Item number**~~

~~Item numbers are used to identify structures, systems and components in Tier 1 tables, figures, and text and are not representative of an actual equipment or tag numbers.~~

Test means 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.

Type Test means 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.

1.2 General Provisions

The following general provisions are applicable to the Design Descriptions and the associated ITAAC:

1.2.1 Treatment of Individual Items

The absence of any discussion or depiction of an item in the Design Description or accompanying Figures shall not be construed as prohibiting a licensee from utilizing such an item, unless it would prevent an item from performing its safety function as discussed or depicted in the Design Description or accompanying Figures.

When the term "operate", "operates", or "operation" is used with respect to an item discussed in the Acceptance Criteria, it refers to the actuation and running of the item. ~~When the term "exist", "exists", or "existence" is used with respect to an item discussed in the Acceptance Criteria, it means that the item is present and meets the Design Description.~~

Many of the Acceptance Criteria include the words "A report exists and concludes that…" When these words are used, it indicates that the ITAAC for that Design Commitment will be met when it is confirmed that appropriate documentation exists and the documentation shows that the Design Commitment is met. Appropriate documentation can be a single document or a collection of documents that show that the stated acceptance criteria are met. Examples of appropriate documentation include design reports, test reports, inspection reports, analysis reports, evaluation reports, design and manufacturing procedures, certified data sheets, commercial dedication procedures and records, quality assurance records, calculation notes, and equipment qualification data packages.

When the Design Commitment or ITAAC provides that some thing or some activities must comply with ASME Code Section III, ASME Code Section XI, or the ASME OM Code, this means compliance with the ASME Code, as incorporated by reference in 10 CFR 50.55a with specific conditions, or in accordance with relief granted by the NRC or alternatives authorized by the NRC pursuant to 10 CFR 50.55a.

Item numbers are used to identify structures, systems and components in Tier 1 tables, figures, and text and are not representative of an actual equipment or tag numbers.

1.2.2 Implementation of ITAAC

The ITAAC are provided in tables with the following three column format:

Design Commitment	Inspection, Tests, Analyses	Acceptance Criteria

Each Design Commitment in the left-hand column of the ITAAC tables has an associated Inspections, Tests, or Analyses (ITA) requirement specified in the middle column of the tables.

The identification of a separate ITA entry for each Design Commitment shall not be construed to require that separate inspections, tests, or analyses must be performed for each Design Commitment. Instead, the activities associated with more than one ITA entry may be combined, and a single inspection, test, or analysis may be sufficient to implement more than one ITA entry.

An ITA may be performed by the licensee of the plant, or by its authorized vendors, contractors, or consultants. Furthermore, an ITA may be performed by more than a single individual or group, may be implemented through discrete activities separated by time, and may be performed at any time prior to fuel load (including before issuance of the Combined License for those ITAAC that do not necessarily pertain to as-built equipment). Additionally, an ITA may be performed as part of the activities that are required to be performed under 10 CFR Part 50 (including, for example, the Quality Assurance (QA) program required under Appendix B to Part 50); therefore, an ITA need not be performed as a separate or discrete activity.

Each ITA has an associated Acceptance Criteria in the third column of the tables that demonstrate that the Design Commitment in the first column has been met.

1.2.3 System Design Description Discussion of Matters Related to Operations

In some cases, the Design Descriptions in this document refer to matters that relate to operation, such as normal valve or breaker alignment during normal operation modes. Such discussions are provided solely to place the Design Description provisions in context (e.g., to explain automatic features for opening or closing valves or breakers upon off-normal conditions). Such discussions shall not be construed as requiring operators during operation to take any particular action (e.g., to maintain valves or breakers in a particular position during normal operation).

1.2.4 Interpretation of Figures

In many but not all cases, the Design Descriptions in Section 2 include one or more Figures. The Figures may represent a functional diagram, general structural representation, or other general illustration. For instrumentation and control (I&C) systems, Figures also represent aspects of the relevant logic of the system or part of the system. Unless specified explicitly, the Figures are not indicative of the scale, location, dimensions, shape, or spatial relationships of as-built structures, systems, and components. In particular, the as-built attributes of structures, systems, and components may vary from the attributes depicted on the Figures, provided that those safety functions discussed in the Design Description pertaining to the Figure are not adversely affected.

1.2.5 Rated Reactor Core Thermal Power

The rated reactor core thermal power for the APR1400 certified design is 3,983 megawatts thermal (MWt).

1.3 Figure Legend, Acronym and Abbreviation List

The conventions presented in this section are employed for figures used in the Design Descriptions. The acronyms and abbreviations presented in this section are used in the Design Control Document (DCD). The figure legend and acronym and abbreviation list are ~~provided for information only and are not~~ part of the Tier 1 DCD.

INSTRUMENTATION

FLOW INSTRUMENT	F
TEMPERATURE INSTRUMENT	T
RADIATION INSTRUMENT	R
DIFFERENTIAL PRESSURE INSTRUMENT	PD
PRESSURE INSTRUMENT	P
LEVEL INSTRUMENT	L
CURRENT (ELECTRIC) INSTRUMENT	I
MOISTURE OR HUMIDITY DETECTOR	M
ULTRASONIC INSTRUMENT	U
SMOKE DETECTOR	XS
SPEED INSTRUMENT	S
ANALYZER	A
ALARM	A

Figure 1.3-1 Figure Legend of the Instrumentation

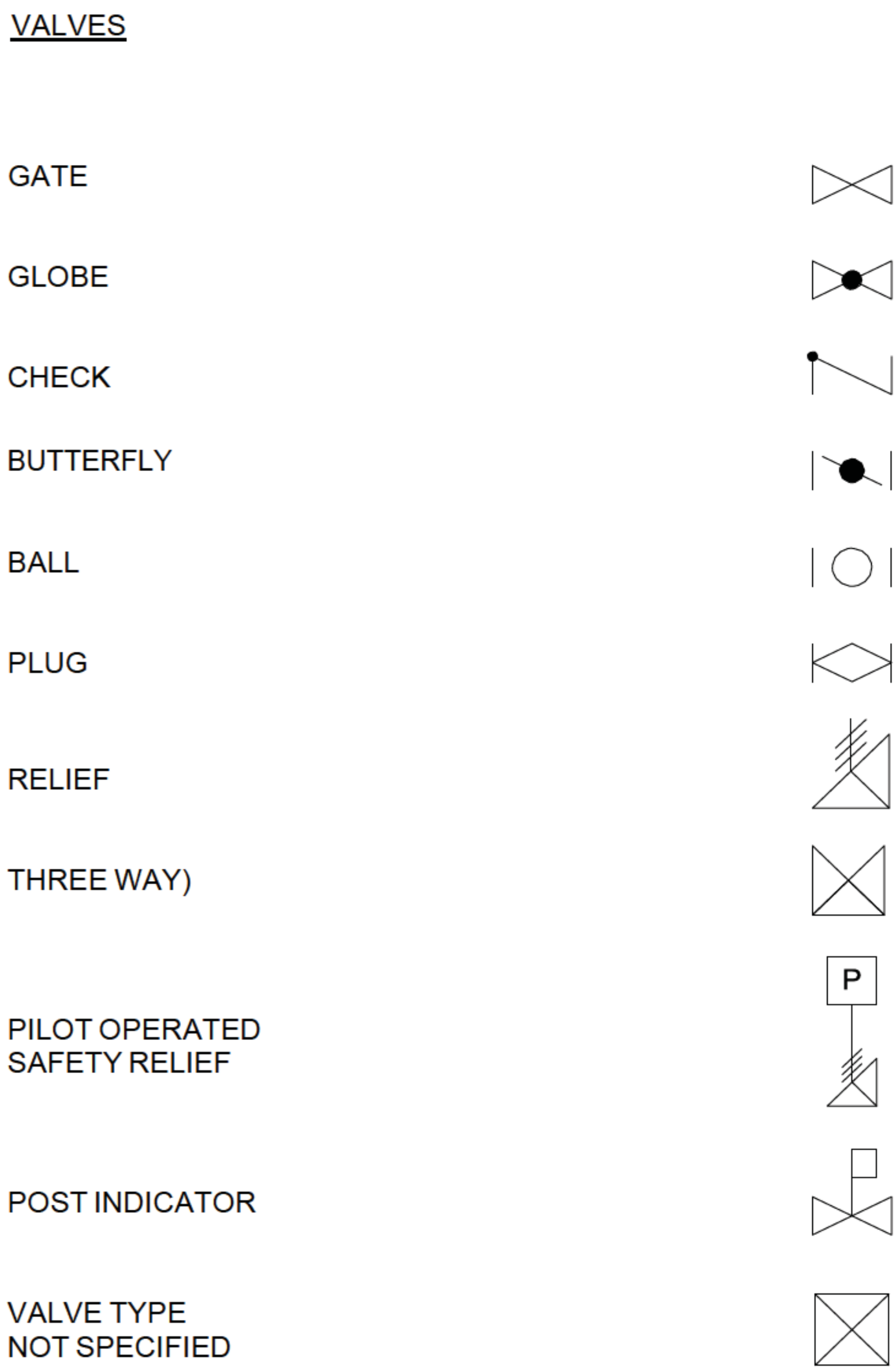


Figure 1.3-2 Figure Legend of the Valves

VALVE OPERATORS

OPERATOR OF UNSPECIFIED TYPE

MOTOR OPERATOR

SOLENOID OPERATOR

HYDRAULIC OPERATOR

PNEUMATIC OPERATOR (CYLINDER)

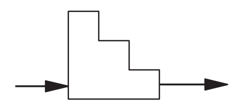
PNEUMATIC OPERATOR (DIAPHRAGM)

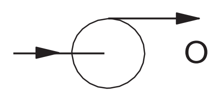
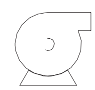
Figure 1.3-3 Figure Legend of the Valve Operators

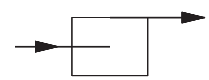
FAIL POSITION INDICATIONS FOR VALVES

FAIL LOCKED IN PLACE	FL
FAILS CLOSED	FC
FAILS OPEN	FO

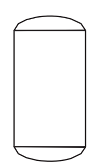
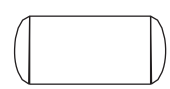
MECHANICAL EQUIPMENT

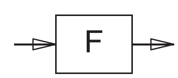
POSITIVE DISPLACEMENT PUMP 

CENTRIFUGAL PUMP  OR 

PUMP TYPE NOT SPECIFIED 

HEADER 

TANK  OR 

FILTER 

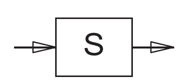
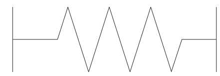
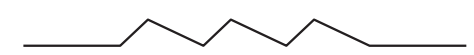
STRAINER 

Figure 1.3-4 Figure Legend of the Valve Position and the Mechanical Equipment

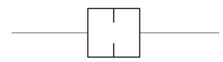
FLEXIBLE CONNECTION



DELAY COIL



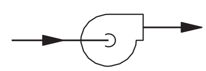
RESTRICTING ORIFICE



FLOW MEASURING ORIFICE

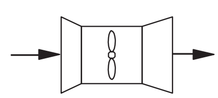
FLOW ELEMENT (VENTURI)

CENTRIFUGAL FAN, BLOWER OR COMPRESSOR



SPRAY NOZZLE

VANEAXIAL FAN



HEAT EXCHANGER

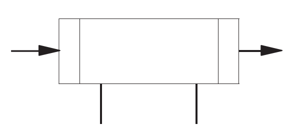
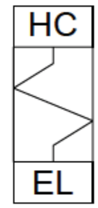
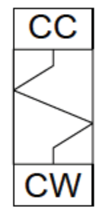


Figure 1.3-5 Figure Legend of the Mechanical Equipment (1 of 2)

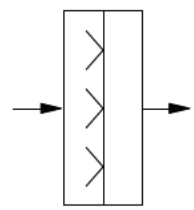
HEATING COIL



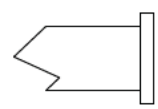
COOLING COIL



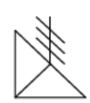
HUMIDIFIER



IMMERSION HEATER OR COOLER



VACUUM BREAKER



VENT ATMOSPHERE

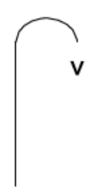
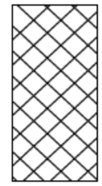


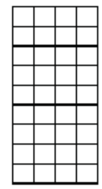
Figure 1.3-5 Figure Legend of the Mechanical Equipment (2 of 2)

HVAC FILTERS AND DAMPERS

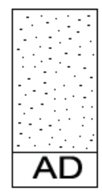
MEDIUM EFFICIENCY FILTER



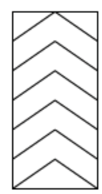
HIGH EFFICIENCY
PARTICULATE AIR (HEPA) FILTER



CARBON ADSORBER



MOISTURE SEPARATOR



POST FILTER

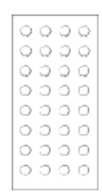
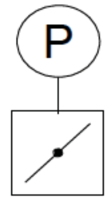


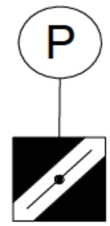
Figure 1.3-6 Figure Legend of the HVAC Filters and Dampers (1 of 2)

HVAC FILTERS AND DAMPERS

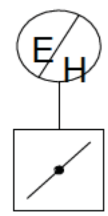
NORMALLY OPEN DAMPER
(PNEUMATIC OPERATED)



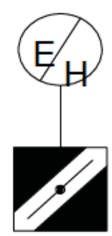
NORMALLY CLOSED DAMPER
(PNEUMATIC OPERATED)



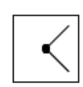
NORMALLY OPEN DAMPER
(ELECTRO-HYDRAULIC OPERATED)



NORMALLY CLOSED DAMPER
(ELECTRO-HYDRAULIC OPERATED)



CHECK DAMPER



TORNADO DAMPER

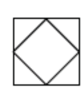
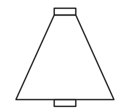


Figure 1.3-6 Figure Legend of the HVAC Filters and Dampers (2 of 2)

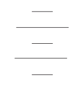
PUMP DRIVERS

TURBINE DRIVE

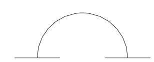


ELECTRICAL EQUIPMENT

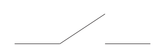
BATTERY



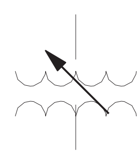
CIRCUIT BREAKER



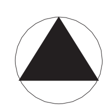
DISCONNECT SWITCH



VOLTAGE REGULATOR



ISOLATION



TRANSFORMER

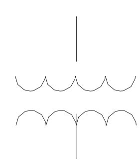


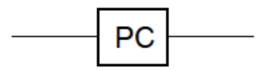
Figure 1.3-7 Figure Legend of the Dampers and the Electrical Equipment

MISCELLANEOUS

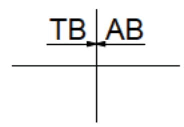
A SYSTEM OR COMPONENT THAT IS NOT PART OF THE DEFINED SYSTEM

CONTAINMENT

CONTAINMENT PENETRATION

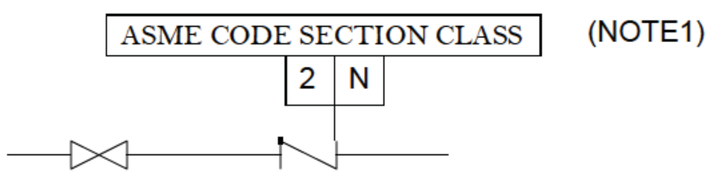


BUILDING SEPARATION



ASME CODE CLASS BREAK

AN ASME CODE CLASS BREAK IS IDENTIFIED BY A SINGLE LINE TO THE DESIGNATED LOCATION FOR THE CLASS BREAK, AS SHOWN IN THE EXAMPLE BELOW.



NOTES :

1. THE HEADER, “ASME CODE SECTION CLASS”, MUST APPEAR AT LEAST ONCE ON EACH FIGURE ON WHICH ASME CODE SECTION CLASS BREAKS ARE SHOWN, BUT NEED NOT APPEAR AT EVERY CLASS BREAK SHOWN ON A FIGURE.

N INDICATES NON-ASME CODE SECTION CLASS

Figure 1.3-8 Figure Legend of the Miscellaneous

Table 2.2.1-2 (1 of 2)

Nuclear Island Structures ITAAC

Design Commitment	Inspections, Tests, Analyses	Acceptance Criteria
1. The basic configuration of the nuclear island (-NI) structures is as described in the design description of Subsection 2.2.1.1 and Figures 2.2.1-1 through 2.2.1-13.	1. Inspection of the basic configuration of the as-built nuclear islandNI structures will be conducted.	1. The nuclear islandNI structures conform with the basic configuration as described in the design description of Subsection 2.2.1.1 and Figures 2.2.1-1 through 2.2.1-13.
2.a The containment, except the steel portions of the containment not backed by concrete, is designed and constructed to meet the requirements of in accordance with ASME Section III, Div.2 requirements.	2.a Inspection of the as-built containment, except the steel portions of the containment not backed by concrete, will be performed in accordance with the ASME Code, Section III, Div. DIV. 2 will be conducted and will be documented in the ASME data report(s)..	2.a The ASME Code design report(s) or data report(s) exist and conclude that the as-built containment, except the steel portions of the containment not backed by concrete, complies is designed and constructed in accordance with the requirements of ASME Section III, Div. DIV. 2.
2.b The containment penetrations are designed and constructed to meet ASME Section III, Div. 1 (portions not backed by concrete) and Div. 2 (portions backed by concrete).	2.b Inspection of the as-built containment penetrations in accordance with the ASME Code, Section III, Div. 1 (portions not backed by concrete) and Div. 2 (portions backed by concrete) will be conducted and will be documented in the ASME data report(s).	2.b The ASME Code design report(s) or data report(s) exist and conclude that the as-built containment penetrations are comply designed and constructed consistent with the requirements of ASME Section III, Div. 1 (portions not backed by concrete) and Div. 2 (portions backed by concrete).
2.c The containment and its penetrations retain their pressure boundary integrity associated with the design pressure.	2.c. Structural integrity test of the as-built containment and its penetrations will be conducted in accordance with ASME Code, Section III, Div. DIV. 2.	2.c The results of the structural integrity test of n the as-built containment and its penetrations conform with the pressure testing acceptance criteria in ASME Section III, Div. 2.

2.d The containment and its penetrations maintain the containment leakage rate less than or equal to the maximum allowable leakage rate associated with the peak containment pressure for the design basis accident in accordance with 10 CFR Part 50, Appendix J..	2.d Inspection and leak rate testing on the as-built containment and its penetrations will be conducted in accordance with 10 CFR Part 50, Appendix J.	2.d The results of the inspection and leak rate testing on the as-built containment and its penetrations demonstrate that the containment leakage rate is less than or equal to the maximum allowable limits specified in accordance with 10 CFR Part 50, Appendix J.

Table 2.2.1-2 (2 of 2)

Design Commitment	Inspections, Tests, Analyses	Acceptance Criteria
3. The NI structures are seismic Category I, and are designed and constructed to withstand the structural design basis loads.	3. A structural analysis will be performed to reconcile the as-built NI structures with the structural design basis loads.	3. A report exists and concludes that the as-built NI structures can withstand the design basis loads.
4. The structural configuration ~~key dimensions~~ of the NI structures ~~are~~ is described in Table 2.2.1-1 and Figures 2.2.1-1 through 2.2.1-13.	4. Inspection will be performed to verify that the NI structures' as-built wall and slab thickness conform with the structural configuration.	4. A report exists and concludes that the NI structures' as-built wall and slab thickness conform with the structural configuration as described in Table 2.2.1-1 and Figures 2.2.1-1 through 2.2.1-13.

Table 2.2.2-2

Emergency Diesel Generator Building Block [1] ITAAC

Design Commitment	Inspections, Tests, Analyses	Acceptance Criteria
1. The basic configuration of the EDG building block is as shown in Figures 2.2.2-1 and 2.2.2-2.	1. Inspection of the basic configuration of the as-built EDG building block will be conducted.	1. The as-built EDG building block conforms with the basic configuration as shown in Figures 2.2.2-1 and 2.2.2-2.
2. The EDG building block is designed and constructed to withstand the structural design basis loads.	2. A structural analysis will be performed to reconcile the as-built EDG building block structure with the structural design basis loads.	2. A report exists and concludes that the as-built EDG building block can withstand the structural design basis loads.
3. The structural configuration ~~key dimensions~~ of the EDG building block ~~are~~ is as described in Table 2.2.2-1, Figure 2.2.2-1, and Figure 2.2.2-2.	3. Inspection will be performed to verify that the EDG building block's as-built wall and slab thickness conform with ~~to~~ the structural configuration.	3. A report exists and concludes that the EDG building block's as-built wall and slab thickness conform with the structural configuration as described in Table 2.2.2-1, Figure 2.2.2-1, and Figure 2.2.2-2.

(1) EDG building block includes EDG building and DFOT building.

Table 2.2.3-1

Turbine Generator Building ITAAC

Design Commitment	Inspections, Tests, Analyses	Acceptance Criteria
1. The seismic Category II turbine generator building structure does not impair the ability of the safety-related SSCs to perform their safety-related functions during or following an SSE.	1. Analyses and inspections of the design and as-built configuration of the seismic Category II turbine generator building structure will be performed to verify that the turbine generator building structure does not impair -the ability of the safety- related SSCs to perform their safety-related functions during or following an SSE.	1. A report exists and concludes that the as-built seismic Category II turbine generator building structure does not impair the ability of the safety related safety-related SSCs to perform their safety-related functions during or following an SSE.

Table 2.2.4-1

Compound Building ITAAC

Design Commitment	Inspections, Tests, Analyses	Acceptance Criteria
1. The seismic Category II compound building structure does not impair the ability of the safety-related SSCs to perform their safety-related functions during or following an SSE.	1. Analyses and inspections of the design and as-built configuration of the seismic Category II compound building structure will be performed to verify that the compound building structure does not impair the ability of the safety- related SSCs to perform their safety-related functions during or following an SSE.	1. A report exists and concludes that the as-built seismic Category II compound building structure does not impair the ability of the safety-related ~~safety related~~ SSCs to perform their safety-related functions during or following an SSE.

Table 2.2.5-1 (1 of 4)

Protection against Hazards ITAAC

Design Commitment	Inspections, Tests, Analyses	Acceptance Criteria
1. The as-built NI structure and EDG structure have the following ~~The Characteristics of the~~ protective provisions against external flooding hazards ~~include~~: - The ~~thickness of the~~ external walls below the postulated flood level or groundwater level have a thickness of greater than or equal to 0.60 m (2 ft) to prevent in-leakage. - The penetrations in the exterior walls below the postulated flood level~~/~~ or groundwater level are watersealed. - Water stops are installed at all construction joints of the exterior walls and basemats below the postulated flood level or groundwater level to prevent seepage into the structures.	1. Inspection of the as-built protective provisions against external flooding hazards will be conducted.	1. The as-built ~~nuclear island~~NI structure ~~including~~ and EDG structure conform~~s~~ with the following protective provisions: - The external walls below the postulated flood level~~/~~ or groundwater level have a ~~are designed with a~~ thickness of greater than or equal to 0.60 m (2 ft) to prevent in-leakage. - The penetrations in the exterior walls below the postulated flood level~~/~~ or groundwater level are ~~featured to be~~ watersealed. - Water stops are installed at all construction joints of the exterior walls and basemats below the postulated flood level~~/~~ or groundwater level to prevent seepage into the structures.

Table 2.2.5-1 (2 of 4)

Design Commitment	Inspections, Tests, Analyses	Acceptance Criteria
2. The as-built RCB, AB (except the lowest floor at El. 55ft) EDG building, and the buildings housing the ESW, CCW, and HX ~~key characteristics of~~ have the following protective provisions against internal flooding hazards ~~are as follows~~: - Divisional flood barriers are provided ~~in the nuclear island~~ that protect against the internal flooding. - Watertight doors are provided ~~in the nuclear island to~~ that protect against internal flooding. - Penetrations in the flood barrier are sealed up to internal design flood levels and, in addition, penetrations in the divisional walls are at least 2.5 m above the floor. - Safety-related equipment and instruments are located above the internal design flood level and at least 20 cm above the floor surface.	2. Inspection of the as-built protective provisions against internal flooding hazards will be conducted.	2. The as-built RCB, AB (except the lowest floor at El. 55ft) ~~including~~ EDG building, and the buildings housing the ESW, ~~/~~CCW, and HX~~x Buildings~~ conform~~s~~ with the following criteria to protect against internal flooding: - Divisional flood barriers exist ~~in accordance with the approved design specifications and drawings~~that protect against internal flooding. - Watertight doors exist ~~according to flood barrier drawings~~that protect against internal flooding. - Penetrations in the flood barrier are sealed up to the internal design flood levels and, in addition, penetrations in the divisional walls are at least 2.5 m above the floor. - Safety-related equipment and instruments ~~in nuclear island~~ are located above the internal design flood level and at least 20 cm above the floor surface.

Table 2.2.5-1 (3 of 4)

Design Commitment	Inspections, Tests, Analyses	Acceptance Criteria
3. The ~~key characteristics of the~~ protective provisions against fire hazards are as follows: - The redundant trains of systems, components and cables important to safety, except for the control room complex and inside containment, are separated from each other by fire barriers having a 3-hour rating. - Openings and penetrations through fire barriers are protected by components~~,~~ (such as~~i.e.,~~ fire doors, fire dampers, penetration seals)~~,~~ having fire resistance equivalent to that of the barrier. - MCR complex and RSR are separated from each other and other fire areas ~~-~~ by 3-hour rated fire barriers. - ~~-~~Fire and smoke barrier~~-~~s exist ~~to minimize the potential for radioactive releases to the environment from the areas containing significant radiation sources~~to keep any radiological releases from a fire within the exposure criteria of 10 CFR Part 20.	3. Inspection of the as-built protective provisions against fire hazards will be conducted~~.~~. ~~Especially, , including and ttesting will be will be performed on doors and penetration seals.~~ Inspection and analysis will be conducted of the as-built fire and smoke barriers to demonstrate that any radiological releases from a fire will be kept within the exposure criteria of 10 CFR Part 20.	3. The as-built ~~3-hour rated fire barriers conform with the following criteria to preserve the safety shutdown capability of the plant following a fire~~protective provisions against fire hazards are as follows: - The redundant trains of systems, components and cables important to safety, except for the control room complex and inside containment, are separated from each other by fire barriers having a 3-hour rating. ~~- Fire barriers that define the boundaries of fire area should must achieve the separation of redundant trains of safe shutdown from each other so that both are not subject to damage from a single fire.~~ - Openings and penetrations through fire barriers are protected by components~~,~~ (such as~~i.e.,~~ fire doors, fire dampers, penetration seals)~~,~~ having fire resistance equivalent to that of the barrier. - The MCR complex and RSR are separated from each other and other fire areas by 3--hour rated fire barriers.~~,~~ ~~barriers Barriers having a 3-hour rating should must separate the panels providing for alternative and dedicated shutdown capability from the control room complex.~~ - Fire and smoke barriers exist to keep any radiological releases from a fire within the exposure criteria of 10 CFR Part 20.~~Fire and smoke barriers exist to minimize the potential for radioactive releases to the environment from the areas containing significant radiation sources.~~

Table 2.2.5-1 (4 of 4)

Design Commitment	Inspections, Tests, Analyses	Acceptance Criteria
4. The key characteristics of the protective provisions against internally generated missiles are as follows : • Minimizing the sources of missiles by equipment design features that prevent missile generation • Orientation of physical separation of potential missile source away from safety related equipment and component • Containing the potential missiles through the use of protective shields barriers near the missile source of safety related facility and equipment • Hardening of safety related equipment and components to withstand Safety-related equipment and components in the as-built RCB, AB, EDG building, and the buildings housing the ESW, CCW, and heat exchanger, are protected against internally generated missiles by one or more of the following: - Design features to prevent the generation of missiles -Orientation of missile sources to prevent missiles from striking safety-related equipment and components -Local shields and barriers protect the safety-related equipment and components -Safety-related equipment and components are designed to withstand the impact of missiles	4. Inspection of the as-built protective provisions against internally generated missiles will be conducted.	4. The as-built RCB, AB, and ESW/CCW heat exchanger buildings including EDG building conforms with the following criteria: - Minimizing the sources of missiles by equipment design features that prevent missile generation - Orientation of physical separation of potential missile source away from safety related equipment and component - Containing the potential missiles through the use of protective shields barriers near the missile source of safety related facility and equipment - Hardening of safety related equipment and components to withstand missile impact Safety-related equipment and components in the as-built RCB, AB, EDG building, and the buildings housing the ESW, CCW, and heat exchanger are protected against internally generated missiles by one or more of the following: -Design features to prevent the generation of missiles -Orientation of missile sources to prevent missiles from striking safety-related equipment and components -Local shields and barriers protect the safety-related equipment and components -Safety-related equipment and components are designed to withstand the impact of missiles

Table 2.2.6-2 (1 of 2)

Reactor Vessel Internals ITAAC

Design Commitment	Inspections, Tests, Analyses	Acceptance Criteria
1. The functional arrangement of the reactor vessel internals is as described in the Design Description of Subsection 2.2.6.1 and in Table 2.2.6-1 and as shown in Figures 2.2.6-1 and 2.2.6-2.	1. Inspection of the as-built reactor vessel internals will be performed.	1. The as-built reactor vessel internals conform with the functional arrangement as described in the Design Description of Subsection 2.2.6.1 and in Table 2.2.6-1 and as shown in Figures 2.2.6-1 and 2.2.6-2.
2. The ASME Code components identified in Table 2.2.6-1 are designed and constructed in accordance with ASME Section III Subsection NG requirements.	2. Inspection of the as-built ASME Code components identified in Table 2.2.6-1 will be performed and as documented in the ASME data report(s).	2. The ASME Section III data report(s) exist and conclude that the as-built ASME Code components identified in Table 2.2.6-1 are designed and constructed in accordance with ASME Section III Subsection NG requirements.
3. The seismic Category I components identified in Table 2.2.6-1 can withstand seismic design basis loads without loss of safety function.	3.a Inspections will be performed to verify that the as-built seismic Category I components are located in the seismic Category I structure.	3.a The as-built seismic Category I components identified in Table 2.2.6-1 are located in the seismic Category I structure.
	3.b Type tests, analyses or a combination of type tests and analyses of seismic Category I components will be performed .	3.b A report exists and concludes that the seismic Category I components identified in Table 2.2.6-1 can withstand seismic design basis loads without loss of safety function.
	3.c Inspections will be performed to verify that the as-built seismic Category I components are seismically bounded by the tested or analyzed conditions.	3.c A report exists and concludes that the as-built seismic Category I components identified in Table 2.2.6-1 are seismically bounded by the tested or analyzed conditions.

Table 2.2.6-2 (2 of 2)

Design Commitment	Inspections, Tests, Analyses	Acceptance Criteria
4. The reactor vessel internals withstand the effects of flow induced vibration caused by the operation of the reactor coolant pumps.	4. Pre- and post-test visual inspection will be performed on the reactor vessel internals. A hot functional test will be performed. Inspection of the reactor vessel internals will be performed both before and after the hot functional test.	4. The results of the inspection demonstrate that theThe reactor vessel internals retain their integrity with no observable damage or loose parts.

Table 2.2.7-2 (1 of 2)

ICI Guide Tube System ITAAC

Design Commitment	Inspections, Tests, Analyses	Acceptance Criteria
1. The functional arrangement of the ICI guide tubes, seal housings, supports and seal table is as described in the Design Description of Subsection 2.2.7.1 and in Table 2.2.7-1 and as shown in Figure 2.2.7-1.	1. Inspection of the as-built ICI guide tube system will be performed.	1. The as-built ICI guide tube system conforms with the functional arrangement as described in the Design Description of Subsection 2.2.7.1 and in Table 2.2.7-1 and as shown in Figure 2.2.7-1.
2. The ASME Code components identified in Table 2.2.7-1 are designed and constructed in accordance with ASME Section III requirements.	2. Inspection of the as-built ASME Code components identified in Table 2.2.7-1 will be performed and as documented in the ASME data report(s).	2. The ASME Section III data report(s) exist and conclude that the as-built ASME Code components identified in Table 2.2.7-1 are designed and constructed in accordance with ASME Section III requirements.
3. The ICI guide tubes and seal housings identified in Table 2.2.7-1 retain their pressure boundary integrity at their design pressure.	3. A hydrostatic test will be conducted on the as-built components required to be hydrostatically tested by the ASME Section III.	3. A report exists and concludes that the results of the hydrostatic test of the as-built components identified in Table 2.2.7-1 conform with the ASME Section III requirements.

Table 2.2.7-2 (2 of 2)

Design Commitment	Inspections, Tests, Analyses	Acceptance Criteria
4. The seismic Category I components identified in Table 2.2.7-1 , including the supports and anchorages, can withstand seismic design basis loads without loss of safety function.	4.a Inspections will be performed to verify that the as-built seismic Category I components are located in the seismic Category I structure.	4.a The as-built seismic Category I components identified in Table 2.2.7-1 are located in the seismic Category I structure.
	4.b Type tests, analyses or a combination of type tests and analyses of seismic Category I components will be performed.	4.b A report exists and concludes that the seismic Category I components identified in Table 2.2.7-1 can withstand seismic design basis loads without loss of safety function.
	4.c Inspections will be performed to verify that the as-built seismic Category I components, including ~~including~~ the supports and anchorages~~anchorages,~~ are seismically bounded by the tested or analyzed conditions.	4.c A report exists and concludes that the as-built seismic Category I components identified in Table 2.2.7-1, including the supports and anchorages~~including anchorages,~~ are seismically bounded by the tested or analyzed conditions.

Table 2.2.8-1

Essential Service Water Building ITAAC

Design Commitment	Inspections, Tests, Analysis	Acceptance Criteria
1. The Essential Service Water Building is designed and constructed to withstand the structural design basis loads.	1. A structural analysis will be performed to reconcile the as-built ESW structure with the structural design basis loads.	1. A report exists and concludes that the ESW building can withstand the structural design basis loads.

Table 2.2.9-1

Component Cooling Water Heat Exchanger Building ITAAC

Design Commitment	Inspections, Tests, Analysis	Acceptance Criteria
1. The Component Cooling Water Heat Exchanger building Buildings is designed and constructed to withstand the structural design basis loads.	1. A structural analysis will be performed to reconcile the as-built CCW heat exchanger structure with the structural design basis loads.	1. A report exists and concludes that the CCW heat exchanger building can withstand the structural design basis loads.

Table 2.3-3

Pipe Rupture Hazard Protection ITAAC

Design Commitment	Inspections, Tests, Analyses	Acceptance Criteria
1. SafetyAll safety-related SSCs are protected against the dynamic and environmental effects associated with postulated failures in high- energy piping systems. Note: This design commitment and ITAAC do not address Pprotection against dynamic effects is not required for high energy, for ASME Code Section III Class 1 and 2 piping and interconnected equipment nozzles that are qualified for which LBB criteria is considered applicable.	1. A pipe rupture analysis will be performed for all high-energy piping systems. An inspection will be performed of the as-built high-energy piping systems and protective features for the safety-related SSCs.	1. The A pipe rupture analysis report exists and concludes that the safety-related SSCs are protected against the dynamic and environmental effects associated with postulated failures in high-energy piping systems as follows: • Protective features are installed in accordance with the as-built pipe rupture analysis report. • The as-built safety-related SSCs are protected against or qualified to withstand the dynamic effects of postulated pipe failures in the as-built high-energy piping systems. • The as-built safety-related SSCs are protected against or qualified to withstand the environmental effects of postulated pipe failures in the as-built high-energy piping systems.
2. Safety All safety-related SSCs are protected against environmental effects associated with postulated failures in moderate-energy piping systems.	2. A pipe rupture analysis will be performed for all moderate-energy piping systems. An inspection will be performed of the as-built moderate-energy piping systems and protective features for the safety-related SSCs.	2. The A pipe rupture analysis report exists and concludes that the safety-related SSCs are protected against the environmental effects associated with postulated failures in moderate-energy piping systems as follows: • Protective features are installed in accordance with the as-built pipe rupture analysis report. • The as-built safety-related SSCs are protected against or qualified to withstand the environmental effects associated with postulated failures in the as-built moderate-energy piping systems.

Table 2.4.1-4 (1 of 7)

Reactor Coolant System ITAAC

Design Commitment	Inspections, Tests, Analyses	Acceptance Criteria
1. The functional arrangement of the RCS is as described in the Design Description of Subsection 2.4.1.1 and in Table 2.4.1-1 and as shown in Figures 2.4.1-1 and 2.4.1-2.	1. Inspection of the as-built RCS is conducted.	1. The as-built RCS conforms with the functional arrangement as described in the Design Description of Subsection 2.4.1.1 and in Table 2.4.1-1 and as shown in Figures 2.4.1-1 and 2.4.1-2.
2.a The ASME Code components identified in Table 2.4.1-2 are designed and constructed in accordance with ASME Section III requirements.	2.a Inspection of the as-built ASME Code components identified in Table 2.4.1-2 is performed as and documented in the ASME data report(s).	2.a The ASME Section III data report(s) exist and conclude that the as-built ASME Code components identified in Table 2.4.1-2 are designed and constructed in accordance with ASME Section III requirements.
2.b The ASME Code piping, including supports, identified in Table 2.4.1-1 is designed and constructed in accordance with ASME Section III requirements.	2.b Inspection of the as-built ASME Code piping, including supports, identified in Table 2.4.1-1 is performed and as documented in the ASME data report(s).	2.b The ASME Section III or data report(s) exist and conclude that the as-built ASME Code piping, including supports, identified in Table 2.4.1-1 is designed and constructed in accordance with ASME Section III requirements.
3.a Pressure boundary welds in ASME Code components identified in Table 2.4.1-2 meet ASME Section III requirements.	3.a Inspections of the as-built pressure boundary welds in ASME Code components identified in Table 2.4.1-2 are performed in accordance with the ASME Section III.	3.a A report exists and concludes that the ASME Section III requirements are met for non-destructive examination of the as-built pressure boundary welds in ASME Code components identified in Table 2.4.1-2.
3.b Pressure boundary welds in ASME Code piping identified in Table 2.4.1-1 meet ASME Section III requirements.	3.b Inspections of the as-built pressure boundary welds in ASME Code piping identified in Table 2.4.1-1 are performed in accordance with the ASME Section III.	3.b A report exists and concludes that the ASME Section III requirements are met for non-destructive examination of the as-built pressure boundary welds in ASME Code piping identified in Table 2.4.1-1.

Table 2.4.1-4 (2 of 7)

Design Commitment	Inspections, Tests, Analyses	Acceptance Criteria
4.a The ASME Code components identified in Table 2.4.1-2 retain their pressure boundary integrity at their design pressure.	4.a A hydrostatic test is conducted on the as-built ASME Code components identified in Table 2.4.1-2 required to be hydrostatically tested by the ASME Section III.	4.a A report exists and concludes that the results of the hydrostatic test of the as-built ASME Code components identified in Table 2.4.1-2 conform with the ASME Section III requirements.
4.b The ASME Code piping identified in Table 2.4.1-1 retains its pressure boundary integrity at its design pressure.	4.b A hydrostatic test is conducted on the as-built ASME Code piping identified in Table 2.4.1-1 required to be hydrostatically tested by the ASME Section III.	4.b A report exists and concludes that the results of the hydrostatic test of the as-built ASME Code piping identified in Table 2.4.1-1 conform with ASME Section III requirements.
5.a The seismic Category I components and instruments identified in Tables 2.4.1-2 and 2.4.1-3, including the supports and anchorages, withstand seismic design basis loads without loss of safety function.	5.a.i Inspections are performed to verify that the as-built seismic Category I components and instruments are located in the seismic Category I structure.	5.a.i The as-built seismic Category I components and instruments identified in Tables 2.4.1-2 and 2.4.1-3 are located in the seismic Category I structure.
	5.a.ii Type tests, analyses or a combination of type tests and analyses of seismic Category I components and instruments are performed.	5.a.ii A report exists and concludes that the seismic Category I components and instruments identified in Table 2.4.1-2 and 2.4.1-3 withstand seismic design basis loads without loss of safety function.
	5.a.iii Inspections are performed to verify that the as-built seismic Category I components and instruments, including the supports and anchorages, are seismically bounded by the tested or analyzed conditions.	5.a.iii A report exists and concludes that the as-built seismic Category I components and instruments identified in Table 2.4.1-2 and 2.4.1-3, including the supports and anchorages, are seismically bounded by the tested or analyzed conditions.

Table 2.4.1-4 (3 of 7)

Design Commitment	Inspections, Tests, Analyses	Acceptance Criteria
5.b The seismic Category I piping, including supports, identified in Table 2.4.1-1 withstands seismic design basis loads without loss of safety function.	5.b.i Inspections are performed to verify that the as-built seismic Category I piping, including supports, is located in the seismic Category I structure.	5.b.i The as-built seismic Category I piping, including supports, identified in Table 2.4.1-1 is located in the seismic Category I structure.
	5.b.ii Inspections and analyses of the as-built seismic Category I piping, including supports, are performed.	5.b.ii A report exists and concludes that the as-built seismic Category I piping, including supports, identified in Table 2.4.1-1 withstands seismic design basis loads without loss of safety function.
6.a The Class 1E components and instruments identified in Tables 2.4.1-2 and 2.4.1-3 as being qualified for a harsh environment (and the associated wiring, cables, and terminations) withstand the environmental conditions that would exist before, during, and following a design basis accident without loss of safety function for the time required to perform the safety function.	6.a.i Type tests, ~~analyses,~~ or a combination of type tests and analyses are performed on Class 1E components and instruments located in a harsh environment.	6.a.i A report exists and concludes that the Class 1E components and instruments identified in Tables 2.4.1-2 and 2.4.1-3 as being qualified for a harsh environment withstand the environmental conditions that would exist before, during, and following a design basis accident without loss of safety function for the time required to perform the safety function.
	6.a.ii Inspections are performed on the as-built Class 1E components and instruments (~~-~~and the associated wiring, cables, and terminations) located in a harsh environment.	6.a.ii A report exists and concludes that the as-built Class 1E components and instruments identified in Tables 2.4.1-2 and 2.4.1-3 ~~(and the associated wiring, cables, and terminations) identified in Tables 2.4.1-2 and 2.4.1-3~~ as being qualified for a harsh environment (and the associated wiring, cables, and terminations) are bounded by type tests, ~~analyses,~~ or a combination of type tests and analyses.

Table 2.4.1-4 (4 of 7)

Design Commitment	Inspections, Tests, Analyses	Acceptance Criteria
6.b Each of the Class 1E components and instruments identified in Tables 2.4.1-2 and 2.4.1-3 is powered from its respective Class 1E division.	6.b Tests are performed by providing a test signal in only one Class 1E division at a time.	6.b The test signal exists at the Class 1E components and instruments identified in Tables 2.4.1-2 and 2.4.1-3 as being powered from the Class 1E division under test.
6.c Physical separation and electrical isolation~~Separation~~ is provided (1) between Class 1E divisions~~,~~ and (2) between Class 1E divisions and non-Class 1E divisions.	6.c Inspection of the as-built Class 1E divisions is performed.	6.c Physical separation and electrical isolation exists in accordance with NRC RG 1.75 (1) between ~~these~~ Class 1E divisions~~,~~ and ~~also~~ (2) between Class 1E divisions and non-Class 1E divisions.
7.a The RCS safety-related valves are functionally designed and qualified to perform their safety-related function under the full range of fluid flow, differential pressure, electrical ~~conditions~~, and temperature conditions with debris laden coolant fluids up to and including design basis accident conditions.	7.a.i Tests or a combination of type test~~e~~s and analyses will be performed to demonstrate the~~ir~~ capabilities of the RCS safety-related valves.	7.a.i A Functional Qualification Report performed in conformance to ASME QME-1-2007, as accepted in Regulatory Guide 1.100 Revision 3, exist~~se~~ and concludes that the RCS safety-related valves listed in Table 2.4.1-2 are ~~capable of performing~~ functionally designed and qualified to perform their safety-related function under the full range of fluid flow, differential pressure, electrical ~~conditions~~, and temperature conditions with debris laden coolant fluids up to and including design basis accident conditions.
	7.a.ii A diagnostic stroke test and analysis will be performed of the RCS ~~safety related~~safety-related valves under preoperational temperature, differential pressure, and flow conditions.	7.a.ii Each RCS safety-related valve listed in Table 2.4.3-2 strokes fully open and fully closed by remote operation (or manual operation if a manually operated valve) under preoperational temperature, differential pressure, and flow conditions. ~~with~~ Analysis, based on sufficient diagnostic data, demonstrates~~to correlate~~ that the valves will perform~~ance~~ ~~to its~~ at their design-basis capability as established by the type test performed in accordance with 7.a.i.
7.b After loss of motive power, MOVs and AOVs identified in Table 2.4.1-2 assume the indicated loss of motive power position.	7.b Tests of the as-built MOVs and AOVs are performed under the conditions of loss of motive power.	7.b Upon loss of motive power, each as-built MOV or AOV identified in Table 2.4.1-2 assumes the indicated loss of motive power position.
8.a ~~All c~~Controls ~~required by the design~~ exist in the MCR to start and stop the reactor coolant pumps and to open and close MOVs and AOVs listed in Table 2.4.1-2.	8.a Tests are performed using the controls in the MCR to start and stop the reactor coolant pumps and to open and close MOVs and AOVs.	8.a ~~All c~~Controls in the as-built MCR start and stop the reactor coolant pumps and open and close MOVs and AOVs identified in Table 2.4.1-2.

8.b All cControls required by the design exist in the RSR to start and stop the reactor coolant pumps and to open and close MOVs and AOVs s listed in Table 2.4.1-2.	8.b Tests are performed using the controls in the RSR to start and stop the reactor coolant pumps and to open and close MOVs and AOVs.	8.b All cControls in the as-built RSR start and stop the reactor coolant pumps and open and close MOVs and AOVs identified in Table 2.4.1-2.

Table 2.4.1-4 (5 of 7)

Design Commitment	Inspections, Tests, Analyses	Acceptance Criteria
8.c All dDisplays and alarms required by the design exist and are retrievable in the MCR as defined in Tables 2.4.1-2 and 2.4.1-3.	8.c Inspections of the as-built are performed on the displays and alarms in the MCR will be performed.	8.c All dDisplays and alarms exist and are retrieved in the as- built MCR as defined in Tables 2.4.1-2 and 2.4.1-3.
8.d All dDisplays and alarms required by the design exist and are retrievable in the RSR as defined in Tables 2.4.1-2 and 2.4.1-3.	8.d Inspections of the as-built are performed on the displays and alarms in the RSR will be performed.	8.d All dDisplays and alarms exist and are retrieved in the as- built RSR as defined in Tables 2.4.1-2 and 2.4.1-3.
8.e All cControls required by the design exist in the MCR to energize and de-energize the pressurizer backup heaters listed in Table 2.4.1-2.	8.e Tests are performed using the controls in the MCR.	8.e All cControls in the MCR energize and de-energize the pressurizer backup heaters listed in Table 2.4.1-2.
8.f All cControls required by the design exist in the RSR to energize and de-energize the pressurizer backup heaters listed in Table 2.4.1-2.	8.f Tests are performed using the controls in the RSR.	8.f All cControls in the RSR energize and de-energize the pressurizer backup heaters listed in Table 2.4.1-2.
9.a The pressurizer POSRVs provide overpressure protection for reactor coolant pressure boundary components in the RCS.	9.a.i Testing and analysis in accordance with ASME Section III are performed to confirm the set pressure of the pressurizer POSRVs.	9.a.i The pressurizer POSRV set pressure equals 173.7 ± 1.3 kg/cm^{2}A (2,470 ± 18 psia).
	9.a.ii Type tTests of flow capacity of the POSRVs are performed in accordance with ASME Section III.	9.a.ii The minimum flow valve capacity is 244,900 kg/hr (540,000 lb/hr) steam.
	9.a.iii Type tTests of the POSRVs at full flow and full pressure are performed.	9.a.iii The POSRVs open at a pressure which does not exceed the set pressure by more than 3 %.
	9.a.iv Test for actuation time of the POSRVs is performed.	9.a.iv Maximum opening time (including dead time) of the POSRVs is 0.5/5 seconds (hydraulic/manual). Maximum closing time (including dead time) of the POSRVs is 0.9/9 seconds (hydraulic/manual).

Table 2.4.1-4 (6 of 7)

Design Commitment	Inspections, Tests, Analyses	Acceptance Criteria
9.b Each RCP motor has a flywheel which retains its integrity at a design overspeed condition.	9.b Shop testing of each RCP flywheel ~~are~~ is performed at the vendor facility at overspeed condition.	9.b Each RCP flywheel maintains its integrity during an overspeed test of no less than 125 % of the motor synchronous speed~~operating speed~~.
9.c Each RCP has rotating inertia to slow the pump flow coastdown when electrical power is disconnected.	9.c Analysis of RCP rotating inertia is performed.	9.c The rotating inertia of each RCP and motor assembly is no less than 6,717 kg-m^2 (159,400 lb-ft^2)
9.d The RCPs circulate coolant at a rate which removes heat generated in the reactor core.	9.d Testing to measure RCS flow with four RCPs operating at normal zero power pressure and temperature conditions ~~are~~ is performed.	9.d Pre-core total measured RCS flow rate is between 1,953,000 L/min (516,000 gpm) and 2,058,000 L/min (544,000 gpm)
9.e The RCS provides pressurizer backup heaters to control system pressure.	9.e Inspections are performed to verify the rated capacity of the as-built pressurizer backup heater groups No.1 and No.2.	9.e Each as-built pressurizer backup heater group (No.1 and No.2) has a rated capacity of at least 200 kW.
10. The RV is equipped with holders for at least six capsules for accommodating material surveillance specimens.	10. Inspection of the RV for presence of capsules is performed.	10. At least six capsules are in the reactor vessel.
11. RV material specimens taken from materials actually used in fabrication of the beltline region are inserted in the capsules, and include Charpy V-notch specimens of base metal, weld metal, and heat-affected zone material, and tensile and 1/2T compact tension specimens from base metal and weld metal.	11. Inspection of RV material specimens is performed.	11. RV material specimens are made from material used in RV fabrication, and include Charpy V-notch specimens of base metal, weld metal, and heat-affected zone material, and tensile and 1/2T compact tension specimens from base metal and weld metal.

Table 2.4.1-4 (7 of 7)

Design Commitment	Inspections, Tests, Analyses	Acceptance Criteria
12. CEDMs release the CEAs upon termination of electrical power to the CEDMs.	12. Tests are performed on the as-built CEDMs to confirm scramability.	12. Maximum drop time for 90 % insertion of the CEA is 4.0 seconds.
13. The piping systems qualified for LBB identified in Table 2.4.1-1 as qualified for LBB meet meets the LBB acceptance criteria, or protection of safety-related SSCs from the dynamic effects associated with postulated failures of the high energy piping system is provided.	13. For the piping systems identified in Table 2.4.1-1 as being qualified for LBB, Iinspections and analyses of the as-built piping system qualified for LBB identified in Table 2.4.1-1 will be performed for conformance with the LBB acceptance criteria, or inspections and analyses of the as-built high-energy piping and protective features for safety-related SSCs will be performed.	13. For the piping systems qualified for LBB identified in Table 2.4.1-1 as qualified for LBB, either an LBB evaluation report exists which documentsand concludes that the LBB acceptance criteria are met by the as-built piping system including the final detailed design parameters, or a pipe rupture analysis report exists and concludes that the as-built safety-related SSCs are protected against or are qualified to withstand the effects of postulated failures of the as-built high-energy piping system.
14. During mid-loop operation, the nozzle dam withstands its design pressure of 50 psig.	14. Test or type test will be performed that demonstrates the capability of the nozzle dam to operate under the design conditions of mid-loop operation.	14. A test report exists and concludes that nozzle dam is capable of being operated withstands a design pressure of 50 psig under design condition of mid-loop.
15. The decay heat removal function of the SCS will not be impaired by gas entrainment during mid-loop operation while the system is operating at its maximum allowable flow rate and the reactor coolant hot leg level is at the lowest level allowable for decay heat removal.	15. Analyses or tests of the potential for gas entrainment during mid-loop operation will be performed on the as-built configuration of the SCS.	15. A report exists and concludes that the decay heat removal function of the SCS will not be impaired by gas entrainment during mid-loop operation while the system is operating at its maximum allowable flow rate and the reactor coolant hot leg level is at the lowest level allowable for decay heat removal.

Table 2.4.2-4 (1 of 6)

In-containment Water Storage System ITAAC

Design Commitment	Inspections, Tests, Analyses	Acceptance Criteria
1. The functional arrangement of the IWSS is as described in the Design Description of Subsection 2.4.2.1 and in Table 2.4.2-1 and as shown in Figure 2.4.2-1.	1. Inspection of the as-built IWSS will be performed.	1. The as-built IWSS conforms with the functional arrangement as described in the Design Description of Subsection 2.4.2.1 and in Table 2.4.2-1 and as shown in Figure 2.4.2-1.
2.a The ASME Code components identified in Table 2.4.2-2 are designed and constructed in accordance with ASME Section III requirements.	2.a Inspection of the as-built ASME Code components identified in Table 2.4.2-2 will be performed and ~~as~~ documented in the ASME data report(s).	2.a The ASME Section III data report(s) exist and conclude that the as-built ASME Code components identified in Table 2.4.2-2 are designed and constructed in accordance with ASME Section III requirements.
2.b The ASME Code piping, including supports, identified in Table 2.4.2-1 is designed and constructed in accordance with ASME Section III requirements.	2.b Inspection of the as-built ASME Code piping, including supports, identified in Table 2.4.2-1 will be performed and ~~as~~ documented in the ASME data report(s).	2.b The ASME Section III data report(s) exist and conclude that the as-built ASME Code piping, including supports, identified in Table 2.4.2-1 is designed and constructed in accordance with ASME Section III requirements.
3.a Pressure boundary welds in ASME Code components identified in Table 2.4.2-2 meet ASME Section III requirements.	3.a Inspections of the as-built pressure boundary welds in ASME Code components identified in Table 2.4.2-2 will be performed in accordance with the ASME Section III.	3.a A report exists and concludes that the ASME Section III requirements are met for non-destructive examination of the as-built pressure boundary welds in ASME Code components identified in Table 2.4.2-2.
3.b Pressure boundary welds in ASME Code piping identified in Table 2.4.2-1 meet ASME Section III requirements.	3.b Inspections of the as-built pressure boundary welds in ASME Code piping identified in Table 2.4.2-1 will be performed in accordance with the ASME Section III.	3.b A report exists and concludes that the ASME Section III requirements are met for non-destructive examination of the as-built pressure boundary welds in ASME Code piping identified in Table 2.4.2-1.

Table 2.4.2-4 (2 of 6)

Design Commitment	Inspections, Tests, Analyses	Acceptance Criteria
4.a The ASME Code components identified in Table 2.4.2-2 retain their pressure boundary integrity at their design pressure.	4.a A hydrostatic test will be conducted on the as-built ASME Code components identified in Table 2.4.2-2 required to be hydrostatically tested by the ASME Section III.	4.a A report exists and concludes that the results of the hydrostatic test of the as-built ASME Code components identified in Table 2.4.2-2 conform with ASME Section III requirements.
4.b The ASME Code piping identified in Table 2.4.2-1 retains its pressure boundary integrity at its design pressure.	4.b A hydrostatic test will be conducted on the as-built ASME Code piping identified in Table 2.4.2-1 required to be hydrostatically tested by the ASME Section III.	4.b A report exists and concludes that the results of the hydrostatic test of the as-built ASME Code piping identified in Table 2.4.2-1 conform with ASME Section III requirements.
5.a The seismic Category I components and instruments identified in Tables 2.4.2-2 and 2.4.2-3, including the supports and anchorages, withstand seismic design basis loads without loss of safety function.	5.a.i Inspections will be performed to verify that the as-built seismic Category I components and instruments are located in the seismic Category I structure.	5.a.i The as-built seismic Category I components and instruments identified in Tables 2.4.2-2 and 2.4.2-3 are located in the seismic Category I structure.
	5.a.ii Type tests, analyses or a combination of type tests and analyses of seismic Category I components and instruments will be performed.	5.a.ii A report exists and concludes that the seismic Category I components and instruments identified in Tables 2.4.2-2 and 2.4.2-3 withstand seismic design basis loads without loss of safety function.
	5.a.iii Inspections will be performed to verify that the as-built seismic Category I components and instruments, including the supports and anchorages, are seismically bounded by the tested or analyzed conditions.	5.a.iii A report exists and concludes that the as-built seismic Category I components and instruments identified in Tables 2.4.2-2 and 2.4.2-3, including the supports and anchorages, are seismically bounded by the tested or analyzed conditions.

Table 2.4.2-4 (3 of 6)

Design Commitment	Inspections, Tests, Analyses	Acceptance Criteria
5.b The seismic Category I piping, including supports, identified in Table 2.4.2-1 withstands seismic design basis loads without loss of safety function.	5.b.i Inspections will be performed to verify that the as-built seismic Category I piping, including supports, is located in the seismic Category I structure(s).	5.b.i The as-built seismic Category I piping, including supports, identified in Table 2.4.2-1 is located in the seismic Category I structure(s).
	5.b.ii Inspections and analyses of the as-built seismic Category I piping, including supports, will be performed.	5.b.ii A report exists and concludes that the as-built seismic Category I piping, including supports, identified in Table 2.4.2-1 withstands seismic design basis loads without loss of safety function.
6.a The Class 1E components and instruments identified in Tables 2.4.2-2 and 2.4.2-3 as being qualified for a harsh environment (and the associated wiring, cables, and terminations) withstand the environmental conditions that would exist before, during, and following a design basis accident without loss of safety function for the time required to perform the safety function.	6.a.i Type tests~~, analyses,~~ or a combination of type tests and analyses will be performed on Class 1E components and instruments located in a harsh environment.	6.a.i A report exists and concludes that the Class 1E components and instruments identified in Tables 2.4.2-2 and 2.4.2-3 as being qualified for a harsh environment withstand the environmental conditions that would exist before, during, and following a design basis accident without loss of safety function for the time required to perform the safety function.
	6.a.ii Inspections will be performed on the as-built Class 1E components and instruments (and the associated wiring, cables, and terminations) located in a harsh environment.	6.a.ii A report exists and concludes that the as-built Class 1E components and instruments identified in Tables 2.4.2-2 and 2.4.2-3 ~~and the associated wiring, cables, and terminations identified in Tables 2.4.2-2 and 2.4.2-3~~ as being qualified for a harsh environment (and the associated wiring, cables, and terminations) are bounded by type tests~~, analyses,~~ or a combination of type tests and analyses.

Table 2.4.2-4 (4 of 6)

Design Commitment	Inspections, Tests, Analyses	Acceptance Criteria
6.b Each of the Class 1E components and instruments identified in Tables 2.4.2-2 and 2.4.2-3 is powered from its respective Class 1E division.	6.b Tests will be performed by providing a test signal in only one Class 1E division at a time.	6.b The test signal exists at the Class 1E components and instruments identified in Tables 2.4.2-2 and 2.4.2-3 as being powered from the Class 1E division under test.
6.c Physical separation and electrical isolationSeparation is provided (1) between Class 1E divisions, and (2) between Class 1E divisions and non-Class 1E divisions.	6.c Inspection of the as-built Class 1E divisions will be performed.	6.c Physical separation and electrical isolation exist in accordance with NRC RG 1.75 (1) between these Class 1E divisions, and also (2) between Class 1E divisions and non-Class 1E divisions.
7.a The IWSS safety-related valves are functionally designed and qualified to perform their safety-related function under the full range of fluid flow, differential pressure, electrical conditions, and temperature conditions up to and including design basis accident conditions.	7.a.i A type test or a combination of type test and analysis will be performed of the IWSS safety-related valves.	7.a.i A Functional Qualification Report performed in conformance to ASME QME-1-2007, as accepted in Regulatory Guide 1.100 Revision 3, exists and concludes that the IWSS safety-related valves listed in Table 2.4.2-2 are capable of performingfunctionally designed and qualified to perform their safety-related function under the full range of fluid flow, differential pressure, electrical conditions, and temperature conditions up to and including design basis accident conditions.
	7.a.ii A diagnostic stroke test and analysis will be performed of the IWSS safety-relatedsafety-related valves under preoperational temperature, differential pressure, and flow conditions.	7.a.ii Each IWSS safety-related valve listed in Table 2.4.2-2 strokes fully open and fully closed by remote operation (or manual operation if a manually operated valve) under preoperational temperature, differential pressure, and flow conditions. with Analysis based on sufficient diagnostic data demonstrates that the valves will perform at their to correlate valve performance to its design basis capability as established by the type test performed in accordance with 7.a.i.
7.b After loss of motive power, MOVs and SOVs identified in Table 2.4.2-2 assume the indicated loss of motive power position.	7.b Test of the as-built MOVs and SOVs will be performed under the conditions of loss of motive power.	7.b Upon loss of motive power, each as-built MOV or SOV identified in Table 2.4.2-2 assumes the indicated loss of motive power position.
8.a All cControls required by the design exist in the MCR to open and close MOVs and SOVs identified in Table 2.4.2-2.	8.a Tests will be performed using the controls in the MCR to open and close MOVs and SOVs.	8.a All cControls in the as-built MCR open and close MOVs and SOVs identified in Table 2.4.2-2.
8.b All cControls required by the design exist in the RSR to open and close MOVs and SOVs identified in Table 2.4.2-2.	8.b Test will be performed using the controls in the RSR to open and close MOVs and SOVs.	8.b All cControls in the as-built RSR open and close MOVs and SOVs identified in Table 2.4.2-2.

8.c All dDisplays and alarms required by the design exist and are retrievable in the MCR as defined in Tables 2.4.2-2 and 2.4.2-3.	8.c Inspections of the as-built will be performed on the displays and alarms in the MCR will be performed.	8.c All dDisplays and alarms exist and are retrieved in the as-built MCR as defined in Tables 2.4.2-2 and 2.4.2-3.

Table 2.4.2-4 (5 of 6)

Design Commitment	Inspections, Tests, Analyses	Acceptance Criteria
8.d All dDisplays and alarms required by the design exist and are retrievable in the RSR as defined in Tables 2.4.2-2 and 2.4.2-3.	8.d Inspections of the as-built will be performed on the displays and alarms in the RSR will be performed.	8.d All DDisplays and alarms exist and are retrieved in the as-built RSR as defined in Tables 2.4.2-2 and 2.4.2-3.
9.a The IRWST has a sufficient water volume.	9.a.i Inspection and analyses of the IRWST will be performed to verify provide a minimum water volume for ECCS and CSS operation during DBE.	9.a.i The IRWST has a minimum water volume of 2,373.5m^3(83,818ft^3)
	9.a.ii Inspection and analyses of the IRWST will be performed to verify provide a water volume for flooding the refueling pool.	9.a.ii The IRWST has a water volume of at least 2,456.7m^3 (86,759 ft^3).
9.b The IWSS provides post-LOCA pH control with tri-sodium phosphate (TSP).	9.b Inspection will be performed for the capacity of the TSP baskets.	9.b The TSP basket located in HVT has the following combined capacity of TSP: ≥ 26,976 kg (59,472 lbs).
9.c The IRWST sump for each SIS/CSS division has a strainer.	9.c.i Inspection will be performed for the existence of a strainer in the IRWST sump for each SIS/CSS division.	9.c.i A strainer exists in the IRWST sump for each SIS/CSS division.
	9.c.ii Inspection and analysis will be performed to verify the minimum surface area and maximum perforated plate hole size of eachthe IRWST sump strainer.	9.c.ii Each IRWST sump strainer has a minimum surface area of greater than equal to 55.74 m^2 (600 ft^2) and the strainer perforated plate hole size is a maximum hole diameter of 2.38 mm (3/32 inches).
	9.c.iii Inspection will be performed to verify that the IRWST sump strainers remain submerged below the surface of the water in the IRWST.	9.c.iii The top of each IRWST sump strainer remains submerged under design basis accident condition.
	9.c.iv Inspection of the as-built as-built coatings used in the containment will be conducted.	9.c.iv The as-built coatings used in the containment are consistent with the evaluation of IRWST sump strainer debris generation, debris transport, and downstream effect.

Table 2.4.2-4 (6 of 6)

Design Commitment	Inspections, Tests, Analyses	Acceptance Criteria
9.c (cont.)	9.c.v Inspections of the as built as-built insulation used in the containment will be conducted.	9.c.v The as-built insulation for the component and piping inside the containment is reflective metal insulation which is consistent with the evaluation of IRWST sump strainer performance.
9.d The IWSS has four trash racks located at the entrances to HVT.	9.d.i Inspection will be performed for the existence of a trash rack at each entrance to HVT.	9.d.i A trash rack exists at each entrance to HVT.
	9.d.ii Inspection will be performed to verify the maximum grid opening of the trash rack.	9.d.ii The trash rack has a maximum grid opening of 38.1 × 38.1 mm (1.5 × 1.5 inches).
9.e The IWSS has 12 swing panels on the side walls of four vent stacks.	9.e.i Inspection will be performed for the existence of three swing panels on each vent stack located on the concrete slab of the IRWST.	9.e.i Three swing panels exist on each vent stack located on the concrete slab of the IRWST.
	9.e.ii Inspection will be performed to verify the minimum effective opening area of each swing panel.	9.e.ii Each swing panel has a minimum effective opening area of at least 2.86 m^2 (30.8 ft^2).
10. The IWSS non-metallic parts, materials, and lubricants used in safety related safety-related mechanical equipment perform their safety-related function up to the end of their qualified life in the design basis harsh environmental conditions (both internal service conditions and external environmental conditions) experienced during normal operations, anticipated operational occurrences, design-basis accidents, and post accident conditions.	10. A type test or a combination of type test and analysis will be performed of the IWSS non-metallic parts, materials, and lubricants used in safety related safety-related mechanical equipment.	10. A qualification report exists and concludes that the non-metallic parts, materials, and lubricants used in safety related safety-related mechanical equipment listed in Table 2.4.2-2 perform their safety related safety-related function up to the end of their qualified life under the design basis harsh environmental conditions (both internal service conditions and external environmental conditions) experienced during normal operations, anticipated operational occurrences, design-basis accidents, and post accident conditions specified in the qualification report.

Table 2.4.3-4 (1 of 9)

Safety Injection System ITAAC

Design Commitment	Inspections, Tests, Analyses	Acceptance Criteria
1.a The functional arrangement of the SIS is as described in the Design Description of Subsection 2.4.3.1 and in Table 2.4.3-1 and as shown in Figure 2.4.3-1.	1.a Inspection of the as-built SIS~~system~~ will be conducted.	1.a The as-built SIS conforms with the functional arrangement as described in the Design Description of Subsection 2.4.3.1 and in Table 2.4.3-1 and as shown in Figure 2.4.3-1.
1.b Physical separation exists between the four redundant trains of the SIS.	1.b Inspections will be performed of the as-built SIS.	1.b Components of each train located outside containment are in separate enclosed areas, and the components of each train located inside containment are physically separated ~~to the extent practical~~ to preclude the loss of the safety-related function by common-cause failure from postulated dynamic effects, internal flooding, and fire.
2.a The ASME Code components identified in Table 2.4.3-2 are designed and constructed in accordance with ASME Section III requirements.	2.a Inspection of the as-built ASME Code components identified in Table 2.4.3-2 will be performed and ~~as~~ documented in the ASME data report(s).	2.a The ASME Section III data report(s) exist and conclude that the as-built ASME Code components identified in Table 2.4.3-2 are designed and constructed in accordance with ASME Section III requirements.
2.b The ASME Code piping, including supports , ~~and design features described in the design basis to limit potential gas accumulation,~~ identified in Table 2.4.3-1 ~~is~~ are designed and constructed in accordance with ASME Section III requirements.	2.b Inspection of the as-built ASME Code piping, including supports, identified in Table 2.4.3-1 will be performed and ~~as~~ documented in the ASME data report(s).	2.b The ASME Section III data report(s) exist and conclude that the as-built ASME Code piping, including supports, ~~and design features described in the design basis to limit potential gas accumulation,~~ identified in Table 2.4.3-1 ~~is~~are designed and constructed in accordance with ASME Section III requirements.

Table 2.4.3-4 (2 of 9)

Design Commitment	Inspections, Tests, Analyses	Acceptance Criteria
3.a Pressure boundary welds in ASME Code components identified in Table 2.4.3-2 meet ASME Section III requirements.	3.a Inspections of the as-built pressure boundary welds in ASME Code components identified in Table 2.4.3-2 will be performed in accordance with the ASME Section III.	3.a A report exists and concludes that the ASME Section III requirements are met for non-destructive examination of the as-built pressure boundary welds in ASME Code components identified in Table 2.4.3-2.
3.b Pressure boundary welds in ASME Code piping identified in Table 2.4.3-1 meet ASME Section III requirements.	3.b Inspections of the as-built pressure boundary welds in ASME Code piping identified in Table 2.4.3-1 will be performed in accordance with the ASME Section III.	3.b A report exists and concludes that the ASME Section III requirements are met for non-destructive examination of the as-built pressure boundary welds in ASME Code piping identified in Table 2.4.3-1.
4.b The ASME Code piping identified in Table 2.4.3-1 retains its pressure boundary integrity at its design pressure.	4.b A hydrostatic test will be conducted on the as-built ASME Code piping identified in Table 2.4.3-1 required to be hydrostatically tested by the ASME Section III.	4.b A report exists and concludes that the results of the hydrostatic test of the as-built ASME Code piping identified in Table 2.4.3-1 conform with ASME Section III requirements.
5.a The seismic Category I components and instruments identified in Tables 2.4.3-2 and 2.4.3-3, including the supports and anchorages, can withstand seismic design basis loads without loss of safety function.	5.a.i Inspections will be performed to verify that the as-built seismic Category I components and instruments are located in the seismic Category I structure(s).	5.a.i The as-built seismic Category I components and instruments identified in Tables 2.4.3-2 and 2.4.3-3 are located in the seismic Category I structure(s).
	5.a.ii Type tests, analyses, or a combination of type tests and analyses of seismic Category I components and instruments will be performed.	5.a.ii A report exists and concludes that the seismic Category I components and instruments identified in Tables 2.4.3-2 and 2.4.3-3 can withstand seismic design basis loads without loss of safety function.

	5.a.iii Inspections will be performed to verify that the as-built seismic Category I components and instruments, including the supports and anchorages, are seismically bounded by the tested or analyzed conditions.	5.a.iii A report exists and concludes that the as-built seismic Category I components and instruments identified in Tables 2.4.3-2 and 2.4.3-3, including the supports and anchorages, are seismically bounded by the tested or analyzed conditions.

Table 2.4.3-4 (3 of 9)

Design Commitment	Inspections, Tests, Analyses	Acceptance Criteria
5.b The seismic Category I piping, including supports, identified in Table 2.4.3-1 can withstand seismic design basis loads without loss of safety function.	5.b.i Inspections will be performed to verify that the as-built seismic Category I piping, including supports, is located in the seismic Category I structure(s).	5.b.i The as-built seismic Category I piping, including supports, identified in Table 2.4.3-1 is located in the seismic Category I structure(s).
	5.b.ii Inspections and analyses of the as-built seismic Category I piping, including supports, will be performed.	5.b.ii A report exists and concludes that the as-built seismic Category I piping, including supports, identified in Table 2.4.3-1 can withstand seismic design basis loads without loss of safety function.
6.a The Class 1E components and instruments identified in Tables 2.4.3-2 and 2.4.3-3 as being qualified for a harsh environment (and the associated wiring, cables, and terminations) can withstand the environmental conditions that would exist before, during, and following a design basis accident without loss of safety function for the time required to perform the safety function.	6.a.i Type tests, analyses or a combination of type tests and analyses will be performed on Class 1E components and instruments located in a harsh environment.	6.a.i A report exists and concludes that the Class 1E components and instruments identified in Tables 2.4.3-2 and 2.4.3-3 as being qualified for a harsh environment can withstand the environmental conditions that would exist before, during, and following a design basis accident without loss of safety function for the time required to perform the safety function.
	6.a.ii Inspection will be performed on the as-built Class 1E components and, instruments (and the associated wiring, cables, and terminations) located in a harsh environment.	6.a.ii A report exists and concludes that the as-built Class 1E components, instruments identified in Tables 2.4.3-2 and 2.4.3- 3 and the associated wiring, cables, and terminations identified in Tables 2.4.3-2 and 2.4.3 - 3 as being qualified for a harsh environment (and the associated wiring, cables, and terminations) are bounded by type tests, analyses or a combination of type tests and analyses.

Table 2.4.3-4 (4 of 9)

Design Commitment	Inspections, Tests, Analyses	Acceptance Criteria
6.b Each of the Class 1E components and instruments identified in Tables 2.4.3-2 and 2.4.3-3 is powered from its respective Class 1E division.	6.b Tests will be performed by providing a test signal in only one Class 1E division at a time.	6.b The test signal exists at the as-built Class 1E components and instruments identified in Tables 2.4.3-2 and 2.4.3-3 as being powered from the Class 1E division under test.
6.c Physical separation and electrical isolation Separation is provided (1) between Class 1E divisions, and (2) between Class 1E divisions and non-Class 1E divisions.	6.c Inspections of the as-built Class 1E divisions will be performed.	6.c Physical separation and electrical isolation exists in accordance with NRC RG 1.75 (1) between these Class 1E divisions, and also (2) between Class 1E divisions and non-Class 1E divisions.
7.a The SIS safety-related valves are functionally designed and qualified to perform their safety-related function under the full range of fluid flow, differential pressure, electrical, conditions, and temperature conditions with debris-laden coolant fluids up to and including design basis accident conditions.	7.a.i A type test or a combination of type test and analysis will be performed of the SIS safety relatedsafety-related valves.	7.a.i A Functional Qualification Report performed in conformance to ASME QME-1-2007, as accepted in Regulatory Guide 1.100 Revision 3, and a report addressing valve functional operability with debrisladen coolant fluids exist and conclude that the SIS safety-related valves listed in Table 2.4.3-2 are capable of performingfunctionally designed and qualified to perform their safety relatedsafety-related function under the full range of fluid flow, differential pressure, electrical, conditions, and temperature conditions with debris laden coolant fluids up to and including design basis accident conditions.
	7.a.ii A diagnostic stroke test and analysis will be performed of the SIS safety related safety-related valves under preoperational temperature, differential pressure, and flow conditions.	7.a.ii Each SIS safety-related valve listed in Table 2.4.3-2 strokes fully open and fully closed by remote operation (or manual operation if a manually operated valve) under preoperational temperature, differential pressure, and flow conditions. with Analysis based on sufficient diagnostic data demonstrates that the valves will perform at their to correlate valve performance to its design-basis capability as established by the type test performed in accordance with 7.a.i.
	7.a.iii Tests of the as-built check valves will be performed under pre-operational test pressure, temperature, and fluid flow conditions.	7.a.iii Each as-built check valve changes position as indicated in Table 2.4.3-2 under pre-operational test conditions.

7.b After loss of motive power, MOVs, SOVs and AOVs identified in Table 2.4.3-2 assume the indicated loss of motive power position.	7.b Tests of the as-built MOVs, SOVs and AOVs will be performed under the conditions of loss of motive power.	7.b Upon loss of motive power, each as-built MOV, SOV or AOV identified in Table 2.4.3-2 assumes the indicated loss of motive power position.

Table 2.4.3-4 (5 of 9)

Design Commitment	Inspections, Tests, Analyses	Acceptance Criteria
8.a All cControls required by the design exist in the MCR to start and stop the SIPs, and to open and close MOVs, SOVs, and AOVs indicated in Table 2.4.3-2.	8.a Tests will be performed using controls in the MCR to start and stop the SIPs, and to open and close MOVs, SOVs, and AOVs.	8.a All cControls in the as-built MCR start and stop the SIPs, and open and close MOVs, SOVs, and AOVs indicated in Table 2.4.3-2.
8.b All cControls required by the design exist in the RSR to start and stop the SIPs, and to open and close MOVs and SOVs indicated in Table 2.4.3-2.	8.b Tests will be performed using controls in the RSR to start and stop the SIPs, and to open and close MOVs and SOVs.	8.b All cControls in the as-built RSR start and stop the SIPs, and open and close MOVs and SOVs indicated in Table 2.4.3-2.
8.c All dDisplays and alarms required by the design exist and are retrievable in the MCR as defined in Tables 2.4.3-2 and 2.4.3-3.	8.c Inspections of the as-built will be performed on the displays and alarms in the MCR will be performed.	8.c All dDisplays and alarms exist and can be retrieved in the as-built MCR as defined in Tables 2.4.3-2 and 2.4.3-3.
8.d All dDisplays and alarms required by the design exist and are retrievable in the RSR as defined in Tables 2.4.3-2 and 2.4.3-3.	8.d Inspections of the as-built will be performed on the displays and alarms in the RSR will be performed.	8.d All dDisplays and alarms exist and can be are retrieved in the as-built RSR as defined in Tables 2.4.3-2 and 2.4.3-3.
9.a The SIS provides RCS makeup, boration, and safety injection during design basis accidents.	9.a.i A discharge test with low tank pressure condition for each as-built SIT will be conducted.	9.a.i A report exists and concludes that the total water volume injected from each as-built SIT into the reactor vessel is ≥ 50.7 m^3(1,790 ft^3). The water volume injected from each SIT into reactor vessel at large flow rate (prior to flow switching to small flow rate) is ≥ 22.7 m^3 (800 ft^3).
	9.a.ii Tests and analyses of the as-built SIT system will be performed to calculate the resistance coefficients.	9.a.ii Resistance coefficient K of the as-built SIT including the discharge line is greater than or equal to 10 and less than or equal to 25 before flow turndown and greater than or equal to 80 and less than or equal to 120 after flow turndown.

Table 2.4.3-4 (6 of 9)

Design Commitment	Inspections, Tests, Analyses	Acceptance Criteria
9.a (cont.)	9.a.iii The as-built SI pump injection test will be performed. Analysis will be performed to convert the test results from the test conditions to the design condition. A test of the SI pumps injecting into the reactor vessel will be performed with the reactor vessel at atmospheric pressure. Analysis will be performed to convert the test results from the test condition to the design condition	9.a.iii A report exists and concludes that each as-built SI pump has a pump differential pressure of no less than or equal to 123.8 kg/cm^{2}D (1,761 psid) at the minimum flow, and injects no less than or equal to 3,915 L/min (1,034 gpm) and no more than or equal to 4,201 L/min (1,110 gpm) of IRWST water into the reactor vessel at atmospheric pressure. A report exists and concludes that the injection test results for each as-built SI pump, when converted to design conditions, demonstrate that each as-built SI pump meets the following parameters: a pump differential pressure equal to or greater than 123.8 kg/cm^{2}D (1,761 psid) at minimum flow, and an injection flow rate of IRWST water greater than or equal to 3,915 L/min (1,034 gpm) and no more than or equal to 4,201 L/min (1,110 gpm).
	9.a.iv Inspections of the as-built SITs will be performed.	9.a.iv The nominal internal volume per of the each as-built SIT is greater than or equal to 68.1 m^3 (2,406 ft^3).

9.b The SIS safety-related pumps are functionally designed and qualified to perform their safety-related function under the full range of fluid flow, differential pressure, electrical ~~conditions~~, and temperature conditions with debris laden coolant fluids up to and including design basis accident conditions.	9.b.i A type test or a combination of type test and analysis will be performed of the SIS system safety-related pumps.	9.b.i A Functional Qualification Report performed in conformance to ASME QME-1, as accepted in Regulatory Guide 1.100 and a report addressing pump functional operability with debris-laden coolant fluids, exist and conclude that the SIS safety-related pumps listed in Table 2.4.3-2 are ~~capable of performing~~functionally designed and qualified to perform their safety-related function under the full range of fluid flow, differential pressure, electrical ~~conditions~~, and temperature conditions with debris laden coolant fluids up to and including design basis accident conditions.
	9.b.ii Inspections will be performed of each as-built pump identified in Table 2.4.3-2.	9.b.ii Each as-built pump identified in Table 2.4.3-2 is bounded by the type tests or a combination of type tests and analyses

Table 2.4.3-4 (7 of 9)

Design Commitment	Inspections, Tests, Analyses	Acceptance Criteria
9.c The SI pumps have sufficient net positive suction head (NPSH).	9.c Tests to measure the as-built SI pump suction pressure will be performed. Inspections and analysis to determine NPSH available to each SI pump will be performed. The analyses will consider vendor test results of required NPSH and the effects of: - Pressure losses for pump inlet piping and components, - Pressure losses for pump suction strainers due to debris blockage, - Suction from the IRWST while the water level is at the minimum value, - Maximum expected fluid temperature, - No increase in containment pressure from that present prior to postulated LOCAs Effective required NPSH will be additionally evaluated considering uncertainties.	9.c A report exists and concludes that the as-built NPSH available to each SI pump is greater than the effective required NPSH of 6.71 m (22 ft).
9.d The SI pumps deliver full flow to the reactor vessel within 40 seconds following receipt of ~~a~~ signals simulating ESF-SIAS and ~~or~~ DPS-SIAS.	9.d Testing will be performed using signals simulating an ESF-SIAS. Testing ~~or~~ will be performed using signals simulating a DPS-SIAS.	9.d The as-built SI pumps initiate~~s~~ and begins to deliver flow to the reactor vessel within 40 seconds following receipt of ~~a~~ signals simulating ESF-SIAS and ~~or~~ DPS-SIAS, including emergency diesel generator start time and load time.
9.e The SI pumps can be tested at full flow during plant operation.	9.e Testing of the SIS will be performed by manually aligning SI flow to the IRWST and manually starting each SI pump.	9.e Each as-built SI pump has a flow capacity of at least 3,407 L/min (900 gpm) to the IRWST through the test line.

Table 2.4.3-4 (8 of 9)

Design Commitment	Inspections, Tests, Analyses	Acceptance Criteria
9.f The SIS can be manually realigned for simultaneous hot leg injection and direct vessel injection (DVI).	9.f Testing will be performed with the system manually aligned for simultaneous DVI and hot leg injection.	9.f Each as-built SI pump injects no less than or equal to 3,195 L/min (1,034 gpm) and no more than or equal to 4,201 L/min (1,110 gpm) through each hot leg and DVI line with the RCS at atmospheric pressure.
9.g The pumps identified in Table 2.4.3-2 start after receiving an ESF-SIAS or DPS-SIAS.	9.g Tests will be performed on the as-built pumps in Table 2.4.3-2 using simulated signals.	9.g The as-built pumps in Table 2.4.3-2 start after receiving a simulated ESF-SIAS or DPS-SIAS.
9.h A confirmatory-open interlock is provided to automatically open the SIT discharge valve upon receipt of an ESF-SIAS or DPS-SIAS.	9.h Tests will be performed using simulated signals.	9.h The as-built SIT discharge valves in Table 2.4.3-2 automatically open~~s~~ upon receipt of simulated ESF-SIAS or DPS-SIAS.
10. The piping systems ~~qualified for LBB~~ identified in Table 2.4.3-1 as qualified for LBB meet ~~meets~~ the LBB acceptance criteria, or protection of safety-related SSCs ~~of~~ from the dynamic effects ~~from~~ associated with postulated failures of the high energy piping system~~line break~~ is provided~~performed~~.	10. For the piping systems identified in Table 2.4.3-1 as being qualified for LBB, ~~I~~inspections and analyses ~~of the as-built piping system qualified for LBB identified in Table 2.4.3-1~~ will be performed for conformance with the LBB acceptance criteria, or inspections and analyses of the as-built high-energy piping ~~including~~ and~~the~~ protective features ~~and~~ for safety-related SSCs will be performed.	10. For the piping systems ~~qualified for LBB~~ identified in Table 2.4.3-1 as qualified for LBB, either an LBB evaluation report exists ~~which documents~~ and concludes that the LBB acceptance criteria are met by the as-built piping system including the final detailed design parameters,~~.~~ ~~For the piping not applied LBB,~~ or a pipe rupture ~~hazard~~ analysis report exists and concludes that the as-built safety-related SSCs are protected against or are qualified to withstand the effects of postulated ~~pipe~~ failures of the as-built high- energy piping system.

Table 2.4.3-4 (9 of 9)

Design Commitment	Inspections, Tests, Analyses	Acceptance Criteria
11. The emergency core cooling function of the SIS will not be impaired by gas entrainment based on monitoring and venting at pre-determined intervals.	11.a An analysis of the potential for gas entrainment will be performed to identify specific gas intrusion mechanisms that affect each local and system high point of the as-built configuration of the SIS. The analysis will document the need for periodic monitoring and the monitoring venting interval for the as-built system based on design limits.	11.a A report exists and concludes that the emergency core cooling function of the SIS will not be impaired by gas entrainment. The report identifies specific gas intrusion mechanisms that affect each local and system high point. The report will document the need for periodic monitoring and the monitoring interval based on design limits. A report exists and identifies the specific gas intrusion mechanisms that affect each local and system high point of the as-built configuration of the SIS and documents the required periodic monitoring and venting interval for the as-built SIS system to ensure the emergency core cooling function of the SIS will not be impaired by gas entrainment.
	11.b An inspection will be performed to verify high point vents are installed in the as-built SIS based on the analysis.	11.b High point vents are installed in the SIS based on the analysis.
12. The SIS non-metallic parts, materials, and lubricants used in safety-relatedsafety-related mechanical equipment perform their safety-related function up to the end of their qualified life in the design basis harsh environmental conditions (both internal service conditions and external environmental conditions) experienced during normal operations, anticipated operational occurrences, design-basis accidents, and post accident conditions.	12. A type test or a combination of type test and analysis will be performed of the SIS non-metallic parts, materials, and lubricants used in safety-relatedsafety-related mechanical equipment.	12. A qualification report exists and concludes that the non- metallic parts, materials, and lubricants used in safety-relatedsafety-related mechanical equipment listed in Table 2.4.3-2 perform their safety-relatedsafety-related function up to the end of their qualified life under the design basis harsh environmental conditions (both internal service conditions and external environmental conditions) experienced during normal operations, anticipated operational occurrences, design-basis accidents, and post accident conditions specified in the qualification report.

Table 2.4.4-4 (1 of 7)

Shutdown Cooling System ITAAC

Design Commitment	Inspections, Tests, Analyses	Acceptance Criteria
1. The functional arrangement of the SCS is as described in the Design Description of Subsection 2.4.4.1 and in Table 2.4.4-1 and as shown in Figure 2.4.4-1.	1. Inspection of the as-built ~~system~~ SCS will be conducted.	1. The as-built SCS conforms with the functional arrangement as described in the Design Description of Subsection 2.4.4.1 and in Table 2.4.4-1 and as shown in Figure 2.4.4-1.
2.a The ASME Code components identified in Table 2.4.4-2 are designed and constructed in accordance with ASME Section III requirements.	2.a Inspection of the as-built ASME Code components identified in Table 2.4.4-2 will be performed and ~~as~~ documented in the ASME data report(s).	2.a The ASME Section III data report(s) exist and conclude that the as-built ASME Code components identified in Table 2.4.4-2 are designed and constructed in accordance with ASME Section III requirements.
2.b The ASME code piping, including supports, ~~and design features described in the design basis to limit potential gas accumulation,~~ identified in Table 2.4.4-1 is designed and constructed in accordance with ASME Section III requirements.	2.b Inspection of the as-built ASME Code piping, including supports, identified in Table 2.4.4-1 will be performed and as documented in the ASME data report(s).	2.b The ASME Section III data report(s) exist and conclude that the as-built ASME Code piping, including supports, ~~and design features described in the design basis to limit potential gas accumulation,~~ identified in Table 2.4.4-1 is designed and constructed in accordance with ASME Section III requirements.
3.a Pressure boundary welds in ASME Code components identified in Table 2.4.4-2 meet ASME Section III requirements.	3.a Inspections of the as-built pressure boundary welds in ASME Code components identified in Table 2.4.4-2 will be performed in accordance with the ASME Section III.	3.a A report exists and concludes that the ASME Section III requirements are met for non-destructive examination of the as-built pressure boundary welds in ASME Code components identified in Table 2.4.4-2.
3.b Pressure boundary welds in ASME Code piping identified in Table 2.4.4-1 meet ASME Section III requirements.	3.b Inspections of the as-built pressure boundary welds in ASME Code piping identified in Table 2.4.4-1 will be performed in accordance with the ASME Section III.	3.b A report exists and concludes that the ASME Section III requirements are met for non-destructive examination of the as-built pressure boundary welds in ASME Code piping identified in Table 2.4.4-1.

Table 2.4.4-4 (2 of 7)

Design Commitment	Inspections, Tests, Analyses	Acceptance Criteria
4.a The ASME Code components identified in Table 2.4.4-2 retain their pressure boundary integrity at their design pressure.	4.a A hydrostatic test will be conducted on the as-built ASME Code components identified in Table 2.4.4-2 required to be hydrostatically tested by the ASME Section III.	4.a A report exists and concludes that the results of the hydrostatic test of the as-built ASME Code components identified in Table 2.4.4-2 conform with ASME Section III requirements.
4.b The ASME Code piping identified in Table 2.4.4-1 retains its pressure boundary integrity at its design pressure.	4.b A hydrostatic test will be conducted on the as-built ASME Code piping identified in Table 2.4.4-1 required to be hydrostatically tested by the ASME Section III.	4.b A report exists and concludes that the results of the hydrostatic test of the as-built ASME Code piping identified in Table 2.4.4-1 conform with ASME Section III requirements.
5.a The seismic Category I components and instruments identified in Tables 2.4.4-2 and 2.4.4-3, including the supports and anchorages, can withstand seismic design basis loads without loss of safety function.	5.a.i Inspections will be performed to verify that the as-built seismic Category I components and instruments are located in the seismic Category I structure(s).	5.a.i ASME Code data report(s) exist and conclude that the as-built seismic Category I components and instruments identified in Tables 2.4.4-2 and 2.4.4-3 are located in a seismic Category I structure(s).
	5.a.ii Type tests, analyses or a combination of type tests and analyses of seismic Category I components and instruments will be performed.	5.a.ii A report exists and concludes that the seismic Category I components and instruments identified in Tables 2.4.4-2 and 2.4.4-3 can withstand seismic design basis loads without loss of safety function.
	5.a.iii Inspections will be performed to verify that the as-built seismic Category I components and instruments, including the supports and anchorages, are seismically bounded by the tested or analyzed conditions.	5.a.iii A report exists and concludes that the as-built seismic Category I components and instruments identified in Tables 2.4.4-2 and 2.4.4-3 including, the supports and anchorages, are seismically bounded by the tested or analyzed conditions.

Table 2.4.4-4 (3 of 7)

Design Commitment	Inspections, Tests, Analyses	Acceptance Criteria
5.b The seismic Category I piping, including supports, identified in Table 2.4.4-1 can withstand seismic design basis loads without loss of safety function.	5.b.i Inspections will be performed to verify that the as-built seismic Category I piping, including supports, is located in the seismic Category I structure(s).	5.b.i The as-built seismic Category I piping, including supports, identified in Table 2.4.4-1 is located in the seismic Category I structure(s).
	5.b.ii Inspections and analyses of the as-built seismic Category I piping, including supports, will be performed.	5.b.ii A report exists and concludes that the as-built seismic Category I piping, including supports, identified in Table 2.4.4-1 can withstand seismic design basis loads without loss of safety function.
6.a The Class 1E components and instruments identified in Tables 2.4.4-2 and 2.4.4-3 as being qualified for a harsh environment (and the associated wiring, cables, and terminations) can withstand the environmental conditions that would exist before, during, and following a design basis accident without loss of safety function for the time required to perform the safety function.	6.a.i Type tests, analyses or a combination of type tests and analyses will be performed on Class 1E components and instruments located in a harsh environment.	6.a.i A report exists and concludes that the Class 1E components and instruments identified in Tables 2.4.4-2 and 2.4.4-3 as being qualified for a harsh environment can withstand the environmental conditions that would exist before, during, and following a design basis accident without loss of safety function for the time required to perform the safety function.
	6.a.ii Inspection will be performed on the as-built Class 1E components and instruments (and the associated wiring, cables, and terminations) located in a harsh environment.	6.a.ii A report exists and concludes that the as-built Class 1E components and instruments identified in Tables 2.4.4-2 and 2.4.4-3 and the associated wiring, cables, and terminations identified in Tables 2.4.4-2 and 2.4.4-3 as being qualified for a harsh environment (and the associated wiring, cables, and terminations) are bounded by type tests, analyses, or a combination of type tests and analyses.

Table 2.4.4-4 (4 of 7)

Design Commitment	Inspections, Tests, Analyses	Acceptance Criteria
6.b Each of the Class 1E components and instruments identified in Tables 2.4.4-2 and 2.4.4-3 is powered from its respective Class 1E division.	6.b Tests will be performed by providing a test signal in only one Class 1E division at a time.	6.b The test signal exists at the Class 1E components and instruments identified in Tables 2.4.4-2 and 2.4.4-3 as being powered from the Class 1E division under test.
6.c ~~Separation~~ Physical separation and electrical isolation is provided (1) between Class 1E divisions~~,~~ and (2) between Class 1E divisions and non-Class 1E divisions.	6.c Inspections of the as-built Class 1E divisions will be performed.	6.c Physical separation and electrical isolation exists in accordance with NRC RG 1.75 (1) between ~~these~~ Class 1E divisions~~,~~ and ~~also~~ (2) between Class 1E divisions and non-Class 1E divisions.
7.a T he SCS safety-related valves are functionally designed and qualified to perform their ~~safety-related~~safety-related function under the full range of fluid flow, differential pressure, electrical conditions, and temperature conditions with debris- laden coolant fluids up to and including design basis accident conditions.	7.a.i A type test or a combination of type test and analysis will be performed of the SCS safety-related valves.	7.a.i A Functional Qualification Report performed in conformance to ASME QME-1-2007, as accepted in Regulatory Guide 1.100 Revision 3, and a report addressing valve functional operability with debris-laden coolant fluids exist and conclude that the SCS safety-related valves listed in Table 2.4.4-2 are ~~capable of performing~~functionally designed and qualified to perform their safety- related function under the full range of fluid flow, differential pressure, electrical, ~~conditions,~~ and temperature conditions with debris laden coolant fluids up to and including design basis accident conditions.
	7.a.ii A diagnostic stroke test and analysis will be performed of the SCS ~~safety related~~safety-related valves under preoperational temperature, differential pressure, and flow conditions.	7.a.ii Each SCS safety-related valve listed in Table 2.4.4-2 strokes fully open and fully closed by remote operation (or manual operation if a manually operated valve) under preoperational temperature, differential pressure, and flow conditions. ~~with~~ Analysis based on sufficient diagnostic data demonstrates that the valves will perform at their ~~to correlate valve performance to its~~ design-basis capability as established by the type test performed in accordance with 7.a.i.
	7.a.iii Tests of the as-built check valves will be performed under pre-operational test pressure, temperature, and fluid flow conditions.	7.a.iii Each as-built check valve changes position as indicated in Table 2.4.4-2 under pre-operational test conditions.
7.b After loss of motive power, MOVs identified in Table 2.4.4-2 assume the indicated loss of motive power position.	7.b Tests of the as-built MOVs will be performed under the conditions of loss of motive power.	7.b Upon loss of motive power, each as-built MOV identified in Table 2.4.4-2 assumes the indicated loss of motive power position.
8.a ~~All c~~Controls ~~required by the design~~ exist in the MCR to start and stop the SCPs, and to open and close MOVs identified in Table 2.4.4-2.	8.a Tests will be performed using the controls in the MCR to start and stop the SCPs, and to open and close MOVs.	8.a ~~All c~~Controls in the as-built MCR start and stop the SCPs, and open and close MOVs identified in Table 2.4.4-2.

8.b All cControls required by the design exist in the RSR to start and stop the SCPs, and to open and close MOVs identified in Table 2.4.4-2.	8.b Tests will be performed using the controls in the RSR to start and stop the SCPs, and to open and close MOVs.	8.b All cControls in the as-built RSR start and stop the SCPs, and open and close MOVs identified in Table 2.4.4-2.

Table 2.4.4-4 (5 of 7)

Design Commitment	Inspections, Tests, Analyses	Acceptance Criteria
8.c All dDisplays and alarms required by the design exist and are retrievable in the MCR as defined in Tables 2.4.4-2 and 2.4.4-3.	8.c Inspections of the as-built will be performed on the displays and alarms in the MCR will be performed.	8.c All dDisplays and alarms exist and can be are retrieved in the as-built MCR as defined in Tables 2.4.4-2 and 2.4.4-3.
8.d All dDisplays and alarms required by the design exist and are retrievable in the RSR as defined in Tables 2.4.4-2 and 2.4.4-3.	8.d Inspections of the as-built will be performed on the displays and alarms in the RSR will be performed.	8.d All dDisplays and alarms exist and can be are retrieved in the as-built RSR as defined in Tables 2.4.4-2 and 2.4.4-3.
9.a The SCS cools the reactor by removing decay heat and other residual heat from the reactor core and the RCS during the normal plant shutdown and cool down conditions.	9.a.i An analysis will be performed to determine the heat removal capability of the each shutdown cooling heat exchanger (SDCHX).	9.a.i A report exists and concludes that the product of the overall heat transfer coefficient and the effective heat transfer area of each SDCHX is no less than 1.45×10^6 kcal/hr-°C (3.2×10^6 Btu/hr-°F).
	9.a.ii Tests will be performed to confirm that the as-built SCS can provide flow through the SDCHXs when the pump suction is aligned to the RCS hot leg and the discharge is aligned to DVI.	9.a.ii Each as-built SCP is sized to deliver 18,927 L/min (5,000 gpm) at a discharge head of 140.2 m (460 ft) excluding flow through miniflow heat exchanger.
9.b The SCS suction line relief valves provide RCS low temperature overpressure protection (LTOP).	9.b.i Inspections will be conducted on the as-built SCP suction relief valves to confirm that the rating value of the ASME Code name plate is greater than or equal to system relief requirements.	9.b.i The rating capacity recorded on the ASME Code name plate of the as-built valve is not less than the flow of 7,750 gpm required to provide low temperature overpressure protection for RCS.
	9.b.ii Tests and analysis in accordance with the ASME Section III will be performed to confirm LTOP relief capacity set pressure.	9.b.ii A report exists and concludes that LTOP relief valve has a capacity greater than or equal to 29,337 L/min (7,750 gpm) at a set pressure less than or equal to 37.3 kg/cm^{2}G (530 psig) to provide LTOP for the RCS.

Table 2.4.4-4 (6 of 7)

Design Commitment	Inspections, Tests, Analyses	Acceptance Criteria
9.c The SCS safety-related pumps are functionally designed and qualified to perform their safety-related function under the full range of fluid flow, differential pressure, electrical conditions, and temperature conditions with debris laden coolant fluids up to and including design basis accident conditions.	9.c.i A type test or a combination of type test and analysis will be performed of the SCS system safety-related pumps.	9.c.i A Functional Qualification Report performed in conformance to ASME QME-1, as accepted in Regulatory Guide 1.100 and a report addressing pump functional operability with debris-laden coolant fluids, exist and conclude that the SCS safety-related pumps listed in Table 2.4.4-2 are capable of performingfunctionally designed and qualified to perform their safety-related function under the full range of fluid flow, differential pressure, electrical conditions, and temperature conditions with debris laden coolant fluids up to and including design basis accident conditions.
	9.c.ii Inspections will be performed of each as-built pump identified in Table 2.4.4-2.	9.c.ii Each as-built pump identified in Table 2.4.4-2 is bounded by the type tests or a combination of type tests and analyses.
9.d Each SCP has sufficient net positive suction head (NPSH) in each operating configuration.	9.d Tests to measure the as-built SCP suction pressure will be performed. Inspections and analysis to determine NPSHA to each SCP will be performed.	9.d The as-built NPSHA in each operating configuration to each SCP is greater than the NPSH required of 5.8 m (19 ft).
9.e Each SCP has a full flow test capability during a normal plant operating condition when the pump suction is aligned to the IRWST and the discharge is aligned to the IRWST.	9.e Testing of each SCP will be performed when the pump suction is aligned to the IRWST and the discharge is aligned to the IRWST.	9.e Each SCP delivers flow to IRWST of 18,927 L/min (5,000 gpm) when it takes suction from the IRWST.

9.f A For each SCS/CSS train combination, a containment spray actuation signal (CSAS) or engineered safety features- safety injection actuation signal (ESF-SIAS) starts the SCP only when the SCP is aligned for containment spray pump (CSP) function.	9.f Testing For each SCS/CSS train combination, testing of simulated CSAS or ESF-SIAS when the SCP is aligned for CSP function will be performed.	9.f For each SCS/CSS train combination, SCP starts when receiving CSAS or ESF-SIAS only when the SCP is aligned for CSP function.

Table 2.4.4-4 (7 of 7)

Design Commitment	Inspections, Tests, Analyses	Acceptance Criteria
9.g The piping of the SCS contains no loop seals and maintains a horizontal or downward slope from the RCS to the SCPs, with the exception ~~to~~ of the section of piping adjacent to the pump suction flange.	9.g Inspection of the as-built piping will be conducted.	9.g SCS piping contains no loop seals and maintains a horizontal or downward slope from the RCS to the SCPs, with the exception ~~to~~ of the section of piping adjacent to the pump suction flange, which has an upward section of piping.
11. The decay heat removal function of the SCS will not be impaired by gas entrainment based on monitoring and venting at pre-determined intervals..	11.a An analysis of the potential for gas entrainment will be performed to identify specific gas intrusion mechanisms that affect each local and system high point of the as-built configuration of the SCS. The analysis will document the ~~need for~~ periodic monitoring and ~~the monitoring~~ venting interval for the as-built system based on design limits.	11.a ~~A report exists and concludes that the decay heat removal function of the SCS will not be impaired by gas entrainment. The report identifies specific gas intrusion mechanisms that affect each local and system high point. The report will document the need for periodic monitoring and the monitoring interval based on design limits.~~ A report exists and identifies the specific gas intrusion mechanisms that affect each local and system high point of the as-built configuration of the SCS and documents the required periodic monitoring and venting interval for the as-built SCS system to ensure the decay heat removal function of the SCS will not be impaired by gas entrainment.
	11.b An inspection will be performed to verify high point vents are installed in the as-built SCS based on the analysis.	11.b High point vents are installed in the SCS based on the analysis.
12. The SCS non-metallic parts, materials, and lubricants used in ~~safety related~~safety-related mechanical equipment perform their safety-related function up to the end of their qualified life in the design basis harsh environmental conditions (both internal service conditions and external environmental conditions) experienced during normal operations, anticipated operational occurrences, design-basis accidents, and post accident conditions.	12. A type test or a combination of type test and analysis will be performed of the SCS non-metallic parts, materials, and lubricants used in ~~safety related~~safety-related mechanical equipment.	12. A ~~qualification~~ report exists and concludes that the non- metallic parts, materials, and lubricants used in ~~safety related~~safety-related mechanical equipment listed in Table 2.4.4-2 perform their ~~safety related~~safety-related function up to the end of their qualified life under the design basis harsh environmental conditions (both internal service conditions and external environmental conditions) experienced during normal operations, anticipated operational occurrences, design-basis accidents, and post accident conditions~~specified in the qualification report~~.

Table 2.4.5-4 (1 of 4)

Reactor Coolant Gas Vent System ITAAC

Design Commitment	Inspections, Tests, Analyses	Acceptance Criteria
1. The functional arrangement of the RCGVS is as described in the Design Description of Subsection 2.4.5.1 and in Table 2.4.5-1 and as shown in Figure 2.4.5-1.	1. Inspection of the as-built RCGVS will be performed.	1. The as-built RCGVS conforms with the functional arrangement as described in the Design Description of Subsection 2.4.5.1 and in Table 2.4.5-1 and as shown in Figure 2.4.5-1.
2.a The ASME Code components identified in Table 2.4.5-2 are designed and constructed in accordance with ASME Section III requirements.	2.a Inspection of the as-built ASME Code components identified in Table 2.4.5-2 will be performed and ~~as~~ documented in the ASME data report(s).	2.a The ASME Section III data report(s) exist and conclude that the as-built ASME Code components identified in Table 2.4.5-2 are designed and constructed in accordance with ASME Section III requirements.
2.b The ASME Code piping, including supports, identified in Table 2.4.5-1 is designed and constructed in accordance with ASME Section III requirements.	2.b Inspection of the as-built ASME Code piping, including supports, identified in Table 2.4.5-1 will be performed and ~~as~~ documented in the ASME data report(s).	2.b The ASME Section III data report(s) exist and conclude that the as-built ASME Code piping, including supports, identified in Table 2.4.5-1 is designed and constructed in accordance with ASME Section III requirements.
3.a Pressure boundary welds in ASME Code components identified in Table 2.4.5-2 meet ASME Section III requirements.	3.a Inspections of the as-built pressure boundary welds in ASME Code components identified in Table 2.4.5-2 will be performed in accordance with the ASME Section III.	3.a A report exists and concludes that the ASME Section III requirements are met for non-destructive examination of the as-built pressure boundary welds in ASME Code components identified in Table 2.4.5-2.
3.b Pressure boundary welds in ASME Code piping identified in Table 2.4.5-1 meet ASME Section III requirements.	3.b Inspections of the as-built pressure boundary welds in ASME Code piping identified in Table 2.4.5-1 will be performed in accordance with the ASME Section III.	3.b A report exists and concludes that the ASME Section III requirements are met for non-destructive examination of the as-built pressure boundary welds in ASME Code piping identified in Table 2.4.5-1.

Table 2.4.5-4 (2 of 4)

Design Commitment	Inspections, Tests, Analyses	Acceptance Criteria
4.a The ASME Code components identified in Table 2.4.5-2 retain their pressure boundary integrity at their design pressure.	4.a A hydrostatic test will be conducted on the as-built ASME Code components identified in Table 2.4.5-2 required to be hydrostatically tested by the ASME Section III.	4.a A report exists and concludes that the results of the hydrostatic test of the ~~as built~~ as-built ASME Code components identified in Table 2.4.5-2 conform with ASME Section III
4.b The ASME Code piping identified in Table 2.4.5-1 retains its pressure boundary integrity at its design pressure.	4.b A hydrostatic test will be conducted on the as-built ASME Code piping identified in Table 2.4.5-1 required to be hydrostatically tested by the ASME Section III.	4.b A report exists and concludes that the results of the hydrostatic test of the as-built ASME Code piping identified in Table 2.4.5-1 conform with ASME Section III requirements.
5.a The seismic Category I components and instruments identified in Tables 2.4.5-2 and 2.4.5-3, including the supports and anchorages, withstand seismic design basis loads without loss of safety function.	5.a.i Inspections will be performed to verify that the as-built seismic category I components and instruments are located in the seismic Category I structure.	5.a.i The as-built seismic Category I components and instruments identified in Tables 2.4.5-2 and 2.4.5-3 are located in the seismic Category I structure.
	5.a.ii Type tests, analyses or a combination of type tests and analyses of seismic Category I components and instruments will be performed.	5.a.ii A report exists and concludes that the seismic Category I components and instruments identified in Tables 2.4.5-2 and 2.4.5-3 withstand seismic design basis loads without loss of safety function.
	5.a.iii Inspections will be performed to verify that the as-built seismic Category I components and instruments, including the supports and anchorages, are seismically bounded by the tested or analyzed conditions.	5.a.iii A report exists and concludes that the as-built seismic Category I components and instruments identified in Tables 2.4.5-2 and 2.4.5-3, including the supports and anchorages, are seismically bounded by the tested or analyzed conditions.
5.b The seismic Category I piping, including supports, identified in Table 2.4.5-1 withstands seismic design basis loads without loss of safety	5.b.i Inspections will be performed to verify that the as-built seismic Category I piping, including supports, is located in the seismic Category I structure(s).	5.b.i The ~~as built~~ as-built seismic Category I piping, including supports, identified in Table 2.4.5-1 is located in the seismic Category I structure(s).

Table 2.4.5-4 (3 of 4)

Design Commitment	Inspections, Tests, Analyses	Acceptance Criteria
5.b (cont.)	5.b.ii Inspections and analyses of the as-built seismic Category I piping, including supports, will be performed.	5.b.ii A report exists and concludes that the as-built seismic Category I piping, including supports, identified in Table 2.4.5-1 withstands seismic design basis loads without loss of safety function.
6.a The Class 1E components and instruments identified in Tables 2.4.5 2 and 2.4.5-3 as being qualified for a harsh environment (and the associated wiring, cables, and terminations) withstand the environmental conditions that would exist before, during, and following a design basis accident without loss of safety function for the time required to perform the safety function.	6.a.i Type tests, analyses or a combination of type tests and analyses will be performed on Class 1E components and instruments located in a harsh environment.	6.a.i A report exists and concludes that the Class 1E components and instruments identified in Tables 2.4.5-2 and 2.4.5-3 as being qualified for a harsh environment withstand the environmental conditions that would exist before, during, and following a design basis accident without loss of safety function for the time required to perform the safety function.
	6.a.ii Inspections will be performed on the as-built Class 1E components and instruments (and the associated wiring, cables, and terminations) located in a harsh environment.	6.a.ii A report exists and concludes that the as-built Class 1E components and instruments identified in Tables 2.4.5-2 and 2.4.5-3 and the associated wiring, cables, and terminations identified in Tables 2.4.5 2 and 2.4.5 3 as being qualified for a harsh environment (and the associated wiring, cables, and terminations) are bounded by type tests, analyses, or a combination of type tests and analyses.
6.b Each of the Class 1E components and instruments identified in Tables 2.4.5-2 and 2.4.5-3 is powered from its respective Class 1E division.	6.b Tests will be performed by providing a test signal in only one Class 1E division at a time.	6.b The test signal exists at the Class 1E components and instruments identified in Tables 2.4.5-2 and 2.4.5-3 as being powered from the Class 1E division under test.

6.c Physical separation and electrical isolationSeparation is provided (1) between Class 1E divisions, (2) and between Class 1E divisions and non-Class 1E divisions.	6.c Inspection of the as-built Class 1E divisions will be performed.	6.c Physical separation and electrical isolation exist in accordance with NRC RG 1.75 (1) between these Class 1E divisions, and also (2) between Class 1E divisions and non- Class 1E divisions.

Table 2.4.5-4 (4 of 4)

Design Commitment	Inspections, Tests, Analyses	Acceptance Criteria
7.a The RCGVS safety-related valves are functionally designed and qualified to perform their safety-related function under the full range of fluid flow, differential pressure, electrical conditions, and temperature conditions up to and including design basis accident conditions.	7.a.i A type test or a combination of type test and analysis will be performed of the RCGVS safety-related valves.	7.a.i A Functional Qualification Report performed in conformance to ASME QME-1-2007, as accepted in Regulatory Guide 1.100 Revision 3, exists and concludes that the RCGVS safety-related valves listed in Table 2.4.5-2 are capable of performingfunctionally designed and qualified to perform their safety-related function under the full range of fluid flow, differential pressure, electrical conditions, and temperature conditions up to and including design basis accident conditions.
	7.a.ii A diagnostic stroke test and analysis will be performed of the RCGVS safety related valves under preoperational temperature, differential pressure, and flow conditions.	7.a ii Each RCGVS safety-related valve listed in Table 2.4.5-2 strokes fully open and fully closed by remote operation (or manual operation if a manually operated valve) under preoperational temperature, differential pressure, and flow conditions. with Analysis based on sufficient diagnostic data demonstrates that the valves will perform at their to correlate valve performance to its design-basis capability as established by the type test performed in accordance with 7.a.i.
7.b After loss of motive power, SOVs identified in Table 2.4.5-2 assume the indicated loss of motive power position.	7.b Test of the as-built SOVs will be performed under the conditions of loss of motive power.	7.b Upon loss of motive power, each as-built SOV identified in Table 2.4.5-2 assumes the indicated loss of motive power position.
8.a All cControls required by the design exist in the MCR to open and close SOVs identified in Table 2.4.5-2	8.a Tests will be performed using the controls in the MCR to open and close SOVs.	8.a All cControls in the as-built MCR open and close SOVs identified in Table 2.4.5-2.
8.b All cControls required by the design exist in the RSR to open and close SOVs identified in Table 2.4.5-2.	8.b Tests will be performed using the controls in the RSR to open and close SOVs.	8.b All cControls in the as-built RSR open and close SOVs identified in Table 2.4.5-2.
8.c All dDisplays and alarms required by the design exist and are retrievable in the MCR as defined in Tables 2.4.5-2 and 2.4.5-3.	8.c Inspections of the as-built will be performed on the displays and alarms in the MCR will be performed .	8.c All dDisplays and alarms exist and are retrieved in the as-built MCR as defined in Tables 2.4.5-2 and 2.4.5-3.
8.d All dDisplays and alarms required by the design exist and are retrievable in the RSR as defined in Tables 2.4.5-2 and 2.4.5-3.	8.d Inspections of the as-built will be performed on the displays and alarms in the RSR will be performed.	8.d All dDisplays and alarms exist and are retrieved in the as-built RSR as defined in Tables 2.4.5-2 and 2.4.5-3.

10. The RCGVS non-metallic parts, materials, and lubricants used in safety related mechanical equipment perform their safety-related function up to the end of their qualified life in the design basis harsh environmental conditions (both internal service conditions and external environmental conditions) experienced during normal operations, anticipated operational occurrences, design-basis accidents, and post accident conditions.	10. A type test or a combination of type test and analysis will be performed of the RCGVS non-metallic parts, materials, and lubricants used in ~~safety related~~safety-related mechanical equipment.	10. A ~~qualification~~ report exists and concludes that the non-metallic parts, materials, and lubricants used in ~~safety related~~safety-related mechanical equipment listed in Table 2.4 5-2 perform their ~~safety related~~safety-related function up to the end of their qualified life under the design basis harsh environmental conditions (both internal service conditions and external environmental conditions) experienced during normal operations, anticipated operational occurrences, design-basis accidents, and post accident conditions ~~specified in the qualification report~~.

Table 2.4.6-4 (1 of 5)

Chemical and Volume Control System ITAAC

Design Commitment	Inspections, Tests, Analyses	Acceptance Criteria
1. The functional arrangement of the CVCS is as described in the Design Description of Subsection 2.4.6.1 and in Table 2.4.6-1 and as shown in Figure 2.4.6-1.	1. Inspection of the as-built CVCS will be conducted.	1. The as-built CVCS conforms with the functional arrangement as described in the Design Description of Subsection 2.4.6.1 and in Table 2.4.6-1 and as shown in Figure 2.4.6-1.
2.a The ASME Code components identified in Table 2.4.6-2 are designed and constructed in accordance with ASME Section III requirements.	2.a Inspection of the as-built ASME Code components identified in Table 2.4.6-2 will be performed and ~~as~~ documented in the ASME data report(s).	2.a The ASME Section III data report(s) exist and conclude that the as-built ASME Code components identified in Table 2.4.6-2 are designed and constructed in accordance with ASME Section III requirements.
2.b The ASME Code piping, including supports, identified in Table 2.4.6-1 is designed and constructed in accordance with ASME Section III requirements.	2.b Inspection of the as-built ASME Code piping, including supports, identified in Table 2.4.6-1 will be performed and ~~as~~ documented in the ASME data report(s).	2.b The ASME Section III data report(s) exist and conclude that the as-built ASME Code piping, including supports, identified in Table 2.4.6-1 is designed and constructed in accordance with ASME Section III requirements.
3.a Pressure boundary welds in ASME Code components identified in Table 2.4.6-2 meet ASME Section III requirements.	3.a Inspections of the as-built pressure boundary welds in ASME Code components identified in Table 2.4.6-2 will be performed in accordance with the ASME Section III.	3.a A report exists and concludes that the ASME Section III requirements are met for non-destructive examination of the as-built pressure boundary welds in ASME Code components identified in Table 2.4.6-2.
3.b Pressure boundary welds in ASME Code piping identified in Table 2.4.6-1 meet ASME Section III requirements.	3.b Inspections of the as-built pressure boundary welds in ASME Code piping identified in Table 2.4.6-1 will be performed in accordance with the ASME Section III.	3.b A report exists and concludes that the ASME Section III requirements are met for non-destructive examination of the as-built pressure boundary welds in ASME Code piping identified in Table 2.4.6-1.
4.a The ASME Code components identified in Table 2.4.6-2 retain their pressure boundary integrity at their design pressure.	4.a A hydrostatic test will be conducted on the as-built ASME Code components identified in Table 2.4.6-2 required to be hydrostatically tested by the ASME Section III.	4.a A report exists and concludes that the results of the hydrostatic test of the as-built ASME Code components identified in Table 2.4.6-2 conform with ASME Section III requirements.

Table 2.4.6-4 (2 of 5)

Design Commitment	Inspections, Tests, Analyses	Acceptance Criteria
4.b The ASME Code piping identified in Table 2.4.6-1 retains its pressure boundary integrity at its design pressure.	4.b A hydrostatic test will be conducted on the as-built ASME Code piping identified in Table 2.4.6-1 required to be hydrostatically tested by the ASME Section III.	4.b A report exists and concludes that the results of the hydrostatic test of the as-built ASME Code piping identified in Table 2.4.6- 1 conform with ASME Section III requirements.
5.a The seismic Category I components and instruments identified in Tables 2.4.6-2 and 2.4.6-3 can withstand seismic design basis loads without loss of safety function.	5.a.i Inspections will be performed to verify that the as-built seismic Category I components and instruments are located in the seismic Category I structure.	5.a.i The as-built seismic Category I components and instruments identified in Tables 2.4.6-2 and 2.4.6-3 are located in the seismic Category I structure.
	5.a.ii Type tests, analyses or a combination of type tests and analyses of seismic Category I components and instruments will be performed.	5.a.ii A report exists and concludes that the seismic Category I components and instruments identified in Tables 2.4.6-2 and 2.4.6-3 can withstand seismic design basis loads without loss of safety function.
	5.a.iii Inspections will be performed to verify that the as-built seismic Category I components and instruments, including the supports and anchorages, are seismically bounded by the tested or analyzed conditions.	5.a.iii A report exists and concludes that the as-built seismic Category I components and instruments identified in Tables 2.4.6-2 and 2.4.6-3, including the supports and anchorages, are seismically bounded by the tested or analyzed conditions.
5.b The seismic Category I piping, including supports, identified in Table 2.4.6-1 can withstand seismic design basis loads without loss of safety function.	5.b.i Inspections will be performed to verify that the as-built seismic Category I piping, including supports, is located in the seismic Category I structure(s).	5.b.i The as-built seismic Category I piping, including supports, identified in Table 2.4.6-1 is located in the seismic Category I structure(s).
	5.b.ii Inspections and analyses of the as-built seismic Category I piping, including supports, will be performed.	5.b.ii A report exists and concludes that the as-built seismic Category I piping, including supports, identified in Table 2.4.6-1 can withstand seismic design basis loads without loss of safety function.

Table 2.4.6-4 (3 of 5)

Design Commitment	Inspections, Tests, Analyses	Acceptance Criteria
6.a The Class 1E components and instruments identified in Tables 2.4.6-2 and 2.4.6-3 as being qualified for a harsh environment (and the associated wiring, cables, and terminations) can withstand the environmental conditions that would exist before, during, and following a design basis accident without loss of safety function for the time required to perform the safety function.	6.a.i Type tests~~, analyses,~~ or a combination of type tests and analyses will be performed on Class 1E components and instruments located in a harsh environment.	6.a.i A report exists and concludes that the Class 1E components and instruments identified in Tables 2.4.6-2 and 2.4.6-3 as being qualified for a harsh environment can withstand the environmental conditions that would exist before, during, and following a design basis accident without loss of safety function for the time required to perform the safety function.
	6.a.ii Inspections will be performed on the as-built Class 1E components and instruments (and the associated wiring, cables, and terminations) located in a harsh environment.	6.a.ii A report exists and concludes that the as-built Class 1E components and instruments identified in Tables 2.4.6-2 and 2.4.6-3 ~~and the associated wiring, cables, and terminations identified in Tables 2.4.6-2 and 2.4.6-3~~ as being qualified for a harsh environment (and the associated wiring, cables, and terminations) are bounded by type tests~~, analyses,~~ or a combination of type tests and analyses.
6.b Each of the Class 1E components and instruments identified in Tables 2.4.6-2 and 2.4.6-3 is powered from its respective Class 1E division.	6.b Tests will be performed by providing a test signal in only one Class 1E division at a time.	6.b The test signal exists at the Class 1E components and instruments identified in Tables 2.4.6-2 and 2.4.6-3 as being powered from the Class 1E division under test.
6.c Physical separation and electrical isolation~~Separation~~ is provided (1) between Class 1E divisions~~,~~ and (2) between Class 1E divisions and non-Class 1E divisions.	6.c Inspection of the as-built Class 1E divisions will be performed.	6.c Physical separation and electrical isolation exists in accordance with NRC RG 1.75 (1) between ~~these~~ Class 1E divisions~~,~~ and ~~also~~ (2) between Class 1E divisions and non-Class 1E divisions.
7.a The CVCS safety-related valves are functionally designed and qualified to perform their safety-related function under the full range of fluid flow, differential pressure, electrical ~~conditions~~, and temperature conditions up to and including design basis accident conditions.	7.a.i A type test or a combination of type test and analysis will be performed of the CVCS safety-related valves.	7.a.i A Functional Qualification Report performed in conformance to ASME QME-1-2007, as accepted in Regulatory Guide 1.100 Revision 3, exists and concludes that the CVCS safety-related valves listed in Table 2.4.6-2 are ~~capable of performing~~functionally designed and qualified to perform their safety- related function under the full range of fluid flow, differential pressure, electrical ~~conditions~~, and temperature conditions up to and including design basis accident conditions.

Table 2.4.6-4 (4 of 5)

Design Commitment	Inspections, Tests, Analyses	Acceptance Criteria
7.a (cont.)	7.a.ii A diagnostic stroke test and analysis will be performed of the CVCS ~~safety related~~safety-related valves under preoperational temperature, differential pressure, and flow conditions.	7.a.ii Each CVCS safety-related valve listed in Table 2.4.6-2 strokes fully open and fully closed by remote operation (or manual operation if a manually operated valve) under preoperational temperature, differential pressure, and flow conditions. ~~with~~ Analysis based on sufficient diagnostic data demonstrates that the valves will perform at their ~~to correlate valve performance to its~~ design-basis capability as established by the type test performed in accordance with 7.a.i.
	7.a.iii Tests of the as-built check valves will be performed under pre-operational test pressure, temperature, and fluid flow conditions.	7.a.iii Each as-built check valve changes position as indicated in Table 2.4.6-2 under pre-operational test conditions.
7.b After loss of motive power, MOVs, AOVs, and SOV identified in Table 2.4.6-2 assume the indicated loss of motive power position.	7.b Tests of the as-built MOVs, AOVs, and SOV will be performed under the conditions of loss of motive power.	7.b Upon loss of motive power, each as-built MOV~~s~~, AOV~~s~~, or SOV identified in Table 2.4.6-2 assumes the indicated loss of motive power position.
8.a ~~All c~~Controls ~~required by the design~~ exist in the MCR to start and stop the charging pumps and auxiliary charging pump, and to open and close MOVs, AOVs, and SOV identified in Table 2.4.6-2.	8.a Tests will be performed using the controls in the MCR to start and stop the charging pumps and auxiliary charging pump, and to open and close MOVs, AOVs, and SOV.	8.a ~~All c~~Controls in the as-built MCR start and stop the charging pumps and auxiliary charging pump, and open and close MOVs, AOVs, and SOV identified in Table 2.4.6-2.
8.b ~~All c~~Controls ~~required by the design~~ exist in the RSR to start and stop the charging pumps and auxiliary charging pump, and to open and close MOVs, AOVs, and SOV identified in Table 2.4.6-2.	8.b Tests will be performed using the controls in the RSR to start and stop the charging pumps and auxiliary charging pump, and to open and close MOVs, AOVs, and SOV.	8.b ~~All c~~Controls in the as-built RSR start and stop the charging pumps and ACP, and open and close MOVs, AOVs, and SOV identified in Table 2.4.6-2.
8.c ~~All d~~Displays and alarms ~~required by the design~~ exist and are retrievable in the MCR as defined in Tables 2.4.6-2 and 2.4.6-3.	8.c Inspections of the as-built ~~will be performed on the~~ displays and alarms in the MCR will be performed.	8.c ~~All d~~Displays and alarms exist and ~~can be~~ are retrieved in the as- built MCR as defined in Tables 2.4.6-2 and 2.4.6-3.

8.d All dDisplays and alarms required by the design exist and are retrievable in the RSR as defined in Tables 2.4.6-2 and 2.4.6-3.	8.d Inspection of the as-built will be performed on the displays and alarms in the RSR will be performed.	8.d All dDisplays and alarms exist and can be are retrieved in the as- built RSR as defined in Tables 2.4.6-2 and 2.4.6-3.

Table 2.4.6-4 (5 of 5)

Design Commitment	Inspections, Tests, Analyses	Acceptance Criteria
9.a The CVCS provides makeup capability to maintain the RCS volume.	9.a A test of as-built CVCS will be performed to measure the makeup flow rate.	9.a Each as-built CVCS charging pump delivers a flow rate to the RCS of greater than or equal to 586.7 L/min (155 gpm) at normal operating pressure of RCS.
9.b The CVCS supplies seal water to the RCP seals.	9.b A test of as-built CVCS will be performed by aligning a flow path to each RCP.	9.b Each as-built CVCS charging pump provides a flow rate of greater than or equal to 99.9 L/min (26.4 gpm) to four RCPs.
9.c The CVCS provides pressurizer auxiliary spray water for depressurization.	9.c A test of the as-built CVCS will be performed by aligning a flow path to the pressurizer auxiliary spray.	9.c The as-built CVCS charging pump provides spray flow to the pressurizer.
9.d The CVCS limits the magnitude of a boron dilution source to the RCS to prevent inadvertent RCS boron dilution.	9.d A test of as-built CVCS will be performed to measure the charging flow rate through the charging restricting orifices .	9.d The as-built charging restricting orifices limit the charging flow rate to less than or equal to the following at atmospheric pressure of RCS : 567.8 L/min (150 gpm) with two charging flow restricting valves closed and 681.4 L/min (180 gpm) with one charging flow restricting valve closed.
9.e. The charging pumps and auxiliary charging pump have net positive suction head (NPSH).	9.e. Test to measure the as-built charging pumps and auxiliary charging pump will be performed. Inspection and analysis to determine NPSH available to each pump will be performed.	9.e. A report exists and concludes that the as-built calculated NPSH available exceeds each CVCS pump's NPSH required.
11. The CVCS non-metallic parts, materials, and lubricants used in ~~safety related~~safety-related mechanical equipment perform their safety-related function up to the end of their qualified life in the design basis harsh environmental conditions (both internal service conditions and external environmental conditions) experienced during normal operations, anticipated operational occurrences, design-basis accidents, and post accident conditions.	11. A type test or a combination of type test and analysis will be performed of the CVCS non-metallic parts, materials, and lubricants used in ~~safety-related~~safety-related mechanical equipment.	11. A ~~qualification~~ report exists and concludes that the non-metallic parts, materials, and lubricants used in ~~safety related~~safety-related mechanical equipment listed in Table 2.4.6-2 perform their ~~safety-related~~safety-related function up to the end of their qualified life under the design basis harsh environmental conditions (both internal service conditions and external environmental conditions) experienced during normal operations, anticipated operational occurrences, design-basis accidents, and post accident conditions ~~specified in the qualification report~~.

Table 2.4.7-1 (1 of 2)

Leakage Detection System ITAAC

Design Commitment	Inspections, Tests, Analyses	Acceptance Criteria
1. Indications of unidentified coolant leakage into the containment are provided by containment sump level ~~monitor~~monitors and containment airborne particulate radioactivity ~~monitor~~monitors, and containment atmosphere humidity monitors listed in Table 2.4.7-2. These instrumentations for leak detection system provide alarms and displays in the MCR indicating reactor coolant pressure boundary leakage.	1.a Inspection will be performed on the as-built VDU in the MCR for retrievability of the reactor coolant pressure boundary leakage detection alarms from the as-built containment sump level instruments, the containment airborne particulate radioactivity ~~monitor~~monitors, and the containment atmosphere humidity monitors.	1.a Alarms from the as-built reactor coolant pressure boundary leakage detection containment sump level instruments, the containment airborne particulate radioactivity ~~monitor~~monitors, and containment atmosphere humidity ~~monitor~~monitors can be retrieved on the as-built VDU in the MCR.
	1.b Inspection will be performed on the as-built VDU in the MCR for retrievability of the displays of containment sump level, containment airborne particulate radioactivity, and the containment atmosphere humidity.	1.b Displays of containment sump level, containment airborne particulate radioactivity, and the containment atmosphere humidity can be retrieved on the as-built VDU in the MCR.
	1.c Testing, by adding water to the as-built containment sump, and analysis, will be performed.	1.c A report exists and concludes that the as-built containment sump level ~~have~~ has the capability to detect a leakage rate of 1.89 L/min (0.5 gpm) or greater within an hour.
	1.d Tests and analyses of the as-built containment airborne particulate radioactivity ~~monitor~~monitors will be performed.	1.d A report exists and concludes that the as-built containment airborne particulate radioactivity ~~monitor~~monitors ~~has~~ have the required sensitivity and response time, which corresponds to the capability for detecting a leakage rate of 1.89 L/min (0.5 gpm) or greater within an hour.

Table 2.4.7-1 (2 of 2)

Design Commitment	Inspections, Tests, Analyses	Acceptance Criteria
2. Instrumentations for the leak detection system is located at the followings locations: Containment atmosphere humidity sensors: The humidity sensors are installed at the intake of each of the reactor containment fan Coolers (RCFCs) Containment airborne particulate radioactivity-: The sample line inlet for radiation monitors is located on the operating level between two RCFC air intakes. Containment sump level-: The level instruments are installed at the ICI cavity sump and reactor containment building	2.a Inspection will be performed to verify that the as-built containment atmosphere humidity sensors are installed at the intake of the RCFCs.	2.a The as-built containment atmosphere humidity sensors are installed at the intake of the RCFCs.
	2.b Inspection will be performed to verify that the as-built sample line inlet for radiation monitors is located on the operating level between two RCFC air intakes.	2.b The as-built sample line inlet for radiation monitors is located on the operating level between two RCFC air intakes.
	2.c Inspection will be performed to verify that the as-built level instruments are installed at the ICI cavity sump and reactor containment building sump.	2.c The as-built level instruments are installed at the ICI cavity sump and reactor containment building sump.

Table 2.5.1-5 (1 of 12)

Reactor Trip System and Engineered Safety Features Initiation ITAAC

Design Commitment	Inspections, Tests, Analyses	Acceptance Criteria
1. The seismic Category I equipment, identified in Table 2.5.1-1 ~~withstand~~ withstands seismic design basis loads without loss of safety function.	1.a Inspections will be performed to verify that the as-built seismic Category I equipment identified in Table 2.5.1-1 is located in a seismic Category I structure.	1.a The as-built seismic Category I equipment identified in Table 2.5.1-1 is located in a seismic Category I structure.
	1.b Type tests, analyses, or a combination of type tests and analyses of seismic Category I equipment identified in Table 2.5.1-1 will be performed.	1.b A report exists and concludes that the seismic Category I equipment identified in Table 2.5.1-1 can withstand seismic design basis loads without loss of safety function.
	1.c Inspections and analyses will be performed to verify the as-built seismic Category I equipment identified in Table 2.5.1-1, including the supports and anchorages, is seismically bounded by the tested or analyzed conditions.	1.c A report exists and concludes that the as-built seismic Category I equipment identified in Table 2.5.1-1, including the supports and anchorages, is seismically bounded by the tested or analyzed conditions.
2. The Class 1E equipment identified in Table 2.5.1-1 (and the associated wiring, cables, and terminations) withstand lightning strikes, the electrical surge, electromagnetic interference (EMI), radio frequency interference (RFI), and electrostatic discharge (ESD) conditions that would exist before, during, and following a design basis accident without loss of safety function for the time required to perform the safety function.	2.a Type tests, analyses, or a combination of type tests and analyses will be performed on Class 1E equipment.	2.a A report exists and concludes that the Class 1E equipment identified in Table 2.5.1-1 can withstand lightning strikes, the electrical surge, EMI, RFI, and ESD conditions that would exist before, during, and following a design basis accident without loss of its safety function, for the time required to perform the safety function.
	2.b Inspection and analysis will be performed on the as-built Class 1E equipment identified in Table 2.5.1-1 (and the associated wiring, cables, and terminations).	2.b The as-built Class 1E equipment ~~and the associated wiring, cables, and terminations~~ identified in Table 2.5.1-1 (and the associated wiring, cables, and terminations) are bounded by type tests or a combination of type tests and analyses.

Table 2.5.1-5 (2 of 12)

Design Commitment	Inspections, Tests, Analyses	Acceptance Criteria
3.a Class 1E equipment identified in Table 2.5.1-1 is powered from its respective Class 1E division.	3.a Tests of the as-built Class 1E equipment will be performed using a simulated test signal.	3.a The Class 1E equipment identified in Table 2.5.1-1 is powered from its respective Class 1E division .
3.b Redundant Class 1E divisions listed in Table 2.5.1-1 and associated field equipment are physically separated and electrically independent from each other and physically separated and electrically independent from non-Class 1E equipment. Class 1E qualified isolation devices such as fiber optic modems or interposing relays are applied at interfaces between redundant safety divisions and at interfaces between safety and non-safety systems.	3.b.i Inspection for separation of the as-built redundant Class 1E divisions listed in Table 2.5.1-1 and associated field equipment and between safety and non-safety systems will be performed.	3.b.i The physical separation of as-built redundant Class 1E divisions identified in Table 2.5.1-1 and associated field equipment and between safety and non-safety systems is provided by distance or barriers in accordance with NRC RG 1.75.
	3.b.ii Inspection for Class 1E qualified isolation devices will be performed at interfaces between redundant safety divisions and at interfaces between safety and non-safety systems.	3.b.ii Electrical isolation devices are installed to prevent propagation of faults between redundant safety divisions and interfaces between safety and non-safety systems.
	3.b.iii Analyses, tests or a combination of analyses and tests of the as-built redundant Class 1E divisions listed in Table 2.5.1-1and associated field equipment and between safety and non-safety systems will be performed to verify its electrical independence.	3.b.iii A report exists and concludes that independence of as-built redundant Class 1E divisions listed in Table 2.5.1-1 and associated field equipment is achieved by independent power sources and electrical circuits for each division, and by fiber optic cable interfaces, Class 1E qualified isolation devices at interfaces between redundant divisions, and at interfaces between safety and non-safety systems.
	3.b.iv Testing, analysis or combination of testing and analysis will be performed for the electrical isolation devices.	3.b.iv A report exists and concludes that the Class 1E qualified electrical isolation devices prevent credible faults from propagating into a safety system division.

Table 2.5.1-5 (3 of 12)

Design Commitment	Inspections, Tests, Analyses	Acceptance Criteria
3.c Communication independence is achieved between redundant divisions of the Class 1E equipment listed in Table 2.5.1-1.	3.c Analyses, tests or a combination of analyses and tests of the as-built Class 1E equipment listed in Table 2.5.1-1 will be performed to verify its communication independence between redundant divisions of the Class 1E equipment listed in Table 2.5.1-1.	3.c A report exists and concludes that communication independence between redundant divisions of the Class 1E equipment listed in Table 2.5.1-1 is provided by verifying that: - The communication process is performed by a communication processor (CP) separate from the function processor (FP) that executes the RPS and ESFAS function. - Separate send and receive data channels are used for communication. - The FP and CP interface only by way of the dual-ported random access memory. - The FP operates in a strictly cyclic manner. - The CP transmits signals to serial data link in a deterministic transmit cycle, receives only defined messages, and stores them in a predefined shared-memory. - The FP and CP detect errors through self-diagnostic function.

Table 2.5.1-5 (4 of 12)

Design Commitment	Inspections, Tests, Analyses	Acceptance Criteria
3.d Communication independence is achieved between non-safety systems and Class 1E equipment listed in Table 2.5.1-1.	3.d Analyses, tests or a combination of analyses and tests of the as-built Class 1E equipment listed in Table 2.5.1-1 will be performed to verify its communication independence between non-safety systems and Class 1E equipment listed in Table 2.5.1-1.	3.d A report exists and concludes that communication independence between non-safety systems and Class 1E equipment listed in Table 2.5.1-1 is provided by verifying that: - The data flow from the MTP to the IPS and from the ITP to the QIAS-N is unidirectional via fiber optic cable. - The MTP and the ITP do not receive any data from the IPS and the QIAS-N (no receiving connection). - The MTP has separate communication modules for communication processing to provide a buffering circuit between the PPS and the IPS. - The communication process between the ITP and the QIAS-N is performed by the communication processor (CP) in the ITP.
4.a The RTS provides an automatic reactor trip (RT) and ESF initiation signals, for each condition listed in Tables 2.5.1-2 and 2.5.1-3, if plant process signals reach predetermined setpoints.	4.a A test of the as-built PPS will be performed using simulated test signals.	4.a Each as-built RTSS opens upon receipt of the automatic reactor trip signal for each condition listed in Table 2.5.1-2 from respective division of the as-built RTS, and as-built ESF initiation signals are sent to ESF-CCS upon receipt of the automatic ESF initiation signal for each condition listed in Table 2.5.1-3.

Table 2.5.1-5 (5 of 12)

Design Commitment	Inspections, Tests, Analyses	Acceptance Criteria
4.b Once reactor trip is initiated (automatically or manually), the reactor trip breakers remain open until completion of the protective action, and do not automatically return to normal after the trip condition is reset.	4.b. A test of the as-built RT system will be performed by returning simulated signals to a level within the predetermined limits of plant process signals at the as-built PPS input for RT functions as identified in Tables 2.5.1-2 after the as-built reactor trip breakers are opened.	4.b. As-built reactor trip breakers remain open upon receipt of simulated signals returned to a level within the predetermined limits of plant process signals for RT functions as identified in Table 2.5.1-2 after the as-built reactor trip breakers are opened.
4.c Manual reactor trip switches are provided in the MCR and the RSR for reactor trip.	4.c A test will be performed to verify the actuation of the as-built RTSS using the as-built manual initiation switches in the MCR and RSR.	4.c Each as-built RTSS opens upon receipt of the corresponding as-built manual reactor trip signal in the MCR and RSR.
5. The OM in the MCR displays the status information for the variables listed in Tables 2.5.1-2 and 2.5.1-3.	5. A test of the as-built OM in the MCR will be performed to demonstrate the display capability.	5. The as-built OM in the MCR have ability to display variables listed in Tables 2.5.1-2 and 2.5.1-3.
6. Each local coincidence logic (LCL) receives trip signals from four channels of bistable processors (BPs) and utilizes 2-out-of-4 coincidence logic to perform RPS and ESF initiation functions identified in Tables 2.5.1-2 and 2.5.1-3.	6. A test will be performed using simulated input signals for RPS and ESFAS process inputs to each channel of the BPs.	6. Each division of LCL receives RPS and ESFAS trip signals from four channels of BP, performs 2-out-of-4 coincidence logic for each RPS and NSSS ESF initiation function identified in Tables 2.5.1-2 and 2.5.1-3 and sends the RPS initiation signals to the RTSS and ESFAS initiation signals to the ESF-CCS.
7.a The PPS provides manual trip bypasses on the MTP switch panel, for RT and ESF initiation identified in Tables 2.5.1-2 and 2.5.1-3 respectively.	7.a A test of the as-built PPS system will be performed on the MTP switch panel by initiating manual bypass for RT and the ESF initiation as identified in Tables 2.5.1-2 and 2.5.1-3.	7.a Trip signals are manually bypassed on the MTP switch panel as identified in Tables 2.5.1-2 and 2.5.1-3 for RT and ESF initiation.

Table 2.5.1-5 (6 of 12)

Design Commitment	Inspections, Tests, Analyses	Acceptance Criteria
7.b The PPS automatically removes the operating bypasses listed in Table 2.5.1-4 when permissive conditions are not met.	7.b A test of the as-built PPS operating bypasses listed in Table 2.5.1-4 will be performed.	7.b The as-built PPS operating bypasses listed in Table 2.5.1-4 are accepted only when the variables are within operating bypass permissive range. When a variable exceeds the permissive setpoint, the operating bypass is automatically removed.
7.c The PPS provides indications of the bypassed or inoperable status indication (BISI) on the OM in the MCR for the variables identified in Tables 2.5.1-2 and 2.5.1-3 for RT and ESF initiation.	7.c A test of the as-built PPS system will be performed on the as-built OM in the MCR by initiating manual bypass for variables identified in Tables 2.5.1-2 and 2.5.1-3 for RT and the ESF initiation.	7.c The as-built OM provides indications of the bypassed or inoperable status indication (BISI) for the variables identified in Tables 2.5.1-2 and 2.5.1-3 for RT and ESF initiation.
8. Each PPS division is controlled from either the MCR or the RSR as selected from master transfer switches.	8. A test of the as-built PPS will be performed to demonstrate the transfer and control function between the MCR and the RSR.	8. The as-built master transfer switches transfer controls between the MCR and the RSR separately for each as-built PPS division, as follows: - Controls at the RSR are disabled when controls are active in the MCR and the MCR controls the PPS division. - Controls at the MCR are disabled when controls are active in the RSR and the RSR controls the PPS division.
9. The PPS utilizes a 2-out-of-4 coincidence logic when no channels are in trip channel bypass. The resulting logic becomes a 2-out-of-3 coincidence logic whenever a trip channel bypass is present.	9. A test will be performed using simulated input signals for RPS and ESFAS process inputs to each channel of the BPs.	9. When a trip channel bypass is present, the PPS performs a coincidence signal utilizing 2-out-of-3 logic.

Table 2.5.1-5 (7 of 12)

Design Commitment	Inspections, Tests, Analyses	Acceptance Criteria
10. Accuracy, response time testing, surveillance testing, and maintenance are applied to determine if setpoints for variables of RT and ESF initiation are within acceptable limits.	10. Inspection will be performed for the setpoint calculations for RT and ESF initiation listed in Tables 2.5.1-2 and 2.5.1-3 respectively.	10. A report exists and concludes that the setpoints for RT and ESF actuations listed in Tables 2.5.1-2 and 2.5.1-3 respectively account for accuracy, response time testing, surveillance testing, and maintenance.
11. The application software for RT and ESF initiation is implemented according to each lifecycle phase in the software development process: concept phase, requirements phase, design phase, implementation phase, test phase, and installation and checkout phase. The outputs including documentation of each lifecycle phase in the software development process conform to the requirements of that phase.	11.a An inspection and analysis of the outputs including documentations of the concept phase will be performed.	11.a The concept phase outputs including documentations exist and conclude that the concept phase activities are performed and these activities conform to the requirements of the concept phase.
	11.b An inspection and analysis of the outputs including documentations of the requirements phase will be performed.	11.b The requirements phase outputs including documentations exists and concludes that the requirements phase activities are performed and these activities conform to the requirements of the requirements phase.
	11.c An inspection and analysis of the outputs including documentations of the design phase will be performed.	11.c The design phase outputs including documentations exist and concludes that the design phase activities are performed and these activities conform to the requirements of the design phase.
	11.d An inspection and analysis of the outputs including documentations of the implementation phase will be performed.	11.d The implementation phase outputs including documentations exist and concludes that the implementation phase activities are performed and these activities conform to the requirements of the implementation phase.

Table 2.5.1-5 (8 of 12)

Design Commitment	Inspections, Tests, Analyses	Acceptance Criteria
11. (cont.)	11.e An inspection and analysis of the outputs including documentation of the test phase will be performed.	11.e The test phase outputs including documentation exist and conclude that the test phase activities are performed and these activities conform to the requirements of the test phase.
	11 f An inspection and analysis of the outputs including documentation of the installation and checkout phase will be performed.	11 f The installation and checkout phase outputs including documentation exist and conclude that the installation and checkout phase activities and performed and these activities conform to the requirements of the installation and checkout phase.
12. The cabinets listed in Table 2.5.1-1 have key locks and door open alarms, and are located in a vital area of the facility.	12.a A test of the as-built cabinets listed in Table 2.5.1-1 for key lock capability, and a test of door open alarms, will be performed.	12.a Each as-built cabinet listed in Table 2.5.1-1 has key locking capability, and alarms are received in the as-built MCR when cabinet doors are opened.
	12.b Inspection of the cabinets listed in Table 2.5.1-1 will be performed.	12.b The cabinets listed in Table 2.5.1-1 are located in a vital area of the facility.
13. The RT logic of the PPS is designed to fail to a safe state such that a processor lock-up or loss of electrical power to a division of PPS results in a trip condition for that division but the ESFAS logic of the PPS is designed to fail to a safe state such that loss of electrical power to a division of PPS does not result in ESF initiation for that division.	13. A test will be performed by making a processor lock up ~~lock-up~~ or disconnecting the electrical power to each division of the as-built PPS.	13. Each division of the as-built RT logic of the as-built PPS fails to a safe state upon a processor lock-up or loss of electrical power to the division and does not result in ESF initiation.

14. Redundant safety equipment listed in Table 2.5.1-1 and related field equipment is provided with means of identification.	14. An inspection of the as-built r edundant safety equipment listed in Table 2.5.1-1 and related field equipment equipment for conformance with the identification requirements in IEEE Std 603-1991, Clause 5.11 will be performed.	14. The as-built redundant safety equipment listed in Table 2.5.1-1 and related field equipment equipment listed in Table 2.5.1-1 and related field equipment complies with identification requirements in IEEE Std 603-1991, Clause 5.11 the labeling and color-coding requirements.

Table 2.5.1-5 (9 of 12)

Design Commitment	Inspections, Tests, Analyses	Acceptance Criteria
15. The input signals of PPS through APC-S or ENFMS are derived from RT and ESF measurement instrumentation that measures monitored variables identified in Tables 2.5.1-2 and 2.5.1-3.	15. Tests will be performed to verify the electrical continuity between the as-built PPS and the as-built RT and ESF measurement instrumentation that measures monitored variables identified in Tables 2.5.1-2 and 2.5.1-3.	15. The input signals of PPS through APC-S and ENFMS are derived from RT and ESF measurement instrumentation that measures monitored variables identified in Tables 2.5.1-2 and 2.5.1-3.
16. The PPS provides RT and ESF initiation signals to meet the required response time for trip and initiation conditions identified in Tables 2.5.1-2 and 2.5.1-3.	16.a Type tests and analyses will be performed on PPS to verify that the PPS initiates RT and the ESF initiation signals identified in Tables 2.5.1-2 and 2.5.1-3 within response time requirements (including the communication delays from the BP to the LCL) described in the design basis.	16.a A report exists and concludes that the PPS initiates the RT and the ESF initiation signals identified in Tables 2.5.1-2 and 2.5.1-3 within the response time requirements (including the communication delays from the BP to the LCL) as described in the design basis.
	16.b Tests will be performed on the as-built RT and ESF initiation signals identified as monitored variables in Tables 2.5.1-2 and 2.5.1-3 with response time requirements.	16.b The as-built RT and ESF initiation signals identified as monitored variables in Tables 2.5.1-2 and 2.5.1-3 with response time requirements are bounded by the tests.
17. The Class 1E equipment listed in Table 2.5.1-1 is protected from accident related hazards considered in the transient and accident analyses ~~including but not limited to such as missiles, pipe breaks, and flooding~~.	17. Inspections and analyses will be performed on the locations of the as-built Class 1E equipment listed in Table 2.5.1-1.	17. A report exists and concludes that the as-built equipment listed in Table 2.5.1-1 is protected from accident related hazards considered in the transient and accident analyses ~~including but not limited to such as missiles, pipe breaks and flooding~~.
18. The RTS and ESF system instrumentation (referenced in Tables 2.5.1-2 and 2.5.1-3) monitors the normal operating, anticipated operational occurrence (AOO), and postulated accident (PA) events.	18. An inspection and test of the as-built RTS and ESF system instrumentation will be performed.	18. The as-built RTS and ESF system instrumentation (referenced in Tables 2.5.1-2 and 2.5.1-3) functions during normal operation, AOO, and PA conditions.

Table 2.5.1-5 (10 of 12)

Design Commitment	Inspections, Tests, Analyses	Acceptance Criteria
19. The Class 1E instruments identified in Table 2.5.1-1 as being qualified for a harsh environment (and the associated wiring, cables, and terminations) can withstand the environmental conditions that would exist before, during, and following a design basis accident without loss of safety function for the time required to perform the safety function.	19.a Type tests, analyses, or a combination of type tests and analyses will be performed on Class 1E instruments located in a harsh environment.	19.a A report exists and concludes that the Class 1E instrument identified in Table 2.5.1-1 as being qualified for a harsh environment can withstand the environmental conditions that would exist before, during, and following a design basis accident without loss of safety function for the time required to perform the safety function.
	19.b Inspections will be performed on the as-built Class 1E instruments identified in Table 2.5.1-1 (and the associated wiring, cables, and terminations) located in a harsh environment.	19.b A report exists and concludes that the as-built Class 1E instruments identified in Table 2.5.1-1 (and the associated wiring, cables, and terminations) identified in Table 2.5.1-1 as being qualified for a harsh environment (and the associated wiring, cables, and terminations) are bounded by type tests, analyses, or a combination of type tests and analyses.
20. The PPS providing RT and ESF initiation signals has the testing function that can be initiated from the PPS MTP. This testing function verifies the functionality of the bistable processing logic and coincidence processing logic within the PPS.	20. Type tests and analyses of the PPS providing RT and ESF initiation signals will be performed using simulated failure conditions.	20. A report exists and concludes that the PPS providing RT and ESF initiation signals has the testing function that can be initiated from the PPS MTP. This testing function verifies the functionality of the bistable processing logic and coincidence processing logic within the PPS.

Table 2.5.1-5 (11 of 12)

Design Commitment	Inspections, Tests, Analyses	Acceptance Criteria
21. A single channel of RTS and ESF system is bypassed to allow testing, maintenance or repair and this capability does not prevent the RTS and ESF system from performing its safety function.	21. A test will be performed on the 2-out-of-4 voting logic in the as-built RTS and ESF system by providing simulated process signals, identified in Tables 2.5.1-2 and 2.5.1-3, to at least two of three non-bypassed channels of the as-built RTS and ESF system input under the manual single division bypass operation from the as-built the maintenance and test panel (MTP) in the MCR.	21. When the 2-out-of-4 voting logic in the non-bypassed divisions of each as-built RTS and ESF system receives at least two of three actuation signals, identified in Tables 2.5.1-2 and Table 2.5.1-3, from the respective non-bypassed channels, the 2-out-of-4 voting logic in the non-bypassed divisions of each as-built RTS and ESF system provides the actuation signal for the reactor trip and automatic ESF functions identified in the tables.
22. Input sensors from each channel of the RTS and ESF system as identified in Tables 2.5.1-2 and 2.5.1-3 are compared continuously in the information processing system (IPS) to allow detection of out-of-tolerance sensors.	22. A test of the as-built IPS will be performed by providing The simulated inputs for each monitored variable identified in Tables 2.5.1-2 and 2.5.1-3 which includes one out-of-tolerance , at the as-built RTS and ESF system input.	22. An alarm for the out-of-tolerance sensor detection is displayed on the as-built IPS in the MCR when the IPS receives simulated input signals for each monitored variable identified in Tables 2.5.1-2 and 2.5.1-3 which includes one out-of-tolerance signal.
23. Two sets of RTSS which consists of four RTSGs are diverse each other.	23. Inspection of the as-built RTSS equipment will be performed.	23. Two sets of the as-built RTSS which consists of four RTSGs are diverse each other.: One set of RTSGs is supplied from a different manufacturer than the other set of RTSGs.
24. The PPS and CPCS are installed in accordance with the dedicated process of commercial grade hardware and software.	24. An inspection will be performed for installation of the hardware and software.	24. A report exists and concludes that the systems are installed in accordance with the dedicated process of commercial grade hardware and software.

Table 2.5.1-5 (12 of 12)

Design Commitment	Inspections, Tests, Analyses	Acceptance Criteria
25. The RTS is provided with the minimum number and locations of sensors for the variables that have a spatial dependence as identified and noted in Table 2.5.1-2.	25. An inspection will be performed on the as-built equipment for the variables that have a spatial dependence as identified and noted in Table 2.5.1-2.	25. The as-built equipment for the variables that have a spatial dependence as identified and noted in Table 2.5.1-2 is installed in accordance with the minimum number and locations of sensors.
26. Hardwired disconnections exist between the PPS, CPCS cabinets, and the portable workstation used to download the PPS, CPCS software. The hardwired disconnections protect the system software from unintended modifications.	26.a An inspection of the as-built hardwired disconnections between the PPS, CPCS cabinets, and the portable workstation used to download the PPS, CPCS software will be performed.	26.a Hardwired disconnections exist between the PPS, CPCS cabinets, and the portable workstation used to download the PPS, CPCS software.
	26.b Tests will be performed to verify that the PPS, CPCS software can only be modified via hardware connections and by no other means.	26.b The hardwired disconnections protect the PPS, CPCS software from unintended modifications.
27. The CPCS configuration restrictions and tests for the CPU load have been implemented.	27.a Inspection and analysis will be performed of the as-built CPCS equipment to verify that the CPCS configuration restrictions for the CPU load are designed into the final CPCS design.	27.a A report exists and concludes that the CPCS configuration restrictions for the CPU load are designed into the final CPCS design.
	27.b CPU load test of the as-built CPCS will be performed.	27.b The as-built CPCS equipment meets the restricted CPU load limit test acceptance criteria.

Table 2.5.2-5 (1 of 6)

Diverse Actuation System ITAAC

Design Commitment	Inspections, Tests, Analyses	Acceptance Criteria
1. The seismic Category I equipment identified in Table 2.5.2-1 can withstand seismic design basis loads without loss of protective function.	1.i Inspections will be performed to verify that the as-built seismic Category I equipment identified in Table 2.5.2-1 is located in a seismic Category I structure.	1.i The as-built seismic Category I equipment identified in Table 2.5.2-1 is located in a seismic Category I structure.
	1.ii Type tests, analyses, or a combination of type tests and analyses of seismic Category I equipment in Table 2.5.2-1 will be performed.	1.ii A report exists and concludes that the seismic Category I equipment identified in Table 2.5.2-1 can withstand seismic design basis loads without loss of protective function.
	1.iii Inspections and analyses will be performed to verify the as-built seismic Category I equipment identified in Table 2.5.2-1, including the supports and anchorages, is seismically bounded by the tested or analyzed conditions.	1.iii A report exists and concludes that the as-built seismic Category I equipment identified in Table 2.5.2-1, including the supports and anchorages, is seismically bounded by the tested or analyzed conditions.

Table 2.5.2-5 (2 of 6)

Design Commitment	Inspections, Tests, Analyses	Acceptance Criteria
2. The DPS is physically separate, electrically independent, and diverse from the PPS and ESF-CCS including a diverse method for the reactor trip, the turbine trip, the auxiliary feedwater actuation and safety injection actuation.	2. Inspection of the as-built DPS, PPS and ESF-CCS equipment and design documentation will be performed.	2. The as-built DPS: - is physically separated from the as-built PPS and ESF-CCS, - utilizes diverse software and hardware from the as-built PPS and ESF-CCS, - is powered from diverse power buses from the as-built PPS and ESF-CCS, and - initiates reactor trip, turbine trip, auxiliary feedwater actuation, and safety injection actuation by diverse methods from the as-built PPS and ESF-CCS. - is developed by a different design team than the design teams which developed the PPS and ESF-CCS.
3. The DPS provides the automatic functions as shown in Table 2.5.2-2, if plant process signals exceed predetermined setpoints.	3. A test of the as-built DPS will be performed using simulated test signals.	3. The as-built DPS initiates the functions identified in Table 2.5.2-2 when the plant process signals reach predetermined setpoint.
4. The DPS utilizes a 2-out-of-4 coincidence logic for automatic initiation of protective functions shown in Table 2.5.2-2.	4. A test of the as-built DPS will be performed using simulated test signals.	4. The DPS coincidence logic produces an initiation when any two channels are in a trip state for a protective function.
5. The DPS cabinets listed in Table 2.5.2-1 are located in separate rooms.	5. Inspection of the as-built DPS equipment will be performed.	5. The DPS cabinets are located in separate rooms.

Table 2.5.2-5 (3 of 6)

Design Commitment	Inspections, Tests, Analyses	Acceptance Criteria
6. The DPS software is implemented according to each development phase of the software lifecycle process: concept phase, requirements phase, design phase, implementation phase, test phase, and installation and checkout phase. The outputs, including documentations, of each development phase of the software lifecycle process are verified by inspection and analysis to conform to the requirements of that phase.	6.a An inspection and analysis of the outputs, including documentations, of the concept phase will be performed.	6.a The concept phase outputs, including documentations, exist and conclude that the concept phase activities are performed and these activities are verified by inspection and analysis to conform to the requirements of the concept phase.
	6.b An inspection and analysis of the outputs, including documentations, of the requirements phase will be performed.	6.b The requirements phase outputs, including documentations, exist and conclude that the requirements phase activities are performed and these activities are verified by inspection and analysis to conform to the requirements of the requirements phase.
	6.c An inspection and analysis of the outputs, including documentations, of the design phase will be performed.	6.c The design phase outputs, including documentations, exist and conclude that the design phase activities are performed and these activities are verified by inspection and analysis to conform to the requirements of the design phase.
	6.d An inspection and analysis of the outputs, including documentations, of the implementation phase will be performed	6.d The implementation phase outputs, including documentations, exist and conclude that the implementation phase activities are performed and these activities are verified by inspection and analysis to conform to the requirements of the implementation phase.
	6.e An inspection and analysis of the outputs, including documentations, of the test phase will be performed.	6.e The test phase outputs, including documentations, exist and conclude that the test phase activities are performed and these activities are verified by inspection and analysis to conform to the requirements of the test phase.

Table 2.5.2-5 (4 of 6)

Design Commitment	Inspections, Tests, Analyses	Acceptance Criteria
6. (cont.)	6 f An inspection and analysis of the outputs, including documentations, of the installation and checkout phase will be performed.	6 f The installation and checkout phase outputs, including documentations, exist and conclude that the installation and checkout phase activities are performed and these activities are verified by inspection and analysis to conform to the requirements of the installation and checkout phase.
7. The DMA switches in the MCR are used to provide the functions identified in Table 2.5.2-3.	7. An operational test of the as-built DMA switches in Table 2.5.2-3 will be performed.	7. The DMA switches in the MCR are used to provide the functions identified in Table 2.5.2-3.
8. The DIS monitors and displays the variables listed in Table 2.5.2-4.	8. A test of the as-built DIS will be performed to demonstrate the monitoring and display capability using simulated test signals of the variables listed in Table 2.5.2-4	8. The DIS monitors and displays the variables listed in Table 2.5.2-4.
9. The DIS software is implemented according to each development phase of the software lifecycle process: concept phase, requirements phase, design phase, implementation phase, test phase, and installation and checkout phase. The outputs, including documentations, of each development phase of the software lifecycle process are verified by inspection and analysis to conform to the requirements of that phase.	9.a An inspection and analysis of the outputs, including documentations, of the concept phase will be performed.	9.a The concept phase outputs, including documentations, exist and conclude that the concept phase activities are performed and these activities are verified by inspection and analysis to conform to the requirements of the concept phase.
	9.b An inspection and analysis of the outputs, including documentations, of the requirements phase will be performed.	9.b The requirements phase outputs, including documentations, exist and conclude that the requirements phase activities are performed and these activities are verified by inspection and analysis to conform to the requirements of the requirements phase.

Table 2.5.2-5 (5 of 6)

Design Commitment	Inspections, Tests, Analyses	Acceptance Criteria
9. (cont.)	9.c An inspection and analysis of the outputs, including documentations, of the design phase will be performed.	9.c The design phase outputs, including documentations, exist and conclude that the design phase activities are performed and conform to the requirements of the design phase.
	9.d An inspection and analysis of the outputs, including documentations, of the implementation phase will be performed.	9.d The implementation phase outputs, including documentations, exist and conclude that the implementation phase activities are performed and these activities are verified by inspection and analysis to conform to the requirements of the implementation phase.
	9.e An inspection and analysis of the outputs, including documentations, of the test phase will be performed.	9.e The test phase outputs, including documentations, exist and conclude that the test phase activities are performed and these activities are verified by inspection and analysis to conform to the requirements of the test phase.
	9 f An inspection and analysis of the outputs, including documentations, of the installation and checkout phase will be performed.	9 f The installation and checkout phase outputs, including documentations, exist and conclude that the installation and checkout phase activities are performed and these activities are verified by inspection and analysis to conform to the requirements of the installation and checkout phase.
10. The DPS initiates diverse reactor trip (RT), auxiliary feedwater actuation signal (AFAS), and safety injection actuation signal (SIAS) within the required response time for trip/initiation conditions identified in Table 2.5.2-2.	10. A type test and analysis will be performed on the as-built DPS to verify that the DPS initiates diverse RT, AFAS, and SIAS identified in Table 2.5.2-2 within the required response time as described in the design basis.	10. A report exists and concludes that the as-built ~~asbuilt~~ DPS initiates diverse RT, AFAS, and SIAS identified in Tables 2.5.2-2 within the required response time as described in the design basis.

Table 2.5.2-5 (6 of 6)

Design Commitment	Inspections, Tests, Analyses	Acceptance Criteria
11. The DIS provides the HJTC heater power control for reactor vessel level detection when the QIAS-P is inoperable during a postulated CCF. Manual transfer of HJTC heater power control is performed using the DIS switch on the MCR safety console.	11. A test of the as-built DIS will be performed to demonstrate the HJTC heater power control for reactor vessel level detection by using simulated test signals after a manual transfer of the DIS switch on the MCR safety console.	11. The DIS provides the HJTC heater power control function for reactor vessel level detection.
12. The DIS is diverse and independent from the QIAS-P.	12. An inspection of the as-built DIS, QIAS-P, and their design documentation will be performed.	12. The as-built DIS: - utilizes a diverse software and hardware from the as-built QIAS-P. - is developed by a different design team from the design team who developed the as-built QIAS-P. - is electrically isolated and physically separated from the as-built QIAS-P. - is powered from the diverse power buses from the as-built QIAS-P.

Table 2.5.3-3 (1 of 4)

Qualified Indication and Alarm System ITAAC

Design Commitment	Inspections, Tests, Analyses	Acceptance Criteria
1. The seismic Category I equipment, identified in Table 2.5.3-1, can withstand seismic design basis loads without loss of its safety function.	1.a Inspections will be performed to verify that the as-built seismic Category I equipment identified in Table 2.5.3-1 is located in a seismic Category I structure.	1.a The as-built seismic Category I equipment identified in Table 2.5.3-1 is located in a seismic Category I structure.
	1.b Type tests, analyses, or a combination of type tests and analyses of seismic Category I equipment identified in Table 2.5.3-1 will be performed.	1.b A report exists and concludes that the seismic Category I equipment identified in Table 2.5.3-1 can withstand seismic design basis loads without loss of its safety function.
	1.c Inspections and analyses will be performed to verify the as-built seismic Category I equipment identified in Table 2.5.3-1, including the supports and anchorages, is seismically bounded by the tested or analyzed conditions.	1.c A report exists and concludes that the as-built seismic Category I equipment identified in Table 2.5.3-1, including the supports and anchorages, is seismically bounded by the tested or analyzed conditions.
2. The QIAS-P equipment, identified in Table 2.5.3-1 (and the associated wiring, cables, and terminations), can withstand the electrical surge, electromagnetic interference (EMI), radio frequency interference (RFI), and electrostatic discharge (ESD) conditions that would exist before, during, and following a design basis accident without loss of its safety function for the time required to perform the safety function.	2.a Type tests, analyses, or a combination of type tests and analyses will be performed on the as-built QIAS-P equipment.	2.a A report exists and concludes that the QIAS-P equipment, identified in Table 2.5.3-1, can withstand the electrical surge, EMI, RFI, and ESD conditions (as applicable) that would exist before, during, and following a design basis accident without loss of its safety function, for the time required to perform the safety function.
	2.b Inspection will be performed on the as-built QIAS-P equipment identified in Table 2.5.3-1 (and the associated wiring, cables, and terminations).	2.b The as-built QIAS-P equipment identified in Table 2.5.3-1 (and the associated wiring, cables, and terminations) ~~identified in Table 2.5.3-1~~ are bounded by type tests or a combination of type tests and analyses.

Table 2.5.3-3 (2 of 4)

Design Commitment	Inspections, Tests, Analyses	Acceptance Criteria
3.a Class 1E equipment identified in Table 2.5.3-1 is powered from its respective Class 1E train.	3.a Tests of the as-built Class 1E equipment will be performed using a simulated test signal.	3.a The Class 1E equipment identified in Table 2.5.3-1 is powered from its respective Class 1E train.
3.b Redundant Class 1E ~~dicisions~~ divisions listed in Table 2.5.3-1 are physically separated and electrically independent from each other and physically separated and electrically independent from non-Class 1E equipment.	3.b.i Inspection for separation of the as-built redundant Class 1E divisions listed in Table 2.5.3-1 will be performed.	3.b.i The physical separation of as-built redundant Class 1E divisions listed in Table 2.5.3-1 is provided by distance or barriers in accordance with NRC RG 1.75 both at interfaces between redundant divisions and at interfaces between Class 1E systems and non-Class 1E systems.
	3.b.ii Analyses, tests or a combination of analyses and tests of the as-built redundant Class 1E division listed in Table 2.5.3-1 will be performed to verify its electrical independence.	3.b.ii A report exists and concludes that independence of as-built redundant Class 1E divisions listed in Table 2.5.3-1 is achieved by independent power sources and electrical circuits for each division, and by fiber optic cable interfaces and qualified isolation devices both at interfaces between redundant divisions, and at interfaces between Class 1E systems and non-Class 1E systems.
	3.b.iii Testing, analysis or combination of testing and analysis will be performed for the electrical isolation devices.	3.b.iii A report exists and concludes that the electrical isolation devices prevent credible faults from propagating into a Class 1E safety system divisions.
4. The QIAS-P monitors and displays the accident monitoring instrumentation variables identified in Table 2.5.3-2.	4. Test of the as-built QIAS-P equipment will be performed to demonstrate the monitoring and display capability for each QIAS-P division using actual or simulated input signals.	4. The QIAS-P monitors and displays the accident monitoring instrumentation variables identified in Table 2.5.3-2.

Table 2.5.3-3 (3 of 4)

Design Commitment	Inspections, Tests, Analyses	Acceptance Criteria
5. The application software for QIAS-P is implemented according to each lifecycle phase in the software development process: concept phase, requirements phase, design phase, implementation phase, test phase, and installation and checkout phase. The outputs, including documentation, of each lifecycle phase in the software development process are verified by inspection and analysis to conform to the requirements of that phase.	5.a An inspection and analysis of the outputs, including documentation, of the concept phase will be performed.	5.a The concept phase outputs, including documentation, exist and conclude that the concept phase activities are performed and these activities conform to the requirements of the concept phase.
	5.b An inspection and analysis of the outputs, including documentation, of the requirements phase will be performed.	5.b The requirements phase outputs, including documentation, exist and conclude that the requirements phase activities are performed and these activities conform to the requirements of the requirements phase.
	5.c An inspection and analysis of the outputs, including documentation, of the design phase will be performed.	5.c The design phase outputs, including documentation, exist and conclude that the design phase activities are performed and these activities conform to the requirements of the design phase.
	5.d An inspection and analysis of the outputs, including documentation, of the implementation phase will be performed.	5.d The implementation phase outputs, including documentation, exist and conclude that the implementation phase activities are performed and these activities conform to the requirements of the implementation phase.
	5.e An inspection and analysis of the outputs, including documentation, of the test phase will be performed.	5.e The test phase outputs, including documentation, exist and conclude that the test phase activities are performed and these activities conform to the requirements of the test phase.

Table 2.5.3-3 (4 of 4)

Design Commitment	Inspections, Tests, Analyses	Acceptance Criteria
	5 f An inspection and analysis of the outputs, including documentation, of the installation and checkout phase will be performed.	5 f The installation and checkout phase outputs, including documentation, exist and conclude that the installation and checkout phase activities are performed and these activities conform to the requirements of the installation and checkout phase.
6. Redundant Class 1E equipment listed in Table 2.5.3-1 are provided with means of identification.	6. An inspection of the as-built equipment for conformance with the identification requirements will be performed.	6. The as-built equipment listed in Table 2.5.3-1 comply with the labeling and the color coding requirements.
7. The QIAS-P is installed in accordance with the dedicated process of commercial grade hardware and software.	7. An inspection will be performed for installation of the hardware and software.	7. A report exists and concludes that the system is installed in accordance with the dedicated process of commercial grade hardware and software.
8. The cabinets for processors listed in Table 2.5.3-1 have key locks and door open alarms, and are located in a vital area of the facility.	8.a A test of the as-built cabinets for processors listed in Table 2.5.3-1 for key lock capability and a test of door open alarms will be performed.	8.a Each as-built cabinet for a processor has key lock capability, and alarms are received in the as-built MCR when cabinet doors are opened.
	8.b Inspection of the cabinets for processors listed in Table 2.5.3-1 will be performed.	8.b The cabinets for processors listed in Table 2.5.3-1 are located in a vital area of the facility.
9. Hardwired disconnections exist between the QIAS-P cabinets, and the portable workstation used to download the QIAS-P software. The hardwired disconnections protect the QIAS-P software from unintended modifications.	9.a An inspection of the as-built hardwired disconnections between the QIAS-P cabinets, and the portable workstation used to download the QIAS-P software will be performed.	9.a Hardwired disconnections exist between the QIAS-P cabinets, and the portable workstation used to download the QIAS-P software.
	9.b Tests will be performed to verify that the QIAS-P software can only be modified via hardware connections and by no other means.	9.b The hardwired disconnections protect the QIAS-P software from unintended modifications.

Table 2.5.4-5 (1 of 11)

Engineered Safety Features-Component Control System ITAAC

Design Commitment	Inspections, Tests, Analyses	Acceptance Criteria
1. The seismic Category I equipment and components identified in Table 2.5.4-1 withstand seismic design basis loads without loss of the safety function.	1.a An inspection will be performed to verify that the as-built seismic Category I equipment and components identified in Table 2.5.4-1 is located in a seismic Category I structure.	1.a The as-built seismic Category I equipment and components identified in Table 2.5.4-1 is located in a seismic Category I structure.
	1.b A type test, analysis, or a combination of a type test and analysis of seismic Category I equipment and components identified in Table 2.5.4-1 will be performed.	1.b A report exists and concludes that the seismic Category I equipment and components identified in Table 2.5.4-1 withstand seismic design basis loads without loss of safety function.
	1.c An inspection and analysis will be performed to verify the as-built seismic Category I equipment and components identified in Table 2.5.4-1, including the supports and anchorages, is seismically bounded by the tested or analyzed conditions.	1.c A report exists and concludes that the as-built seismic Category I equipment and components identified in Table 2.5.4-1, including the supports and anchorages, is seismically bounded by the tested or analyzed conditions

Table 2.5.4-5 (2 of 11)

Design Commitment	Inspections, Tests, Analyses	Acceptance Criteria
2. Redundant Class 1E divisions listed in Table 2.5.4-1 and associated field equipment are physically separated and electrically isolated from each other and physically separated and electrically isolated from non-Class 1E equipment. Class 1E qualified isolation devices such as fiber optic modems or interposing relays are applied at interfaces between redundant safety divisions and at interfaces between safety and non-safety systems.	2.a An inspection for separation of the as-built redundant Class 1E divisions listed in Table 2.5.4-1 and associated field equipment will be performed.	2.a The physical separation of as-built redundant Class 1E divisions identified in Table 2.5.4-1 and associated field equipment is provided by distance or barriers in accordance with NRC RG 1.75.
	2.b A test, analysis, or a combination of a test and analysis of the as-built redundant Class 1E divisions listed in Table 2.5.4-1and associated field equipment will be performed to verify its electrical independence.	2.b A report exists and concludes that independence of as-built redundant Class 1E divisions listed in Table 2.5.4-1 and associated field equipment is achieved by independent power sources and electrical circuits for each division, and by fiber-optic cable interfaces, conventional isolators, or other qualified isolation methods or devices at interfaces between redundant divisions, and at interfaces between safety and non-safety systems. The isolation devices used to affect safety system boundaries are Class 1E qualified.
	2.c.i A inspection for Class 1E qualified isolation devices will be performed at interfaces between redundant safety divisions and at interfaces between safety and non-safety systems.	2.c.i Electrical isolation devices are installed to prevent propagation of faults between redundant safety divisions and interfaces between safety and non-safety systems.
	2.c.ii A test, analysis, or a combination of a test and analysis will be performed for the electrical isolation devices.	2.c.ii A report exists and concludes that the electrical isolation devices prevent credible faults from propagating into a safety system division.

Table 2.5.4-5 (3 of 11)

Design Commitment	Inspections, Tests, Analyses	Acceptance Criteria
3. The Class 1E equipment and components identified in Table 2.5.4-1 are powered from its respective Class 1E train.	3. A test of the as-built ESF-CCS will be performed by providing a simulated test signal in only one Class 1E train at a time.	3. The Class 1E equipment and components identified in Table 2.5.4-1 are powered from its respective Class 1E train.
4. Each ESF-CCS division receives ESF initiation signals from four divisions of the PPS and performs selective 2-out-of-4 coincidence logic to perform NSSS ESF actuation functions identified in Table 2.5.4-2.	4. A test will be performed using simulated input signals for ESF actuation signal input to each division of the as-built ESF-CCS.	4. Each ESF-CCS division receives ESF initiation signal from four divisions of the PPS, performs selective 2-out-of-4 coincidence logic for each NSSS ESF actuation function identified in Table 2.5.4-2 and sends the control signals to the ESF components.
5. Each BOP ESFAS initiation signal passes through ESF-CCS division from two divisions of the RMS as shown in Tables 2.7.6.4-2 and 2.7.6.5-2 and performs 1-out-of-2 logic taken twice except the fuel handling area emergency ventilation actuation signal which has one 1-out-of-2 logic to perform the BOP ESF actuation functions identified in Table 2.5.4-2.	5. A test will be performed using simulated input signals for initiation input to each division of the as-built ESF-CCS to verify that the final actuated component functions as required.	5. Each BOP ESFAS initiation signal passes through ESF-CCS division from two divisions of the RMS, performs 1-out-of-2 logic taken twice except the fuel handling area emergency ventilation actuation signal which has one 1-out-of-2 logic for each BOP ESF actuation function identified in Table 2.5.4-2 and sends the control signals to the ESF components.
6. Upon receipt of an SIAS, CSAS, or AFAS, the ESF-CCS initiates an automatic start of the EDGs and automatic EDG loading sequencer of ESF loads identified in Table 2.5.4-2.	6. A test will be performed using simulated input signals for initiation input to each division of the as-built ESF-CCS.	6. Each ESF-CCS division receives an SIAS, CSAS, AFAS and initiates ~~initiate~~ an automatic start of the EDGs and automatic loading sequencer of ESF loads identified in Table 2.5.4-2.
7. Upon detecting loss of power to Class 1E buses, the ESF-CCS initiates startup of the EDGs, shedding of electrical loads, transfer of Class 1E bus connections to the EDGs, and EDG loading sequencer to the reloading of safety-related loads to the Class 1E buses.	7. A test will be performed using simulated input signals for initiation input to each division of the as-built ESF-CCS.	7. Each ESF-CCS division receives loss of power to Class 1E buses, and initiate an automatic start of the EDGs, shedding of electrical loads, transfer of Class 1E bus connections to the EDGs, and sequencing to the reloading of safety-related loads to the Class 1E buses.

Table 2.5.4-5 (4 of 11)

Design Commitment	Inspections, Tests, Analyses	Acceptance Criteria
8. Each ESF-CCS division is controlled from either the MCR or remote RSR or either the MCR or RCC, as selected from MCR/RSR or MCR/RCC master transfer switches.	8. A test of the as-built ESF-CCS will be performed to demonstrate the transfer and control function between the MCR and RSR and between the MCR and RCC.	8. The as-built master transfer switches transfer controls between the MCR and RSR and between the MCR and RCC separately for each as-built ESF-CCS division, as follows: a. Controls in the RSR are disabled when controls are active in the MCR and the MCR controls the ESF-CCS division. b. Controls in the MCR are disabled when controls are active in the RSR and the RSR controls the ESF-CCS division. c. Controls in the RCC are disabled when controls are active in the MCR and the MCR controls the ESF-CCS division. d. Controls in the MCR are disabled when controls are active in the RCC and the RCC controls the ESF-CCS division.
9.a Once a NSSS ESF actuation has been actuated (automatically or manually), the ESF actuation logic is latched in the actuated state and is not reset automatically when the NSSS ESF initiating condition has been cleared. After the initiating condition has been cleared, the NSSS ESF actuation is manually reset.	9.a.i A test will be performed by returning simulated signals to a level within the predetermined limits of plant process signals at the as-built PPS input for NSSS ESFAS functions as identified in Tables 2.5.4-2 and 2.5.4-3 after simulating the NSSS ESF actuation.	9.a.i Each NSSS ESF actuation signal of the as-built ESF-CCS remains upon return of simulated signals to a level within the predetermined limits of plant process signals for NSSS ESFAS functions as identified in Tables 2.5.4-2 and 2.5.4-3 after simulating the ESF actuation.
	9.a.ii A Test of the as-built NSSS ESFAS reset function is performed manually to reset the actuated NSSS ESFAS function.	9.a.ii The NSSS ESF actuation is manually reset after the initiating condition has been cleared.

Table 2.5.4-5 (5 of 11)

Design Commitment	Inspections, Tests, Analyses	Acceptance Criteria
9.b Once a BOP ESF actuation has been actuated (automatically or manually), the actuation logic is latched in the actuated state and is not reset automatically when the BOP ESF actuation signal has been cleared. Once the initiating condition is cleared, the BOP ESF actuation is manually reset.	9.b.i A test will be performed by returning simulated signals to a level within the predetermined limits of plant process signals at the as-built RMS input for BOP ESFAS functions as identified in Tables 2.5.4-2 and 2.5.4-3 after simulating the BOP ESF actuation.	9.b.i Each BOP ESF actuation signal of the as-built ESFCCS remains upon return of simulated signals to a level within the predetermined limits of plant process signals for BOP ESFAS functions as identified in Tables 2.5.4-2 and 2.5.4-3 after simulating the ESF actuation.
	9.b.ii A Test of the as-built BOP ESFAS reset function is performed manually to reset the actuated BOP ESFAS function.	9.b.ii The BOP ESF actuation is manually reset once the initiating condition is cleared.
10. Loss of power or a processor lock-up in an ESF-CCS division results in the respective ESF-CCS division output assuming fail-safe output condition.	10. A test will be performed simulating loss of power or a processor lock up ~~lock-up~~ in each as-built ESF-CCS division.	10. Loss of power or a processor lock-up in each ESF-CCS division results in the assumed fail-safe output condition.
11. Manual ESF actuation switches are provided in the MCR and RSR for the manual ESF actuations identified in Table 2.5.4-3.	11. A test will be performed to verify the actuation of the as-built ESF-CCS manual ESF actuation using the manual ESF actuation switches in the MCR and RSR.	11. Each as-built ESF-CCS manual ESF actuation identified in Table 2.5.4-3 actuates upon receipt of a signal from its respective manual ESF actuation switches in the MCR and RSR.
12. The operator modules (OMs) in the MCR display ESF actuation status, manual ESF actuation status, and ESF-CCS status information including the test status for ESF actuations identified in Tables 2.5.4-2 and 2.5.4-3.	12. A test of the as-built OM in the MCR will be performed to demonstrate the display capability.	12. Each as-built OM in the MCR displays ESF actuation status, remote manual ESF actuation status, and ESF-CCS status information including the test status for actuations identified in Tables 2.5.4-2 and 2.5.4-3.

Table 2.5.4-5 (6 of 11)

Design Commitment	Inspections, Tests, Analyses	Acceptance Criteria
13. The component interface module (CIM) provides state-based priority logic to prioritize the ESF-CCS and diverse protection system (DPS) signals.	13. A test will be performed using simulated input signals concurrently to the CIM.	13. When the CIM receives conflicting component control input signals from the ESF-CCS and DPS, the CIM prioritizes the signals so that one direction of component control always has priority over the opposite direction, regardless of which system is commanding the priority direction.
14. The CIM provides system-based priority logic for the front panel control switch signals on the CIM, the signals generated by the diverse manual ESF actuation (DMA) switches, the signals from the ESF-CCS, and the signals from the DPS. The front panel control switches have the highest priority, and the signals from the DMA switches have priority over signals from the ESF-CCS and DPS.	14. A test will be performed using simulated input signals concurrently to the CIM.	14. When the CIM receives input signals from the front panel control switch and DMA switches concurrently, the CIM prioritizes signals so that the signal of the front panel control switch has priority over signals of the DMA switches. The DMA switches have priority over signals from the ESF-CCS and DPS.
15. The application software for the ESF-CCS is implemented according to each life cycle phase in the software development process: concept phase, requirements phase, design phase, implementation phase, test phase, and installation and checkout phase. The outputs, including documentation, of each lifecycle phase in the software development process conform to the requirements of that phase.	15.a An inspection and analysis of the outputs, including the documentation, of the concept phase will be performed.	15.a The concept phase outputs, including documentation, exist and conclude that the concept phase activities are performed and these activities conform to the requirements of the concept phase.

Table 2.5.4-5 (7 of 11)

Design Commitment	Inspections, Tests, Analyses	Acceptance Criteria
15. (cont.)	15.b An inspection and analysis of the outputs, including documentation, of the requirements phase will be performed.	15.b The requirements phase outputs, including documentation, exist and conclude that the requirements phase activities are performed and these activities conform to the requirements of the requirements phase.
	15.c An inspection and analysis of the outputs, including documentation, of the design phase will be performed.	15.c The design phase outputs, including documentation, exist and conclude that the design phase activities are performed and these activities conform to the requirements of the design phase.
	15.d An inspection and analysis of the outputs, including documentation, of the implementation phase will be performed.	15.d The implementation phase outputs, including documentation, exist and conclude that the implementation phase activities are performed and these activities conform to the requirements of the implementation phase.
	15.e An inspection and analysis of the outputs, including documentation, of the test phase will be performed..	15.e The test phase outputs, including documentation, exist and conclude that the test phase activities are performed and these activities conform to the requirements of the test phase.
	15 f An inspection and analysis of the outputs, including documentation, of the installation and checkout phase will be performed.	15.f The installation and checkout phase outputs, including documentation, exist and conclude that the installation and checkout phase activities are performed and these activities conform to the requirements of the installation and checkout phase.

Table 2.5.4-5 (8 of 11)

Design Commitment	Inspections, Tests, Analyses	Acceptance Criteria
16. The ESF-CCS equipment and components identified in Table 2.5.4-1 (and the associated wiring, cables, and terminations) withstand the electrical surge, electromagnetic interference (EMI), radio-frequency interference (RFI), and electrostatic discharge (ESD) conditions that would exist before, during, and following a design basis event without loss of its safety function for the time required to perform the safety function.	16.a A type test, analysis, or a combination of a type test and analysis will be performed.	16.a A report exists and concludes that the ESF-CCS equipment identified in Table 2.5.4-1 withstand the electrical surge, EMI, RFI, and ESD conditions that would exist before, during, and following a design basis event without loss of its safety function, for the time required to perform the safety function.
	16.b An inspection and analysis will be performed of on the as-built Class 1E equipment and components identified in Table 2.5.4-1 installation configuration (and the associated wiring, cables, and terminations) and environment will be performed identified in Table 2.5.4-1.	16.b The as-built Class 1E equipment, and components, and the associated wiring, cables, and terminations identified in Table 2.5.4-1 (and the associated wiring, cables, and terminations) are bounded by a type test or a combination of a type test and analysis.
17. Redundant safety equipment and components of the ESF-CCS listed in Table 2.5.4-1 and related field equipment are provided with means of identification.	17. An inspection of the as-built equipment for conformance with the identification requirements will be performed.	17. The as-built equipment and components listed in Table 2.5.4-1 and related field equipment comply with the labeling and the color coding requirements.
18. The Class 1E equipment and components listed in Table 2.5.4-1 are protected from accident related hazards considered in the transient and accident analyses including but not limited to such as missiles, pipe breaks and flooding.	18. An inspection and analysis will be performed on the locations of the as-built Class 1E equipment and components listed in Table 2.5.4-1.	18. A report exists and concludes that the as-built equipment and components listed in Table 2.5.4-1 are protected from accident related hazards considered in the transient and accident analyses including but not limited to such as missiles, pipe breaks and flooding.
19. The ESF-CCS cabinets listed in Table 2.5.4-1 have key locks and door position alarms, and are located in a vital area of the facility.	19.a A test of the as-built cabinets listed in Table 2.5.4-1 for key lock capability, and a test of door position alarms, will be performed.	19.a Each as-built cabinet listed in Table 2.5.4-1 has key lock capability, and door position alarms are received in the as-built MCR when cabinet doors are opened.
	19.b An inspection of the cabinets listed in Table 2.5.4-1 will be performed.	19.b The cabinets listed in Table 2.5.4-1 are located in a vital area of the facility.

Table 2.5.4-5 (9 of 11)

Design Commitment	Inspections, Tests, Analyses	Acceptance Criteria
20. The ESF-CCS provides ESF actuation within required response time in the accident and transient analyses~~is~~ for ESF functions identified in Table 2.5.4-2.	20.a A type test and analysis will be performed on the ESF-CCS to verify that the ESF-CCS actuates the ESF functions identified in Table 2.5.4-2 within the required response time in the accident and transient analyse~~i~~s.	20.a A report exists and concludes that the ESF-CCS actuates the ESF functions identified in Table 2.5.4-2 within response time requirements in the accident and transient analyse~~i~~s (including the communication delays from the LCL of the PPS to group controllers of the ESF-CCS).
	20.b An ~~inspection~~inspection will be performed on the as-built ESF-CCS to ~~determine if~~verify the response time requirements are met ~~of~~for the ESF actuation functions identified in Table 2.5.4-2.	20.b The as-built ESF actuation functions identified in Table 2.5.4-2 ~~with~~ meet the response time requirements in the accident and transient analyses ~~are bounded by type tests or a combination of a type test and analysis~~~~in the safety analysis~~.
21. The ESF-CCS has the testing function to confirm the integrity of the capability to accomplish the intended safety functions.	21. A type tests and analysis of the ESF-CCS will be performed using simulated failure condition.	21. A report exists and concludes that the ESF-CCS has the testing function to confirm the integrity of the capability to accomplish the intended safety functions.
22. The ESF-CCS provides the interlocks important to safety identified in Table 2.5.4-4.	22. A test of the as-built ESF-CCS will be performed.	22. The as-built ESF-CCS provides the interlocks important to safety identified in Table 2.5.4-4 when simulated signals reach the predetermined setpoints.
23. Communication independence between redundant divisions of ESF-CCS and between ESF-CCS soft control module (ESCM) and information flat panel display (IFPD) is achieved by use of dual-ported memory and separation of functional processor and communication processor.	23.a An inspection of the as-built ESF-CCS will be performed to verify dual-ported memory is installed.	23.a Dual-ported memory exists in the as-built ESF-CCS for communication between redundant divisions of ESF-CCS and between ESCM and IFPD.
	23.b An inspection of the as-built ESF-CCS will be performed to verify that functional processor and communication processor are installed and separated.	23.b Functional processor and communication processor exist and are separated in the as-built ESF-CCS for communication between redundant divisions of ESF-CCS and between ESCM and IFPD.

Table 2.5.4-5 (10 of 11)

Design Commitment	Inspections, Tests, Analyses	Acceptance Criteria
23. (cont.)	23.c Analyses, tests or a combination of analyses and tests of the communication independence will be performed.	23.c A report exists and concludes that communication independence is achieved between redundant divisions of ESF-CCS and between ESCM and IFPD.
24. The ESC-CCS is installed in accordance with the dedicated process of commercial grade hardware and software.	24. An inspection will be performed for installation of the hardware and software.	24. A report exists and concludes that the system is installed in accordance with the dedicated process of commercial grade hardware and software.
25. The ESF-CCS LC provides the priority logic to assure the actuation of automatically actuated ESFAS signals.	25. A test will be performed by using simulated input signals from ESFAS signals and manual component control signals concurrently to LC in the as-built ESF-CCS.	25. When the ESF-CCS LC receives conflicting component control input signals between ESFAS signals and component control signals from MI switch and ESCM, the ESF-CCS LC prioritizes the signals so that ESFAS signals always block the command of opposite state from MI switch and ESCM until protective actions are completed.
26. Means are provided for manual initiation and control of the protective actions that have not been selected for automatic control.	26. A test will be performed to verify the actuation of the as-built manual initiation and control switch in the MCR.	26. Each as-built manual initiation and control switch actuates the associated component identified in Table 2.5.4-6 to the specified position when manually operated.
27. Hardwired disconnections exist between the ESF-CCS cabinets, and the portable workstation used to download the ESF-CCS software. The hardwired disconnects protect the ESF-CCS software from unintended modifications.	27.a An inspection of the as-built hardwired disconnections between the ESF-CCS cabinets, and the portable workstation used to download the ESF-CCS software will be performed.	27.a Hardwired disconnections exist between the ESF-CCS cabinets, and the portable workstation used to download the ESF-CCS software.
	27.b Tests will be performed to verify that the ESF-CCS software can only be modified via hardware connections and by no other means.	27.b The hardwired disconnections protect the ESF-CCS software from unintended modifications.

Table 2.5.4-5 (11 of 11)

Design Commitment	Inspections, Tests, Analyses	Acceptance Criteria
28. Communication from IFPD to ESCM is implemented by using predefined data sets, protocol, and an error checking code.	28.a A test will be performed to verify that the signal from IFPD to ESCM has predefined data sets and protocol.	28.a Signal from IFPD to ESCM has predefined data sets and protocol for communication from IFPD to ESCM.
	28.b A test will be performed to verify that ESCM uses an error checking code for communication from IFPD to ESCM.	28.b The Ethernet processor of ESCM checks the integrity of the received data set from IFPD using an error checking code such as cyclic redundancy check, and discards erroneous data.
	28.c Analyses, tests or a combination of analyses and tests of the communication independence will be performed.	28.c A report exists and concludes that communication from IFPD to ESCM is implemented by using predefined data sets, protocol, and an error checking code.

Table 2.5.5-2 (1 of 3)

Control System Not Required for Safety ITAAC

Design Commitment	Inspections, Tests, Analyses	Acceptance Criteria
1. The controllers of PCS and P-CCS are arranged in separate controller groups as identified in Table 2.5.5-1.	1. Inspection of the as-built PCS and P-CCS will be performed.	1. The as-built PCS and P-CCS are arranged in separate controller groups as identified in Table 2.5.5-1.
2. The digital equipment and software used in the PCS and P-CCS are diverse from those of the plant protection system (PPS) and engineered safety features-component control system (ESF-CCS).	2. Inspection of the as-built PCS and P-CCS equipment will be performed. Inspection of the design documentation will be performed to confirm that the digital equipment and software is developed on a different platform and by a different design group from those of the PPS and ESF-CCS.	2. The as-built digital equipment and software used in the PCS and P-CCS are diverse from those of the PPS and ESF-CCS based on: • PCS and P-CCS use a platform which is different from the platform used in the PPS and ESF-CCS. • The design group(s) which developed the PCS and P-CCS software is different from the design group(s) which developed the PPS and ESF-CCS software.
3. The PCS and P-CCS are controlled from either the MCR or RSR or either the MCR or RCC, as selected from MCR/RSR or MCR/RCC master transfer switches.	3. A test of the as-built PCS and P-CCS will be performed to demonstrate the transfer and control function between the MCR and RSR and between the MCR and RCC.	3. The as-built master transfer switches transfer controls between the MCR and RSR and between the MCR and RCC for as-built PCS and P-CCS, as follows: • Controls at the RSR are disabled when controls are active in the MCR and the MCR controls the PCS and P-CCS. • Controls at the MCR are disabled when controls are active in the RSR and the RSR controls the PCS and P-CCS.

Table 2.5.5-2 (2 of 3)

Design Commitment	Inspections, Tests, Analyses	Acceptance Criteria
3. (cont.)		• Controls at the RCC are disabled when controls are active in the MCR and the MCR controls the PCS and P-CCS. • Controls at the MCR are disabled when controls are active in the RCC and the RCC controls the PCS and P-CCS.
4. The IFPDs display information for monitoring critical safety functions, and information and safety component selections for the plant systems / components used to control those functions.	4. Inspection of the as-built IFPDs will be performed.	4. The as-built IFPDs allow monitoring the critical safety functions, and monitoring and selecting components for controlling the preferred emergency success paths for each critical function.
5. The IFPDs are independent from Class 1E HSI devices.	5. Inspection of the as-built IFPDs will be performed.	5. The IFPDs are isolated and are independent from Class 1E systems, including the QIAS-P, ESCMs, and minimum inventory switches.
6. The application software for the IFPD is implemented according to each life cycle phase in the software development process: concept phase, requirements phase, design phase, implementation phase, test phase, and installation and checkout phase. The outputs including documentation of each lifecycle phase in the software development process conform to the requirements of that phase.	6.a An inspection and analysis of the outputs including the documentation of the concept phase will be performed.	6.a The concept phase outputs including documentation exist and conclude that the concept phase activities are performed and these activities conform to the requirements of the concept phase.
	6.b An inspection and analysis of the outputs including the documentation of the requirements phase will be performed.	6.b The requirements phase outputs including documentation exist and conclude that the requirements phase activities are performed and these activities conform to the requirements of the requirements phase.

Table 2.5.5-2 (3 of 3)

Design Commitment	Inspections, Tests, Analyses	Acceptance Criteria
6. (cont.)	6.c An inspection and analysis of the outputs including the documentation of the design phase will be performed.	6.c The design phase outputs including documentation exist and conclude that the design phase activities are performed and these activities conform to the requirements of the design phase.
	6.d An inspection and analysis of the outputs including the documentation of the implementation phase will be performed.	6.d The implementation phase outputs including documentation exist and conclude that the implementation phase activities are performed and these activities conform to the requirements of the implementation phase.
	6.e An inspection and analysis of the outputs including the documentation of the test phase will be performed.	6.e The test phase outputs including documentation exist and conclude that the test phase activities are performed and these activities conform to the requirements of the test phase.
	6 f An inspection and analysis of the outputs including the documentation of the installation and checkout phase will be performed.	6 f The installation and checkout phase outputs including documentation exist and conclude that the installation and checkout phase activities are performed and these activities conform to the requirements of the installation and checkout phase.
7. The IFPDs do not adversely affect safety devices in the MCR during seismic conditions that would exist before, during, and following a design basis event.	7. Analysis of the as-built IFPDs will be performed.	7. A report exists and concludes that the IFPDs do not adversely affect safety devices in the MCR during seismic conditions that would exist before, during, and following a design basis event.

Table 2.6.1-3 (1 of 8)

AC Electric Power Distribution System ITAAC

Design Commitment	Inspections, Tests, Analyses	Acceptance Criteria
1. The functional arrangement of ac electric power distribution system is as described in the Design Description of Subsection 2.6.1.1 and as shown in Figure 2.6.1-1.	1. Inspection of the as-built ac electric power system will be performed.	1. The as-built ac electric power system conforms with the functional arrangement as described in the Design Description of Subsection 2.6.1.1 and as shown in Figure 2.6.1-1.
2. The seismic Category I equipment identified in Table 2.6.1-1, including the supports and anchorages, can withstand seismic design basis loads without loss of safety function.	2.a Inspections will be performed to verify that the as-built seismic Category I equipment is located in seismic Category I structures.	2.a The as-built seismic Category I equipment identified in Table 2.6.1-1 is located in seismic Category I structures.
	2.b Type tests, analyses, or a combination of type tests and analyses of seismic Category I equipment will be performed.	2.b A report exists and concludes that the seismic Category I equipment identified in Table 2.6.1-1 can withstand seismic design basis loads without loss of safety function.
	2.c Inspections will be performed to verify that the as-built seismic Category I equipment, including the supports and anchorages, are seismically bounded by the tested or analyzed conditions.	2.c A report exists and concludes that the as-built as-built equipment, including the supports and anchorages, are seismically bounded by the tested or analyzed conditions.
3.a All controls required by the design Controls exist in the MCR to operate the electric power distribution system, specifically to open and close the 4.16 kV circuit breakers for the Class 1E buses identified in Table 2.6.1-2.	3.a Tests will be performed using the electric power distribution system controls in the MCR to open and close the 4.16 kV circuit breakers for the Class 1E buses.	3.a All eElectric power distribution system controls in the as-built MCR open and close the 4.16 kV circuit breakers for the Class 1E buses identified in Table 2.6.1-2.
3.b All controls required by the design Controls exist in the RSR to operate the electric power distribution system, specifically to open and close the 4.16 kV circuit breakers for the Class 1E buses identified in Table 2.6.1-2.	3.b Tests will be performed using the electric power distribution system controls in the RSR to open and close the 4.16 kV circuit breakers for the Class 1E buses.	3.b All eElectric power distribution system controls in the as-built RSR open and close the 4.16 kV circuit breakers for the Class 1E buses identified in Table 2.6.1-2.

Table 2.6.1-3 (2 of 8)

Design Commitment	Inspections, Tests, Analyses	Acceptance Criteria
3.c ~~All d~~Displays and alarms ~~required by the design~~ exist and are retrievable in the MCR as defined in Table 2.6.1-2.	3.c Inspections ~~will be performed on the~~ of the as-built displays and alarms in the MCR will be performed.	3.c ~~All d~~Displays and alarms exist and ~~can be~~ are retrieved in the MCR as defined in Table 2.6.1-2.
3.d ~~All d~~Displays and alarms ~~required by the design~~ exist and are retrievable in the RSR as defined in Table 2.6.1-2.	3.d Inspections ~~will be performed on the~~ of the as-built displays and alarms in the RSR will be performed.	3.d ~~All d~~Displays and alarms exist and ~~can be~~ are retrieved in the RSR as defined in Table 2.6.1-2.
4. Class 1E medium voltage switchgears, load centers, and motor control centers are located in the auxiliary building, EDG building, and ESW buildings ~~with~~ within seismic Category I structures and in their respective train areas.	4. Inspection of the as-built Class 1E medium voltage switchgears, load centers, and motor control centers will be performed.	4. The as-built Class 1E medium voltage switchgears, load centers, and motor control centers are located in the auxiliary building, EDG building, and ESW buildings ~~with~~ within seismic Category I structures and in their respective train areas.
5. MT and UATs are separated from the SATs.	5. Inspection and analysis of the as-built MT and UATs will be performed.	5. The as-built MT and UATs are separated from the SATs by 3-hour-rated fire barriers.
6. MT, UATs, and SATs are provided with their own oil pit, drain, fire deluge system.	6. Inspection of the as-built MT, UATs and SATs will be performed.	6. The as-built MT, UATs, and SATs are provided with their own oil pit, drain, fire deluge system.
7.a The MG, UATs, MT, and GCB power feeders are separated from the SATs power feeders.	7.a Inspection and analysis of the as-built MG, UATs, MT, GCB, and SATs power feeders will be performed.	7.a The as-built MG, UATs, MT, and GCB power feeders are separated from the SATs power feeders by 3-hour-rated fire barriers.
7.b The MG, UAT, MT, and GCB instrumentation and control circuits are separated from the SATs instrumentation and control circuits.	7.b Inspection and analysis of the as-built MG, UATs, MT, GCB, and SATs instrumentation and control circuits will be performed.	7.b The as-built MG, UATs, MT, and GCB instrumentation and control circuits are separated from the SATs instrumentation and control circuits by 3-hour-rated fire barriers.

Table 2.6.1-3 (3 of 8)

Design Commitment	Inspections, Tests, Analyses	Acceptance Criteria
8. If the normal preferred offsite power supply is not available, Class 1E 4.16 kV medium voltage buses are automatically transferred to the alternate preferred offsite power supply.	8. Tests will be performed to verify that as-built Class 1E 4.16 kV medium voltage buses are automatically transferred to the alternate preferred offsite power supply through the fast transfer and residual voltage transfer schemes.	8. Each as-built Class 1E 4.16 kV medium voltage buses are automatically transferred to the alternate preferred offsite power supply, through the fast transfer and residual voltage transfer schemes, when normal preferred offsite power supply is not available and alternate preferred power supply is available.
9. Instrumentation and control power for Class 1E medium voltage switchgear and load centers is supplied from the Class 1E dc power system in the same train.	9. Inspection of the as-built Class 1E medium voltage switchgear and load centers will be performed.	9. Instrumentation and control power for the as-built Class 1E switchgear and load centers of each train are supplied control power from their respective Class 1E trains.
10.a Independence is provided between each of the four trains of Class 1E distribution equipment and circuits.	10.a Tests will be performed on the as-built Class 1E distribution equipment and circuits by providing a test signal in only one train at a time.	10.a The test signal is present in the as-built Class 1E train under test.
10.b Independence is provided between Class 1E distribution equipment and circuits and non-Class 1E distribution equipment and circuits.	10.b Tests will be performed on the as-built Class 1E and non-Class 1E distribution equipment and circuits by providing a test signal in only one train for Class 1E or one division for non-Class 1E at a time.	10.b The test signal is present in the as-built Class 1E train or non-Class 1E division under test.
10.c The Class 1E distribution equipment of independent trains, identified in Table 2.6.1-1, is located in separate rooms in the auxiliary building.	10.c Inspection of the as-built Class 1E distribution equipment will be performed.	10.c The as-built Class 1E distribution equipment of independent trains, identified in Table 2.6.1-1, is located in separate rooms in the auxiliary building.

Table 2.6.1-3 (4 of 8)

Design Commitment	Inspections, Tests, Analyses	Acceptance Criteria
11. Class 1E electric power distribution system equipment and circuits are rated to withstand fault currents for the time required to clear the fault from its power source.	11.a Analyses will be performed to verify the Class 1E distribution equipment and circuits are sized to withstand the maximum fault currents for the time required to clear the fault from its power source	11.a A report exists and concludes that the Class 1E distribution equipment and circuits are sized to carry the worst case load currents for the time required to clear the fault from its power source.
	11.b Inspections will be performed to verify that the ratings of as-built Class 1E distribution equipment and circuits bound the results of the analyses to carry the worst-case load currents for the time required to clear the fault from its power source.	11.b The ratings of as-built Class 1E distribution equipment and circuits bound the results of the analyses to carry the worst-case load currents for the time required to clear the fault from its power source.
12. Equipment and circuits of independent trains including raceway are uniquely identified by their train color and identifying nomenclature.	12. Inspection of the as-built Class 1E equipment and circuits of independent trains including raceway will be performed.	12. The as-built Class 1E equipment and circuits of independent trains including raceway are uniquely identified by their train color and identifying nomenclature.
13.a The raceway systems for Class 1E electric power distribution system cables are designed to meet seismic Category I requirements.	13.a Inspections and analyses will be performed to verify that the as-built raceway systems for Class 1E electric power distribution system cables are supported by a seismic Category I designed support system.	13.a A report exists and concludes that the as-built raceway system for Class 1E electric power distribution system cables are supported by a seismic Category I designed support system.
13.b Class 1E electric power distribution system cables are routed in seismic Category I structures and in their respective raceway trains.	13.b Inspection of the as-built electric power distribution system cables and raceways will be performed.	13.b The as-built Class 1E train cables are routed in seismic Category I Structures and in their respective raceway trains.
14. Class 1E equipment is not prevented from performing its safety functions by design basis harmonic distortion waveforms.	14. Analysis of the as-built electric power distribution system to determine harmonic distortions will be performed.	14. A report exists and concludes that harmonic distortion waveforms do not exceed acceptable voltage distortion limits on the Class 1E electric power distribution system.

Table 2.6.1-3 (5 of 8)

Design Commitment	Inspections, Tests, Analyses	Acceptance Criteria
15. Protection is provided for Class 1E equipment from degraded voltage condition.	15.a Analyses will be performed to verify that the Class 1E medium voltage switchgears are protected from degraded voltage conditions.	15.a A report exists and concludes that the Class 1E medium voltage switchgears are protected from degraded voltage conditions by degraded voltage relays.
	15.b Inspections and tests will be performed to verify that the as-built protection system bounds the result of analyses for the protection of the Class 1E medium voltage switchgears from degraded voltage conditions.	15.b The as-built protection system bounds the result of analyses for the protection of the Class 1E medium voltage switchgears from degraded voltage conditions.
16. There are no automatic connections between Class 1E trains.	16. Inspection of the as-built Class 1E trains will be performed.	16. The as-built Class 1E trains have no automatic connections between Class 1E trains.
17. Class 1E qualified isolation devices provide independence between Class 1E electric power distribution equipment and non-Class 1E loads.	17.a Type tests, analyses, or a combination of type tests and analyses will be performed to verify the qualification of isolation devices.	17.a A report exists and concludes that the Class 1E electric power distribution equipment is isolated from as-built non-Class 1E loads by Class 1E qualified isolation devices in accordance with NRC RG 1.75
	17.b Inspection of the as-built Class 1E electric power distribution equipment will be performed.	17.b Class 1E qualified isolation devices are provided between the as-built Class 1E electric power distribution equipment and non-Class 1E loads.
18.a The switchyard PCBs open in the event of electrical faults in either MT, GCB, UATs, SATs, or associated equipment and circuits.	18.a Tests will be performed to verify that the as-built switchyard PCB trip signal is actuated by a simulated electrical fault trip signal for faults in either MT, GCB, UATs, SATs, or associated equipment and circuits.	18.a The as-built switchyard PCBs open in the event of electrical faults in either MT, GCB, UATs, SATs, or associated equipment and circuits.

Table 2.6.1-3 (6 of 8)

Design Commitment	Inspections, Tests, Analyses	Acceptance Criteria
18.b The GCB opens in the event of plant trip conditions, or electrical faults in either MG, MT, UATs, or associated equipment and circuits.	18.b Tests will be performed to verify that the as-built GCB trip signal is actuated by a simulated plant trip conditions, or electrical fault trip signal for faults in either MG, MT, UATs, or associated equipment and circuits.	18.b The as-built GCB opens in the event of plant trip conditions, or electrical faults in either MG, MT, UATs, or associated equipment and circuits.
19. The UATs and SATs are designed and sized to meet the worst case loading conditions for all modes of plant operation and accident conditions.	19.a Analyses will be performed to verify that the as-built UATs and SATs are sized for the worst case loading conditions for all modes of plant operation and accident conditions.	19.a A report exists and concludes that the as-built UATs and SATs are designed and sized for the worst case loading conditions for all modes of plant operation and accident conditions.
	19.b Inspections will be performed to verify that the ratings of as-built UATs and SATs meet the size requirements determined by the analysis for the worst case loading conditions for all modes of plant operation and accident conditions.	19.b The ratings of the as-built UATs and SATs bound the size requirements determined by the analysis.
20. Overcurrent protection is set for proper coordination of Class 1E ac electric distribution system.	20.a Analysis of the as-built Class 1E ac electrical distribution system overcurrent protection will be performed to verify proper coordination.	20.a A report exists and concludes that the as-built Class 1E ac electric distribution system overcurrent protection coordinates.
	20.b Inspections and tests will be performed on the Class 1E ac electrical distribution system to verify that the as-built overcurrent protection devices setting is in accordance with the results of the analysis for proper coordination.	20.b A report exists and concludes that the as-built Class 1E ac electrical distribution system overcurrent protection devices is set in accordance with the results of the analysis for proper coordination.

Table 2.6.1-3 (7 of 8)

Design Commitment	Inspections, Tests, Analyses	Acceptance Criteria
21. The post-fire safe shutdown circuit analysis provides assurance that one success path of shutdown SSCs remains free of fire damage.	21. Analysis of post-fire safe shutdown circuit and supporting breaker coordination will be performed.	21. A report exists and concludes that the post-fire safe shutdown circuit analysis provides assurance that one success path of shutdown SSCs remains free of fire damage.
22. The Class 1E cables are sized considering derating due to ambient temperature, cable grouping, and other derating effects as applicable.	22.a An analysis will be performed to verify the Class 1E cables are sized considering derating due to ambient temperature, cable grouping, and other derating effects as applicable.	22.a A report exists and concludes that the Class 1E cables are sized considering derating due to ambient temperature, cable grouping, and other derating effects as applicable.
	22.b An inspection will be performed to verify that the as -built cable sizes bound the minimum sizes determined by the analysis.	22.b The as-built cable sizes bound the minimum sizes determined by the analysis.
23. The open phase detection and protection (OPDP) system is capable of detecting the following open phase conditions (OPCs) over the full range of transformer loading from no load to full load: - loss of one phase with and without a high-impedance ground fault condition; and - loss of two phases without a high-impedance ground fault condition.	23. Analyses will be performed to verify that the OPDP system is capable of detecting the open phase conditions over the full range of transformer loading from no load to full load.	23. A report exists and concludes that the OPDP system is capable of detecting the open phase conditions over the full range of transformer loading from no load to full load with sufficient details (e.g., relay setpoints, time delays, etc.).
24. Upon detection of an OPC with or without a high-impedance ground fault, the OPDP system ~~sends~~ actuates an alarm in the MCR and RSR.	24. Tests will be performed on the as-built OPDP system using simulated signals to verify that the as-built OPDP system provides an alarm in the MCR and RSR.	24. Using simulated signals, the OPDP system ~~provides~~ actuates an alarm in the MCR and RSR.

Table 2.6.1-3 (8 of 8)

Design Commitment	Inspections, Tests, Analyses	Acceptance Criteria
25. In case an OPC with or without a high-impedance ground fault on the primary side of the MT or SATs occurs and safe shutdown capability is not assured due to the OPC while the transformer(s) is (are) under loading condition\e Class 1E medium voltage switchgear buses are automatically separated from the degraded offsite power source transferred to the alternate offsite power source or the onsite standby source as designed.	25. Tests will be performed using simulated signals to verify that as-built Class 1E medium voltage switchgear buses are automatically separated from the degraded offsite power source and transferred to the alternate offsite power source or the onsite standby source as designed.	25. Upon a simulated OPC, each as-built Class 1E medium voltage switchgear buses are automatically disconnected and, in case of an OPC on the primary side of the MT, transferred to the alternate offsite power source (from the SATs).
26. Transients due to failures or incidental operation of the non-Class 1E electrical equipment will not result in failure of the Class 1E loads.	26.a Analyses will be performed to verify that the voltage variation at the Class 1E buses is maintained within acceptable limits during the non-Class 1E large motor starting condition.	26.a A report exists and concludes that the voltage variation at the Class 1E buses is maintained within acceptable limits during the non-Class 1E large motor starting condition.
	26.b Analyses will be performed to verify that the transient effect of re-acceleration of the non-Class 1E motors do not hinder the re-acceleration of the Class 1E motors during a bus transfer.	26.b A report exists and concludes that the transient effect of re-acceleration of the non-Class 1E motors do not hinder the re-acceleration of the Class 1E motors during a bus transfer.

Table 2.6.2-3 (1 of 8)

Emergency Diesel Generator System ITAAC

Design Commitment	Inspections, Tests, Analyses	Acceptance Criteria
1. The functional arrangement of the EDG system is as described in the Design Description of Subsection 2.6.2.1 and in Tables 2.6.2-1 and 2.6.2-2.	1. Inspection of the as-built EDG system will be performed.	1. The as-built EDG system conforms with the functional arrangement described in the Design Description of Subsection 2.6.2.1 and in Tables 2.6.2-1 and 2.6.2-2.
2.a The ASME Code components identified in Table 2.6.2-2 are designed and constructed in accordance with ASME Section III requirements.	2.a Inspection of the as-built ASME Code components identified in Table 2.6.2-2 will be performed ~~as~~ and documented in the ASME data report(s).	2.a The ASME Section III data report(s) exist and conclude that the as-built ASME Code components identified in Table 2.6.2-2 are designed and constructed in accordance with ASME Section III requirements.
2.b The ASME Code piping, including supports, identified in Table 2.6.2-1 is designed and constructed in accordance with ASME Section III requirements.	2.b Inspection of the as-built ASME Code piping, including supports, identified in Table 2.6.2-1 will be performed ~~as~~ and documented in the ASME data report(s).	2.b The ASME Section III data report(s) exist and conclude that the as-built ASME Code piping, including supports, identified in Table 2.6.2-1 is designed and constructed in accordance with ASME Section III requirements.
3.a Pressure boundary welds in ASME Code components identified in Table 2.6.2-2 meet ASME Section III requirements.	3.a Inspection of the as-built pressure boundary welds in ASME Code components identified in Table 2.6.2-2 will be performed in accordance with the ASME Section III.	3.a A report exists and concludes that the ASME Section III requirements are met for non-destructive examination of the as-built pressure boundary welds in ASME Code components identified in Table 2.6.2-2.
3.b Pressure boundary welds in ASME Code piping identified in Table 2.6.2-1 meet ASME Section III requirements.	3.b Inspection of the as-built pressure boundary welds in ASME Code piping identified in Table 2.6.2-1 will be performed in accordance with the ASME Section III.	3.b A report exists and concludes that the ASME Section III requirements are met for non-destructive examination of the as-built pressure boundary welds in ASME Code piping identified in Table 2.6.2-1.

Table 2.6.2-3 (2 of 8)

Design Commitment	Inspections, Tests, Analyses	Acceptance Criteria
4.a The ASME Code components identified in Table 2.6.2-2 retain their pressure boundary integrity at their design pressure.	4.a A hydrostatic test will be performed on the as-built ASME Code components identified in Table 2.6.2-2 required to be hydrostatically tested by the ASME Section III.	4.a A report exists and concludes that the results of the hydrostatic test of the as-built ASME Code components identified in Table 2.6.2-2 conform with ASME Section III
4.b The ASME Code piping identified in Table 2.6.2-1 retains its pressure boundary integrity at its design pressure.	4.b A hydrostatic test will be performed on the as-built ASME Code piping identified in Table 2.6.2-1 required to be hydrostatically tested by the ASME Section III.	4.b A report exists and concludes that the results of the hydrostatic test of the as-built ASME Code piping identified in Table 2.6.2-1conform with ASME Section III requirements.
5.a The seismic Category I diesel engines and generators , including the supports and anchorages, withstand seismic design basis loads without loss of safety function.	5.a.i Inspections will be performed to verify that the as-built seismic Category I diesel engines and generators are located in the seismic Category I structures.	5.a.i The as-built four seismic Category I diesel engines and generators are located in the seismic Category I structures.
	5.a.ii Qualification of the four seismic Category I diesel engines and generators will be performed under all expected environmental condition.	5.a.ii A qualification report exists and concludes that the four seismic Category I diesel engines and generators withstand seismic design basis loads without loss of safety function.
	5.a.iii Inspections will be performed to verify that the as-built seismic Category I diesel engines and generators, including the supports and anchorages, are seismically bounded by the tested or analyzed conditions.	5.a.iii A report exists and concludes that the as-built seismic Category I diesel engines and generators, including the supports and anchorages, are seismically bounded by the tested or analyzed conditions.
5.b The seismic Category I components identified in Table 2.6.2-2, including the supports and anchorages, withstand seismic design basis loads without loss of safety function.	5.b.i Inspections will be performed to verify that the as-built seismic Category I components are located in the seismic Category I structure.	5.b.i The as-built seismic Category I components identified in Table 2.6.2-2 are located in the seismic Category I structure.

Table 2.6.2-3 (3 of 8)

Design Commitment	Inspections, Tests, Analyses	Acceptance Criteria
5.b (cont.)	5.b.ii Type tests, analyses, or a combination of type tests and analyses of seismic Category I components will be performed.	5.b.ii A report exists and concludes that the as-built seismic Category I components identified in Table 2.6.2-2 withstand seismic design basis loads without loss of safety function.
	5.b.iii Inspections will be performed to verify that the as-built seismic Category I components, including the supports and anchorages, are seismically bounded by the tested or analyzed conditions.	5.b.iii A report exists and concludes that the as-built seismic Category I identified in Table 2.6.2-2, including the supports and anchorages, are seismically bounded by the tested or analyzed conditions.
5.c The seismic Category I piping, including supports, identified in Table 2.6.2-1 withstand seismic design basis loads without loss of safety function.	5.c.i Inspections will be performed to verify that the as-built seismic Category I piping, including supports, is located in the seismic Category I structure(s).	5.c.i The as-built seismic Category I piping, including supports, identified in Table 2.6.2-1 is located in the seismic Category I structure(s).
	5.c.ii Inspection and analysis of seismic Category I piping, including supports, identified in Table 2.6.2-1 will be performed.	5.c.ii A report exists and concludes that the as-built seismic Category I piping, including supports, identified in Table 2.6.2-1 withstand seismic design basis loads without loss of safety function.
6.a ~~All controls required by the design~~ Controls exist in the MCR and EDG room to start and stop each EDG and to synchronize each EDG to its respective Class 1E bus.	6.a Tests will be performed using the EDG controls in the MCR and EDG room to start and stop each EDG and to synchronize each EDG to its respective Class 1E bus.	6.a ~~All controls~~ Controls in the as-built MCR and EDG room start and stop each EDG and ~~to~~ synchronize each EDG to its respective Class 1E bus.
6.b ~~All controls required by the design~~ Controls exist in the RSR to start and stop each EDG and to synchronize each EDG to its respective Class 1E bus.	6.b Tests will be performed using the EDG controls in the RSR to start and stop each EDG and to synchronize each EDG to its respective Class 1E bus.	6.b ~~All controls~~Controls in the as-built RSR start and stop each EDG and ~~to~~ synchronize each EDG to its respective Class 1E bus.

6.c ~~All d~~Displays and alarms ~~required by the design~~ exist and are retrievable in the MCR as defined in Table 2.6.2-2.	6.c Inspections ~~will be performed on the~~ of the as-built displays and alarms in the MCR will be performed.	6.c ~~All d~~Displays and alarms exist and are ~~be~~ retrieved in the as-built MCR as defined in Table 2.6.2-2.
6.d ~~All displays required by the design~~ Displays and alarms exist and are retrievable in the RSR as defined in Table 2.6.2-2.	6.d Inspections ~~will be performed on the~~ of the as-built displays and alarms in the RSR will be performed.	6.d ~~All d~~Displays and alarms exist and are ~~be~~ retrieved in the as-built RSR as defined in Table 2.6.2-2.

Table 2.6.2-3 (4 of 8)

Design Commitment	Inspections, Tests, Analyses	Acceptance Criteria
7. Each mechanical division of EDG and its support systems (A, B, C & D) is physically separated from the other divisions.	7. Inspection of the as-built mechanical divisions will be performed.	7. Each mechanical division of the EDG is physically separated by a divisional wall that is a 3-hours rated fire barrier.
8.a Each diesel fuel oil transfer pump is capable of transferring oil from the diesel fuel oil storage tank to its corresponding day tank at sufficient pressure and flow to cover the maximum demand at EDG continuous rated load while simultaneously increasing day tank level.	8.a.i Analysis ~~of each diesel fuel oil transfer pump~~ will be performed to determine the required fuel oil transfer pump flow rate to support the maximum demand of the EDG at continuous rated load while simultaneously increasing day tank level.	8.a.i A report exists and concludes that each fuel oil transfer pump is sized to transfer fuel oil from the fuel oil storage tank to its as-built corresponding day tank, at a flow rate to support the maximum demand of the Class 1E EDG at continuous rated load while simultaneously increasing day tank level.
	8.a.ii Test of each diesel fuel oil transfer pump will be performed to verify that the fuel oil transfer pump flow rate bounds the analysis.	8.a.ii A report exists and concludes that each diesel fuel oil transfer pump flow rate bounds the analysis.
8.b The diesel fuel oil transfer pumps have sufficient net positive suction head (NPSH).	8.b Test to measure the as-built diesel fuel oil transfer pump suction pressure will be performed. Inspection and analyses to determine NPSH available to each pump will be performed based on test data and as-built data.	8.b A report exists and concludes that as-built calculated NPSH available exceeds each diesel fuel oil transfer pump's NPSH required.
9. Each EDG has fuel storage capacity to provide fuel to its EDG for a period of seven days with the EDG supplying the power requirements for the most limiting design basis event.	9.a Analyses will be performed to determine fuel oil storage capacities and EDG fuel consumption.	9.a A report exists and concludes that each fuel oil storage capacity is sufficient to operate the EDG for seven days with the EDG supplying power during the most limiting design basis event.
	9.b Inspection will be performed to verify that each as-built fuel oil storage tank's capacity bounds the analysis.	9.b ~~The each~~Each as-built fuel oil storage tank's capacity bounds the analysis.

Table 2.6.2-3 (5 of 8)

Design Commitment	Inspections, Tests, Analyses	Acceptance Criteria
10. Each day tank provides fuel oil for at least 60 minutes plus a minimum additional margin of 10 percent at EDG rated load.	10.a Analyses will be performed to determine day tank capacities and EDG fuel consumption.	10.a A report exists and concludes that each day tank's capacity is sufficient to provide fuel oil for at least 60 minutes plus a minimum additional margin of 10 percent at EDG rated load.
	10.b Inspection will be performed to verify that each as-built day tank capacity bounds the analyses ~~analysis.~~	10.b ~~The each~~ Each as-built day tank's capacity bounds the analyses ~~analysis~~.
11. One transfer pump in each train is designed to automatically supply diesel fuel oil from the storage tank to the day tank prior to actuation of low level alarm and stops automatically on a fuel oil day tank high-level signal.	11. Tests will be performed on the as-built fuel oil transfer pump in each train by providing a test signal of a simulated fuel oil day tank level in only one train at a time.	11. The as-built transfer pump in each train starts automatically to supply diesel fuel oil from the storage tank to the day tank prior to actuation of low level alarm and stops automatically on a fuel oil day tank high-level signal.
12. Each lube oil makeup tank provides lube oil to its respective EDG for seven continuous days of EDG full power rated operation.	12.a Analyses will be performed to determine lube oil makeup tank capacities and EDG lube oil consumption.	12.a A report exists and concludes that each lube oil makeup tank provides lube oil to its respective EDG for seven continuous days of EDG full power rated operation.
	12.b Inspection will be performed to verify that each as-built lube oil makeup tank capacity bounds the analysis.	12.b ~~The e~~Each as-built lube oil makeup tank's capacity bounds the analysis.
13. The starting air system receiver tanks of each EDG have a combined air capacity for five starts of the EDG without replenishing air to the receiver tanks.	13. Tests will be performed with the EDGs and their air start systems.	13. Each EDG is started five times without replenishing air to the receiver tanks.
14. The air intakes for EDG combustion are separated from the EDG exhaust ducts.	14. Inspection and analysis of the as-built EDG air intakes and air exhaust will be performed.	14. The air intake and air exhaust for each EDG are separated. The air intakes and exhausts of the four EDGs are separated by the location of the EDGs on opposite sides of the nuclear island structures.

Table 2.6.2-3 (6 of 8)

Design Commitment	Inspections, Tests, Analyses	Acceptance Criteria
15. A loss of power to a Class 1E medium voltage safety bus automatically starts its respective EDG and load sheds the Class 1E bus within the affected train. Following attainment of required voltage and frequency, the EDG automatically connects to its respective train bus. After the EDG connects to its respective bus, the non-accident loads are automatically sequenced onto the bus.	15. Test for the actuation and connection of each EDG will be performed using a signal that simulates a loss of power.	15. The as-built EDGs automatically start on receiving a LOOP signal, attain the rated voltage and frequency within 17 seconds, automatically connect to their respective train bus, and sequence their non-accident loads onto their train bus.
16. The Class 1E auxiliary power for EDG support systems is supplied from the same train, respectively.	16.a Inspection of each as-built Class 1E EDG support system will be performed.	16.a A report exists and concludes that auxiliary power for each as-built Class 1E EDG support system is provided by the same train of the Class 1E power system.
	16.b Test of each as-built Class 1E EDG support system will be performed to verify that auxiliary power is provided by the same train of the Class 1E power system.	16.b A test report exists and concludes that the auxiliary power for each as-built Class 1E EDG support system is provided by the same train of the Class 1E power system.
17. For a loss of power to a Class 1E medium voltage safety bus concurrent with a design basis event condition (SIAS/CSAS/ AFAS), each EDG automatically starts and load shedding of the Class 1E bus within the affected train occurs. Following attainment of required voltage and frequency, the EDG automatically connects to its respective bus and the accident loads are sequenced onto the bus.	17. Test of the as-built EDG systems will be performed by providing simulated SIAS/CSAS/AFAS and loss of power signals.	17. When SIAS/CSAS/AFAS and loss of power signals exist, the EDG automatically starts and load shedding of the Class 1E bus within the affected train occurs. Following attainment of required voltage and frequency within 17 seconds, the EDG automatically connects to its train bus. The SI, CS, and AF loads are sequenced to the buses by load sequencer.

Table 2.6.2-3 (7 of 8)

Design Commitment	Inspections, Tests, Analyses	Acceptance Criteria
18. When running in a test mode, an EDG is capable of responding to an automatic start signal.	18. Tests will be performed with each EDG in a test mode configuration. An automatic start signal will be simulated.	18. When running in a test mode, each EDG resets to its automatic control mode upon receipt of a simulated automatic start signal.
19. Each Class 1E EDG is designed and sized to supply power to its train's safety-related loads after a LOOP or a LOOP concurrent with LOCA conditions.	19.a Analyses will be performed to verify that each Class 1E EDG is capable of supplying power to its train safety-related loads after a LOOP or a LOOP concurrent with LOCA conditions.	19.a A report exists and concludes that each Class 1E EDG is designed and sized to supply power to its train's safety-related loads after a LOOP or a LOOP concurrent with LOCA conditions.
	19.b Inspections will be performed to verify that the rating of each as-built Class 1E EDG is in accordance with the size requirements of the analysis.	19.b The rating of each Class 1E EDG bounds the size requirements of the analysis.
	19.c Test will be performed to verify that the Class 1E EDG is capable of supplying rated power at proper voltage and frequency.	19.c A report exists and concludes that each Class 1E EDG is capable of supplying rated power at proper voltage and frequency.
20. When the Class 1E EDG is started by an ESF actuation signal, all Class 1E EDG protection systems, except for overspeed and generator differential current, are automatically bypassed.	20. Tests will be performed to verify the as-built Class 1E EDG protection systems.	20. A report exists and concludes that the as-built Class 1E EDG protection systems, except for overspeed and generator differential current, are automatically bypassed when the Class 1E EDG is started by an ESF actuation signal.

Table 2.6.2-3 (8 of 8)

Design Commitment	Inspections, Tests, Analyses	Acceptance Criteria
22. The heat exchangers of the EDG cooling water system have the capacity to transfer heat from the diesel engine to the component cooling water system for maintaining the temperature of the diesel engine within an optimum operating range.	22. Analysis will be performed to demonstrate the capability of the heat exchangers of the EDG cooling water system to transfer heat from the diesel engine to the component cooling water system for maintaining the temperature of the diesel engine within an optimum operating range.	22. A report exists and concludes that the heat exchangers of the EDG cooling water system have the capacity to transfer heat from the diesel engine to the component cooling water system for maintaining the temperature of the diesel engine within an optimum operating range.
23. Each combustion air intake and exhaust system of the EDG is capable of supplying combustion air to the EDG and disposing of EDG exhaust gases during operation at 110% of nameplate rating.	23. A test of each as-built EDG at 110% of nameplate rating will be performed.	23. Each combustion air intake and exhaust system of the EDG is capable of supplying combustion air to the EDG and disposing of EDG exhaust gases during operation at 110% of nameplate rating.
24. The EDG system ~~safetyrelated~~ <u>safety-related</u> pumps are functionally designed and qualified to perform their safety-related function under the full range of fluid flow, differential pressure, electrical ~~conditions,~~ and temperature conditions up to and including design basis accident conditions.	24. A type test or a combination of type test and analysis will be performed of the EDG system ~~safetyrelated~~ <u>safety-related</u> pumps.	24. A Functional Qualification Report performed in conformance to ASME QME-1, as accepted in Regulatory Guide 1.100, exists and concludes that the EDG system safety-related pumps listed in Table 2.6.2-2 are <u>functionally designed and qualified to perform</u> ~~capable of performing~~ their safety-related function under the full range of fluid flow, differential pressure, electrical ~~conditions,~~ and temperature conditions up to and including design basis accident conditions.
25. The EDG system safety-related valves are <u>functionally</u> designed and qualified to perform their safety-related function under the full range of fluid flow, differential pressure, electrical ~~conditions,~~ and temperature conditions up to and including design basis accident conditions.	25.a A type test or a combination of type test and analysis will be performed of the EDG system ~~safetyrelated~~ <u>safety-related</u> valves.	25.a A Functional Qualification Report performed in conformance to ASME QME-1-2007, as accepted in Regulatory Guide 1.100 Revision 3, exists and concludes that the EDG system safety-related valves listed in Table 2.6 2-2 are <u>functionally designed and qualified to perform</u> ~~capable of performing~~ their safety-related function under the full range of fluid flow, differential pressure, electrical ~~conditions~~, and temperature conditions up to and including design basis accident conditions.
	25.b A diagnostic stroke test <u>and analysis</u> will be performed of the EDG system ~~safety related~~ <u>safety-related</u> valves under preoperational temperature, differential pressure, and flow conditions.	25.b Each EDG system safety-related valve listed in Table 2.6.2-2 strokes fully open and fully closed by remote operation (or manual operation if a manually operated valve) under preoperational temperature, differential pressure, and flow conditions<u>.</u> ~~with~~<u>Analysis based on</u> sufficient diagnostic data <u>demonstrates that the valves will perform at their</u> ~~to correlate valve performance to its~~ design basis capability as established by the type test performed in accordance with 25.a.

	25.c Tests of the as-built check valves will be performed under preoperational test pressure, temperature, and fluid flow conditions.	25.c Each as-built check valve changes position as indicated in Table 2.6.2-2 under preoperational test conditions.

Table 2.6.3-3 (1 of 5)

DC Power System ITAAC

Design Commitment	Inspections, Tests, Analyses	Acceptance Criteria
1. The functional arrangement of the Class 1E dc power system is as described in the Design Description of Subsection 2.6.3.1 and as shown in Figure 2.6.3-1.	1. Inspection of the as-built Class 1E dc power system will be performed.	1. The as-built Class 1E dc power system conforms with the functional arrangement as described in the Design Description of Subsection 2.6.3.1 and as shown in Figure 2.6.3-1.
2. The seismic Category I equipment identified in Table 2.6.3-1, including the supports and anchorages, can withstand seismic design basis loads without loss of safety function.	2.a Inspections will be performed to verify that the as-built seismic Category I equipment are located in seismic Category I structures.	2.a The as-built seismic Category I equipment identified in Table 2.6.3-1 are located in seismic Category I structures.
	2.b Type tests, analyses, or a combination of type tests and analyses of seismic Category I equipment will be performed.	2.b A report exists and concludes that the seismic Category I equipment identified in Table 2.6.3-1 can withstand seismic design basis loads without loss of safety function.
	2.c Inspections will be performed to verify that the as-built seismic Category I equipment, including the supports and anchorages, -are seismically bounded by the tested or analyzed conditions.	2.c A report exists and concludes that the as-built seismic Category I equipment identified in Table 2.6.3-1, including the supports and anchorages, are seismically bounded by the tested or analyzed conditions.
3. The raceway systems for Class 1E dc power system cables are designed to meet seismic Category I requirements.	3. Inspections and analyses will be performed to verify that the as-built raceway systems for Class 1E dc power system cables are supported by a seismic Category I designed support system.	3. A report exists and concludes that the as-built raceway systems for Class 1E dc power system cables are supported by a seismic Category I designed support system.
4. Class 1E dc power system cables are routed in seismic Category I structures and in their respective raceways.	4.a Inspection of the as-built Class 1E dc power system cables and raceways will be performed.	4.a A report exists and concludes that the as-built Class 1E dc power system cables are routed in seismic Category I structures and in their respective raceways.

Table 2.6.3-3 (2 of 5)

Design Commitment	Inspections, Tests, Analyses	Acceptance Criteria
4. (cont.)	4.b Analysis of the as-built raceway systems for Class 1E dc power system cables will be performed using analytical assumptions which bound the seismic design basis requirements.	4.b A report exists and concludes that the as-built raceway systems for Class 1E dc power system cables meet seismic Category I requirements.
	4.c Inspections will be performed to verify that the as-built raceway systems for Class 1E dc power system cables are seismically bounded by the analyzed conditions.	4.c A report exists and concludes that the as-built raceway systems for Class 1E dc power system cables are seismically bounded by the analyzed conditions.
5. The Class 1E dc power system operating voltage is within the terminal voltage range of the Class 1E equipment.	5. Analyses will be performed of the Class 1E dc power system operating voltage.	5. A report exists and concludes that the Class 1E dc power system operating voltage is within the terminal voltage range of the Class 1E equipment.
6. Each Class 1E battery is sized to supply its Design Basic Event (DBE) loads, at the end-of-installed-life, for pertinent required hours without recharging.	6.a. Analysis of each as-built Class 1E battery will be performed to verify that the Class 1E battery has the capacity to carry its DBE duty cycle.	6.a. A report exists and concludes that the capacity of each as-built Class 1E battery meets the analyzed battery design duty cycle capacity.
	6.b A capacity test of each as-built Class 1E battery will be performed.	6.b The capacity of each as-built Class 1E battery is greater than or equal to the analyzed battery design duty cycle capacity determined in 6.a.
7. Each Class 1E battery charger is sized to supply its respective Class 1E steady-state loads while charging its respective Class 1E battery.	7.a. Analysis of each Class 1E battery charger will be performed to verify that it has the capacity to supply its respective Class 1E normal steady-state loads while charging its respective Class 1E battery	7.a. A report exists and concludes that the capacity of each Class 1E battery charger meets its respective Class 1E normal steady-state loads while charging its respective Class 1E battery.
	7.b A test of each as-built Class 1E battery charger will be performed.	7.b Each as-built Class 1E battery charger supplies greater than or equal to the analyzed load determined in 7.a.

Table 2.6.3-3 (3 of 5)

Design Commitment	Inspections, Tests, Analyses	Acceptance Criteria
8. Class 1E dc power system distribution panels and dc control centers are identified according to their Class 1E trains.	8. Inspection of the as-built Class 1E dc distribution panels and dc control centers will be performed.	8. The as-built Class 1E dc power system distribution panels and dc control centers are identified according to their Class 1E trains.
9. Class 1E dc power system cables are identified according to their Class 1E trains.	9. Inspection of the as-built Class 1E dc power system cables will be performed.	9. The as-built Class 1E dc power system cables are identified according to their Class 1E trains.
10.a Independence is provided between each of the four trains of Class 1E dc distribution equipment and circuits.	10.a Tests will be performed on the as-built Class 1E dc distribution equipment and circuits by providing a test signal in only one train at a time.	10.a The test signal is present in the as-built Class 1E train under test.
10.b Independence is provided between Class 1E dc distribution equipment and circuits and non-Class 1E dc distribution equipment and circuits.	10.b Tests will be performed on the as-built Class 1E and non-Class 1E dc distribution equipment and circuits by providing a test signal in only one train for Class 1E or one division for non-Class 1E at a time.	10.b The test signal is present in the as-built Class 1E train or non-Class 1E division under test.
10.c Class 1E qualified isolation devices provide independence between Class 1E dc distribution equipment and non-Class 1E dc loads.	10.c.i Type tests, analyses, or a combination of type tests and analyses will be performed to verify the qualification of isolation devices.	10.c.i A report exists and concludes that the Class 1E dc distribution equipment is isolated from as-built non- Class 1E dc loads by Class 1E qualified isolation devices in accordance with NRC RG 1.75.
	10.c.ii Inspection of the as-built Class 1E dc distribution equipment will be performed.	10.c.ii Class 1E qualified isolation devices are provided between the as-built Class 1E dc distribution equipment and non-Class 1E dc loads.
11.a ~~All d~~Displays and alarms ~~required by the design~~ exist and are retrievable in the MCR as defined in Table 2.6.3-2.	11.a Inspections ~~will be performed on the~~ of the as-built displays and alarms in the MCR will be performed.	11.a ~~All d~~Displays and alarms exist and ~~can be~~ are retrieved in the MCR as defined in Table 2.6.3-2.
11.b ~~All d~~Displays and alarms ~~required by the design~~ exist and are retrievable in the RSR as defined in Table 2.6.3-2.	11.b Inspections ~~will be performed on the~~ of the as-built displays and alarms in the RSR will be performed.	11.b ~~All d~~Displays and alarms exist and ~~can be~~ are retrieved in the RSR as defined in Table 2.6.3-2.

Table 2.6.3-3 (4 of 5)

Design Commitment	Inspections, Tests, Analyses	Acceptance Criteria
12. Each of the four Class 1E dc power trains has a main circuit protection device which has selective coordination with downstream protective devices.	12.a Analyses will be performed to verify the main circuit protection devices have selective coordination with the downstream protective devices.	12.a A report exists and concludes that each of the four Class 1E dc power trains has a main circuit protection device which has selective coordination with the downstream protective devices.
	12.b Inspection of the as-built main circuit protection devices in the as-built dc control centers will be performed.	12.b The as-built main circuit protection device in each of the four Class 1E dc power trains is the same as that used in the coordination analysis.
13. The Class 1E batteries of each train are located in a separate room.	13. Inspection of the as-built Class 1E batteries will be performed.	13. The as-built Class 1E batteries of each train are located in a separate room.
14. The Class 1E dc distribution panel, dc control center and battery chargers of each train are located in a separate room.	14. Inspection of the as-built Class 1E dc distribution panel, dc control center and battery chargers will be performed.	14. The as-built Class 1E dc distribution panel, dc control center and battery chargers of each train are located in a separate room.
15. The Class 1E dc power system cables are sized to carry required load currents and to provide minimum design basis voltage at load terminals, considering derating due to ambient temperature, cable grouping, and other derating effects as applicable.	15.a Analysis will be performed to verify the Class 1E dc power system cables are sized to carry required load currents and to provide minimum design basis voltage at load terminals, considering derating due to ambient, cable grouping, and other derating effects as applicable.	15.a A report exists and concludes that the Class 1E dc power system cables are sized to carry required load currents and to provide minimum design basis voltage at load terminals, considering derating due to ambient temperature, cable grouping, and other derating effects as applicable.
	15.b Inspection will be performed to verify the size of the as-built Class 1E dc power system cables installed bound the minimum size required by the analysis.	15.b The as-built Class 1E dc power system cables are sized to bound the minimum sizes determined by the analysis.

Table 2.6.3-3 (5 of 5)

Design Commitment	Inspections, Tests, Analyses	Acceptance Criteria
16. The Class 1E protective devices (circuit breakers/fuses) in the dc power system are rated to supply their required loads and withstand fault currents for the time required to clear the fault from the power source.	16.a Analysis will be performed to verify the Class 1E protective devices (circuit breakers/fuses) in the dc power system are rated to supply their required loads and withstand fault currents for the time required to clear the fault from the power source.	16.a A report exists and concludes that the Class 1E protective devices (circuit breakers/fuses) in the dc power system are rated to supply their required loads and withstand fault currents for the time required to clear the fault from the power source.
	16.b Inspection will be performed to verify that the ratings of the as-built Class 1E protective devices (circuit breakers/fuses) in the dc power system bound the size requirements of the analysis.	16.b The ratings of the as-built Class 1E protective devices (circuit breakers/fuses) in the dc power system bound the size requirements of the analysis.

Table 2.6.4-3 (1 of 3)

Instrument and Control Power System ITAAC

Design Commitment	Inspections, Tests, Analyses	Acceptance Criteria
1. The functional arrangement of the I&C power system is as described in the Design Description of Subsection 2.6.4.1 and as shown in Figure 2.6.4-1.	1. Inspection of the as-built I&C power system will be performed.	1. The as-built I&C power system conforms with the functional arrangement as described in the Design Description of Subsection 2.6.4.1 and as shown in Figure 2.6.4-1.
2. The seismic Category I equipment identified in Table 2.6.4-1, including the supports and anchorages, can withstand seismic design basis loads without loss of safety function.	2.a Inspections will be performed to verify that the as-built seismic Category I equipment are located in the seismic Category I structure.	2.a The as-built seismic Category I equipment identified in Table 2.6.4-1 are located in the seismic Category I structure.
	2.b Type tests, analyses, or a combination of type tests and analyses of seismic Category I equipment will be performed.	2.b A report exists and concludes that the as-built seismic Category I equipment identified in Table 2.6.4-1 can withstand seismic design basis loads without loss of safety function.
	2.c Inspections will be performed to verify that the as-built seismic Category I equipment, including the supports and anchorages, are seismically bounded by the tested or analyzed conditions.	2.c A report exists and concludes that the as-built seismic Category I equipment identified in Table 2.6.4-1, including the supports and anchorages, are seismically bounded by the tested or analyzed conditions.
3.a ~~All d~~Displays and alarms ~~required by the design~~ exist and are retrievable in the MCR as defined in Table 2.6.4-2.	3.a Inspections ~~will be performed on the~~ of the as-built displays and alarms in the MCR will be performed.	3.a ~~All d~~Displays and alarms exist and ~~can be~~ are retrieved in the MCR as defined in Table 2.6.4-2.
3.b ~~All d~~Displays and alarms ~~required by the design~~ exist and are retrievable in the RSR as defined in Table 2.6.4-2.	3.b Inspections ~~will be performed on the~~ of the as-built displays and alarms in the RSR will be performed.	3.b ~~All d~~Displays and alarms exist and ~~can be~~ are retrieved in the RSR as defined in Table 2.6.4-2.

Table 2.6.4-3 (2 of 3)

Design Commitment	Inspections, Tests, Analyses	Acceptance Criteria
4. When dc input power to the Class 1E inverter power supply unit is lost, input to the Class 1E inverter power supply unit is provided by the regulating transformer without interruption of power supply to the loads.	4. Tests will be performed to verify that when dc input power to the as-built Class 1E inverter power supply unit is lost, input to the Class 1E inverter power supply unit is provided by the Class 1E regulating transformer without interruption of power supply to the loads.	4. When dc input power to the as-built Class 1E inverter power supply unit is lost, input to the Class 1E inverter power supply unit automatically transfers to regulating transformer without interruption of power supply to the loads.
5. Class 1E I&C power system equipment identified in Table 2.6.4-1 is located in their respective areas.	5. Inspection of the as-built Class 1E I&C power system equipment will be performed.	5. The as-built Class 1E I&C power system equipment identified in Table 2.6.4-1 is located in their respective areas.
6. Independence Physical separation and electrical isolation is provided between the Class 1E trainsamong the four trains of Class 1E I&C power system equipment and circuits.	6.a Tests will be performed on the as-built Class 1E I&C power supply equipment and circuits by providing a test signal in only one Class 1E train at a time.	6.a The test signal exists in the as-built Class 1E train under test.
	6.b Inspection of the as-built Class 1E train in the Class 1E I&C power system will be performed.	6.b Physical separation and electrical isolation exists in accordance with NRC RG 1.75 between the Class 1E trains.
7. Independence Physical separation and electrical isolation is provided between Class 1E I&C power system equipment and circuits and non-Class 1E I&C power system equipment and circuits.	7.a Tests will be performed on the as-built Class 1E & non-Class 1E I&C power system equipment and circuits by providing a test signal in only one train for Class 1E or one division for non-Class 1E at a time.	7.a The test signal exists in the as-built Class 1E train or non-Class 1E division under test.
	7b. Inspection of the as-built Class 1E I&C power system train will be performed	7b. Physical separation and electrical isolation exists in accordance with NRC RG 1.75 between the as-built Class 1E I&C power system train and -non-Class 1E divisions.

Table 2.6.4-3 (3 of 3)

Design Commitment	Inspections, Tests, Analyses	Acceptance Criteria
8. Class 1E I&C power system equipment and circuits of redundant train are uniquely identified by their train color and character.	8. Inspection of the as-built Class 1E I&C power system equipment and circuits of redundant train will be performed.	8. The as-built Class 1E I&C power system equipment and circuits of redundant train are uniquely identified by their train color and character.
9. Class 1E I&C power system cables are routed in seismic Category I structures and in their respective raceways.	9. Inspection and analyses of the as-built Class 1E I&C power system cables and raceways will be performed.	9. The as-built Class 1E train cables are routed in seismic Category I structures and in their respective raceways.
10. Class 1E I&C power system equipment and circuits are rated to withstand fault currents for the time required to clear the fault from its power source.	10. Analysis for the as-built Class 1E I&C power system equipment and circuits to determine fault currents will be performed.	10. A report exists and concludes that the as-built Class 1E I&C power system equipment and circuits can withstand the analyzed fault currents for the time required.
11. The rating of the Class 1E I&C power system circuit breakers and fuses are designed to interrupt the fault currents.	11.a Analyses will be performed to verify the Class 1E I&C power system breakers and fuses are designed to interrupt the fault currents.	11.a A report exists and concludes that the rating of the Class 1E I&C power system breakers and fuses are designed to interrupt the fault currents.
	11.b Inspections will be performed to verify that the interrupting ratings of as-built Class 1E I&C power system breakers and fuses bound the requirements of the analysis.	11.b The as-built Class 1E I&C power system breakers and fuses have interrupting ratings that bound the requirements of the analysis.

Table 2.6.5-1 (1 of 2)

Containment Electrical Penetration Assemblies ITAAC

Design Commitment	Inspections, Tests, Analyses	Acceptance Criteria
1. The electric power, control, and instrumentation cables pass through the wall of reactor containment building (RCB) via the EPAs.	1. Inspection of the as-built electric power, control and instrumentation cables that pass through the as-built wall of reactor containment building (RCB) will be performed.	1. A report exists and concludes that the as-built electric power, control, and instrumentation cables pass through the as-built wall of reactor containment building (RCB) via the as-built EPAs.
2. Each EPA, including the supports and anchorages, can withstand the seismic design basis loads without loss of safety function.	2.a Inspections will be performed to verify that each as-built EPA is located in a seismic Category I structure.	2.a A report exists and concludes that each as-built EPA is located in a seismic Category I structure.
	2.b Type tests, analyses, or a combination of type tests and analyses of each EPA will be performed using analytical assumptions, or will be performed under conditions which bound the seismic design basis requirements.	2.b A report exists and concludes that each EPA can withstand seismic design basis loads without loss of safety function.
	2.c Inspections will be performed to verify that each as-built EPA, including the supports and anchorages, is seismically bounded by the tested or analyzed conditions.	2.c A report exists and concludes that each as-built EPA, including the supports and anchorages, is seismically bounded by the tested or analyzed conditions.
3. Each EPA as being qualified for a harsh environment can withstand the environmental conditions that would exist before, during, and following a design basis accident without loss of safety function for the time required to perform the safety function.	3.a Type tests, ~~analyses,~~ or a combination of type tests and analyses will be performed on each EPA located in a harsh environment.	3.a A report exists and concludes that each EPA as being qualified for a harsh environment can withstand the environmental conditions that would exist before, during, and following a design basis accident without loss of safety function for the time required to perform the safety function.

	3.b Inspections will be performed on each as-built EPA located in a harsh environment.	3.b A report exists and concludes that each as-built EPA as being qualified for a harsh environment is bounded by type tests or a combination of type tests and analyses the tested or analyzed conditions.

Table 2.6.5-1 (2 of 2)

Design Commitment	Inspections, Tests, Analyses	Acceptance Criteria
4. ~~Independence~~Physical separation is provided between trains of EPAs and between EPAs containing Class 1E cables and EPAs containing non-Class 1E cables.	4. Inspection of the as-built EPAs will be performed.	4. Physical separation exists in accordance with NRC RG 1.75 between as-built trains of EPA and between EPAs containing Class 1E cables and EPAs containing non-Class 1E cables.
5. The primary and secondary protection devices for each EPA are designed and sized to protect EPA from overload and fault current.	5.a Analyses will be performed to verify that the primary and secondary protection devices are sized to protect EPA from overload and fault current.	5.a A report exists and concludes that the as-built primary and secondary protection devices are designed and sized to protect EPA from overload and fault current.
	5.b Inspection of the rating of the primary and secondary protection devices will be performed.	5.b A report exists and concludes that the as-built primary and secondary protection for each EPA meets the protective device selection and setting requirements of the analysis.
6. Separate penetrations are provided for medium voltage and low voltage power, control, and instrumentation circuits.	6. Inspection of the as-built penetrations for the medium voltage and low voltage power, control, and instrumentation circuits will be performed.	6. Each as-built penetration contains only medium voltage or low voltage power or only control or instrumentation circuits.

Table 2.6.6-1 (1 of 3)

Alternate AC Source ITAAC

Design Commitment	Inspections, Tests, Analyses	Acceptance Criteria
1. The functional arrangement of the AAC source is as described in the Design Description of Subsection 2.6.6.1.	1. Inspection of the as-built AAC source will be performed.	1. The as-built AAC source conforms with the functional arrangement described in the Design Description of Subsection 2.6.6.1.
2. The AAC source is sized with sufficient capacity to accommodate SBO or LOOP conditions.	2.a Analyses will be performed to verify that the AAC source is capable of supplying power for SBO or LOOP conditions.	2.a A report exists and concludes that the calculated size of the AAC source gives it the sufficient capacity to accommodate SBO or LOOP loads.
	2.b Inspections will be performed to verify that the rating of the as-built AAC source is of sufficient capacity to accommodate SBO or LOOP loads. ~~consistent with the analysis.~~	2.b The rating of the as-built AAC source is of sufficient capacity to accommodate SBO or LOOP loads ~~consistent with the analysis~~.
	2.c Tests will be performed to verify that the AAC source is capable of supplying rated power at proper voltage and frequency.	2.c A report exists and concludes that the AAC source is capable of supplying rated power at proper voltage and frequency.
3. The AAC source is connected to the Class 1E train A or train B bus through two in series (one Class 1E circuit breaker at the Class 1E bus and the other non-Class 1E circuit breaker at the non-Class 1E AAC bus) circuit breakers during SBO condition.	3. Inspection of the connection between as-built Class 1E train bus and as-built AAC source will be performed.	3. The as-built AAC source is connected to the Class 1E train A or train B bus through two in series (one Class 1E circuit breaker at the Class 1E bus and the other non-Class 1E circuit breaker at the non-Class 1E AAC bus) circuit breakers.
4. The AAC source is started, brought up to the required voltage and frequency, and connected manually to the Class 1E train A or train B bus within 10 minutes of the onset of an SBO.	4.a Tests will be performed to verify that the as-built AAC source is started, brought up to the required voltage and frequency, and connected manually to the as-built Class 1E train bus within 10 minutes of the onset of a simulated SBO event.	4.a The as-built AAC source is started, brought up to the required voltage and frequency, and connected manually to the Class 1E train A or train B bus within 10 minutes of the onset of a simulated SBO event.

Table 2.6.6-1 (2 of 3)

Design Commitment	Inspections, Tests, Analyses	Acceptance Criteria
4. (cont.)	4.b Tests will be performed to verify that the as-built AAC source is manually aligned to the as-built Class 1E train A or train B bus within 10 minutes of the onset of a simulated SBO event during a LOOP condition.	4.b The as-built AAC source is manually aligned to the as-built Class 1E train A or train B bus within 10 minutes of the onset of a simulated SBO event during a LOOP condition.
5. The AAC source is installed in the separate building.	5. Inspection of the location of the as-built AAC source will be performed.	5. The as-built AAC source is located in the dedicated building which is separated from the EDGs.
6. The GTG has sufficient fuel oil storage capacity to supply power to the required SBO loads for 24 hours.	6.a Analyses will be performed to ~~determined~~ determine the required GTG fuel oil storage tank capacity needed to supply power to the required SBO loads for 24 hours.	6.a A report exists and concludes the required GTG fuel oil storage tank capacity needed to supply power to the required SBO loads for 24 hours.
	6.b Inspection of the GTG fuel oil storage tank will be performed to verify that the capacity bounds the analysis.	6.b The as-built GTG fuel oil storage tank capacity bounds the analysis.
7. The GTG fuel oil system is non safety-related and independent from that of the Class 1E EDGs.	7. Inspections will be performed of the as-built GTG fuel oil system.	7. The as-built GTG fuel oil system is independent and separated from that of the EDG.
8.a Each fuel oil transfer pump is capable of transferring oil from the fuel oil storage tank to its corresponding day tank at sufficient pressure and flow to cover the maximum demand at GTG continuous rated load while simultaneously increasing day tank level.	8.a.i Analysis of each fuel oil transfer pump will be performed to determine the required flow rate to support the maximum demand of the GTG at continuous rated load while simultaneously increasing day tank level.	8.a.i A report exists and concludes that each as-built fuel oil transfer pump is sized to transfer fuel oil from the fuel oil storage tank to its corresponding day tank, at a flow rate to support the maximum demand of the GTG at continuous rated load while simultaneously increasing day tank level.
	8.a.ii Test of each fuel oil transfer pump will be performed to verify that the fuel oil transfer pump flow rate bounds the analysis.	8.a.ii A report exists and concludes that each as-built GTG fuel oil transfer pump flow rate bounds the analysis.

Table 2.6.6-1 (3 of 3)

Design Commitment	Inspections, Tests, Analyses	Acceptance Criteria
8.b The fuel oil transfer pumps have sufficient net positive suction head (NPSH).	8.b Test to measure the as-built fuel oil transfer pump suction pressure will be performed. Inspection and analyses to determine NPSH available to each pump will be performed based on test data and as-built data.	8.b A report exists and concludes that the as-built calculated NPSH available exceeds each fuel oil transfer pump's NPSH required.
9. One fuel oil transfer pump is designed to automatically supply fuel oil from the storage tank to the day tank prior to actuation of low level alarm and stops automatically on a fuel oil day tank high-level signal.	9. Tests will be performed on the as-built fuel oil transfer pump by providing a test signal of a simulated fuel oil day tank level.	9. The as-built fuel oil transfer pump starts automatically to supply fuel oil from the storage tank to the day tank prior to actuation of low level alarm and stops automatically on a fuel oil day tank high-level signal.
10. The air intakes for the GTG combustion are separated from the GTG exhaust ducts.	10. Inspection and analysis of the as-built GTG air intakes and air exhaust will be performed.	10. The air intake and air exhaust are separated by analyzed distance and orientation.
11. ~~All controls required by the design~~ Controls exist in the MCR and RSR to start and stop the AAC GTG and to synchronize the AAC GTG to its respective Class 1E bus.	11. Tests will be performed using the AAC GTG controls in the MCR and RSR to start and stop the AAC GTG and to synchronize the AAC GTG to its respective Class 1E bus.	11. ~~All c~~Controls in the as-built MCR and RSR room start and stop the AAC GTG and ~~to~~ synchronize the AAC GTG to its respective Class 1E bus
12. Each day tank provides fuel oil for at least 60 minutes plus a minimum additional margin of 10 percent at GTG rated load.	12.a Analyses will be performed to determine ~~determin~~ day tank capacities and GTG fuel consumption.	12.a A report ~~exist~~ exists and concludes that each day tank's capacity is sufficient to provide fuel oil for at least 60 minutes plus a minimum additional margin of 10 percent at GTG rated load.
	12.b Inspections will be performed to verify that each as-built day tank capacity bounds the analysis.	12.b Each as-built day tank's capacity bounds the analysis.

Table 2.6.7-1 (1 of 2)

Grounding and Lightning Protection System ITAAC

Design Commitment	Inspections, Tests, Analyses	Acceptance Criteria
1. The functional arrangement of the grounding and lightning protection system is as described in the Design Description of Subsection 2.6.7.1.	1. Inspection of the as-built grounding and lightning protection system will be performed.	1. The as-built grounding and lightning protection system conforms with the functional arrangement as described in the Design Description of Subsection 2.6.7.1.
2. Lightning protection systems are provided for buildings, structures and transformers located outside of the buildings. Surge arrestors are provided for main transformers, and auxiliary transformers.	2. Inspection of the as-built lightning protection systems will be performed.	2. Lightning protection systems are provided for buildings, structures, and transformers located outside the buildings. Surge arrestors are provided for main transformers and auxiliary transformers.
3. Neutral grounding is installed at the ground bus of main generator, main transformer, unit auxiliary transformers, standby auxiliary transformers, load center transformers, low voltage dry-type distribution transformers, EDGs, and AAC GTG.	3. Inspection of the as-built neutral grounding system will be performed.	3. Neutral grounding is installed at the ground bus of the main generator, main transformer, unit auxiliary transformer, standby auxiliary transformer, and load center.
4. Equipment grounding is installed at all metal structures such as buildings, tanks, transformers, transmission structures, equipment enclosure including grounding busbar, and raceway.	4. Inspection of the as-built equipment grounding system will be performed.	4. Equipment grounding is installed at all metal structures such as buildings, tanks, transformers, transmission structures, equipment enclosure including grounding busbar, and raceway.
5. The instrumentation grounding system is a separate radial ground system that consists of instrumentation ground bus and insulated cables.	5. Inspection of the as-built instrumentation grounding system will be performed.	5. The instrumentation grounding system is a separate radial ground system that consists of instrumentation ground bus and insulated cables.

Table 2.6.7-1 (2 of 2)

Design Commitment	Inspections, Tests, Analyses	Acceptance Criteria
6. The plant ground grid consists of buried, interconnected bare copper conductors and ground rods forming a plant ground grid that is designed to limit personnel step and touch voltages to an acceptable level during a ground fault.	6.a Analyses will be performed to design a plant ground grid that limits personnel step and touch voltages to an acceptable level as determined by IEEE Std. 80.	6.a A report and drawings exist and conclude ~~confirm~~ that the plant ground grid design limits personnel step and touch voltages to an acceptable level as determined by IEEE Std. 80.
	6.b Inspection of the as-built plant ground grid will be performed to verify that the plant ground grid conforms to the analysis.	6.b The as-built plant ground grid design conforms to the analysis.

Table 2.6.8-1

Lighting Systems ITAAC

Design Commitment	Inspections, Tests, Analyses	Acceptance Criteria
1. The functional arrangement of the lighting system is as described in the Design Description of Subsection 2.6.8.1.	1. Inspection of the as-built lighting system will be performed.	1. The as-built lighting system conforms with the functional arrangement as described in the Design Description of Subsection 2.6.8.1.
2. The normal lighting system provides normal levels of illumination throughout the plant and is powered from the non-Class 1E ac buses.	2. Inspection of the as-built normal lighting system will be performed.	2. The normal lighting system provides normal levels of illumination throughout the plant and is powered from the non-Class 1E ac buses.
3. The emergency ac lighting system is powered from the Class 1E ac buses backed-up by the Class 1E emergency diesel generators.	3. Inspection of the as-built emergency ac lighting will be performed.	3. The emergency ac lighting system is powered from the Class 1E ac buses backed-up by the Class 1E emergency diesel generators.
4.a There are two configurations for lighting fixture used within the emergency dc lighting system, lighting fixtures powered from non-Class 1E station battery and self-contained battery pack unit lighting fixtures.	4.a Inspection of the as-built emergency dc lighting will be performed.	4.a There are two configurations for lighting fixture used within the emergency dc lighting system, lighting fixtures powered from the non-Class 1E station battery and self-contained battery pack unit lighting fixtures.
4.b The emergency dc lighting fixtures equipped with self-contained rechargeable battery pack are powered from Class 1E or non-Class 1E ac in accordance with area designation. The emergency illumination level is not less than an average of 1 foot-candle and at least 0.1 foot-candle at the floor level for 8 hours for access and egress route.	4.b.i Inspection of the as-built emergency dc lighting will be performed.	4.b.i The as-built emergency dc lighting fixture equipped with self-contained rechargeable battery pack are powered from Class 1E or non-Class 1E ac in accordance with area designation.
	4.b.ii Test of the emergency dc self-contained battery pack lighting units will be performed.	4.b.ii The illumination level is not less than an average of 1 foot-candle and at least 0.1 foot-candle at the floor level for 8 hours for access and egress route.
5. The emergency illumination levels in MCR and RSR are minimum 10 foot-candle for 8 hours.	5. Test of the as-built emergency lighting system in MCR and RSR are will be performed.	5. The as-built emergency illumination levels in MCR and RSR are minimum 10 foot-candle for 8 hours as required by NUREG-0700.

Table 2.6.9-1

Communication Systems ITAAC

Design Commitment	Inspections, Tests, Analyses	Acceptance Criteria
1. Paging phone system provides page and party communications between MCR, RSR, and other areas.	1. Test of the as-built paging phone system between MCR, RSR, and other areas will be performed ~~perfomed~~.	1. The as-built paging phone system provides page and party communications between MCR, RSR, and other areas.
2. Sound powered telephone system provides communications between MCR, TSC, refueling areas, turbine-generator operating deck, RSR, electrical and I&C equipment areas, and other high maintenance active areas.	2. Test of the as-built sound powered telephone system between MCR, TSC, refueling areas, turbine-generator operating deck, RSR, electrical and I&C equipment areas, and other high maintenance active areas will be performed.	2. The as-built sound powered telephone system provides communications between MCR, TSC, refueling areas, turbine-generator operating deck, RSR, electrical and I&C equipment areas, and other high maintenance active areas.
3.a Evacuation alarm address system provides alarm for radiation and fire accidents throughout the plant.	3.a Tests of the as-built evacuation alarm address system throughout the plant will be performed.	3.a The as-built evacuation alarm address system provides alarm for radiation and fire accidents throughout the plant.
3.b Public address system provides broadcasting throughout the plant.	3.b Tests of the as-built public address system throughout the plant will be performed.	3.b The as-built public address system provides broadcasting throughout the plant.
3.c Telephone system provides communication throughout the plant.	3.c Tests of the as-built telephone system throughout the plant will be performed.	3.c The as-built telephone system provides communication throughout the plant.
3.d Plant time synchronizing system provides standard time information throughout the plant.	3.d Tests of the as-built plant time synchronizing system throughout the plant will be performed.	3.d The as-built plant time synchronizing system provides standard time information throughout the plant.
3.e LAN and VPN systems provide network throughout the plant.	3.e Tests of the as-built LAN and VPN systems throughout the plant will be performed.	3.e The as-built LAN and VPN systems provide network throughout the plant.
3 f Wireless communication system provides a stand-alone method of plant-wide communication throughout the plant.	3 f Tests of the as-built wireless communication system throughout the plant will be performed.	3 f The as-built wireless communication system provides a stand-alone method of plant-wide communication throughout the plant.

Table 2.7.1.1-1 (1 of 3)

Turbine Generator ITAAC

Design Commitment	Inspections, Tests, Analyses	Acceptance Criteria
1.a The functional arrangement of the T/G system is as described in the Design Description of Subsection 2.7.1.1.1	1.a Inspection of the as-built T/G system configuration will be conducted.	1.a The as-built T/G conforms with the functional arrangement as described in the Design Description of Subsection 2.7.1.1.1.
1.b The T/G has a favorable orientation to minimize the potential effects of turbine missiles on essential (as defined in Regulatory Guide 1.115, Rev. 2, Appendix A) SSCs.	1.b Inspections of turbine orientation with respect to the essential SSCs will be conducted.	1.b An analysis exists to confirm A report exists and concludes that no essential SSCs (as defined in Regulatory Guide 1.115, Rev. 2, Appendix A) are located inside the low trajectory turbine missile strike zone.
2.a The mechanical overspeed trip system initiates the T/G trip by closing the MSVs, CVs, ISVs, and IVs upon reaching the overspeed setpoint.	2.a A trip test will be conducted on the as-built main turbine system to ensure the T/G trips on reaching an overspeed setpoint.	2.a A report of testing exists documenting and concludes the mechanical overspeed trip system initiates the T/G trip by closing the MSVs, CVs, ISVs, and IVs upon reaching the overspeed setpoint. that the as-built MSVs, CVs, ISVs, and IVs close when the mechanical overspeed trip system reaching a setpoint for overspeed protection initiates the T/G trip.
2.b The electrical overspeed trip system, which is independent of the normal speed control system and mechanical overspeed trip system, initiates a T/G trip by closing the MSVs, CVs, ISVs, and IVs upon reaching the electrical overspeed setpoint. an electrical signal at a speed slightly higher than the speed for the mechanical overspeed trip.	2.b A trip test will be conducted on the as-built main turbine system by an actual or simulated trip signal.	2.b A report of testing exists documenting and concludes the electrical overspeed trip system initiates a T/G trip by closing the MSVs, CVs, ISVs, and IVs upon reaching the electrical overspeed setpoint. that as-built MSVs, CVs, ISVs, and IVs close when the system initiates the T/G trip by an actual or simulated electrical [?] signal that is at a speed....
3. The control system generates the electrical signals in the main control room (MCR) for T/G trip.	3. Tests will be conducted on the as-built T/G system by controls in the MCR.	3. A report of testing exists documenting and concludes that Controls controls in the as-built MCR close the MSVs, CVs, ISVs, and IVs.
4. The MSVs, CVs, ISVs, and IVs close reacting to a T/G trip signal.	4. Tests will be conducted on the as-built MSVs, CVs, ISVs, and IVs by an actual or simulated T/G trip signal.	4. A report of testing exists documenting and concludes that eEach MSV, CV, ISV, and IV closes within about 0.3 second of an actual or simulated trip signal.

Table 2.7.1.1-1 (2 of 3)

Design Commitment	Inspections, Tests, Analyses	Acceptance Criteria
5. The non-return check valves on the extraction lines close reacting to a T/G trip signal.	5. Tests will be conducted on the as-built extraction non-return check valves by an actual or simulated T/G trip signal	5. A report of testing exists documenting and concludes that tThe non- return check valve closes within about 1.0 second of an actual or simulated to T/G trip signal.
6. The reactor trip signal from the plant control system the initiates a T/G trip.	6. A test of the as-built system will be conducted by a simulated reactor trip signal.	6. A report of testing exists documentingand concludes that the as-built control logic generates a T/G trip by a simulated reactor trip signal.
7. The turbine and turbine valve in-service test and inspection program includes scope, frequency, methods, acceptance, disposition of reportable indications, corrective actions, and technical basis for inspection frequency.	7. In-service inspection and testing will be performed at a frequency and in accordance with operating procedures consistent with turbine manufacturer's recommendations and assumptions/input of Probability Analysis of Turbine Missiles Report.	7. The turbine and turbine valve in-service test and inspection program includes scope, frequency, methods, acceptance, disposition of reportable indications, corrective actions, and technical basis for inspection frequency. In-service test, inspection and operating procedures are in accordance with industry practice and ensure assumptions/input of Probability Analysis of Turbine Missiles Report performed by the COL applicant are valid.
8. The probability of a strike by a turbine missile is sufficiently low to prevent equipment damage to essential SSCs.	8. A turbine missile probability analysis will be performed to demonstrate the probability of turbine failure resulting in the ejection of turbine rotor (or internal structure) fragments through the turbine casing is less than the regulatory limiting acceptance criteria.	8. Turbine Missile Probability Analysis Report(s) performed by the COL applicant for the as-built T/G exist and conclude that the probability of turbine failure resulting in the ejection of turbine rotor (or internal structure) fragments through the turbine casing is less than $1x10^{-5}$ per year.

Table 2.7.1.1-1 (3 of 3)

Design Commitment	Inspections, Tests, Analyses	Acceptance Criteria
9. The as-built turbine material properties, turbine rotor and blade designs, pre-service inspection and testing results and in-service testing and inspection requirements meet the requirements defined in the Turbine Missile Probability Analysis performed by the COL applicant.	9. An inspection of the as-built turbine material properties, turbine rotor and blade designs, pre-service inspection and testing results, and in-service testing and inspection requirements will be conducted.	9. A report exists ~~documenting~~ and concludes that the as-built turbine material properties, turbine rotor and blade designs, pre- service inspection and testing results and in-service testing and inspection requirements meet the requirements defined in the Turbine Missile Probability Analysis.

Table 2.7.1.2-4 (1 of 6)

Main Steam System ITAAC

Design Commitment	Inspections, Tests, Analyses	Acceptance Criteria
1. The functional arrangement of the MSS is as described in the Design Description of Subsection 2.7.1.2.1 and in Table 2.7.1.2-1 and as shown in the Figure 2.7.1.2-1.	1. Inspection of the as-built MSS will be conducted.	1. The as-built MSS conforms with the functional arrangement as described in the Design Description of Subsection 2.7.1.2.1 and in Table 2.7.1.2-1 and as shown in Figure 2.7.1.2-1.
2.a The ASME Code components identified in Table 2.7.1.2-2 are designed and constructed in accordance with ASME Section III requirements.	2.a Inspection of the as-built ASME Code components identified in Table 2.7.1.2-2 will be performed and ~~as~~ documented in the ASME data report(s).	2.a The ASME Section III data report(s) exist and conclude that the as-built ASME Code components identified in Table 2.7.1.2-2 are designed and constructed in accordance with ASME Section III requirements.
2.b The ASME Code piping, including supports, identified in Table 2.7.1.2-1 is designed and constructed in accordance with ASME Section III requirements.	2.b Inspection of the as-built ASME Code piping, including supports, identified in Table 2.7.1.2-1 will be performed and ~~as~~ documented in the ASME data report(s).	2.b The ASME Section III data report(s) exist and conclude that the as-built ASME Code piping, including supports, identified in Table 2.7.1.2-1 is designed and constructed in accordance with ASME Section III requirements.
3.a Pressure boundary welds in ASME Code components identified in Table 2.7.1.2-2 meet ASME Section III requirements.	3.a Inspections of the as-built pressure boundary welds in ASME Code components identified in Table 2.7.1.2-2 will be performed in accordance with the ASME Section III.	3.a A report exists and concludes that the ASME Section III requirements are met for non destructive examination of the as-built pressure boundary welds in ASME Code components identified in Table 2.7.1.2-2.
3.b Pressure boundary welds in ASME Code piping identified in Table 2.7.1.2-1 meet ASME Section III requirements.	3.b Inspections of the as-built pressure boundary welds in ASME Code piping identified in Table 2.7.1.2-1 will be performed in accordance with the ASME Section III.	3.b A report exists and concludes that the ASME Section III requirements are met for non-destructive examination of the as-built pressure boundary welds in ASME Code piping identified in Table 2.7.1.2-1.

Table 2.7.1.2-4 (2 of 6)

Design Commitment	Inspections, Tests, Analyses	Acceptance Criteria
4.a The ASME Code components identified in Table 2.7.1.2-2 retain their pressure boundary integrity at their design pressure.	4.a A hydrostatic test will be conducted on the as-built ASME Code components identified in Table 2.7.1.2-2 required to be hydrostatically tested by the ASME Section III.	4.a A report exists and concludes that the results of the hydrostatic test of the as-built ASME Code components identified in Table 2.7.1.2-2 conform with the ASME Section III requirements.
4.b The ASME Code piping identified in Table 2.7.1.2-1 retains its pressure boundary integrity at its design pressure.	4.b A hydrostatic test will be conducted on the as-built ASME Code piping identified in Table 2.7.1.2-1 required to be hydrostatically tested by the ASME Section III.	4.b A report exists and concludes that the results of the hydrostatic test of the as-built ASME Code piping identified in Table 2.7.1.2-1 conform with the ASME Section III requirements.
5.a The seismic Category I components and instruments identified in Tables 2.7.1.2-2 and 2.7.1.2-3, including the supports and anchorages, withstand seismic design basis loads without loss of safety function.	5.a.i Inspections will be performed to verify that the as-built seismic Category I components and instruments are located in the seismic Category I structure.	5.a.i The as-built seismic Category I components and instruments identified in Tables 2.7.1.2-2 and 2.7.1.2-3 are located in the seismic Category I structure.
	5.a.ii Type tests, analyses or a combination of type tests and analyses of seismic Category I components and instruments will be performed.	5.a.ii A report exists and concludes that the seismic Category I components and instruments identified in Tables 2.7.1.2-2 and 2.7.1.2-3 withstand Seismic design basis loads without loss of safety function.
	5.a.iii Inspections will be performed to verify that the as-built seismic Category I components and instruments, including the supports and anchorages, are seismically bounded by the tested or analyzed conditions.	5.a.iii A report exists and concludes that the as-built seismic Category I components and instruments identified in Tables 2.7.1.2-2 and 2.7.1.2-3, including the supports and anchorages, are seismically bounded by the tested or analyzed conditions.
5.b The seismic Category I piping, including supports, identified in Table 2.7.1.2-1 withstands seismic design basis loads without loss of safety function.	5.b.i Inspections will be performed to verify that the as-built seismic Category I piping, including supports, located in the seismic Category I structure(s).	5.b.i The as-built seismic Category I piping, including supports, identified in Table 2.7.1.2-1 is located in the seismic Category I structure(s).

Table 2.7.1.2-4 (3 of 6)

Design Commitment	Inspections, Tests, Analyses	Acceptance Criteria
5.b (cont.)	5.b.ii Inspections and analyses of the as-built seismic Category I piping, including supports, will be performed.	5.b.ii A report in accordance with ASME Section III requirements for safety-related SSCs and ASME B31.1 requirements for non-safety-related SSCs exists and concludes that the as-built seismic Category I piping, including supports, identified in Table 2.7.1.2-1 withstands seismic design basis loads without loss of safety function.
6.a The Class 1E components and instruments identified in Table 2.7.1.2-2 and 2.7.1.2-3 as being qualified for a harsh environment (and the associated wiring, cables, and terminations) withstand the environmental conditions that would exist before, during, and following a design basis accident without loss of safety function for the time required to perform the safety function.	6.a.i Type tests, analyses or a combination of type tests and analyses will be performed on Class 1E components and instruments located in a harsh environment.	6.a.i A report exists and concludes that the Class 1E components and instruments identified in Table 2.7.1.2-2 and 2.7.1.2-3 as being qualified for a harsh environment withstand the environmental conditions that would exist before, during, and following a design basis accident without loss of safety function for the time required to perform the safety function.
	6.a.ii Inspections will be performed on the as-built Class 1E components and instruments (and the associated wiring, cables, and terminations) located in a harsh environment.	6.a.ii A report exists and concludes that the as-built Class 1E components and instruments identified in Table 2.7.1.2-2 and 2.7.1.2-3 and the associated wiring, cables, and terminations identified in Table 2.7.1.2-2 and 2.7.1.2-3 as being qualified for a harsh environment (and the associated wiring, cables, and terminations) are bounded by type tests, analyses, or a combination of type tests and analyses.

6.b Each of the Class 1E components and instruments identified in Table 2.7.1.2-2 and 2.7.1.2-3 is powered from its respective Class 1E division.	6.b Tests will be performed by providing a test signal in only one Class 1E division at a time.	6.b The test signal exists at the Class 1E components and instruments identified in Table 2.7.1.2-2 and 2.7.1.2-3 as being powered from the Class 1E division under test.

Table 2.7.1.2-4 (4 of 6)

Design Commitment		Inspections, Tests, Analyses		Acceptance Criteria	
6.c	Physical separation and electrical isolation Separation is provided (1) both between Class 1E divisions, and (2) also between Class 1E divisions, and also between Class 1E divisions and non-Class 1E divisions.	6.c	Inspection of the as-built– Class 1E divisions will be performed.	6.c	Physical separation and electrical isolation exists in accordance with NRC RG 1.75 both (1) between these Class 1E divisions, and (2) also between Class 1E divisions and non-Class 1E divisions.
7.a	The MS system safety-relatedsafety-related valves listed in Table 2.7.1.2-2 are functionally designed and qualified to perform their safety-related function under the full range of fluid flow, differential pressure, electrical conditions, and temperature conditions up to and including design basis accident conditions.	7.a.i	A type test or a combination of type test and analysis will be performed of the MS system safety-related valves.	7.a.i	A Functional Qualification Report performed in conformance to ASME QME-1-2007, as accepted in Regulatory Guide 1.100 Revision 3, exists and concludes that the MS system safety-related valves listed in Table 2.7.1.2-2 are functionally designed and capable ofqualified to performing their safety relatedsafety-related function under the full range of fluid flow, differential pressure, electrical conditions, and temperature conditions up to and including design basis accident conditions.
		7.a.ii	A diagnostic stroke test and analysis will be performed of the MS system safety-relatedsafety-related valves under preoperational temperature, differential pressure, and flow conditions.	7.a.ii	Each MS system safety-related valve listed in Table 2.7.1.2-2 strokes fully open and fully closed by remote operation (or manual operation if a manually operated valve) under preoperational temperature, differential pressure, and flow conditions. with Analysis based on sufficient diagnostic data demonstrates that the valves will perform at their to correlate valve performance to its design basis capability as established by the type test performed in accordance with 7.a.i.
7.b	After loss of motive power, the MOVs, AOVs and electro-hydraulic valves, identified in Table 2.7.1.2-2, assume the indicated loss of motive power position.	7.b	Tests of the as-built MOVs, AOVs and electro-hydraulic valves will be performed under the conditions of loss of motive power.	7.b	Upon loss of motive power, each as-built MOV, AOV, or electro-hydraulic valve identified in Table 2.7.1.2-2 assumes the indicated loss of motive power position.
8.a	All controls required by the design Controls exist in the MCR to open and close the MOVs, AOVs and electro-hydraulic valves listed in Table 2.7.1.2-2.	8.a	Tests will be performed using the controls in the MCR to open and close the MOVs, AOVs and electro-hydraulic valves.	8.a	All controls required in the [specify which] design Controls in the as-built MCR open and close the MOVs, AOVs and electro-hydraulic valves listed in Table 2.7.1.2-2.
8.b	All controls required by the design Controls exist in the RSR to open and close the MOVs, AOVs and electro-hydraulic valves listed in Table 2.7.1.2-2.	8.b	Tests will be performed using the controls in the RSR to open and close the MOVs, AOVs and electro-hydraulic valves.	8.b	All controls Controls in the as-built RSR open and close the MOVs, AOVs and electro-hydraulic valves identified in Table 2.7.1.2-2.

8.c All dDisplays and alarms required by the design exist and are retrievable in the MCR as defined in Tables 2.7.1.2-2.	8.c Inspections will be performed on theof the as-built displays and alarms in the MCR will be performed.	8.c All dDisplays and alarms exist and are retrieved in the as-built MCR as defined in Tables 2.7.1.2-2.

Table 2.7.1.2-4 (5 of 6)

Design Commitment	Inspections, Tests, Analyses	Acceptance Criteria
8.d All dDisplays and alarms required by the design exist and are retrievable in the RSR as defined in Tables 2.7.1.2-2.	8.d Inspections will be performed on the of the as-built displays and alarms in the RSR will be performed.	8.d All dDisplays and alarms exist and are retrieved in the as- built RSR as defined in Tables 2.7.1.2-2.
9. Each mechanical division of the MSS is physically separated from the other divisions.	9. Inspections of the as-built mechanical divisions will be performed.	9. Each mechanical division of the MSS is physically separated by a divisional wall that is a 3-hour rated fire barrier.
10. The MSSVs, identified in the Table 2.7.1.2-2, provide overpressure protection for the secondary side of the steam generators and for pressure boundary components in the MSS.	10.a Testing and analysis of the MSSVs, identified in Table 2.7.1.2-2, will be performed to confirm the requirement of the MSSV relief capacity in accordance with ASME Section III.	10.a A report exists and concludes that the total rated capacity of the MSSVs identified in Table 2.7.1.2-2 is greater than or equal to pass 8.62×10^6 kg/hr (19×10^6 1b/hr) at a steam generator pressure of 92.81 kg/cm^{2}A (1,320 psia) (110 % of steam generator design pressure).
	10.b Testing and analysis of the MSSVs, identified in Table 2.7.1.2-2, will be performed to confirm the requirement of the maximum capacity limit of each MSSV.	10.b A report exists and concludes the maximum capacity limit of each MSSV is no greater than 0.907×10^6 kg/hr (2.0×10^6 lb/hr) at a steam generator pressure of 70.31 kg/cm^{2}A (1,000 psia).
	10.c Testing and analysis of the MSSVs, identified in Table 2.7.1.2-2, will be performed to confirm each MSSV lift setpoint and MSSV relief capacity in accordance with ASME Section III.	10.c A report exists and concludes the lift setpoints settings of the MSSVs, identified in Table 2.7.1.2-2, are as follows: - First stage : 82.54 kg/cm^2 G (1,174 psig)±1% - Second stage: 84.72 kg/cm^2 G (1,205 psig)±1% - Third stage: 86.48 kg/cm^2 G (1,230 psig)±1%

Table 2.7.1.2-4 (6 of 6)

Design Commitment	Inspections, Tests, Analyses	Acceptance Criteria
11. The MSIVs and MSIV bypass valves identified in Table 2.7.1.2-2 close on receipt of an MSIS within the required response time.	11. Test will be performed using a simulated actuation signal of an MSIS under preoperational test conditions.	11. A report exists and concludes the as-built MSIVs and MSIV bypass valves close within the required response time (5 seconds) under preoperational test conditions.
13. The MS non-metallic parts, materials, and lubricants used in safety-relatedsafety-related mechanical equipment perform their safety-related function up to the end of their qualified life in the design basis harsh environmental conditions (both internal service conditions and external environmental conditions) experienced during normal operations, anticipated operational occurrences, design-basis accidents, and post--accident conditions.	13. A type test or a combination of type test and analysis will be performed of the MS non-metallic parts, materials, and lubricants used in safety-relatedsafety-related mechanical equipment.	13. A qualification report exists and concludes that the non-metallic parts, materials, and lubricants used in safety-relatedsafety-related mechanical equipment listed in Table 2.7.1.2-2 perform their safety relatedsafety-related function up to the end of their qualified life under the design basis harsh environmental conditions (both internal service conditions and external environmental conditions) experienced during normal operations, anticipated operational occurrences, design-basis accidents, and post-accident conditions specified in the qualification report.

Table 2.7.1.4-4 (1 of 5)

Condensate and Feedwater System ITAAC

Design Commitment	Inspections, Tests, Analyses	Acceptance Criteria
1. The functional arrangement of the condensate and feedwater system is as described in the Design Description of Subsection 2.7.1.4.1 and in Table 2.7.1.4-1 and as shown in Figure 2.7.1.4-1.	1. Inspection of the as-built condensate and feedwater system will be performed.	1. The as-built condensate and feedwater system conforms with the functional arrangement as described in the Design Description of Subsection 2.7.1.4.1 and in Table 2.7.1.4-1 and as shown in Figure 2.7.1.4-1
2.a The ASME Code components identified in Table 2.47.21.4-2 are designed and constructed in accordance with ASME Section III requirements.	2.a Inspection of the as-built ASME Code components in Table 2.47.21.4-2 will be performed and as documented in the ASME data report(s).	2.a The ASME Section III data report(s) exist and conclude that the as-built ASME Code components identified in Table 2.7.1.4-2 are designed and constructed in accordance with ASME section III requirements.
2.b The ASME Code piping, including supports, identified in Table 2.7.1.4-1 is designed and constructed in accordance with ASME Section III requirements.	2.b Inspection of the as-built ASME Code piping, including supports, identified in Table 2.7.1.4-1 will be performed and as documented in the ASME data report(s).	2.b The ASME Section III data report(s) exist and conclude that the as-built ASME Code piping, including supports, identified in Table 2.7.1.4-1 is designed and constructed in accordance with ASME Section III requirements.
3.a Pressure boundary welds in ASME Code components identified in Table 2.7.1.4-2 meet ASME Section III requirements.	3.a Inspections of the as-built pressure boundary welds in ASME Code components identified in Table 2.7.1.4-2 will be performed in accordance with the ASME Section III.	3.a A report exists and concludes that the ASME Section III requirements are met for non-destructive examination of the as-built pressure boundary welds in ASME Code components identified in Table 2.7.1.4-2.
3.b Pressure boundary welds in ASME Code piping identified in Table 2.7.1.4-1 meet ASME Section III requirements.	3.b Inspections of the as-built pressure boundary welds in ASME Code piping identified in Table 2.7.1.4-1 will be performed in accordance with the ASME Section III.	3.b A report exists and concludes that the ASME Section III requirements are met for non-destructive examination of the as-built pressure boundary welds in ASME Code piping identified in Table 2.7.1.4-1.

Table 2.7.1.4-4 (2 of 5)

Design Commitment	Inspections, Tests, Analyses	Acceptance Criteria
4.a The ASME Code components identified in Table 2.7.1.4-2 retain their pressure boundary integrity at their design pressure.	4.a A hydrostatic test will be conducted on the as-built ASME Code components identified in Table 2.7.1.4-2 required to be hydrostatically tested by the ASME Section III.	4.a A report exists and concludes that the results of the hydrostatic test of the as-built ASME Code components identified in Table 2.7.1.4-2 conform with ASME Section III requirements.
4.b The ASME Code piping identified in Table 2.7.1.4-1 retains its pressure boundary integrity at its design pressure.	4.b A hydrostatic test will be conducted on the as-built ASME Code piping identified in Table 2.7.1.4-1 required to be hydrostatically tested by the ASME Section III.	4.b A report exists and concludes that the results of the hydrostatic test of the as-built ASME Code piping identified in Table 2.7.1.4-1 conform with ASME Section III requirements.
5.a The seismic Category I components and instruments identified in Table 2.7.1.4-2 and 2.7.1.4-3, including the supports and anchorages, withstand seismic design basis loads without loss of safety function.	5.a.i Inspections will be performed to verify that the as-built seismic Category I components and instruments are located in the seismic Category I structure.	5.a.i The as-built seismic Category I components and instruments identified in Table 2.7.1.4-2 and 2.7.1.4-3 are located in the seismic Category I structure.
	5.a.ii Type tests, analyses or a combination of type tests and analyses of seismic Category I components and instruments will be performed.	5.a.ii A report exists and concludes that the seismic Category I components and instruments identified in Table 2.7.1.4-2 and 2.7.1.4-3 withstand seismic design basis loads without loss of safety function.
	5.a.iii Inspections will be performed to verify that the as-built seismic Category I components and instruments, including the supports and anchorages, are seismically bounded by the tested or analyzed conditions.	5.a.iii A report exists and concludes that the as-built seismic Category I components and instruments identified in Table 2.7.1.4-2 and 2.7.1.4-3, including the supports and anchorages, are seismically bounded by the tested or analyzed conditions.
5.b The seismic Category I piping, including supports, identified in Table 2.7.1.4-1 withstands seismic design basis loads without loss of safety function.	5.b.i Inspections will be performed to verify that the as-built seismic Category I piping, including supports, is located in the seismic Category I structures.	5.b.i The as-built seismic Category I piping, including supports, identified in Table 2.7.1.4-1 is located in the seismic Category I structures.

Table 2.7.1.4-4 (3 of 5)

Design Commitment	Inspections, Tests, Analyses	Acceptance Criteria
5.b (cont.)	5.b.ii Inspections and analyses of the as-built seismic Category I piping, including supports, will be performed.	5.b.ii A report exists and concludes that the as-built seismic Category I piping, including supports, identified in Table 2.7.1.4-1 withstands seismic design basis loads without loss of safety function.
6.a The Class 1E components and instruments identified in Tables 2.7.1.4-2 and 2.7.1.4-3 as being qualified for a harsh environment (and the associated wiring, cables, and terminations) withstand the environmental conditions that would exist before, during, and following a design basis accident without loss of safety function for the time required to perform the safety function.	6.a.i Type tests~~, analyses,~~ or a combination of type tests and analyses will be performed on Class 1E components and instruments located in a harsh environment.	6.a.i A report exists and concludes that the Class 1E components and instruments identified in Tables 2.7.1.4-2 and 2.7.1.4-3 as being qualified for a harsh environment withstand the environmental conditions that would exist before, during, and following a design basis accident without loss of safety function for the time required to perform the safety function.
	6.a.ii Inspections will be performed on the as-built Class 1E components and instruments (and the associated wiring, cables, and terminations) located in a harsh environment.	6.a.ii A report exists and concludes that the as-built Class 1E components and instruments identified in Tables 2.7.1.4-2 and 2.7.1.4-3 ~~and the associated wiring, cables, and terminations identified in Tables 2.7.1.4-2 and 2.7.1.4-3~~ as being qualified for a harsh environment (and the associated wiring, cables, and terminations) are bounded by type tests~~, analyses~~ or a combination of type tests and analyses.
6.b Each of the Class 1E components and instruments identified in Tables 2.7.1.4-2 and 2.7.1.4-3 is powered from its respective Class 1E division.	6.b Tests will be performed by providing a test signal in only one Class 1E division at a time.	6.b The test signal exists at the Class 1E components and instruments identified in Table 2.7.1.4-2 and 2.7.1.4-3 as being powered from the Class 1E division under test.

Table 2.7.1.4-4 (4 of 5)

Design Commitment	Inspections, Tests, Analyses	Acceptance Criteria
6.c Physical separation and electrical isolation Separation is provided (1) between Class 1E divisions, and (2) between Class 1E divisions and non-Class 1E divisions.	6.c Inspection of the as-built Class 1E divisions will be performed.	6.c Physical separation and electrical isolation exists in accordance with NRC RG 1.75 (1) between these Class 1E divisions, and also (2) between Class 1E divisions and non-Class 1E divisions.
7.a The CD and FW system safety-related valves are functionally designed and qualified to perform their safety-related function under the full range of fluid flow, differential pressure, electrical conditions, and temperature conditions up to and including design basis accident conditions.	7.a.i A type test or a combination of type test and analysis will be performed of the CD and FW system safety-related valves.	7.a.i A Functional Qualification Report performed in conformance to ASME QME-1-2007, as accepted in Regulatory Guide 1.100 Revision 3, exists and concludes that the CD and FW system safety-related valves listed in Table 2.7.1.4-2 are functionally designed and capable of performing qualified to perform their safety-related function under the full range of fluid flow, differential pressure, electrical conditions, and temperature conditions up to and including design basis accident conditions.
	7.a.ii A diagnostic stroke test and analysis will be performed of the CD and FW system safety-relatedsafety-related valves under preoperational temperature, differential pressure, and flow conditions.	7.a.ii Each CD and FW system safety-related valve listed in Table 2.7.1.4-2 strokes fully open and fully closed by remote operation (or manual operation if a manually operated valve) under preoperational temperature, differential pressure, and flow conditions. with Analysis based on sufficient diagnostic data demonstrates that the valves will perform at their to correlate valve performance to its design basis capability as established by the type test performed in accordance with 7.a.i.
	7.a.iii Tests of the as-built check valves will be performed under pre-operational test pressure, temperature, and fluid flow conditions.	7.a.iii Each check valve changes position as indicated in Table 2.7.1.4-2 under pre-operational test conditionstest pressure, temperature, and fluid flow conditions.
7.b After loss of motive power, AOVs and electro-hydraulic valves identified in Table 2.7.1.4-2 assume the indicated loss of motive power position.	7.b Test of the as-built AOVs and electro-hydraulic valves will be performed under the conditions of loss of motive power.	7.b Upon loss of motive power, each as-built AOV or electro-hydraulic valve identified in Table 2.7.1.4-2 assumes the indicated loss of motive power position.
8.a All controls required by the design Controls exist in the MCR-to open and close AOVs and electro- hydraulic valves identified in Table 2.7.1.4-2.	8.a Tests will be performed using the controls in the MCR to open and close AOVs and electro-hydraulic valves.	8.a All controlsControls in the as-built MCR open and close AOVs and electro- hydraulic valves identified in Table 2.7.1.4-2.

8.b	~~All controls required by the design~~ Controls exist in the RSR to open and close AOVs and electro- hydraulic valves identified in Table 2.7.1.4-2.	8.b	Tests will be performed using the controls in the RSR to open and close AOVs and electro- hydraulic valves.	8.b	~~All controls~~ Controls in the as-built RSR open and close AOVs and electro- hydraulic valves identified in Table 2.7.1.4-2.

Table 2.7.1.4-4 (5 of 5)

Design Commitment		Inspections, Tests, Analyses		Acceptance Criteria	
8.c	All dDisplays and alarms required by the design exist and are retrievable in the MCR as defined in Tables 2.7.1.4-2 and 2.7.1.4-3.	8.c	Inspections will be performed on theof the as-built displays and alarms in the MCR will be performed.	8.c	All dDisplays and alarms exist and are retrieved in the as- built MCR as defined in Tables 2.7.1.4-2 and 2.7.1.4-3.
8.d	All dDisplays and alarms required by the design exist and are retrievable in the RSR as defined in Tables 2.7.1.4-2 and 2.7.1.4- 3.	8.d	Inspections will be performed on the of the as-built displays and alarms in the RSR will be performed..	8.d	All dDisplays and alarms exist and are retrieved in the as- built RSR as defined in Tables 2.7.1.4-2 and 2.7.1.4-3.
9.	The main feedwater isolation valves (MFIVs) close on receipt of an MSIS within the required response time.	9.	Test will be performed using a simulated actuation signal of an MSIS.	9.	A report exists and concludes the as-built MFIVs close within the required response time after receipt of an MSIS simulated actuation signal.
11.	The FW non-metallic parts, materials, and lubricants used in safety relatedsafety-related mechanical equipment perform their safety-related function up to the end of their qualified life in the design basis harsh environmental conditions (both internal service conditions and external environmental conditions) experienced during normal operations, anticipated operational occurrences, design-basis accidents, and post accident conditions.	11.	A type test or a combination of type test and analysis will be performed of the FW non-metallic parts, materials, and lubricants used in safety-relatedsafety-related mechanical equipment.	11.	A qualification report exists and concludes that the non-metallic parts, materials, and lubricants used in safety-relatedsafety-related mechanical equipment listed in Table 2.7.1.4-2 perform their safety relatedsafety-related function up to the end of their qualified life under the design basis harsh environmental conditions (both internal service conditions and external environmental conditions) experienced during normal operations, anticipated operational occurrences, design-basis accidents, and post accident conditions specified in the qualification report.

Table 2.7.1.5-4 (1 of 7)

Auxiliary Feedwater System ITAAC

Design Commitment	Inspections, Tests, Analyses	Acceptance Criteria
1. The functional arrangement of the AFWS is as described in the Design Description of Subsection 2.7.1.5.1 and in Table 2.7.1.5-1 and as shown in Figure 2.7.1.5-1.	1. Inspection of the as-built AFWS will be conducted.	1. The as-built AFWS conforms with the functional arrangement as described in the Design Description of Subsection 2.7.1.5.1 and in Table 2.7.1.5-1 and as shown in Figure 2.7.1.5-1.
2.a The ASME Code components identified in Table 2.7.1.5-2 are designed and constructed in accordance with ASME Section III requirements.	2.a Inspection of the as-built ASME Code components identified in Table 2.7.1.5-2 will be performed and ~~as~~ documented in the ASME data report(s).	2.a The ASME Section III data report(s) exist and conclude that the ~~as- built~~ as-built ASME Code components identified in Table 2.7.1.5-2 are designed and constructed in accordance with ASME Section III requirements.
2.b The ASME Code piping, including supports, identified in Table 2.7.1.5-2 is designed and constructed in accordance with ASME Section III requirements.	2.b Inspection of the as-built ASME Code piping, including supports, identified in Table 2.7.1.5-2 will be performed and ~~as~~ documented in the ASME data report(s).	2.b The ASME Section III data report(s) exist and conclude that the as-built ASME Code piping, including supports, identified in Table 2.7.1.5-1 is designed and constructed in accordance with ASME Section III requirements.
3.a Pressure boundary welds in ASME Code components identified in Table 2.7.1.5-2 meet ASME Section III requirements.	3.a Inspections of the as-built pressure boundary welds in ASME Code components identified in Table 2.7.1.5-2 will be performed in accordance with the ASME Section III.	3.a A report exists and concludes that the ASME Section III requirements are met for non-destructive examination of the as-built pressure boundary welds in ASME Code components identified in Table 2.7.1.5-2.
3.b Pressure boundary welds in ASME Code piping identified in Table 2.7.1.5-1 meet ASME Section III requirements.	3.b Inspections of the as-built pressure boundary welds in ASME Code piping identified in Table 2.7.1.5-1 will be performed in accordance with the ASME Section III.	3.b A report exists and concludes that the ASME Section III requirements are met for non-destructive examination of the as-built pressure boundary welds in ASME Code piping identified in Table 2.7.1.5-1.

Table 2.7.1.5-4 (2 of 7)

Design Commitment	Inspections, Tests, Analyses	Acceptance Criteria
4.a The ASME Code components identified in Table 2.7.1.5-2 retain their pressure boundary integrity at their design pressure.	4.a A hydrostatic test will be conducted on the as-built ASME Code components identified in Table 2.7.1.5-2 required to be hydrostatically tested by the ASME Section III.	4.a A report exists and concludes that the results of the hydrostatic test of the as-built ASME Code components identified in Table 2.7.1.5-2 conform with ASME Section III requirements.
4.b The ASME Code piping identified in Table 2.7.1.5-1 retains its pressure boundary integrity at its design pressure.	4.b A hydrostatic test will be conducted on the as-built ASME Code piping identified in Table 2.7.1.5-1 required to be hydrostatically tested by the ASME Section III.	4.b A report exists and concludes that the results of the hydrostatic test of the as-built ASME Code piping identified in Table 2.7.1.5-1 conform with ASME Section III requirements.
5.a The seismic Category I components and instruments identified in Tables 2.7.1.5-2 and 2.7.1.5-3, including the supports and anchorages, withstand seismic design basis loads without loss of safety function.	5.a.i Inspections will be performed to verify that the as-built seismic Category I components and instruments are located in the seismic Category I structure.	5.a.i The as-built seismic Category I components and instruments identified in Tables 2.7.1.5-2 and 2.7.1.5-3 are located in the seismic Category I structure.
	5.a.ii Type tests, analyses, or a combination of type tests and analyses of seismic Category I components and instruments will be performed.	5.a.ii A report exists and concludes that the seismic Category I components and instruments identified in Tables 2.7.1.5-2 and 2.7.1.5-3 withstand seismic design basis loads without loss of safety function.
	5.a.iii Inspections will be performed to verify that the as-built seismic Category I components and instruments, including the supports and anchorages, are seismically bounded by the tested or analyzed conditions.	5.a.iii A report exists and concludes that the as-built seismic Category I components and instruments identified in Tables 2.7.1.5-2 and 2.7.1.5-3, including the supports and anchorages, are seismically bounded by the tested or analyzed conditions.
5.b The seismic Category I piping, including supports, identified in Table 2.7.1.5-1 withstand seismic design basis loads without loss of safety function.	5.b.i Inspections will be performed to verify that the as-built seismic Category I piping, including supports, is located in the seismic Category I structure(s).	5.b.i The as-built seismic Category I piping, including supports, identified in Table 2.7.1.5-1 is located in the seismic Category I structure(s).

Table 2.7.1.5-4 (3 of 7)

Design Commitment	Inspections, Tests, Analyses	Acceptance Criteria
5.b (cont.)	5.b.ii Inspections and analyses of the as-built seismic Category I piping, including supports, will be performed.	5.b.ii A report exists and concludes that the as-built seismic Category I piping, including supports, identified in Table 2.7.1.5-1 withstand seismic design basis loads without loss of safety function.
6.a The Class 1E components and instruments identified in Tables 2.7.1.5-2 and 2.7.1.5-3 as being qualified for a harsh environment (and the associated wiring, cables, and terminations) withstand the environmental conditions that would exist before, during, and following a design basis accident without loss of safety function for the time required to perform the safety function.	6.a.i Type tests, ~~analyses~~ or a combination of type tests and analyses will be performed on Class 1E components and instruments located in a harsh environment.	6.a.i A report exists and concludes that the Class 1E components and instruments identified in Tables 2.7.1.5-2 and 2.7.1.5-3 as being qualified for a harsh environment withstand the environmental conditions that would exist before, during, and following a design basis accident without loss of safety function for the time required to perform the safety function.
	6.a.ii Inspection will be performed on the as-built Class 1E components and instruments (and the associated wiring, cables, and terminations) located in a harsh environment.	6.a.ii A report exists and concludes that the as-built Class 1E components and instruments identified in Tables 2.7.1.5-2 and 2.7.1.5-3 ~~and the associated wiring, cables, and terminations identified in Table 2.7.1.5-1~~ as being qualified for a harsh environment (and the associated wiring, cables, and terminations) are bounded by type tests, ~~analyses,~~ or a combination of type tests and analyses.
6.b Each of the Class 1E components and instruments identified in Tables 2.7.1.5-2 and 2.7.1.5-3 is powered from its respective Class 1E division.	6.b Tests will be performed by providing a test signal in only one Class 1E division at a time.	6.b The test signal exists at the Class 1E components and instruments identified in Tables 2.7.1.5-2 and 2.7.1.5-3 as being ~~are~~ powered from the Class 1E division under test.

Table 2.7.1.5-4 (4 of 7)

Design Commitment	Inspections, Tests, Analyses	Acceptance Criteria
6.c SeparationPhysical separation and electrical isolation is provided (1) between Class 1E divisions, and (2) between Class 1E divisions and non- Class 1E divisions.	6.c Inspection of the as-built Class 1E divisions will be performed.	6.c Physical separation and electrical isolation exists in accordance with NRC RG 1.75 (1) between these Class 1E divisions, and also (2) between Class 1E divisions and non-Class 1E divisions.
7.a The AFW system safety-related valves are functionally designed and qualified to perform their safety-related function under the full range of fluid flow, differential pressure, electrical conditions, and temperature conditions up to and including design basis accident conditions.	7.a.i A type test or a combination of type test and analysis will be performed of the AFW system safety-related valves.	7.a.i A Functional Qualification Report performed in conformance to ASME QME-1-2007, as accepted in Regulatory Guide 1.100 Revision 3, exists and concludes that the AFW system safety-related valves listed in Table 2.7.1.5-2 are capable of performing functionally designed and qualified to perform their safety-related function under the full range of fluid flow, differential pressure, electrical conditions, and temperature conditions up to and including design basis accident conditions.
	7.a.ii A diagnostic stroke test and analysis will be performed of the AFW system safety-relatedsafety-related valves under preoperational temperature, differential pressure, and flow conditions.	7.a.ii Each AFW system safety-related valve listed in Table 2.7.1.5-2 strokes fully open and fully closed by remote operation (or manual operation if a manually operated valve) under preoperational temperature, differential pressure, and flow conditions. with Analysis based on sufficient diagnostic data demonstrates that the valves will perform at their to correlate valve performance to its design basis capability as established by the type test performed in accordance with 7.a.i.
	7.a.iii Tests of the as-built check valves will be performed under pre-operational test pressure, temperature, and fluid flow conditions.	7.a.iii Each check valve changes position as indicated in Table 2.7.1.5-2 under pre-operational test pressure, temperature, and fluid flow conditions.
7.b After loss of motive power, MOVs, AOVs, and SOVs indicated in Table 2.7.1.5-2 assume the indicated loss of motive power position.	7.b Tests of the as-built MOVs, AOVs, and SOVs will be performed under the conditions of loss of motive power.	7.b Upon loss of motive power, each as-built MOV, AOV, or SOVs identified in Table 2.7.1.5-2 assumes the indicated loss of motive power position.

Table 2.7.1.5-4 (5 of 7)

Design Commitment	Inspections, Tests, Analyses	Acceptance Criteria
8.a ~~All controls required by the design~~ Controls exist in the MCR to start and stop the AFW pumps, and to open and close MOVs, AOVs, and SOVs identified in Table 2.7.1.5-2.	8.a Tests will be performed using the controls in the MCR to start and stop the AFW pumps, and to open and close MOVs, AOVs, and SOVs.	8.a ~~All controls~~ Controls in the as-built MCR start and stop the AFW pumps, and open and close MOVs, AOVs, and SOVs identified in Table 2.7.1.5-2.
8.b ~~All controls required by the design~~ Controls exist in the RSR to start and stop the AFW pumps, and to open and close MOVs, AOVs, and SOVs identified in Table 2.7.1.5-2.	8.b Tests will be performed using the controls in the RSR to start and stop the AFW pumps, and ~~to open and closesa~~ to open and close MOVs, AOVs, and SOVs.	8.b ~~All controls~~ Controls in the as-built RSR start and stop the AFW pumps, and open and close MOVs, AOVs, and SOVs identified in Table 2.7.1.5-2.
8.c ~~All d~~Displays and alarms ~~required by the design~~ exist and are retrievable in the MCR as defined in Tables 2.7.1.5-2 and 2.7.1.5-3.	8.c Inspections ~~will be performed on the~~of the as-built displays and alarms in the MCR will be performed.	8.c ~~All d~~Displays and alarms exist and are retrieved in the as-built MCR as defined in Tables 2.7.1.5-2 and 2.7.1.5-3.
8.d ~~All d~~Displays and alarms ~~required by the design~~ exist and are retrievable in the RSR as defined in Tables 2.7.1.5-2 and 2.7.1.5-3.	8.d Inspections ~~will be performed on the~~of the as-built displays and alarms in the RSR will be performed.	8.d ~~All d~~Displays and alarms exist and are retrieved in the as-built RSR as defined in Tables 2.7.1.5-2 and 2.7.1.5-3.
9. The t~~T~~wo mechanical divisions of the AFWS (A/C & B/D) are physically separated.	9. Inspection of the as-built mechanical divisions will be performed.	9. The two mechanical divisions of the AFWS are physically separated by a divisional wall that is a 3-hour rated fire barrier.
10.a The AFW pumps have sufficient net positive suction head (NPSH).	10.a Test to measure the as-built AFW pump suction pressure will be performed. Inspection and analyses to determine NPSH available to each pump will be performed based on this test data and as-built data.	10.a A report exists and concludes that the as-built calculated NPSH available exceeds each AFW pump's NPSH required.
10.b Each AFWST has sufficient capacity for eight hours of operation at hot standby condition and for subsequent cooldown of the reactor coolant system within six hours to condition that permit operation of the shutdown cooling system.	10.b Inspections and analyses will be performed to verify the minimum required volume of each of the as-built AFWSTs.	10.b Each AFWST capacity exceeds the ~~minimum required~~ volume of 1,524,165 liters (400,000 gallons)

10.c	The AFW system ~~safety-related~~safety-related pumps are functionally designed and qualified to perform their safety-related function under the full range of fluid flow, differential pressure, electrical ~~conditions~~, and temperature conditions up to and including design basis accident conditions.	10.c	A type test or a combination of type test and analysis will be performed of the AFW system ~~safety related~~safety-related pumps.	10.c	A Functional Qualification Report performed in conformance to ASME QME-1, as accepted in Regulatory Guide 1.100, exists and concludes that the AFW system safety-related pumps listed in Table 2.7.1.5-2 are functionally designed and qualified to perform ~~capable of performing~~ their ~~safety-related~~safety-related function under the full range of fluid flow, differential pressure, electrical ~~conditions~~, and temperature conditions up to and including design basis accident conditions.

Table 2.7.1.5-4 (6 of 7)

Design Commitment	Inspections, Tests, Analyses	Acceptance Criteria
11.a The AFWS is actuated by an AFAS from the ESFAS or DPS	11.a Tests will be performed by generating a signal simulating an AFAS from the ESFAS for its corresponding steam generator. The test will be repeated using a signal simulating DPS.	11.a The as-built motor-driven and turbine-driven pumps start, and the as-built auxiliary feedwater isolation and AFW modulating valves open, in the division receiving the signal simulating an AFAS from the ESFAS. The same components actuate in response to a signal simulating DPS. Flow is delivered to the steam generator(s) in no more than 60 seconds following an AFAS from the ESFAS or DPS.
11.b The ESF-CCS includes logic to close the AFW isolation valves when SG water level has risen above a high level setpoint, and to re-open the AFW isolation valves when SG water level drops below a low level setpoint.	11.b Tests of each as-built AFW isolation valve will be performed using signals simulating high and low SG water level as input to the ESF-CCS.	11.b A signal simulating high SG water level signal as input to the ESF-CCS closes the as-built AFW isolation valves in its associated division. The as-built AFW isolation valves close within 14 seconds after receipt of a signal. A signal simulating low SG water level signal as input to the ESF-CCS opens the AFW isolation valves in its associated division.
12.a Each AFW pump delivers the minimum flow to its respective steam generator for removal of core decay heat against a steam generator feedwater nozzle pressure.	12.a A test of each AFW pump will be performed to determine the system flow against steam generator pressure under preoperational condition. Analysis will be performed to convert the test results to the design conditions.	12.a A test report exists and concludes that each AFW pump delivers minimum flow of 2,461 L/min (650 gpm) to its respective steam generator against a steam generator feedwater nozzle pressure of 87.18 kg/cm^{2}A (1,240 psia).
12.b The cavitating flow-limiting venturis limit the maximum flow to each steam generator with both AFW pumps running in the division against a steam generator pressure.	12.b A test will be performed with both pumps in a division running under preoperational condition. Analysis will be used to convert the test results to the design conditions.	12.b A test report exists and concludes that the maximum flow to each SG is less than or equal to 3,596 L/min (950 gpm) with both pumps running against a steam generator pressure of 0 kg/cm^{2}G (0 psig).

Table 2.7.1.5-4 (7 of 7)

Design Commitment	Inspections, Tests, Analyses	Acceptance Criteria
14. The AF non-metallic parts, materials, and lubricants used in safety-relatedsafety-related mechanical equipment perform their safety-related function up to the end of their qualified life in the design basis harsh environmental conditions (both internal service conditions and external environmental conditions) experienced during normal operations, anticipated operational occurrences, design-basis accidents, and post accident conditions.	14. A type test or a combination of type test and analysis will be performed of the SIS non-metallic parts, materials, and lubricants used in safety-relatedsafety-related mechanical equipment.	14. A qualification report exists and concludes that the non-metallic parts, materials, and lubricants used in safety-relatedsafety-related mechanical equipment listed in Table 2.7.1.5-2 perform their safety relatedsafety-related function up to the end of their qualified life under the design basis harsh environmental conditions (both internal service conditions and external environmental conditions) experienced during normal operations, anticipated operational occurrences, design-basis accidents, and post accident conditions specified in the qualification report.

Table 2.7.1.8-3 (1 of 5)

Steam Generator Blowdown System ITAAC

Design Commitment	Inspections, Tests, Analyses	Acceptance Criteria
1. The functional arrangement of the SGBS is as described in the Design Description of Subsection 2.7.1.8.1 and in Table 2.7.1.8-1 and as shown in Figure 2.7.1.8-1.	1. Inspection of the as-built SGBS will be performed.	1. The as-built SGBS conforms with the functional arrangement as described in the Design Description of Subsection 2.7.1.8.1 and in Table 2.7.1.8-1 and as shown in Figure 2.7.1.8-1.
2.a The ASME Code components identified in Table 2.7.1.8-2 are designed and constructed in accordance with ASME Section III requirements.	2.a Inspection of the as-built ASME Code components identified in Table 2.7.1.8-2 will be performed as and documented in the ASME data report(s).	2.a The ASME Section III data report(s) exist and conclude that the as-built ASME Code components identified in Table 2.7.1.8-2 are designed and constructed in accordance with Code Section III requirements.
2.b The ASME Code piping, including supports, identified in Table 2.7.1.8-1 is designed and constructed in accordance with ASME Section III requirements.	2.b Inspection of the as-built ASME Code piping, including supports, identified in Table 2.7.1.8-1 will be performed and as documented in the ASME data report(s).	2.b The ASME Section III data report(s) exist and conclude that the as-built ASME Code piping, including supports, identified in Table 2.7.1.8-1 is designed and constructed in accordance with ASME Section III requirements.
3.a Pressure boundary welds in ASME Code components identified in Table 2.7.1.8-2 meet ASME Section III requirements.	3.a Inspections of the as-built pressure boundary welds in ASME Code components identified in Table 2.7.1.8-2 will be performed in accordance with the ASME Section III.	3.a A report exists and concludes that the ASME Section III requirements are met for non-destructive examination of the as-built pressure boundary welds in ASME Code components identified in Table 2.7.1.8-2.
3.b Pressure boundary welds in ASME Code piping identified in Table 2.7.1.8-1 meet ASME Section III requirements.	3.b Inspections of the as-built pressure boundary welds in ASME Code piping identified in Table 2.7.1.8-1 will be performed in accordance with the ASME Section III.	3.b A report exists and concludes that the ASME Section III requirements are met for non-destructive examination of the as-built pressure boundary welds in ASME Code piping identified in Table 2.7.1.8-1.

Table 2.7.1.8-3 (2 of 5)

Design Commitment	Inspections, Tests, Analyses	Acceptance Criteria
4.a The ASME Code components identified in Table 2.7.1.8-2 retain their pressure boundary integrity at their design pressure.	4.a A hydrostatic test will be conducted on the as-built ASME Code components identified in Table 2.7.1.8-2 required to be hydrostatically tested by the ASME Section III.	4.a A report exists and concludes that the results of the hydrostatic test of the as-built ASME Code components identified in Table 2.7.1.8-2 conform with ASME Section III requirements.
4.b The ASME Code piping identified in Table 2.7.1.8-1 retains its pressure boundary integrity at its design pressure.	4.b A hydrostatic test will be conducted on the as-built ASME Code piping identified in Table 2.7.1.8-1 required to be hydrostatically tested by the ASME Section III.	4.b A report exists and concludes that the results of the hydrostatic test of the as-built ASME Code piping identified in Table 2.7.1.8-1 conform with ASME Section III requirements.
5.a The seismic Category I components identified in Tables 2.7.1.8-2, including the supports and anchorages, withstand seismic design basis loads without loss of safety function.	5.a.i Inspections will be performed to verify that the as-built seismic Category I components are located in the seismic Category I structure.	5.a.i The as-built seismic Category I components identified in Tables 2.7.1.8-2 are located in the seismic Category I structure.
	5.a.ii Type tests, analyses or a combination of type tests and analyses of seismic Category I components will be performed.	5.a.ii A report exists and concludes that the seismic Category I components identified in Table 2.7.1.8-2 withstand seismic design basis loads without loss of safety function.
	5.a.iii Inspections will be performed to verify that the as-built seismic Category I components, including the supports and anchorages, are seismically bounded by the tested or analyzed conditions.	5.a.iii A report exists and concludes that the as-built seismic Category I components identified in Table 2.7.1.8-2, including the supports and anchorages, are seismically bounded by the tested or analyzed conditions.
5.b The seismic Category I piping, including supports, identified in Table 2.7.1.8-1 withstands seismic design basis loads without loss of its safety function.	5.b.i Inspections will be performed to verify that the as-built seismic Category I piping, including supports, is located in a seismic Category I structure(s).	5.b.i The as-built seismic Category I piping, including supports,- identified in Table 2.7.1.8-1 is located in a seismic Category I structure(s).

Table 2.7.1.8-3 (3 of 5)

Design Commitment	Inspections, Tests, Analyses	Acceptance Criteria
5.b (cont.)	5.b.ii Inspections and analyses of the as-built seismic Category I piping, including supports, will be performed.	5.b.ii A report exists and concludes that the as-built seismic Category I piping, including supports, identified in Table 2.7.1.8-1 withstands seismic design basis loads without a loss of its safety function.
6.a The Class 1E components identified in Table 2.7.1.8-2 as being qualified for a harsh environment (and the associated wiring, cables, and terminations) withstand the environmental conditions that would exist before, during, and following a design basis accident without loss of safety function for the time required to perform the safety function.	6.a.i Type tests, ~~analyses,~~ or a combination of type tests and analyses will be performed on Class 1E components located in a harsh environment.	6.a.i A report exists and concludes that the Class 1E components identified in Table 2.7.1.8-2 as being qualified for a harsh environment withstand the environmental conditions that would exist before, during, and following a design basis accident without loss of safety function for the time required to perform the safety function.
	6.a.ii Inspections will be performed on the as-built Class 1E components (and the associated wiring, cables, and terminations) located in a harsh environment.	6.a.ii A report exists and concludes that the as-built Class 1E components identified in Table 2.7.1.8-2 ~~and the associated wiring, cables, and terminations identified in Table 2.7.1.8-2~~ as being qualified for a harsh environment (and the associated wiring, cables, and terminations) are bounded by type tests, ~~analyses,~~ or a combination of type tests and analyses.
6.b Each of the Class 1E components identified in Tables 2.7.1.8-2 is powered from its respective Class 1E division.	6.b Tests will be performed by providing a test signal in only one Class 1E division at a time.	6.b The test signal exists at the Class 1E components identified in Tables 2.7.1.8-2 as being powered from the Class 1E train division under test.

6.c Separation Physical separation and electrical isolation is provided between (1) Class 1E divisions, and (2) between Class 1E divisions and non-Class 1E divisions.	6.c Inspection of the as-built Class 1E divisions will be performed.	6.c Physical separation and electrical isolation exist in accordance with NRC RG 1.75 (1) between these Class 1E divisions, and (2) between Class 1E divisions and non-Class 1E divisions.

Table 2.7.1.8-3 (4 of 5)

Design Commitment	Inspections, Tests, Analyses	Acceptance Criteria
7.a The SGBS safety-related valves are functionally designed and qualified to perform their safety-related function under the full range of fluid flow, differential pressure, electrical conditions, and temperature conditions up to and including design basis accident conditions.	7.a.i A type test or a combination of type test and analysis will be performed of the SGBS safety-related valves.	7.a.i A Functional Qualification Report performed in conformance to ASME QME-1-2007, as accepted in Regulatory Guide 1.100 Revision 3, exists and concludes that the SGBS safety-related valves listed in Table 2.7.1.8-2 are functionally designed and capable of performing qualified to perform their safety related safety-related function under the full range of fluid flow, differential pressure, electrical conditions, and temperature conditions up to and including design basis accident conditions.
	7.a.ii A diagnostic stroke test and analysis will be performed of the SGBS safety relatedsafety-related valves under preoperational temperature, differential pressure, and flow conditions.	7.a.ii Each SGBS safety-related valve listed in Table 2.7.1.8-2 strokes fully open and fully closed by remote operation (or manual operation if a manually operated valve) under preoperational temperature, differential pressure, and flow conditions. with Analysis based on sufficient diagnostic data demonstrates that the valves will perform at their to correlate valve performance to its design basis capability as established by the type test performed in accordance with 7.a.i.
7.b After loss of motive power, MOVs and AOVs identified in Table 2.7.1.8-2 assume the indicated loss of motive power position.	7.b Test of the as-built MOVs and AOVs will be performed under the conditions of loss of motive power.	7.b Upon loss of motive power, each as-built MOV or AOV identified in Table 2.7.1.8-2 assumes the indicated loss of motive power position.
8.a All controls required by the design Controls exist in the MCR to open and close the MOVs and AOVs identified in Table 2.7.1.8-2.	8.a Tests will be performed using the controls in the MCR to open and close the MOVs and AOVs.	8.a All controls Controls in the as-built MCR to open and close the MOVs and AOVs identified in Table 2.7.1.8-2.
8.b All controls required by the design Controls exist in the RSR to open and close the MOVs and AOVs identified in Table 2.7.1.8-2.	8.b Tests will be performed using the controls in the RSR to open and close the MOVs and AOVs.	8.b All controls Controls in the RSR to open and close the MOVs and AOVs identified in Table 2.7.1.8-2.
8.c All diDisplays and alarms required by the design exist and are retrievable in the MCR as defined in Tables 2.7.1.8-2.	8.c Inspections will be performed on theof the as-built displays and alarms in the MCR for the SGBS will be performed.	8.c All dDisplays and alarms exist and are retrieved in the as-built MCR as defined in Tables 2.7.1.8-2.

8.d	All dDisplays and alarms required by the design exist and are retrievable in the RSR as defined in Table 2.7.1.8-2.	8.d	Inspections will be performed on theof the as-built displays and alarms in the RSR for the SGBS will be performed.	8.d	All dDisplays and alarms exist and are retrieved in the as-built RSR as defined in Table 2.7.1.8-2.
9.	Each mechanical division of the SGBS (Divisions I, II) is physically separated from the other division	9.	Inspection of the as-built mechanical divisions of SGBS will be performed.	9.	Each mechanical division of the SGBS is physically separated by a divisional wall that is a 3-hour rated fire barrier.

Table 2.7.1.8-3 (5 of 5)

Design Commitment	Inspections, Tests, Analyses	Acceptance Criteria
10. The SGBS components are classified as RW-IIc in accordance with NRC RG 1.143 and designed to the corresponding requirements in order to maintain structural integrity under the design basis loads. Component Radiation Safety Classification is summarized in Table 2.7.1.8-2.	10. Inspection and analysis (?) will be performed for on the as-built equipment classified as RW- IIc in Table 2.7.1.8-2. per design specifications to verify that as-built equipment construction (thicknesses and supports) and anchor bolt sizes meet design specifications and Owner Engineer approved fabrication drawings.	10. A report exists and concludes that the as-built equipment classified as RW- IIc in Table 2.7.1.8-2 maintains structural integrity under the design basis loads by satisfying design specifications and Owner Engineer approved fabrication drawings.
12. The SGBS non-metallic parts, materials, and lubricants used in safety-relatedsafety-related mechanical equipment perform their safety-related function up to the end of their qualified life in the design basis harsh environmental conditions (both internal service conditions and external environmental conditions) experienced during normal operations, anticipated operational occurrences, design-basis accidents, and post accident conditions.	12. A type test or a combination of type test and analysis will be performed of the SGBS non-metallic parts, materials, and lubricants used in safety-relatedsafety-related mechanical equipment.	12. A qualification report exists and concludes that the non-metallic parts, materials, and lubricants used in safety-relatedsafety-related mechanical equipment listed in Table 2.7.1.8-2 perform their safety relatedsafety-related function up to the end of their qualified life under the design basis harsh environmental conditions (both internal service conditions and external environmental conditions) experienced during normal operations, anticipated operational occurrences, design-basis accidents, and post accident conditions specified in the qualification report.

Table 2.7.1.9-1

Auxiliary Steam System ITAAC

Design Commitment	Inspections, Tests, Analyses	Acceptance Criteria

Table 2.7.2.1-4 (1 of 5)

Essential Service Water System ITAAC

Design Commitment	Inspections, Tests, Analyses	Acceptance Criteria
1. The functional arrangement of the ESWS is as described in the Design Description of Subsection 2.7.2.1.1 and in Table 2.7.2.1-1 and as shown in Figure 2.7.2.1-1.	1. Inspection of the as-built ESWS will be performed.	1. The as-built ESWS conforms with the functional arrangement as described in the Design Description of Subsection 2.7.2.1.1 and in Table 2.7.2.1-1 and as shown in Figure 2.7.2.1-1.
2.a The ASME Code components identified in Table 2.7.2.1-2 are designed and constructed in accordance with ASME Section III requirements.	2.a Inspection of the as-built ASME Code components identified in Table 2.7.2.1-2 will be performed and ~~as~~ documented in the ASME data report(s).	2.a The ASME Section III data report(s) exist and conclude that the as-built ASME Code components identified in Table 2.7.2.1-2 are designed and constructed in accordance with ASME Section III requirements.
2.b The ASME Code piping, including supports, identified in Table 2.7.2.1-1 is designed and constructed in accordance with ASME Section III requirements.	2.b Inspection of the as-built ASME Code piping, including supports, identified in Table 2.7.2.1-1 will be performed and ~~as~~ documented in the ASME data report(s).	2.b The ASME Section III data report(s) exist and conclude that the as-built ASME Code piping, including supports, identified in Table 2.7.2.1-1 is designed and constructed in accordance with ASME Section III requirements.
3.a Pressure boundary welds in ASME Code components identified in Table 2.7.2.1-2 meet ASME Section III requirements.	3.a Inspections of the as-built pressure boundary welds in ASME Code components identified in Table 2.7.2.1-2 will be performed in accordance with the ASME Section III.	3.a A report exists and concludes that the ASME Section III requirements are met for non-destructive examination of the as-built pressure boundary welds in ASME Code components identified in Table 2.7.2.1-2.
3.b Pressure boundary welds in ASME Code piping identified in Table 2.7.2.1-1 meet ASME Section III requirements.	3.b Inspections of the as-built pressure boundary welds in ASME Code piping identified in Table 2.7.2.1-1 will be performed in accordance with the ASME Section III.	3.b A report exists and concludes that the ASME Section III requirements are met for non-destructive examination of the as-built pressure boundary welds in ASME Code piping identified in Table 2.7.2.1-1.

Table 2.7.2.1-4 (2 of 5)

Design Commitment	Inspections, Tests, Analyses	Acceptance Criteria
4.a The ASME Code components identified in Table 2.7.2.1-2 retain their pressure boundary integrity at their design pressure.	4.a A hydrostatic test will be conducted on the as-built ASME Code components identified in Table 2.7.2.1-2 required to be hydrostatically tested by the ASME Section III.	4.a A report exists and concludes that the results of the hydrostatic test of the as- built ASME Code components identified in Table 2.7.2.1-2 conform with ASME Section III requirements.
4.b The ASME Code piping identified in Table 2.7.2.1-1 retains its pressure boundary integrity at its design pressure.	4.b A hydrostatic test will be conducted on the as-built ASME Code piping identified in Table 2.7.2.1-1 required to be hydrostatically tested by the ASME Section III.	4.b A report exists and conclude that the results of the hydrostatic test of the as- built ASME Code piping identified in Table 2.7.2.1-1 conform with ASME Code Section III requirements.
5.a The seismic Category I components and instruments identified in Tables 2.7.2.1-2 and 2.7.2.1-3, including the supports and anchorages, withstand seismic design basis loads without loss of safety function.	5.a.i Inspections will be performed to verify that the as-built seismic Category I components and instruments are located in the seismic Category I structure.	5.a.i The as-built seismic Category I components and instruments identified in Tables 2.7.2.1-2 and 2.7.2.1-3 are located in the seismic Category I structure.
	5.a.ii Type tests, analyses or a combination of type tests and analyses of seismic Category I components and instruments will be performed.	5.a.ii A report exists and concludes that the seismic Category I components and instruments identified in Tables 2.7.2.1-2 and 2.7.2.1- 3 withstand seismic design basis loads without loss of safety function.
	5.a.iii Inspections will be performed to verify that the as-built seismic Category I components and instruments, including the supports and anchorages, are seismically bounded by the tested or analyzed conditions.	5.a.iii A report exists and concludes that the as-built seismic Category I components and instruments identified in Tables 2.7.2.1-2 and 2.7.2.1-3, including the supports and anchorages, are seismically bounded by the tested or analyzed conditions.
5.b The seismic Category I piping, including supports, identified in Table 2.7.2.1-1 withstand seismic design basis loads without loss of safety function.	5.b.i Inspections will be performed to verify that the as-built seismic Category I piping, including supports, is located in the seismic Category I structure(s).	5.b.i The as-built seismic Category I piping, including supports, identified in Table 2.7.2.1-1 is located in the seismic Category I structure(s).

Table 2.7.2.1-4 (3 of 5)

Design Commitment	Inspections, Tests, Analyses	Acceptance Criteria
5.b (cont.)	5.b.ii Inspections and analyses of the as-built seismic Category I piping, including supports, will be performed.	5.b.ii A report exists and concludes that the as-built seismic Category I piping, including supports, identified in Table 2.7.2.1-1 withstand seismic design basis loads without loss of safety function.
6.a Each of the Class 1E components and instruments identified in Tables 2.7.2.1-2 and 2.7.2.1-3 is powered from its respective Class 1E division.	6.a Tests will be performed by providing a test signal in only one Class 1E division at a time.	6.a The test signal exists at the Class 1E components and instruments identified in Tables 2.7.2.1-2 and 2.7.2.1-3 as being powered from the Class 1E division under test.
6.b Separation Physical separation and electrical isolation is provided (1) between Class 1E divisions, and (2) between Class 1E divisions and non-Class 1E divisions.	6.b Inspection of the as-built Class 1E divisions will be performed.	6.b Physical separation and electrical isolation exist in accordance with NRC RG 1.75 (1) between these Class 1E divisions, and also (2) between Class 1E divisions and non-Class 1E divisions.
7.a The ESWS safety-related valves are functionally designed and qualified to perform their safety-related function under the full range of fluid flow, differential pressure, electrical conditions, and temperature conditions up to and including design basis accident conditions.	7.a.i A type test or a combination of type test and analysis will be performed of the ESWS safety-related valves.	7.a.i A Functional Qualification Report performed in conformance to ASME QME-1-2007, as accepted in Regulatory Guide 1.100 Revision 3, exists and concludes that the ESWS safety-related valves listed in Table 2.7.2.1-2 are functionally designed and capable of performing qualified to perform their safety-related function under the full range of fluid flow, differential pressure, electrical conditions, and temperature conditions up to and including design basis accident conditions.
	7.a.ii A diagnostic stroke test and analysis will be performed of the ESWS safety- relatedsafety-related valves under preoperational temperature, differential pressure, and flow conditions.	7.a.ii Each ESWS safety-related valve listed in Table 2.7.2.1-2 strokes fully open and fully closed by remote operation (or manual operation if a manually operated valve) under preoperational temperature, differential pressure, and flow conditions. with Analysis based on sufficient diagnostic data demonstrates that the valves will perform at their to correlate valve performance to its design-basis capability as established by the type test performed in accordance with 7.a.i.

	7.a.iii Tests of the as-built check valves will be performed under pre-operational test pressure, temperature, and fluid flow conditions.	7.a.iii Each check valve changes position as indicated in Table 2.7.2.1-2 under pre-operational test pressure, temperature, and fluid flow conditions.
7.b After loss of motive power, MOVs identified in Table 2.7.2.1-2 assume the indicated loss of motive power position.	7.b Tests of the as-built MOVs will be performed under the conditions of loss of motive power.	7.b Upon loss of motive power, each as-built MOVs identified in Table 2.7.2.1-2 assumes the indicated loss of motive power position.

Table 2.7.2.1-4 (4 of 5)

Design Commitment	Inspections, Tests, Analyses	Acceptance Criteria
8.a All cControls exist in the MCR to start and stop the ESW pumps, and to open and close MOVs identified in Table 2.7.2.1-2.	8.a Test will be performed using the controls in the MCR to start and stop the ESW pumps, and to open and close MOVs.	8.a All cControls in the as-built MCR start and stop the ESW pumps, and open and close MOVs identified in Table 2.7.2.1-2.
8.b All cControls exist in the RSR to start and stop the ESW pumps, and to open and close MOVs identified in Table 2.7.2.1-2.	8.b Test will be performed using the controls in the RSR to start and stop the ESW pumps, and to open and close MOVs.	8.b All cControls in the as-built RSR start and stop the ESW pumps, and open and close MOVs identified in Table 2.7.2.1-2.
8.c All dDisplays and alarms exist and are retrievable in the MCR as defined in Tables 2.7.2.1-2 and 2.7.2.1-3.	8.c Inspections will be performed on theof the as-built displays and alarms in the MCR will be performed.	8.c All dDisplays and alarms exist and are retrieved in the as-built MCR as defined in Tables 2.7.2.1-2 and 2.7.2.1-3.
8.d All dDisplays and alarms exist and are retrievable in the RSR as defined in Tables 2.7.2.1-2 and 2.7.2.1-3.	8.d Inspections will be performed on theof the as-built displays and alarms in the RSR will be performed.	8.d All dDisplays and alarms exist and are retrieved in the as-built RSR as defined in Tables 2.7.2.1-2 and 2.7.2.1-3.
9. The two mechanical divisions of the ESWS (A/C & B/D) are physically separated.	9. Inspection of the as-built mechanical divisions will be performed.	9. The two mechanical divisions of the ESWS are separated by a divisional wall or a fire barrier.
10. The ESWS has the capacity to remove heat from the CCWS during power operation, shutdown, refueling, and design basis accident conditions.	10. Testing and analyses will be performed to measure the as-built ESW pumps flow rates.	10. A report exists and concludes that the as-built ESW pumps deliver at least 75,708 L/min (20,000 gpm) of ESW to the CCW heat exchangers during power operation, refueling, and design basis accident conditions and the as-built ESW pumps deliver at least 104,477 L/min (27,600 gpm) of ESW to the CCW heat exchangers during shutdown operation.
11. The ESWS safety-related pumps are functionally designed and qualified to perform their safety-related function under the full range of fluid flow, differential pressure, electrical conditions, and temperature conditions up to and including design basis accident conditions.	11. A type test or a combination of type test and analysis will be performed of the ESWS safety-related pumps.	11. A Functional Qualification Report performed in conformance to ASME QME-1, as accepted in Regulatory Guide 1.100, exists and concludes that the ESWS safety-related pumps listed in Table 2.7.2.1-2 are capable of performing functionally designed and qualified to perform their safety-related function under the full range of fluid flow, differential pressure, electrical conditions, and temperature conditions up to and including design basis accident conditions.

12. The ESW pumps have net positive suction head (NPSH).	12. Test to measure the as-built ESW pump suction pressure will be performed. Inspection and analyses to determine NPSH available to each pump will be performed based on test data and as-built data.	12. A report exists and concludes that the as-built calculated available NPSH available exceeds each ESW pump's NPSH required.

Table 2.7.2.1-4 (5 of 5)

Design Commitment	Inspections, Tests, Analyses	Acceptance Criteria

Table 2.7.2.2-4 (1 of 7)

Component Cooling Water System ITAAC

Design Commitment	Inspections, Tests, Analyses	Acceptance Criteria
1. The functional arrangement of the CCWS is as described in the Design Description of Subsection 2.7.2.2.1 and in Table 2.7.2.2-1 and as shown in Figure 2.7.2.2-1.	1. Inspection of the as-built CCWS will be performed.	1. The as-built CCWS conforms with the functional arrangement as described in the Design Description of Subsection 2.7.2.2.1 and in Table 2.7.2.2-1 and as shown in Figure 2.7.2.2-1.
2.a The ASME Code components identified in Table 2.7.2.2-2 are designed and constructed in accordance with ASME Section III requirements.	2.a Inspection of the as-built ASME Code components identified in Table 2.7.2.2-2 will be performed and as documented in the ASME data report(s).	2.a The ASME Section III data report(s) exist and conclude that the as-built ASME Code components identified in Table 2.7.2.2-2 are designed and constructed in accordance with ASME Section III requirements.
2.b The ASME Code piping, including supports, identified in Table 2.7.2.2-1 is designed and constructed in accordance with ASME Section III requirements.	2.b Inspection of the as-built ASME Code piping, including supports, identified in Table 2.7.2.2-1 will be performed and as documented in the ASME data report(s).	2.b The ASME Section III data report(s) exist and conclude that the as-built ASME Code piping, including supports, identified in Table 2.7.2.2-1 is designed and constructed in accordance with ASME Section III requirements.
3.a Pressure boundary welds in ASME Code components identified in Table 2.7.2.2-2 meet ASME Section III requirements.	3.a Inspections of the as-built pressure boundary welds in ASME Code components identified in Table 2.7.2.2-2 will be performed in accordance with the ASME Section III.	3.a A report exists and concludes that the ASME Section III requirements are met for non-destructive examination of the as-built pressure boundary welds in ASME Code components identified in Table 2.7.2.2-2.
3.b Pressure boundary welds in ASME Code piping identified in Table 2.7.2.2-1 meet ASME Section III requirements.	3.b Inspections of the as-built pressure boundary welds in ASME Code piping identified in Table 2.7.2.2-1 will be performed in accordance with the ASME Section III.	3.b A report exists and concludes that the ASME Section III requirements are met for non-destructive examination of the as-built pressure boundary welds in ASME Code piping identified in Table 2.7.2.2-1.

Table 2.7.2.2-4 (2 of 7)

Design Commitment	Inspections, Tests, Analyses	Acceptance Criteria
4.a The ASME Code components identified in Table 2.7.2.2-2 retain their pressure boundary integrity at their design pressure.	4.a A hydrostatic test will be conducted on the as-built ASME Code components identified in Table 2.7.2.2-2 required to be hydrostatically tested by the ASME Section III.	4.a A report exists and concludes that the results of the hydrostatic test of the as-built ASME Code components identified in Table 2.7.2.2-2 conform with ASME Section III requirements.
4.b The ASME Code piping identified in Table 2.7.2.2-1 retains its pressure boundary integrity at its design pressure.	4.b A hydrostatic test will be conducted on the as-built ASME Code piping identified in Table 2.7.2.2-1 required to be hydrostatically tested by the ASME Section III.	4.b A report exists and concludes that the results of the hydrostatic test of the as-built ASME Code piping identified in Table 2.7.2.2-1 conform with ASME Section III requirements.
5.a The seismic Category I components and instruments identified in Tables 2.7.2.2-2 and 2.7.2.2-3, including the supports and anchorages, can withstand seismic design basis loads without loss of safety function.	5.a.i Inspections will be performed to verify that the as-built seismic Category I components and instruments are located in the seismic Category I structure.	5.a.i The as-built seismic Category I components and instruments identified in Tables 2.7.2.2-2 and 2.7.2.2-3 are located in the seismic Category I structure.
	5.a.ii Type tests, analyses or a combination of type tests and analyses of seismic Category I components and instruments will be performed.	5.a.ii A report exists and concludes that the seismic Category I components and instruments identified in Tables 2.7.2.2-2 and 2.7.2.2-3 can withstand seismic design basis loads without loss of safety function.
	5.a.iii Inspections will be performed to verify that the as-built seismic Category I components and instruments, including the supports and anchorages, are seismically bounded by the tested or analyzed conditions.	5.a.iii A report exists and concludes that the as-built seismic Category I components and instruments identified in Tables 2.7.2.2-2 and 2.7.2.2-3, including the supports and anchorages, are seismically bounded by the tested or analyzed conditions.

Table 2.7.2.2-4 (3 of 7)

Design Commitment	Inspections, Tests, Analyses	Acceptance Criteria
5.b The seismic Category I piping, including supports, identified in Table 2.7.2.2-1 can withstand seismic design basis loads without loss of safety function.	5.b.i Inspections will be performed to verify that the as-built seismic Category I piping, including supports, is located in the seismic Category I structure(s).	5.b.i The as-built seismic Category I piping, including supports, identified in Table 2.7.2.2-1 is located in the seismic Category I structure(s).
	5.b.ii Inspections and analyses of the as-built seismic Category I piping, including supports, will be performed.	5.b.ii A report exists and concludes that the as-built seismic Category I piping, including supports, identified in Table 2.7.2.2-1 can withstand seismic design basis loads without loss of safety function.
6.a The Class 1E components and instruments identified in Tables 2.7.2.2-2 and 2.7.2.2-3 as being qualified for a harsh environment (and the associated wiring, cables, and terminations) can withstand the environmental conditions that would exist before, during, and following a design basis accident without loss of safety function for the time required to perform the safety function.	6.a.i Type tests~~, analyses,~~ or a combination of type tests and analyses will be performed on Class 1E components and instruments located in a harsh environment.	6.a.i A report exists and concludes that the Class 1E components and instruments identified in Tables 2.7.2.2-2 and 2.7.2.2-3 as being qualified for a harsh environment can withstand the environmental conditions that would exist before, during, and following a design basis accident without loss of safety function for the time required to perform the safety function.
	6.a.ii Inspections will be performed on the as-built Class 1E components and instruments (and the associated wiring, cables, and terminations) located in a harsh environment.	6.a.ii A report exists and concludes that the as-built Class 1E components and instruments identified in Tables 2.7.2.2-2 and 2.7.2.2-3 ~~and the associated wiring, cables, and terminations identified in Tables 2.7.2.2-2 and 2.7.2.2-3~~ as being qualified for a harsh environment (and the associated wiring, cables, and terminations) are bounded by type tests~~, analyses,~~ or a combination of type tests and analyses.

Table 2.7.2.2-4 (4 of 7)

Design Commitment	Inspections, Tests, Analyses	Acceptance Criteria
6.b Each of the Class 1E components and instruments identified in Tables 2.7.2.2-2 and 2.7.2.2-3 is powered from its respective Class 1E division.	6.b Tests will be performed by providing a test signal in only one Class 1E division at a time.	6.b The test signal exists at the Class 1E components and instruments identified in Tables 2.7.2.2-2 and 2.7.2.2-3 as being powered from the Class 1E division under test.
6.c ~~Separation~~ Physical separation and electrical isolation is provided (1) between Class 1E divisions, and (2) between Class 1E divisions and non-Class 1E divisions.	6.c Inspection of the as-built Class 1E divisions will be performed.	6.c Physical separation and electrical isolation exist in accordance with NRC RG 1.75 (1) between ~~these~~ Class 1E divisions, and ~~also~~ (2) between Class 1E divisions and non-Class 1E divisions.
7.a The CCWS safety-related valves are functionally designed and qualified to perform their safety-related function under the full range of fluid flow, differential pressure, electrical ~~conditions~~, and temperature conditions up to and including design basis accident conditions.	7.a.i A type test or a combination of type test and analysis will be performed of the CCWS safety-related valves.	7.a.i A Functional Qualification Report performed in conformance to ASME QME-1-2007, as accepted in Regulatory Guide 1.100 Revision 3, exists and concludes that the CCWS safety-related valves listed in Table 2.7.2.2-2 are ~~capable of performing~~ functionally designed and qualified to perform their safety-related function under the full range of fluid flow, differential pressure, electrical ~~conditions~~, and temperature conditions up to and including design basis accident conditions.
	7.a.ii A diagnostic stroke test and analysis will be performed of the CCWS ~~safety-related~~safety-related valves under preoperational temperature, differential pressure, and flow conditions.	7.a.ii Each CCWS safety-related valve listed in Table 2.7.2.2-2 strokes fully open and fully closed by remote operation (or manual operation if a manually operated valve) under preoperational temperature, differential pressure, and flow conditions. ~~with~~ Analysis based on sufficient diagnostic data demonstrates that the valves will perform at their ~~to correlate valve performance to its~~ design basis capability as established by the type test performed in accordance with 7.a.i.
	7.a.iii Tests of the as-built check valves will be performed under pre-operational test pressure, temperature, and fluid flow conditions.	7.a.iii Each check valve changes position as indicated in Table 2.7.2.2-2 under pre-operational test pressure, temperature, and fluid flow conditions.
7.b After loss of motive power, MOVs and AOVs identified in Table 2.7.2.2-2 assume the indicated loss of motive power position.	7.b Test of the as-built MOVs and AOVs will be performed under the conditions of loss of motive power.	7.b Upon loss of motive power, each as-built MOVs or AOVs identified in Table 2.7.2.2-2 assumes the indicated loss of motive power position.

8.a	All controls required by the design Controls exist in the MCR to start and stop the CCW pumps and CCW makeup pumps, and to open and close MOVs and AOVs identified in Table 2.7.2.2-2.	8.a	Tests will be performed using the controls in the MCR to start and stop the CCW pumps and CCW makeup pumps, and to open and close MOVs and AOVs.	8.a	All controls Controls in the as-built MCR start and stop the CCW pumps and CCW makeup pumps, and open and close MOVs and AOVs identified in Table 2.7.2.2-2.

Table 2.7.2.2-4 (5 of 7)

Design Commitment	Inspections, Tests, Analyses	Acceptance Criteria
8.b All controls required by the design Controls exist in the RSR to start and stop the CCW pumps and CCW makeup pumps, and to open and close MOVs and AOVs identified in Table 2.7.2.2-2.	8.b Tests will be performed using the controls in the RSR to start and stop the CCW pumps and CCW makeup pumps, and to open and close MOVs and AOVs.	8.b All controls Controls in the as-built RSR start and stop the CCW pumps and CCW makeup pumps, and open and close MOVs and AOVs identified in Table 2.7.2.2-2.
8.c All dDisplays and alarms required by the design exist and are retrievable in the MCR as defined in Tables 2.7.2.2-2 and 2.7.2.2-3.	8.c Inspections will be performed on the of the as-built displays and alarms in the MCR will be performed.	8.c All dDisplays and alarms exist and can be are retrieved in the as- built MCR as defined in Tables 2.7.2.2-2 and 2.7.2.2-3.
8.d All dDisplays and alarms required by the design exist and are retrievable in the RSR as defined in Tables 2.7.2.2-2 and 2.7.2.2-3.	8.d Inspections will be performed on the of the as-built displays and alarms in the RSR will be performed.	8.d All dDisplays and alarms exist and can be are retrieved in the as- built RSR as defined in Tables 2.7.2.2-2 and 2.7.2.2-3.
9. The two mechanical divisions of the CCWS (A/C & B/D) are physically separated except for the cross connection lines between the divisions.	9. Inspection of the as-built mechanical divisions will be performed.	9. The two mechanical divisions of the CCWS are physically separated by a divisional wall that is a 3-hour rated fire barrier, except for cross connection lines which are normally separated by the redundant motor operated isolation valves.
10. The CCWS safety-related pumps are functionally designed and qualified to perform their safety-related function under the full range of fluid flow, differential pressure, electrical conditions, and temperature conditions up to and including design basis accident conditions.	10. A type test or a combination of type test and analysis will be performed of the CCWS safety-related pumps.	10. A Functional Qualification Report performed in conformance to ASME QME-1, as accepted in Regulatory Guide 1.100, exists and concludes that the CCWS safety-related pumps listed in Table 2.7.2.2-2 are capable of performing functionally designed and qualified to perform their safety-related function under the full range of fluid flow, differential pressure, electrical conditions, and temperature conditions up to and including design basis accident conditions.
11. The CCWS pumps and CCWS makeup pumps have sufficient net positive suction head (NPSH).	11. Test to measure the as-built CCW pump and CCW makeup pump suction pressure will be performed. Inspection and analyses to determine NPSH available to each pump will be performed based on test data and as-built data.	11. A report exists and concludes that the as-built calculated NPSH available exceeds each CCW pump's and CCW makeup pump's NPSH required.

Table 2.7.2.2-4 (6 of 7)

Design Commitment	Inspections, Tests, Analyses	Acceptance Criteria
12. The CCWS, in conjunction with the ESWS and UHS, has the capacity to dissipate the heat loads of connected components during power operation, shutdown, refueling and design basis accident conditions for at least 7 days of operation without surge tank makeup.	12.a A test of the as-built CCW pump will be performed to measure the flow rates to the CCW heat exchangers.	12.a The as-built CCW Pump identified in Table 2.7.2.2-2 delivers at least 43,532 L/min (11,500 gpm) of CCW to the CCW heat exchangers during power operation and design basis accident conditions and at least 40,504 L/min (10,700 gpm) of CCW to the CCW heat exchangers during shutdown and refueling operations.
	12.b Analyses will be performed to determine the heat removal capacities of the as-built CCW heat exchangers.	12.b A report exists and concludes that the product of the overall heat transfer coefficient and the effective heat exchange area, UA, of each CCW heat exchanger identified in Table 2.7.2.2-2 is greater than or equal to 7.5 × 106 cal/hr-°C (16.53 × 106 Btu/hr-°F).
	12.c Inspections and analyses will be performed to confirm the as-built CCW surge tank volume of 7 days operation without makeup.	12.c The as-built CCW surge tank volume is greater than or equal to the design volume of 32,200 L (8,500 gal).
	12.d Tests will be performed to determine the flow rate to the CS heat exchanger.	12.d The as-built CCW pump delivers at least 30,283 L/min (8,000 gpm) of CCW to the as-built CS heat exchanger.
	12.e Tests will be performed to determine the flow rate to the SC heat exchanger.	12.e The as-built CCW pump delivers at least 41,640 L/min (11,000 gpm) of CCW to the as-built SC heat exchanger.
	12 f Tests will be performed to determine the flow rate to each essential chiller condenser.	12 f The as-built CCW pump delivers at least 7,874 L/min (2,800 gpm) of CCW to one of two as-built essential chiller condensers.

Table 2.7.2.2-4 (7 of 7)

Design Commitment	Inspections, Tests, Analyses	Acceptance Criteria
12. (cont.)	12.g Tests will be performed to determine the flow rate to the SFPC heat exchanger.	12.g The as-built CCW pump delivers at least 13,249 L/min (3,500 gpm) of CCW to the as-built SFPC heat exchanger.
	12 h Tests will be performed to determine the flow rate to each emergency diesel generator.	12 h The as-built CCW pump delivers at least 18,170 L/min (2,400 gpm) and 14,612 L/min (1,930 gpm) of CCW to the as-built emergency diesel generator A/B and C/D respectively.
	12.i Tests will be performed to determine the flow rate to each RCP coolers.	12.i The as-built CCW pump delivers at least 1,675 L/min (442.5 gpm) of CCW to each as-built RCP coolers.
13. The CCWS non-metallic parts, materials, and lubricants used in ~~safety related~~safety-related mechanical equipment perform their safety-related function up to the end of their qualified life in the design basis harsh environmental conditions (both internal service conditions and external environmental conditions) experienced during normal operations, anticipated operational occurrences, design-basis accidents, and post accident conditions.	13. A type test or a combination of type test and analysis will be performed of the CCWS non-metallic parts, materials, and lubricants used in ~~safety related~~safety-related mechanical equipment.	13. A ~~qualification~~ report exists and concludes that the non-metallic parts, materials, and lubricants used in ~~safety related~~safety-related mechanical equipment listed in Table 2.7.2.2-2 perform their ~~safety related~~safety-related function up to the end of their qualified life under the design basis harsh environmental conditions (both internal service conditions and external environmental conditions) experienced during normal operations, anticipated operational occurrences, design-basis accidents, and post accident conditions ~~specified in the qualification report~~.

Table 2.7.2.3-4 (1 of 5)

Essential Chilled Water System ITAAC

Design Commitment	Inspections, Tests, Analyses	Acceptance Criteria
1. The functional arrangement of the ECWS is as described in the Design Description of Subsection 2.7.2.3.1 and in Table 2.7.2.3-1 and as shown in Figure 2.7.2.3-1.	1. Inspection of the as-built ECWS will be performed.	1. The as-built ECWS conforms with the functional arrangement as described in the Design Description of Subsection 2.7.2.3.1 and in Table 2.7.2.3-1 and as shown in Figure 2.7.2.3-1.
2.a The ASME Code components identified in Table 2.7.2.3-2 are designed and constructed in accordance with ASME Section III requirements.	2.a Inspection of the as-built ASME Code components identified in Table 2.7.2.3-2 will be performed and as documented in the ASME data report(s).	2.a The ASME Section III data report(s) exist and conclude that the as-built ASME Code components identified in Table 2.7.2.3-2 are designed and constructed in accordance with ASME Section III requirements.
2.b The ASME Code piping, including supports, identified in Table 2.7.2.3-1 is designed and constructed in accordance with ASME Section III requirements.	2.b Inspection of the as-built ASME Code piping, including supports, identified in Table 2.7.2.3-1 will be performed and as documented in the ASME data report(s).	2.b The ASME Section III data report(s) exist and conclude that the as-built ASME Code piping, including supports, identified in Table 2.7.2.3-1 is designed and constructed in accordance with ASME Section III requirements.
3.a Pressure boundary welds in ASME Code components identified in Table 2.7.2.3-2 meet ASME Section III requirements.	3.a Inspections of the as-built pressure boundary welds in ASME Code components identified in Table 2.7.2.3-2 will be performed in accordance with the ASME Section III.	3.a A report exists and concludes that ASME Section III requirements are met for non-destructive examination of the as-built pressure boundary welds in ASME Code components identified in Table 2.7.2.3-2.
3.b Pressure boundary welds in ASME Code piping identified in Table 2.7.2.3-1 meet ASME Section III requirements.	3.b Inspections of the as-built pressure boundary welds in ASME Code piping identified in Table 2.7.2.3-1 will be performed in accordance with the ASME Section III.	3.b A report exists and concludes that Section III requirements are the ASME Section III requirements are met for non-destructive examination of the as-built pressure boundary welds in ASME Code piping identified in Table 2.7.2.3-1.

Table 2.7.2.3-4 (2 of 5)

Design Commitment	Inspections, Tests, Analyses	Acceptance Criteria
4.a The ASME Code components identified in Table 2.7.2.3-2 retain their pressure boundary integrity at their design pressure.	4.a A hydrostatic test will be conducted on the as-built ASME Code components identified in Table 2.7.2.3-2 required to be hydrostatically tested by the ASME Section III.	4.a A report exists and concludes that the results of the hydrostatic test of the as-built ASME Code components identified in Table 2.7.2.3-2 conform with ASME Section III requirements.
4.b The ASME Code piping identified in Table 2.7.2.3-1 retains its pressure boundary integrity at its design pressure.	4.b A hydrostatic test will be conducted on the as-built ASME Code piping identified in Table 2.7.2.3-1 required to be hydrostatically tested by the ASME Section III.	4.b A report exists and concludes that the results of the hydrostatic test of the as-built ASME Code piping identified in Table 2.7.2.3-1 conform with ASME Section III requirements.
5.a The seismic Category I components and instruments identified in Tables 2.7.2.3-2 and 2.7.2.3-3, including the supports and anchorages, withstand seismic design basis loads without loss of safety function.	5.a.i Inspections will be performed to verify that the as-built seismic Category I components and instruments are located in the seismic Category I structure.	5.a.i The as-built seismic Category I components and instruments identified in Tables 2.7.2.3-2 and 2.7.2.3-3 are located in the seismic Category I structure.
	5.a.ii Type tests, analyses, or a combination of type tests and analyses of seismic Category I components and instruments will be performed.	5.a.ii A report exists and concludes that the seismic Category I components and instruments identified in Tables 2.7.2.3-2 and 2.7.2.3-3 withstand seismic design basis loads without loss of safety function.
	5.a.iii Inspections will be performed to verify that the as-built seismic Category I components and instruments, including the supports and anchorages, are seismically bounded by the tested or analyzed conditions.	5.a.iii A report exists and concludes that the as-built seismic Category I components and instruments identified in Tables 2.7.2.3-2 and 2.7.2.3-3, including the supports and anchorages, are seismically bounded by the tested or analyzed conditions.
5.b The seismic Category I piping, including supports, identified in Table 2.7.2.3-1 withstand seismic design basis loads without loss of safety function.	5.b.i Inspections will be performed to verify that the as-built seismic Category I piping, including supports, is located in the seismic Category I structure.	5.b.i The as-built seismic Category I piping, including supports, identified in Table 2.7.2.3-1 is located in the seismic Category I structure.

Table 2.7.2.3-4 (3 of 5)

Design Commitment	Inspections, Tests, Analyses	Acceptance Criteria
5.b (cont.)	5.b.ii Inspections and analyses of the as-built seismic Category I piping, including supports, will be performed.	5.b.ii A report exists and concludes that the as-built seismic Category I piping, including supports, identified in Table 2.7.2.3-1 withstand seismic design basis loads without loss of safety function.
6.a Each of the Class 1E components and instruments identified in Tables 2.7.2.3-2 and 2.7.2.3-3 is powered from its respective Class 1E division.	6.a Test will be performed by providing a test signal in only one Class 1E division at a time.	6.a The test signal exists at the Class 1E components and instruments identified in Tables 2.7.2.3-2 and 2.7.2.3-3 as being powered from the Class 1E division under test.
6.b ~~Separation~~ Physical separation and electrical isolation is provided (1) between Class 1E divisions, and (2) between Class 1E divisions and non-Class 1E divisions.	6.b Inspection of the as-built Class 1E divisions will be performed.	6.b Physical separation and electrical isolation exists in accordance with NRC RG 1.75 between (1) ~~these~~ Class 1E divisions, and ~~also~~ (2) between Class 1E divisions and non-Class 1E divisions.
7.a The ECWS safety-related valves are functionally designed and qualified to perform their safety-related function under the full range of fluid flow, differential pressure, electrical ~~conditions~~, and temperature conditions up to and including design basis accident conditions.	7.a.i A type test or a combination of type test and analyses will be performed to demonstrate their capabilities of the ECWS safety-related valves.	7.a.i A Functional Qualification Report performed in conformance to ASME QME-1-2007, as accepted in Regulatory Guide 1.100 Revision 3, exists and concludes that the ECWS safety-related valves listed in Table 2.7.2.3-2 are ~~capable of performing~~ functionally designed and qualified to perform their safety-related function under the full range of fluid flow, differential pressure, electrical ~~conditions~~, and temperature conditions up to and including design basis accident conditions.
	7.a.ii A diagnostic stroke test and analysis will be performed of the ECWS ~~safety-related~~safety-related valves under preoperational temperature, differential pressure, and flow conditions.	7.a.ii Each ECWS safety-related valve listed in Table 2.7.2.3-2 strokes fully open and fully closed by remote operation (or manual operation if a manually operated valve) under preoperational temperature, differential pressure, and flow conditions. ~~with~~ Analysis based on sufficient diagnostic data demonstrates that the valves will perform at their ~~to correlate valve performance to its~~ design-basis capability as established by the type test performed in accordance with 7.a.i.

	7.a.iii Tests of the as-built check valves will be performed under pre-operational test pressure, and fluid flow conditions.	7.a.iii Each check valve changes position as indicated in Table 2.7.2.3-2 under pre-operational test pressure, and fluid flow conditions.
7.b After loss of motive power, AOVs identified in Table 2.7.2.3-2 assume the indicated loss of motive power position.	7.b Test of the as-built AOVs will be performed under the conditions of loss of motive power.	7.b Upon loss of motive power, each as-built AOV identified in Table 2.7.2.3-2 assumes the indicated loss of motive position.

Table 2.7.2.3-4 (4 of 5)

Design Commitment	Inspections, Tests, Analyses	Acceptance Criteria
8.a All controls required by the design Controls exist in the MCR to start and stop the essential chillers and pumps identified in Table 2.7.2.3- 2.	8.a Tests will be performed using the controls in the MCR to start and stop the essential chillers and pumps.	8.a All controls Controls in the as-built MCR start and stop the essential chillers and pumps identified in Table 2.7.2.3-2.
8.b All controls required by the design Controls exist in the RSR to start and stop the essential chillers and pumps identified in Table 2.7.2.3- 2.	8.b Tests will be performed using the controls in the RSR to start and stop the essential chillers and pumps.	8.b All controlsControls in the as-built RSR start and stop the essential chillers and pumps identified in Table 2.7.2.3-2.
8.c All dDisplays and alarms required by the design exist and are retrievable in the MCR as defined in Tables 2.7.2.3-2 and 2.7.2.3-3.	8.c Inspections will be performed on theof the as-built displays and alarms in the MCR will be performed.	8.c All dDisplays and alarms exist and are retrieved in the as-built MCR as defined in Tables 2.7.2.3-2 and 2.7.2.3-3.
8.d All dDisplays and alarms required by the design exist and are retrievable in the RSR as defined in Tables 2.7.2.3-2 and 2.7.2.3-3.	8.d Inspections will be performed on theof the as-built displays and alarms in the RSR will be performed.	8.d All dDisplays and alarms exist and are retrieved in the as-built RSR as defined in Tables 2.7.2.3-2 and 2.7.2.3-3.
9. The two mechanical divisions of the ECWS are physically separated.	9. Inspections of the as-built mechanical divisions will be performed.	9. The two mechanical divisions of the ECWS are physically separated by a divisional wall that is a 3-hour rated fire barrier.
10. The ECWS safety-related pumps are functionally designed and qualified to perform their safety-related function under the full range of fluid flow, differentia pressure, electrical conditions, and temperature conditions up to and including design basis accident conditions.	10. A type test or a combination of type test and analysis will be performed of the ECWS safety-related pumps.	10. A Functional Qualification Report performed in conformance to ASME QME-1, as accepted in Regulatory Guide 1.100, exists and concludes that the ECWS safety-related pumps listed in Table 2.7.2.3-2 are capable of performingfunctionally designed and qualified to perform their safety-related function under the full range of fluid flow, differential pressure, electrical conditions, and temperature conditions up to and including design basis accident conditions.
11. The ECW pumps and ECW makeup pumps have sufficient net positive suction head (NPSH).	11. Test to measure the as-built ECW pump and ECW makeup pump suction pressure will be performed. Inspection and analyses to determine NPSH available to each pump will be performed. The analyses will be performed using the vendor's pump NPSH required test results and the following information: - pressure losses of pump inlet piping and components, and - suction head from the ECW compression tank with its operating pressure and minimum level.	11. A report exists and concludes that the as-built calculated NPSH available exceeds each ECW pump's and ECW makeup pump's NPSH required.

Table 2.7.2.3-4 (5 of 5)

Design Commitment	Inspections, Tests, Analyses	Acceptance Criteria
12. The ECW compression tank accommodates liquid volume due to thermal expansion and contraction, and 7 day system operation without normal makeup.	12. Inspection and analysis will be performed on the as-built ECW compression tank size to verify that tank accommodates water volume due to thermal expansion and contraction, and 7 day system operation without normal makeup.	12. A report exists and concludes that the as-built ECW compression tank accommodates the water volume due to thermal expansion and contraction, and 7 day system operation without normal makeup.
13. The ECWS has the capability to remove heat from safety-related HVAC equipment cooling coils during plant normal, abnormal and accident conditions	13.a Tests to verify the heat removal capability of the as-built ECWS will be performed.	13.a A report exists and concludes that the heat removal capability of the as-built ECWS is greater than or equal to design value during plant normal, abnormal and accident conditions
	13.b Testing will be performed to measure the as-built ECW pump flow rate.	13.b The as-built ECW pump is capable of delivering its design flow rate during plant normal, abnormal and accident conditions.

Table 2.7.2.4-1

Plant Chilled Water System ITAAC

Design Commitment	Inspections, Tests, Analyses	Acceptance Criteria
1. The functional arrangement of the PCWS is as described in the Design Description of Subsection 2.7.2.4.1.	1. Inspection of the as-built PCWS will be performed.	1. The as-built PCWS conforms with the functional arrangement as described in the Design Description of Subsection 2.7.2.4.1.

Table 2.7.2.5-4 (1 of 5)

Equipment and Floor Drainage System ITAAC

Design Commitment	Inspections, Tests, Analyses	Acceptance Criteria
1. The functional arrangement of the EFDS is as described in the Design Description of Subsection 2.7.2.5.1 and in Table 2.7.2.5-1 and as shown in Figure 2.7.2.5-1.	1. Inspection of the as-built EFDS will be performed.	1. The as- built EFDS conforms with the functional arrangement as described in the Design Description of Subsection 2.7.2.5.1 and as shown in Figure 2.7.2.5-1 and in Table 2.7.2.5-1.
2.a The ASME Code components identified in Table 2.7.2.5-2 are designed and constructed in accordance with ASME Section III requirements.	2.a Inspection of the as-built ASME Code components identified in Table 2.7.2.5-2 will be performed as documented in ASME data report(s).	2.a The ASME Section III data report(s) exist and conclude that as-built ASME Code components identified in Table 2.7.2.5-2 are designed and constructed in accordance with ASME Section III requirements.
2.b The ASME Code piping, including supports, identified in Table 2.7.2.5-1 is designed and constructed in accordance with ASME Section III requirements.	2.b Inspection of the as-built ASME Code piping, including supports, identified in Table 2.7.2.5-1 will be performed as documented in ASME data report(s).	2.b The ASME Section III data report(s) exist and conclude that as-built ASME Code piping, including supports, identified in Table 2.7.2.5-1 are designed and constructed in accordance with ASME Section III requirements.
3.a The seismic Category I components and instruments identified in Tables 2.7.2.5-2 and 2.7.2.5-3, including the supports and anchorages, can withstand seismic design basis loads without loss of safety function.	3.a.i Inspections will be performed to verify that the as-built seismic Category I components and instruments are located in the seismic Category I structure.	3.a.i The as-built seismic Category I components and instruments identified in Tables 2.7.2.5-2 and 2.7.2.5-3 are located in the seismic Category I structure.
	3.a.ii Type tests, analyses or a combination of type tests and analyses of seismic Category I components and instruments will be performed.	3.a.ii A report exists and concludes that the seismic Category I components and instruments identified in Tables 2.7.2.5-2 and 2.7.2.5-3 can withstand seismic design basis loads without loss of safety function.

Table 2.7.2.5-4 (2 of 5)

Design Commitment	Inspections, Tests, Analyses	Acceptance Criteria
3.a (cont.)	3.a.iii Inspections will be performed to verify that the as-built seismic Category I components and instruments, including the supports and anchorages, are seismically bounded by the tested or analyzed conditions.	3.a.iii A report exists and concludes that the as-built seismic Category I components and instruments identified in Tables 2.7.2.5-2 and 2.7.2.5-3, including the supports and anchorages, are seismically bounded by the tested or analyzed conditions.
3.b The seismic Category I piping, including supports, identified in Table 2.7.2.5-1 can withstand seismic design basis loads without loss of safety function.	3.b.i Inspections will be performed to verify that the as-built seismic Category I piping, including supports, is located in the seismic Category I structure(s).	3.b.i The as-built seismic Category I piping, including supports, identified in Table 2.7.2.5-1 is located in the seismic Category I structure(s).
	3.b.ii Inspections and analyses of the as-built seismic Category I piping, including supports, will be performed.	3.b.ii A report exists and concludes that the as-built seismic Category I piping, including supports, identified in Table 2.7.2.5-1 can withstand seismic design basis loads without loss of its safety function.
4. Floor drains in the auxiliary building (AB) are physically separated into quadrants (two in each division) and there are no common floor drain lines among quadrants.	4. Inspection of the EFDS will be performed.	4. A report exists and concludes that the floor drains in the auxiliary building (AB) are physically separated into quadrants by walls and have no common drain lines among quadrants.

Table 2.7.2.5-4 (3 of 5)

Design Commitment	Inspections, Tests, Analyses	Acceptance Criteria
5.a The Class 1E components and instruments identified in Tables 2.7.2.5-2 and 2.7.2.5-3 as being qualified for a harsh environment (and the associated wiring, cables, and terminations) can withstand the environmental conditions that would exist before, during, and following a design basis accident without loss of safety function for the time required to perform the safety function.	5.a.i Type tests, analyses, or a combination of type tests and analyses will be performed on Class 1E components and instruments located in a harsh environment.	5.a.i A report exists and concludes that the Class 1E components and instruments identified in Tables 2.7.2.5-2 and 2.7.2.5-3 as being qualified for a harsh environment can withstand the environmental conditions that would exist before, during, and following a design basis accident without loss of safety function for the time required to perform the safety function.
	5.a.ii Inspections will be performed on the as-built Class 1E components and instruments (and the associated wiring, cables, and terminations) located in a harsh environment.	5.a.ii A report exists and concludes that the as-built Class 1E components and instruments identified in Tables 2.7.2.5-2 and 2.7.2.5-3 and the associated wiring, cables, and terminations identified in Tables 2.7.2.5-2 and 2.7.2.5-3 as being qualified for a harsh environment (and the associated wiring, cables, and terminations) are bounded by type tests, analyses, or a combination of type tests and analyses.
5.b Each of the Class 1E components and instruments identified in Tables 2.7.2.5-2 and 2.7.2.5-3 is powered from its respective Class 1E division.	5.b Test will be performed by providing a test signal in only one Class 1E division at a time.	5.b The test signal exists at the Class 1E components and instruments identified in Tables 2.7.2.5-2 and 2.7.2.5-3 as being powered from the Class 1E division under test.
5.c SeparationPhysical separation and electrical isolation is provided (1) between Class 1E divisions, and (2) between Class 1E divisions and non-Class 1E divisions.	5.c Inspection of the as-built Class 1E divisions will be performed.	5.c Physical separation and electrical isolation exist in accordance with NRC RG 1.75 (1) between these Class 1E divisions, and also (2) between Class 1E divisions and non-Class 1E divisions.

Table 2.7.2.5-4 (4 of 5)

Design Commitment	Inspections, Tests, Analyses	Acceptance Criteria
6.a The EFDS safety-related valves are functionally designed and qualified to perform their safety-related function under the full range of fluid flow, differential pressure, electrical conditions, and temperature conditions up to and including design basis accident conditions.	6.a.i A type test or a combination of type test and analysis will be performed of the EFDS safety-related valves.	6.a.i A Functional Qualification Report performed in conformance to ASME QME-1-2007, as accepted in Regulatory Guide 1.100 Revision 3, exists and concludes that the EFDS safety-related valves listed in Table 2.7.2.5-2 are capable of performing functionally designed and qualified to perform their safety related function under the full range of fluid flow, differential pressure, electrical conditions, and temperature conditions up to and including design basis accident conditions.
	6.a.ii A diagnostic stroke test and analysis will be performed of the EFDS safety relatedsafety-related valves under preoperational temperature, differential pressure, and flow conditions.	6.a.ii Each EFDS safety-related valve listed in Table 2.7.2.5-2 strokes fully open and fully closed by remote operation (or manual operation if a manually operated valve) under preoperational temperature, differential pressure, and flow conditions. with Analysis based on sufficient diagnostic data demonstrates that the valves will perform at their to correlate valve performance to its design-basis capability as established by the type test performed in accordance with 6.a.i.
6.b After loss of motive power, MOV and AOV identified in Table 2.7.2.5-2 assume the indicated loss of motive power position.	6.b Test of the as-built MOV and AOV will be performed under the conditions of loss of motive power.	6.b Upon loss of motive power, each as-built MOV or AOV identified in Table 2.7.2.5-2 assumes the indicated loss of motive power position.

7.a ~~All controls required by the design~~ <ins>Controls</ins> exist in the MCR to open and close <ins>the</ins> MOV and AOV identified in Table 2.7.2.5-2.	7.a Tests will be performed using the controls in the MCR <ins>to open and close the MOV and AOV</ins>.	7.a ~~All controls~~ <ins>Controls</ins> in the as-built MCR open and close the MOV and AOV identified in Table 2.7.2.5-2.

7.b All controls required by the design Controls exist in the RSR to open and close the MOV and AOV identified in Table 2.7.2.5-2.	7.b Tests will be performed using the controls in the RSR to open and close MOV and AOV.	7.b All controlsControls in the as-built RSR open and close the MOV and AOV identified in Table 2.7.2.5-2.
7.c All dDisplays and alarms required by the design exist and are retrievable in the MCR as defined in Table 2.7.2.5-3.	7.c Inspections will be performed on theof the as-built displays and alarms in the MCR will be performed.	7.c All dDisplays and alarms exist and can be are retrieved in the MCR as defined in Table 2.7.2.5-3.
7.d All dDisplays and alarms required by the design exist and are retrievable in the RSR as defined in Table 2.7.2.5-3.	7.d Inspections will be performed on the of the as-built displays and alarms in the RSR will be performed.	7.d All dDisplays and alarms exist and can be are retrieved in the RSR as defined in Table 2.7.2.5-3.

Table 2.7.2.5-4 (5 of 5)

Design Commitment	Inspections, Tests, Analyses	Acceptance Criteria
9. Leak detection design for the tank house sump for holdup tank, BAST, and RMWT provides an alarm in MCR of liquid detection.	9. Inspection of the as-built leak detection system and signal test is conducted to verify the alarm in the MCR.	9. The ~~as- built~~as-built leak detection instrumentation is installed as designed; and the alarm is verified in the MCR.
10. The EFDS non-metallic parts, materials, and lubricants used in ~~safety related~~safety-related mechanical equipment perform their safety-related function up to the end of their qualified life in the design basis harsh environmental conditions (both internal service conditions and external environmental conditions) experienced during normal operations, anticipated operational occurrences, design-basis accidents, and post accident conditions.	10. A type test or a combination of type test and analysis will be performed of the EFDS non-metallic parts, materials, and lubricants used in ~~safety related~~safety-related mechanical equipment.	10. A ~~qualification~~ report exists and concludes that the non-metallic parts, materials, and lubricants used in ~~safety related~~safety-related mechanical equipment listed in Table 2.7.2.5-2 perform their ~~safety related~~safety-related function up to the end of their qualified life under the design basis harsh environmental conditions (both internal service conditions and external environmental conditions) experienced during normal operations, anticipated operational occurrences, design-basis accidents, and post accident conditions ~~specified in the qualification report~~.

Table 2.7.2.6-4 (1 of 5)

Process and Post-Accident Sampling System ITAAC

Design Commitment	Inspections, Tests, Analyses	Acceptance Criteria
1. The functional arrangement of the PPASS is as described in the Design Description of Subsection 2.7.2.6.1 and in Table 2.7.2.6-1 and as shown in Figure 2.7.2.6-1.	1. Inspection of the as-built system will be performed.	1. The as-built PPASS conforms with the functional arrangement as described in the Design Description of Subsection 2.7.2.6.1 and in Table 2.7.2.6-1 and as shown in Figure 2.7.2.6-1.
2.a The ASME Code components identified in Table 2.7.2.6-2 are designed and constructed in accordance with ASME Section III requirements.	2.a Inspection of the as-built ASME Code components identified in Table 2.7.2.6-2 will be performed and ~~as~~ documented in the ASME data report(s).	2.a The ASME Section III data report(s) exist and conclude that the as-built ASME Code components identified in Table 2.7.2.6-2 are designed and constructed in accordance with ASME Section III requirements.
2.b The ASME Code piping, including supports, identified in Table 2.7.2.6-1 is designed and constructed in accordance with ASME Section III requirements.	2.b Inspection of the as-built ASME Code piping, including supports, identified in Table 2.7.2.6-1 will be performed and ~~as~~ documented in the ASME data report(s).	2.b The ASME Section III data report(s) exist and conclude that the as-built ASME Code piping, including supports, identified in Table 2.7.2.6-1 is designed and constructed in accordance with ASME Section III requirements.
3.a Pressure boundary welds in ASME Code components identified in Table 2.7.2.6-2 meet ASME Section III requirements.	3.a Inspections of the as-built pressure boundary welds in ASME Code components identified in Table 2.7.2.6-2 will be performed in accordance with the ASME Section III.	3.a A report exists and concludes that the ASME Section III requirements are met for non-destructive examination of the as-built pressure boundary welds in ASME Code components identified in Table 2.7.2.6-2.
3.b Pressure boundary welds in ASME Code piping identified in Table 2.7.2.6-1 meet ASME Section III requirements.	3.b Inspections of the as-built pressure boundary welds in ASME Code piping identified in Table 2.7.2.6-1 will be performed in accordance with the ASME Section III.	3.b A report exists and concludes that the ASME Section III requirements are met for non-destructive examination of the as-built pressure boundary welds in ASME Code piping identified in Table 2.7.2.6-1.

Table 2.7.2.6-4 (2 of 5)

Design Commitment	Inspections, Tests, Analyses	Acceptance Criteria
4.a The ASME Code components identified in Table 2.7.2.6-2 retain their pressure boundary integrity at their design pressure.	4.a A hydrostatic test will be conducted on the as-built ASME Code components identified in Table 2.7.2.6-2 required to be hydrostatically tested by the ASME Section III.	4.a A report exists and concludes that the results of the hydrostatic test of the as-built ASME Code components identified in Table 2.7.2.6-2 conform with ASME Section III requirements.
4.b The ASME Code piping identified in Table 2.7.2.6-1 retains its pressure boundary integrity at its design pressures.	4.b A hydrostatic test will be conducted on the as-built ASME Code piping identified in Table 2.7.2.6-1 required to be hydrostatically tested by the ASME Section III.	4.b A report exists and concludes that the results of the hydrostatic test of the as-built ASME Code piping identified in Table 2.7.2.6-1 conform with ASME Section III requirements.
5.a The seismic Category I components and instruments identified in Tables 2.7.2.6-2 and 2.7.2.6-3, including the supports and anchorages, can withstand seismic design basis loads without loss of safety function.	5.a.i Inspections will be performed to verify that the as-built seismic Category I components and instruments are located in a seismic Category I structure(s).	5.a.i The as-built seismic Category I components and instruments identified in Tables 2.7.2.6-2 and 2.7.2.6-3 is located in a seismic Category I structure(s).
	5.a.ii Type tests, analyses or a combination of type tests and analyses of seismic Category I components and instruments will be performed.	5.a.ii A report exists and concludes that the seismic Category I components and instruments identified in Tables 2.7.2.6-2 and 2.7.2.6-3 withstand seismic design basis loads without loss of safety function.
	5.a.iii Inspections will be performed to verify that the as-built seismic Category I components and instruments, including the supports and anchorages, are seismically bounded by the tested or analyzed conditions.	5.a.iii A report exists and concludes that the as-built seismic Category I components and instruments identified in Tables 2.7.2.6-2 and 2.7.2.6-3, including the supports and anchorages, are seismically bounded by the tested or analyzed conditions.
5.b The seismic Category I piping, including supports, identified in Table 2.7.2.6-1 withstands seismic design basis loads without loss of safety function.	5.b.i Inspections will be performed to verify that the as-built seismic Category I piping, including supports, is located in the seismic Category I structure(s).	5.b.i The as-built seismic Category I piping, including supports, identified in Table 2.7.2.6-1 is located in the seismic Category I structure(s).

Table 2.7.2.6-4 (3 of 5)

Design Commitment	Inspections, Tests, Analyses	Acceptance Criteria
5.b (cont.)	5.b.ii Inspections and analyses of the as-built seismic Category I piping, including supports, will be performed.	5.b.ii A report exists and concludes that the as-built seismic Category I piping, including supports, identified in Table 2.7.2.6-1 withstands seismic design basis loads without loss of safety function.
6.a The Class 1E components and instruments identified in Tables 2.7.2.6-2 and 2.7.2.6-3 as being qualified for a harsh environment (and the associated wiring, cables, and terminations) withstand the environmental conditions that would exist before, during, and following a design basis accident without loss of safety function for the time required to perform the safety function.	6.a.i Type tests, analyses or a combination of type tests and analyses will be performed on Class 1E components and instruments located in a harsh environment.	6.a.i A report exists and concludes that the Class 1E components and instruments identified in Tables 2.7.2.6-2 and 2.7.2.6-3 as being qualified for a harsh environment withstand the environmental conditions that would exist before, during, and following a design basis accident without loss of safety function for the time required to perform the safety function.
	6.a.ii Inspection will be performed on the as-built Class 1E components and instruments (and the associated wiring, cables, and terminations) located in a harsh environment.	6.a.ii A report exists and concludes that the as-built Class 1E components and instruments identified in Tables 2.7.2.6-2 and 2.7.2.6-3 and the associated wiring, cables, and terminations identified in Tables 2.7.2.6-2 and 2.7.2.6-3 as being qualified for a harsh environment (and the associated wiring, cables, and terminations) are bounded by type tests, analyses, or a combination of type tests and analyses.
6.b Each of the Class 1E components and instruments identified in Tables 2.7.2.6-2 and 2.7.2.6-3 is powered from its respective Class 1E division.	6.b Tests will be performed by providing a test signal in only one Class 1E division at a time.	6.b The test signal exists at the Class 1E components and instruments identified in Tables 2.7.2.6-2 and 2.7.2.6-3 as being powered from the Class 1E division under test.
6.c Separation Physical separation and electrical isolation is provided (1) between Class 1E divisions, and (2) between Class 1E divisions and non- Class 1E divisions.	6.c Inspections of the as-built Class 1E divisions will be performed.	6.c Physical separation and electrical isolation exist in accordance with NRC RG 1.75 (1) between these Class 1E divisions, and also (2) between Class 1E divisions and non-Class 1E divisions.

Table 2.7.2.6-4 (4 of 5)

Design Commitment	Inspections, Tests, Analyses	Acceptance Criteria
7.a The PPASS safety-related valves are functionally designed and qualified to perform their safety-related function under the full range of fluid flow, differential pressure, electrical conditions, and temperature conditions up to and including design basis accident conditions.	7.a.i A type test or a combination of type test and analysis will be performed of the PPASS safety-related valves.	7.a.i A Functional Qualification Report performed in conformance to ASME QME-1-2007, as accepted in Regulatory Guide 1.100 Revision 3, exists and concludes that the PPASS safety-related valves listed in Table 2.7.2.6-2 are capable of performing functionally designed and qualified to perform their safety-related function under the full range of fluid flow, differential pressure, electrical conditions, and temperature conditions up to and including design basis accident conditions.
	7.a.ii A diagnostic stroke test and analysis will be performed of the PPASS safety-relatedsafety-related valves under preoperational temperature, differential pressure, and flow conditions.	7.a.ii Each PPASS safety-related valve listed in Table 2.7.2.6-2 strokes fully open and fully closed by remote operation (or manual operation if a manually operated valve) under preoperational temperature, differential pressure, and flow conditions. with Analysis based on sufficient diagnostic data demonstrates that the valves will perform at their to correlate valve performance to its design basis capability as established by the type test performed in accordance with 7.a.i.
	7.a.iii Tests of the as-built check valves will be performed under pre-operational test pressure, temperature, and fluid flow conditions.	7.a.iii Each check valve changes position as indicated in Table 2.7.2.6-2 under pre-operational test pressure, temperature, and fluid flow conditions.
7.b After loss of motive power, MOVs and SOVs identified in Table 2.7.2.6-2 assume the indicated loss of motive power position.	7.b Tests of the as-built MOVs and SOVs will be performed under the conditions of loss of motive power.	7.b Upon loss of motive power, each as-built MOV or SOV identified in Table 2.7.2.6-2 assumes the indicated loss of motive power position.
8.a All controls Controls exist in the MCR to open and close the MOVs and SOVs identified in Table 2.7.2.6-2.	8.a Tests will be performed using the controls in the MCR to open and close the MOVs and SOVs.	8.a All controls Controls in the as-built MCR open and close the MOVs and SOVs identified in Table 2.7.2.6-2.
8.b All controls Controls exist in the RSR to open and close MOVs and SOVs identified in Table 2.7.2.6-2.	8.b Tests will be performed using the controls in the RSR to open and close MOVs and SOVs.	8.b All controls Controls in the as-built RSR open and close the MOVs and SOVs identified in Table 2.7.2.6-2.

8.c	~~All d~~Displays and alarms exist and are retrievable in the MCR as defined in Tables 2.7.2.6-2 and 2.7.2.6-3.	8.c	Inspections ~~will be performed on the~~of the as-built displays and alarms in the MCR will be performed.	8.c	~~All d~~Displays and alarms exist and are retrieved in the as-built MCR as defined in Tables 2.7.2.6-2 and 2.7.2.6-3.

Table 2.7.2.6-4 (5 of 5)

Design Commitment	Inspections, Tests, Analyses	Acceptance Criteria
8.d All dDisplays and alarms exist and are retrievable in the RSR as defined in Tables 2.7.2.6-2 and 2.7.2.6- 3.	8.d Inspections will be performed on theof the as-built displays and alarms in the RSR will be performed.	8.d All dDisplays and alarms exist and are retrieved in the as- built RSR as defined in Tables 2.7.2.6-2 and 2.7.2.6-3.
10. The PPASS non-metallic parts, materials, and lubricants used in safety related mechanical equipment perform their safety-related function up to the end of their qualified life in the design basis harsh environmental conditions (both internal service conditions and external environmental conditions) experienced during normal operations, anticipated operational occurrences, design-basis accidents, and post accident conditions.	10. A type test or a combination of type test and analysis will be performed of the PPASS non-metallic parts, materials, and lubricants used in safety-relatedsafety-related mechanical equipment.	10. A qualification report exists and concludes that the non-metallic parts, materials, and lubricants used in safety-relatedsafety-related mechanical equipment listed in Table 2.7.2.6-2 perform their safety relatedsafety-related function up to the end of their qualified life under the design basis harsh environmental conditions (both internal service conditions and external environmental conditions) experienced during normal operations, anticipated operational occurrences, design-basis accidents, and post accident conditions specified in the qualification report.

Table 2.7.3.1-3 (1 of 5)

Control Room HVAC System ITAAC

Design Commitment	Inspections, Tests, Analyses	Acceptance Criteria
1. The functional arrangement of the control room HVAC system is as described in the Design Description of Subsection 2.7.3.1.1 and as shown in Figure 2.7.3.1-1.	1. Inspection of the as-built control room HVAC system will be conducted.	1. The as-built control room HVAC system conforms with the functional arrangement as described in the Design Description of Subsection 2.7.3.1.1 and as shown in Figure 2.7.3.1-1.
2. The seismic Category I components and instruments identified in Tables 2.7.3.1-1 and 2.7.3.1-2 withstand seismic design basis loads without loss of safety function.	2.a Inspections will be performed to verify that the as-built seismic Category I components and instruments are located in the seismic Category I	2.a The as-built seismic Category I components and instruments identified in Tables 2.7.3.1-1 and 2.7.3.1-2 are located in the seismic Category I structure.
	2.b Type tests, analyses or a combination of type tests and analyses of seismic Category I components and instruments will be performed.	2.b A report exists and concludes that the seismic Category I components and instruments identified in Tables 2.7.3.1-1 and 2.7.3.1-2 withstand seismic design basis loads without loss of safety function.
	2.c Inspections will be performed to verify that the as-built seismic Category I components and instruments, including the supports and anchorages, are seismically bounded by the tested or analyzed conditions.	2.c A report exists and concludes that the as-built seismic Category I components and instruments identified in Tables 2.7.3.1-1 and 2.7.3.1-2, including the supports and anchorages, are seismically bounded by the tested or analyzed conditions.
3.a Each of the Class 1E components and instruments identified in Tables 2.7.3.1-1 and 2.7.3.1-2 is powered from its respective Class 1E division.	3.a Tests will be performed by providing a test signal in only one Class 1E division at a time.	3.a The test signal exists at the Class 1E components and instruments identified in Tables 2.7.3.1-1 and 2.7.3.1-2 as being powered from the Class 1E division under test.
3.b ~~Separation~~Physical separation and electrical isolation is provided (1) between Class 1E divisions, and (2) between Class 1E divisions and non-Class 1E divisions.	3.b Inspection of the as-built Class 1E divisions will be performed.	3.b Physical separation and electrical isolation exists in accordance with NRC RG 1.75 (1) between Class 1E divisions, and ~~also~~ (2) between Class 1E divisions and non-Class 1E divisions.

Table 2.7.3.1-3 (2 of 5)

Design Commitment	Inspections, Tests, Analyses	Acceptance Criteria
4.a ESR dampers, PSR dampers, check dampers and tornado dampers identified in Table 2.7.3.1-1 perform an active safety function to change position as indicated in the table.	4.a.i Tests or type tests of ESR dampers and PSR dampers will be performed that demonstrate the capability of the damper to operate under its design conditions.	4.a.i A report exists and concludes that each ESR damper or PSR damper changes position as indicated in Table 2.7.3.1-1 under design conditions.
	4.a.ii Test, analyses, ~~and/~~or a combination of test and analyses of the as-built ESR dampers~~,~~ and PSR dampers will be performed under pre-operational test conditions.	4.a.ii Upon receipt of the actuating signal, each ESR damper or PSR damper changes position as indicated in Table 2.7.3.1-1 under pre-operational test conditions.
	4.a.iii Tests of the as-built check dampers, will be performed under pre-operational test conditions.	4.a.iii Each check damper changes position as indicated in Table 2.7.3.1-1 under pre-operational test conditions.
	4.a.iv Tests of the as-built tornado dampers will be performed under pre-operational test conditions.	4.a.iv Each tornado damper changes position as indicated in Table 2.7.3.1-1 under pre- operational test conditions.
4.b After loss of motive power, the ESR dampers and~~,~~ PSR dampers identified in Table 2.7.3.1-1 assume the indicated loss of motive power position.	4.b Tests of the as-built ESR dampers and~~,~~ PSR dampers will be performed under the conditions of loss of motive power.	4.b Upon loss of motive power, each as-built ESR damper~~,~~ or PSR damper identified in Table 2.7.3.1-1 assumes the indicated loss of motive power position.
5.a ~~All controls required by the design~~ Controls exist in the MCR to start and stop the ACUs and AHUs, and to open and close the ESR dampers~~,~~ and PSR dampers identified in Table 2.7.3.1-1.	5.a Tests of the ACUs, AHUs, ESR dampers, and PSR dampers will be performed using the controls in the MCR to start and stop the ACUs and AHUs, and to open and close the ESR dampers~~,~~ and PSR dampers.	5.a ~~All controls~~ Controls in the as-built MCR start and stop the ACUs and AHUs, and open and close ESR dampers and~~,~~ PSR dampers identified in Table 2.7.3.1-1.

5.b	All controls required by the design Controls exist in the RSR to start and stop the ACUs and AHUs, and to open and close the ESR dampers and , PSR dampers identified in Table 2.7.3.1-1.	5.b	Tests of the ACUs, AHUs, ESR dampers, and PSR dampers will be performed using the controls in the RSR to start and stop the ACUs and AHUs, and to open and close the ESR dampers and, PSR dampers.	5.b	All controls Controls in the as-built RSR start and stop the ACUs and AHUs, and open and close the ESR dampers and , PSR dampers identified in Table 2.7.3.1-1.
5.c	All dDisplays and alarms required by the design exist and are retrievable in the MCR as defined in Tables 2.7.3.1-1 and 2.7.3.1-2.	5.c	Inspections will be performed on theof the as-built displays and alarms in the MCR will be performed.	5.c	All dDisplays and alarms exist and are retrieved in the as- built MCR as defined in Tables 2.7.3.1-1 and 2.7.3.1- 2.

Table 2.7.3.1-3 (3 of 5)

Design Commitment	Inspections, Tests, Analyses	Acceptance Criteria
5.d All dDisplays and alarms required by the design exist and are retrievable in the RSR as defined in Tables 2.7.3.1-1 and 2.7.3.1-2.	5.d Inspections will be performed on theof the as-built displays and alarms in the RSR will be performed.	5.d All dDisplays and alarms exist and are retrieved in the as- built RSR as defined in Tables 2.7.3.1-1 and 2.7.3.1-2.
6. The two mechanical divisions of the control room HVAC system are physically separated.	6. Inspection of the as-built mechanical divisions will be performed.	6. The two mechanical divisions of the control room HVAC system are physically separated by a division wall that is a 3-hour rated fire barrier.
7. The control room HVAC system provides the conditioned air that is required to maintain the room temperature within the design limits for the CRE (except non safety-related rooms) during plant normal, abnormal and accident conditions.	7. Tests and analyses of the as-built control room HVAC system will be performed.	7. A report exists and concludes that the as-built control room HVAC system is capable of providing the conditioned air to maintain the room temperature within design limits for the CRE (except non safety-related rooms) during plant normal, abnormal and accident conditions.
8. The control room HVAC system removes particulate matter and iodine, and provides system flow as required in the safety analysis.	8.a Testing and analysis will be performed for each ACU filter to determine filter efficiencies.	8.a A report exists and concludes that ACU filter efficiencies are equal to or greater than 99 % for iodine, and equal to or greater than 99 % for particulate matter greater than 0.3 micron.
	8.b Test of the air flow for the as-built control room HVAC system will be performed.	8.b The as-built control room HVAC system provides the filtered outside makeup air flow of equal to or less than 6,286 cmh (3,700 cfm), the filtered return air flow of equal to or more than 7,305 cmh (4,300 cfm), and maintains 3.175 mm (0.125 in) water gauge of positive pressure in the CRE with respect to adjacent areas during the emergency mode.

Table 2.7.3.1-3 (4 of 5)

Design Commitment	Inspections, Tests, Analyses	Acceptance Criteria
9.a The outside air intake isolation dampers in the outside air intake ~~having~~ with the higher radiation level close upon receipt of a high radiation signal.	9.a Tests of the as-built outside air intake isolation dampers will be performed using a simulated high radiation signal.	9.a The as-built outside air intake isolation dampers in the outside air intake ~~having~~ with the higher radiation level close upon receipt of a simulated high radiation signal.
9.b After the outside air intake isolation dampers are initially closed upon receipt of a high radiation signal, the closed outside air intake isolation dampers are automatically reset and reopened, and the outside air intake isolation dampers ~~having~~ with the higher radiation level automatically close within a predetermined interval.	9.b Tests of the as-built outside air intake isolation dampers will be performed under the condition that they are initially closed after receiving a simulated high radiation signal.	9.b The as-built outside air intake isolation dampers are automatically reset and reopened, and the outside air intake isolation dampers ~~having~~ with the higher radiation level automatically close within an interval after they are initially closed upon receipt of a simulated high radiation signal.
10. The control room emergency makeup ACU starts and the ACU inlet isolation damper, the ACU discharge flow control damper, and the ACU return air isolation dampers open upon receipt of ESFAS-SIAS or ESFAS-CREVAS.	10. Tests of the as-built control room emergency makeup ACU, the ACU inlet isolation damper, the ACU discharge flow control damper, and the ACU return air isolation damper will be performed using a simulated ESFAS-SIAS or ESFAS-CREVAS.	10. The as-built control room emergency makeup ACU starts and the as-built ACU inlet isolation damper, the ACU discharge flow control damper, and the ACU return air isolation damper open upon receipt of a simulated high radiation signal.
11. The unfiltered inleakage is within the performance value limit as specified in the safety analysis.	11. Tests and analyses will be performed to verify that as-built unfiltered inleakage is within limits in accordance with ASTM E741-2000.	11. A report exists and concludes that the as-built unfiltered inleakage is less than 170 cmh (100 cfm) in the emergency mode. The 170 cmh (100 cfm) unfiltered inleakage value includes an assumed value of 17 cmh (10 cfm) for CRE ingress/egress.
12. The AHU inlet isolation dampers (PSR) listed in Table 2.7.3.1-1 close within their closure time before the airborne radioactive material passes through the isolation dampers.	12. Test of the as-built AHU inlet isolation dampers (PSR) will be performed using a simulated isolation signal.	12. The AHU inlet isolation dampers (PSR) listed in Table 2.7.3.1-1 close within the 8.4 seconds after receiving a simulated isolation signal.

Table 2.7.3.1-3 (5 of 5)

Design Commitment	Inspections, Tests, Analyses	Acceptance Criteria
13.a The fire dampers are installed in the fire rated barriers and have the same fire resistance rating as the barrier.	13.a Type tests, tests, a combination of type tests and analyses, or a combination of tests and analyses of fire damper rating will be performed.	13.a A report exists and concludes that the fire dampers that penetrate the fire barriers have the same fire resistance rating as the barrier.
13.b The fire dampers which are required to protect safety shutdown capability close under design air flow condition.	13.b Type tests, tests, a combination of type tests and analyses, or a combination of tests and analyses of fire damper closing will be performed under design air flow condition.	13.b A report exists and concludes that the fire dampers which are required to protect safety shutdown capability close under the design air flow condition.
13.c HVAC ducts that penetrate fire barriers have fire dampers in the HVAC ducts.	13.c An inspection will be performed to verify that fire dampers are installed in the as-built HVAC ducts that penetrate the fire barriers.	13.c Fire dampers are installed in the as-built HVAC ducts that penetrate the fire barriers.
14. HVAC duct is installed and routed within the CRE boundary.	14. Inspection will be performed to verify that the as-built HVAC duct is installed and routed within the CRE boundary.	14. HVAC duct is installed and routed within the CRE boundary.
15. The control room HVAC system non-metallic parts, materials, and lubricants used in safety relatedsafety-related mechanical equipment perform their safety-related function up to the end of their qualified life in the design basis harsh environmental conditions (both internal service conditions and external environmental conditions) experienced during normal operations, anticipated operational occurrences, design-basis accidents, and post accident conditions.	15. A type test or a combination of type test and analysis will be performed the containment air radiation monitor non-metallic parts, materials, and lubricants used in safety relatedsafety-related mechanical equipment.	15. A qualification report exists and concludes that the containment air radiation monitor non-metallic parts, materials, and lubricants used in safety relatedsafety-related mechanical equipment perform their safety relatedsafety-related function up to the end of their qualified life under the design basis harsh environmental conditions (both internal service conditions and external environmental conditions) experienced during normal operations, anticipated operational occurrences, design-basis accidents, and post accident conditions specified in the qualification report.

Table 2.7.3.2-3 (1 of 5)

Fuel Handling Area HVAC System ITAAC

Design Commitment	Inspections, Tests, Analyses	Acceptance Criteria
1. The functional arrangement of the fuel handling area HVAC system is as described in the Design Description of Subsection 2.7.3.2.1 and as shown in Figure 2.7.3.2-1.	1. Inspection of the as-built fuel handling area HVAC system will be performed.	1. The as-built fuel handling area HVAC system conforms with the functional arrangement as described in the Design Description of Subsection 2.7.3.2.1 and as shown in Figure 2.7.3.2-1.
2. The seismic Category I components and instruments identified in Tables 2.7.3.2-1 and 2.7.3.2-2, including the supports and anchorages, withstand seismic design basis loads without loss of safety function.	2.a Inspections will be performed to verify that the as-built seismic Category I components and instruments are located in the seismic Category I structure.	2.a The as-built seismic Category I components and instruments identified in Tables 2.7.3.2-1 and 2.7.3.2-2 are located in the seismic Category I structure.
	2.b Type tests, analyses or a combination of type tests and analyses of seismic Category I components and instruments will be performed.	2.b A report exists and concludes that the seismic Category I components and instruments identified in Tables 2.7.3.2-1 and 2.7.3.2- 2 withstand seismic design basis loads without loss of safety function.
	2.c Inspections will be performed to verify that the as-built seismic Category I components and instruments, including the supports and anchorages, are seismically bounded by the tested or analyzed conditions.	2.c A report exists and concludes that the as-built seismic Category I components and instruments identified in Tables 2.7.3.2-1 and 2.7.3.2-2, including the supports and anchorages, are seismically bounded by the tested or analyzed conditions.

3.a The Class 1E components and instruments identified in Tables 2.7.3.2-1 and 2.7.3.2-2 as being qualified for a harsh environment (and the associated wiring, cables, and terminations) withstand the environmental conditions that would exist before, during, and following a design basis accident without loss of safety function for the time required to perform the safety function.	3.a.i Type tests~~, analyses,~~ or a combination of type tests and analyses will be performed on Class 1E components and instruments located in a harsh environment.	3.a.i A report exists and concludes that the Class 1E components and instruments identified in Tables 2.7.3.2-1 and 2.7.3.2-2 as being qualified for a harsh environment withstand the environmental conditions that would exist before, during, and following a design basis accident without loss of safety function for the time required to perform the safety function.

Table 2.7.3.2-3 (2 of 5)

Design Commitment	Inspections, Tests, Analyses	Acceptance Criteria
3.a (cont.)	3.a.ii Inspections will be performed on the as-built Class 1E components and instruments (and the associated wiring, cables, and terminations) located in a harsh environment.	3.a.ii A report exists and concludes that the as-built Class 1E components and instruments identified in Table 2.7.3.2-1 and 2.7.3.2-2 and the associated wiring, cables, and terminations identified in Table 2.7.3.2-1 and 2.7.3.2-2 as being qualified for a harsh environment (and the associated wiring, cables, and terminations) are bounded by type tests, analyses, or a combination of type tests and analyses.
3.b Each of the Class 1E components and instruments identified in Tables 2.7.3.2-1 and 2.7.3.2-2 is powered from its respective Class 1E division.	3.b Tests will be performed by providing a test signal in only one Class 1E division at a time.	3.b The test signal exists at the Class 1E components and instruments identified in Tables 2.7.3.2-1 and 2.7.3.2-2 as being powered from the Class 1E division under test.
3.c SeparationPhysical separation and electrical isolation is provided between Class 1E divisions, and between Class 1E divisions and non-Class 1E divisions.	3.c Inspection of the as-built Class1E divisions will be performed.	3.c Physical separation and electrical isolation exists in accordance with NRC RG 1.75 (1) between Class 1E divisions, and (2) also between Class 1E divisions and non- Class 1E divisions.
4.a ESR dampers and PSR dampers and tornado dampers identified in Table 2.7.3.2-1 perform an active safety function to change position as indicated in the table.	4.a.i Tests or type tests of ESR dampers and PSR dampers will be performed that demonstrate the capability of the damper to operate under its design conditions.	4.a.i A report exists and concludes that each ESR damper or PSR damper changes position as indicated in Table 2.7.3.2-1 under design conditions.
	4.a.ii Test, analyses, and/or a combination of test and analyses of the as-built ESR dampers and PSR dampers dampers will be performed under pre-operational test conditions.	4.a.ii Upon receipt of the actuating signal, each ESR damper or PSR damper changes position as indicated in Table 2.7.3.2-1 under pre-operational test conditions.
	4.a.iii Tests of the as-built tornado dampers will be performed under pre-operational test conditions.	4.a.iii Each tornado damper changes position as indicated in Table 2.7.3.2-1 under pre-operational test conditions.

Table 2.7.3.2-3 (3 of 5)

Design Commitment	Inspections, Tests, Analyses	Acceptance Criteria
4.b After loss of motive power, ESR dampers and PSR dampers identified in Table 2.7.3.2-1 assume the indicated loss of motive power position.	4.b Tests of the as-built ESR dampers and PSR dampers will be performed under the conditions of loss of motive power.	4.b Upon loss of motive power, each as-built ESR damper or PSR damper identified in Table 2.7.3.2-1 assumes the indicated loss of motive power position.
5.a All controls required by the design Controls exist in the MCR to start and stop the emergency exhaust ACUs and safety- related cubicle coolers, and to open and close ESR dampers and PSR dampers identified in Table 2.7.3.2-1.	5.a Tests of the emergency exhaust ACUs, safety-related cubicle coolers, ESR dampers, and PSR dampers will be performed using the controls in the MCR to start and stop the emergency exhaust ACUs and safety-related cubicle coolers, and to open and close ESR dampers and PSR dampers.	5.a All controls Controls in the as-built MCR start and stop the emergency exhaust ACUs and safety-related cubicle coolers, and open and close ESR dampers and PSR dampers identified in Table 2.7.3.2-1.
5.b All controls required by the design Controls exist in the RSR to start and stop the emergency exhaust ACUs and safety- related cubicle coolers, and to open and close the remotely operated isolation dampers identified in Table 2.7.3.2-1.	5.b Tests of the emergency exhaust ACUs, safety-related cubicle coolers, ESR dampers, and PSR dampers will be performed using the controls in the RSR to start and stop the emergency exhaust ACUs and safety-related cubicle coolers, and to open and close the remotely operated isolation dampers.	5.b All controls Controls in the as-built RSR start and stop the emergency exhaust ACUs and safety-related cubicle coolers, and open and close ESR dampers and PSR dampers identified in Table 2.7.3.2-1.
5.c All dDisplays and alarms required by the design exist and are retrievable in the MCR as defined in Table 2.7.3.2-2.	5.c Inspection will be performed on theof the as-built displays and alarms in the MCR will be performed.	5.c All dDisplays and alarms exist and are retrieved in the as- built MCR as defined in Table 2.7.3.2-2.
5.d All dDisplays and alarms required by the design exist and are retrievable in the RSR as defined in Table 2.7.3.2-2.	5.d Inspections will be performed on theof the as-built displays and alarms in the RSR will be performed.	5.d All dDisplays and alarms exist and are retrieved in the as- built RSR as defined in Table 2.7.3.2-2.
6. The two mechanical divisions of the fuel handling area emergency HVAC subsystem are physically separated.	6. Inspection of as-built mechanical divisions will be performed.	6. The two mechanical divisions of the fuel handling area emergency HVAC subsystem are separated by a divisional wall that is a 3-hour rated fire barrier.

Table 2.7.3.2-3 (4 of 5)

Design Commitment	Inspections, Tests, Analyses	Acceptance Criteria
7. The safety-related cubicle coolers identified in Table 2.7.3.2-1 provide conditioned air that is required to maintain the room temperature within the design limits for the spent fuel pool cooling heat exchanger rooms during plant normal, abnormal and accident conditions.	7. Tests and analyses of the as-built safety-related cubicle coolers will be performed.	7. A report exists and concludes that the as-built safety-related cubicle coolers identified in Table 2.7.3.2-1 are capable of providing conditioned air to maintain the room temperature within the design limits for the spent fuel pool cooling heat exchanger rooms during plant normal, abnormal and accident conditions.
8. The fuel handling area HVAC system cubicle cooler fans identified in Table 2.7.3.2-1 operate automatically according to room temperature signal.	8. Tests of the as-built fuel handling area HVAC system cubicle cooler fans will be performed using a simulated signal.	8. The as-built fuel handling area HVAC system cubicle cooler fans identified in Table 2.7.3.2-1 operate automatically according to room temperature signal.
9. The emergency exhaust ACU in each division removes particulate matter and iodine.	9. Testing and analysis will be performed on each emergency exhaust ACU to determine filter efficiency.	9. A report exists and concludes that the emergency exhaust ACU filter efficiencies are equal to or greater than 99 % for all forms of iodine, greater than or equal to 99 % for particulate matter greater than 0.3 microns.
10.a The fuel handling area emergency exhaust ACU starts upon receipt of an ESFAS-FHEVAS or high radiation signal.	10.a Tests of the as-built fuel handling area emergency exhaust ACUs will be performed using a simulated ESFAS-FHEVAS or high radiation signal.	10.a The as-built fuel handling area emergency exhaust ACU starts upon receipt of a simulated ESFAS -FHEVAS or high radiation signal.
10.b The air intake isolation dampers and the normal exhaust ACU isolation dampers close within their design basis closure time after receiving an ESFAS-FHEVAS or high radiation signal.	10.b Tests of the as-built air intake isolation dampers and the normal exhaust ACU isolation dampers will be performed using a simulated ESFAS-FHEVAS or high radiation signal.	10.b The as-built air intake isolation dampers and the normal exhaust ACU isolation dampers close within 8.4 seconds after receiving a simulated ESFAS-FHEVAS or high radiation signal.

Table 2.7.3.2-3 (5 of 5)

Design Commitment	Inspections, Tests, Analyses	Acceptance Criteria
11.a The fire dampers are installed in the fire rated barriers and have the same fire resistance rating as the barrier.	11.a Type tests, tests, a combination of type tests and analyses, or a combination of tests and analyses of fire damper rating will be performed.	11.a A report exists and concludes that the fire dampers that penetrate the fire barriers have the same fire resistance rating as the barrier.
11.b The fire dampers which are required to protect safety shutdown capability close under design air flow condition.	11.b Type tests, tests, a combination of type tests and analyses, or a combination of tests and analyses of fire damper closing will be performed under design air flow condition.	11.b A report exists and concludes that the fire dampers which are required to protect safety shutdown capability close under the design air flow condition.
11.c HVAC ducts that penetrate fire barriers have fire dampers in the HVAC ducts.	11.c An inspection will be performed to verify that fire dampers are installed in the as-built HVAC ducts that penetrate the fire barriers.	11.c Fire dampers are installed in the as-built HVAC ducts that penetrate the fire barriers.
12. The fuel handling area HVAC system has exhaust airflow rate greater than supply airflow rate to control the release of potential airborne radioactive materials from the fuel handling area during plant normal condition.	12. Tests of the as-built fuel handling area HVAC system will be performed.	12. A report exists and concludes that the as-built fuel handling area HVAC system provides design exhaust airflow rate that is greater than design supply airflow rate during plant normal condition.
13. The fuel handling area HVAC system non-metallic parts, materials, and lubricants used in ~~safety related~~safety-related mechanical equipment perform their safety-related function up to the end of their qualified life in the design basis harsh environmental conditions (both internal service conditions and external environmental conditions) experienced during normal operations, anticipated operational occurrences, design-basis accidents, and post accident conditions.	13. A type test or a combination of type test and analysis will be performed the containment air radiation monitor non-metallic parts, materials, and lubricants used in ~~safety related~~safety-related mechanical equipment.	13. A ~~qualification~~ report exists and concludes that the containment air radiation monitor non-metallic parts, materials, and lubricants used in ~~safety related~~safety-related mechanical equipment perform their ~~safety related~~safety-related function up to the end of their qualified life under the design basis harsh environmental conditions (both internal service conditions and external environmental conditions)~~-~~ experienced during normal operations, anticipated operational occurrences, design-basis accidents, and post accident conditions ~~specified in the qualification report~~.

Table 2.7.3.3-3 (1 of 3)

Auxiliary Building Clean Area HVAC System ITAAC

Design Commitment	Inspections, Tests, Analyses	Acceptance Criteria
1. The functional arrangement of the auxiliary building clean area HVAC system is as described in the Design Description of Subsection 2.7.3.3.1 and as shown in Figure 2.7.3.3-1.	1. Inspection of the as-built the auxiliary building clean area HVAC system will be performed.	1. The as-built auxiliary building clean area HVAC system conforms with the functional arrangement as described in the Design Description of Subsection 2.7.3.3.1 and as shown in Figure 2.7.3.3-1.
2. The seismic Category I components and instruments identified in Tables 2.7.3.3-1 and 2.7.3.3-2, including the supports and anchorages, withstand seismic design basis loads without loss of safety function.	2.a Inspections will be performed to verify that the as-built seismic Category I components and instruments are located in the seismic Category I structure.	2.a The as-built seismic Category I components and instruments identified in Tables 2.7.3.3-1 and 2.7.3.3-2 are located in the seismic Category I structure.
	2.b Type tests, analyses or a combination of type tests and analyses of seismic Category I components and instruments will be performed.	2.b A report exists and concludes that the seismic Category I components and instruments identified in Tables 2.7.3.3-1 and 2.7.3.3-2 withstand seismic design basis loads without loss of safety function.
	2.c Inspections will be performed to verify that the as-built seismic Category I components and instruments, including the supports and anchorages, are seismically bounded by the tested or analyzed conditions.	2.c A report exists and concludes that the as-built seismic Category I components and instruments identified in Tables 2.7.3.3-1 and 2.7.3.3-2, including the supports and anchorages, are seismically bounded by the tested or analyzed conditions.
3.a Each of the Class 1E components and instruments identified in Tables 2.7.3.3-1 and 2.7.3.3-2 is powered from its respective Class 1E division.	3.a Tests will be performed by providing a test signal in only one Class 1E division at a time.	3.a The test signal exists at the Class 1E components and instruments identified in Tables 2.7.3.3-1 and 2.7.3.3-2 as being powered from its respective Class 1E division under test.

Table 2.7.3.3-3 (2 of 3)

Design Commitment	Inspections, Tests, Analyses	Acceptance Criteria
3.b SeparationPhysical separation and electrical isolation is provided (1) between Class 1E divisions, and (2) between Class 1E divisions and non-Class 1E divisions.	3.b Inspection of the as-built Class1E divisions will be performed.	3.b Physical separation and electrical isolation exists in accordance with NRC RG 1.75 (1) between Class 1E divisions, and also (2) between Class 1E divisions and non- Class 1E divisions.
4.a All controls required by the design Controls exist in the MCR to start and stop the safety- related cubicle coolers identified in Table 2.7.3.3-1.	4.a Tests of the safety-related cubicle coolers will be performed using the controls in the MCR to start and stop the safety- related cubicle coolers.	4.a All controls Controls in the as-built MCR start and stop the safety-related cubicle coolers identified in Table 2.7.3.3-1.
4.b All controls required by the design Controls exist in the RSR to start and stop the safety- related cubicle coolers identified in Table 2.7.3.3-1.	4.b Tests of the safety-related cubicle coolers will be performed using the controls in the RSR to start and stop the safety- related cubicle coolers.	4.b All controls Controls in the as-built RSR start and stop the safety-related cubicle coolers identified in Table 2.7.3.3-1.
4.c All dDisplays and alarms required by the design exist and are retrievable in the MCR as defined in Table 2.7.3.3-2.	4.c Inspection will be performed on theof the as-built displays and alarms in the MCR will be performed.	4.c All dDisplays and alarms exist and are retrieved in the as- built MCR as defined in Table 2.7.3.3-2.
4.d All dDisplays and alarms required by the design exist and are retrievable in the RSR as defined in Table 2.7.3.3-2.	4.d Inspection will be performed on theof the as-built displays and alarms in the RSR will be performed.	4.d All dDisplays and alarms exist and are retrieved in the as- built RSR as defined in Table 2.7.3.3-2.
5. The two mechanical divisions of the safety-related cubicle coolers are physically separated.	5. Inspection of the as-built mechanical divisions will be performed.	5. The two mechanical divisions of the safety-related cubicle coolers are separated by a divisional wall or a fire barrier.
6. The auxiliary building clean area HVAC system provides conditioned air that is required to maintain the room temperature within the design limits for the auxiliary building clean area during plant normal condition.	6. Tests and analyses of the as-built auxiliary building clean area HVAC system will be performed.	6. A report exists and concludes that the as-built auxiliary building clean area HVAC system is capable of providing conditioned air to maintain the room temperature within the design limits for the auxiliary building clean area during plant normal condition.

Table 2.7.3.3-3 (2 of 3)

Design Commitment	Inspections, Tests, Analyses	Acceptance Criteria
3.b ~~Separation~~Physical separation and electrical isolation is provided (1) between Class 1E divisions, and (2) between Class 1E divisions and non-Class 1E divisions.	3.b Inspection of the as-built Class1E divisions will be performed.	3.b Physical separation and electrical isolation exists in accordance with NRC RG 1.75 (1) between Class 1E divisions, and ~~also~~ (2) between Class 1E divisions and non- Class 1E divisions.
4.a ~~All controls required by the design~~ Controls exist in the MCR to start and stop the safety- related cubicle coolers identified in Table 2.7.3.3-1.	4.a Tests of the safety-related cubicle coolers will be performed using the controls in the MCR to start and stop the safety- related cubicle coolers.	4.a ~~All controls~~ Controls in the as-built MCR start and stop the safety-related cubicle coolers identified in Table 2.7.3.3-1.
4.b ~~All controls required by the design~~ Controls exist in the RSR to start and stop the safety- related cubicle coolers identified in Table 2.7.3.3-1.	4.b Tests of the safety-related cubicle coolers will be performed using the controls in the RSR to start and stop the safety- related cubicle coolers.	4.b ~~All controls~~ Controls in the as-built RSR start and stop the safety-related cubicle coolers identified in Table 2.7.3.3-1.
4.c ~~All d~~Displays and alarms ~~required by the design~~ exist and are retrievable in the MCR as defined in Table 2.7.3.3-2.	4.c Inspection ~~will be performed on the~~ of the as-built displays and alarms in the MCR will be performed.	4.c ~~All d~~Displays and alarms exist and are retrieved in the as- built MCR as defined in Table 2.7.3.3-2.
4.d ~~All d~~Displays and alarms ~~required by the design~~ exist and are retrievable in the RSR as defined in Table 2.7.3.3-2.	4.d Inspection ~~will be performed on the~~of the as-built displays and alarms in the RSR will be performed.	4.d ~~All d~~Displays and alarms exist and are retrieved in the as- built RSR as defined in Table 2.7.3.3-2.
5. The two mechanical divisions of the safety- related cubicle coolers are physically separated.	5. Inspection of the as-built mechanical divisions will be performed.	5. The two mechanical divisions of the safety- related cubicle coolers are separated by a divisional wall or a fire barrier.

6. The auxiliary building clean area HVAC system provides conditioned air that is required to maintain the room temperature within the design limits for the auxiliary building clean area during plant normal condition.	6. Tests and analyses of the as-built auxiliary building clean area HVAC system will be performed.	6. A report exists and concludes that the as-built auxiliary building clean area HVAC system is capable of providing conditioned air to maintain the room temperature within the design limits for the auxiliary building clean area during plant normal condition.

Table 2.7.3.3-3 (3 of 3)

Design Commitment	Inspections, Tests, Analyses	Acceptance Criteria
7. The safety-related cubicle coolers identified in Table 2.7.3.3-1 provide conditioned air that is required to maintain the room temperature within the design limits for the motor-driven AFW pump rooms and essential chiller rooms during plant normal, abnormal and accident conditions.	7. Tests and analyses of the as-built safety-related cubicle coolers will be performed.	7. A report exists and concludes that the as-built safety-related cubicle coolers identified in Table 2.7.3.3-1 are capable of providing conditioned air to maintain the room temperature within the design limits for motor-driven AFW pump rooms and essential chiller rooms during plant normal, abnormal and accident conditions.
8. The auxiliary building clean area HVAC system cubicle cooler fans identified in Table 2.7.3.3-1 operate automatically according to room temperature signal.	8. Tests of the as-built auxiliary building clean area HVAC system cubicle cooler fans will be performed using a simulated signal.	8. The as-built auxiliary building clean area HVAC system cubicle cooler fans identified in Table 2.7.3.3-1 operate automatically according to room temperature signal.
9.a The fire dampers are installed in the fire rated barriers and have the same fire resistance rating as the barrier.	9.a Type tests, tests, a combination of type tests and analyses, or a combination of tests and analyses of fire damper rating will be performed.	9.a A report exists and concludes that the fire dampers that penetrate the fire barriers have the same fire resistance rating as the barrier.
9.b The fire dampers which are required to protect safety shutdown capability close under design air flow condition.	9.b Type tests, tests, a combination of type tests and analyses, or a combination of tests and analyses of fire damper closing will be performed under design air flow condition.	9.b A report exists and concludes that the fire dampers which are required to protect safety shutdown capability close under the design air flow condition.
9.c HVAC ducts that penetrate fire barriers have fire dampers in the HVAC ducts.	9.c An inspection will be performed to verify that fire dampers are installed in the as-built HVAC ducts that penetrate the fire barriers.	9.c Fire dampers are installed in the as-built HVAC ducts that penetrate the fire barriers.

Table 2.7.3.5-3 (1 of 7)

Engineered Safety Features Ventilation System ITAAC

Design Commitment	Inspections, Tests, Analyses	Acceptance Criteria
1.a The functional arrangement of the emergency diesel generator area HVAC system is as described in the Design Description of Subsection 2.7.3.5.1.1 and as shown in Figure 2.7.3.5-1.	1.a Inspection of the as-built emergency diesel generator area HVAC system will be performed.	1.a The as-built emergency diesel generator area HVAC system conforms with the functional arrangement as described in the Design Description of Subsection 2.7.3.5.1.1 and as shown in Figure 2.7.3.5-1.
1.b The functional arrangement of the electrical and I&C equipment areas HVAC system is as described in the Design Description of Subsection 2.7.3.5.1.2 and as shown in Figure 2.7.3.5-2.	1.b Inspection of the as-built electrical and I&C equipment areas HVAC system will be performed.	1.b The as-built electrical and I&C equipment areas HVAC system conforms with the functional arrangement as described in the Design Description of Subsection 2.7.3.5.1.2 and as shown in Figure 2.7.3.5-2.
1.c The functional arrangement of the auxiliary building controlled area HVAC system is as described in the Design Description of Subsection 2.7.3.5.1.3 and as shown in Figure 2.7.3.5-3.	1.c Inspection of the as-built auxiliary building controlled area HVAC system will be performed.	1.c The as-built auxiliary building controlled area HVAC system conforms with the functional arrangement as described in the Design Description of Subsection 2.7.3.5.1.3 and as shown in Figure 2.7.3.5-3.
2. The seismic Category I components and instruments identified in Tables 2.7.3.5-1 and 2.7.3.5-2, including the supports and anchorages, withstand seismic design basis loads without loss of safety function.	2.a Inspections will be performed to verify that the as-built seismic Category I components and instruments are located in the seismic Category I structure.	2.a The as-built seismic Category I components and instruments identified in Tables 2.7.3.5-1 and 2.7.3.5-2 are located in the seismic Category I structure.
	2.b Type tests, analyses or a combination of type tests and analyses of seismic Category I components and instruments will be performed.	2.b A report exists and concludes that the seismic Category I components and instruments identified in Tables 2.7.3.5-1 and 2.7.3.5-2 withstand seismic design basis loads without loss of safety function.

Table 2.7.3.5-3 (2 of 7)

Design Commitment	Inspections, Tests, Analyses	Acceptance Criteria
2. (cont.)	2.c Inspections will be performed to verify that the as-built seismic Category I components and instruments, including the supports and anchorages, are seismically bounded by the tested or analyzed conditions.	2.c A report exists and concludes that the as-built seismic Category I components and instruments identified in Tables 2.7.3.5-1 and 2.7.3.5-2, including the supports and anchorages, are seismically bounded by the tested or analyzed conditions.
3.a The Class 1E components and instruments identified in Tables 2.7.3.5-1 and 2.7.3.5-2 as being qualified for a harsh environment (and the associated wiring, cables, and terminations) withstand the environmental conditions that would exist before, during, and following a design basis accident without loss of safety function for the time required to perform the safety function.	3.a.i Type tests, analyses, or a combination of type tests and analyses will be performed on Class 1E components and instruments located in a harsh environment.	3.a.i A report exists and concludes that the Class 1E components and instruments identified in Tables 2.7.3.5-1 and 2.7.3.5-2 as being qualified for a harsh environment withstand the environmental conditions that would exist before, during, and following a design basis accident without loss of safety function for the time required to perform the safety function.
	3.a.ii Inspections will be performed on the as-built Class 1E components and instruments (and the associated wiring, cables, and terminations) located in a harsh environment.	3.a.ii A report exists and concludes that the as-built Class 1E components and instruments identified in Tables 2.7.3.5-1 and 2.7.3.5-2 and the associated wiring, cables, and terminations identified in Tables 2.7.3.5-1 and 2.7.3.5-2 as being qualified for a harsh environment (and the associated wiring, cables, and terminations) are bounded by type tests, analyses, or a combination of type tests and analyses.
3.b Each of the Class 1E components and instruments identified in Tables 2.7.3.5-1 and 2.7.3.5-2 is powered from its respective Class 1E division.	3.b Tests will be performed by providing a test signal in only one Class 1E division at a time.	3.b The test signal exists at the Class 1E components and instruments identified in Tables 2.7.3.5-1 and 2.7.3.5-2 as being powered from the Class 1E division under test.

Table 2.7.3.5-3 (3 of 7)

Design Commitment	Inspections, Tests, Analyses	Acceptance Criteria
3.c ~~Separation~~ Physical separation and electrical isolation is provided (1) between Class 1E divisions, and (2) between Class 1E divisions and non-Class 1E divisions.	3.c Inspection of the as-built Class 1E divisions will be performed.	3.c Physical separation and electrical isolation exists in accordance with NRC RG 1.75 (1) between ~~these~~ Class 1E divisions, and ~~also~~ (2) between Class 1E divisions and non- Class 1E divisions.
4.a ESR dampers, PSR dampers and tornado dampers identified in Table 2.7.3.5-1 perform an active safety function to change position as indicated in the table.	4.a.i Tests or type tests of ESR dampers and PSR dampers will be performed that demonstrate the capability of the damper to operate under its design conditions.	4.a.i A report exists and concludes that each ESR damper or PSR damper changes position as indicated in Table 2.7.3.5-1 under design conditions.
	4.a.ii Test, analyses, ~~and/~~or a combination of test and analyses of the as-built ESR dampers and PSR dampers will be performed under pre- operational test conditions.	4.a.ii Upon receipt of the actuating signal, each ESR damper or PSR damper changes positions as indicated in Table 2.7.3.5-1 under pre-operation test conditions.
	4.a.iii Tests of the as-built tornado dampers will be performed under pre-operational test conditions.	4.a.iii Each tornado damper changes position as indicated in Table 2.7.3.5-1 under pre-operational test conditions.
4.b After loss of motive power, ESR dampers and PSR dampers identified in Table 2.7.3.5-1 assume the indicated loss of motive power position.	4.b Tests of the as-built ESR dampers and PSR dampers identified will be performed under the conditions of loss of motive power.	4.b Upon loss of motive power, each as-built ESR damper or PSR damper identified in Table 2.7.3.5-1 assumes the indicated loss of motive power position.
5.a ~~All controls required by the design~~ Controls exist in the MCR to start and stop the ACUs, AHUs and cubicle coolers, and to open and close ESR dampers and PSR dampers identified in Table 2.7.3.5-1.	5.a Tests of the ACUs, AHUs, cubicle coolers, ESR dampers, and PSR dampers will be performed using the controls in the MCR to start and stop the ACUs, AHUs and cubicle coolers, and to open and close ESR dampers and PSR dampers.	5.a ~~All controls~~ Controls in the as-built MCR start and stop the ACUs, AHUs and cubicle coolers, and open and close ESR dampers and PSR dampers identified in Table 2.7.3.5-1.

5.b All controls required by the design Controls exist in the RSR to start and stop the ACUs, AHUs and cubicle coolers, and to open and close ESR dampers and PSR dampers identified in Table 2.7.3.5-1.	5.b Tests of the ACUs, AHUs, cubicle coolers, ESR dampers, and PSR dampers will be performed using the controls in the RSR to start and stop the ACUs, AHUs and cubicle coolers, and to open and close ESR dampers and PSR dampers.	5.b All controls Controls in the as-built RSR start and stop the ACUs, AHUs and cubicle coolers, and open and close ESR dampers and PSR dampers identified in Table 2.7.3.5-1.

Table 2.7.3.5-3 (4 of 7)

Design Commitment	Inspections, Tests, Analyses	Acceptance Criteria
5.c All dDisplays and alarms required by the design exist and are retrievable in the MCR as defined in Table 2.7.3.5-2.	5.c Inspections will be performed on theof the as-built displays and alarms in the MCR will be performed.	5.c All dDisplays and alarms exist and are retrieved in the as- built MCR as defined in Table 2.7.3.5-2.
5.d All dDisplays and alarms required by the design exist and are retrievable in the RSR as defined in Table 2.7.3.5-2.	5.d Inspections will be performed on theof the as-built displays and alarms in the RSR will be performed.	5.d All dDisplays and alarms exist and are retrieved in the as- built RSR as defined in Table 2.7.3.5-2.
6.a Each mechanical division of the emergency diesel generator area HVAC system (A, B, C & D) is physically separated from the other divisions.	6.a Inspection of the as-built mechanical divisions will be performed.	6.a Each mechanical divisions of the emergency diesel generator area HVAC system is physically separated by a divisional wall that is a 3-hour rated fire barrier.
6.b The two mechanical divisions of the electrical and I&C equipment areas HVAC system (A/C & B/D) are physically separated.	6.b Inspection of the as-built mechanical divisions will be performed.	6.b The two mechanical divisions of the electrical and I&C equipment areas HVAC system are physically separated by a divisional wall that is a 3-hour rated fire barrier.
6.c The two mechanical divisions of the auxiliary building controlled area HVAC system (A/C & B/D) are physically separated.	6.c Inspection of the as-built mechanical divisions will be performed.	6.c The two mechanical divisions of the auxiliary building controlled areas HVAC system are physically separated by a divisional wall that is a 3-hour rated fire barrier.
7.a The emergency diesel generator area HVAC system provides conditioned air that is required to maintain the room temperature within the design limits for the emergency diesel generator area during plant normal, abnormal and accident conditions.	7.a Tests and analyses of the as-built emergency diesel generator area HVAC system will be performed.	7.a A report exists and concludes that the as-built emergency diesel generator area HVAC system is capable of providing conditioned air to maintain the room temperature within the design limits for the emergency diesel generator area during plant normal, abnormal and accident conditions.

Table 2.7.3.5-3 (5 of 7)

Design Commitment	Inspections, Tests, Analyses	Acceptance Criteria
7.b The electrical and I&C equipment areas HVAC system provides conditioned air that is required to maintain the room temperature within the design limits for the electrical and I&C equipment areas except non safety-related equipment rooms during plant normal, abnormal and accident conditions.	7.b Tests and analyses of the as-built electrical and I&C equipment areas HVAC system will be performed.	7.b A report exists and concludes that the as-built electrical and I&C equipment areas HVAC system is capable of providing conditioned air to maintain the room temperature within the design limits for the electrical and I&C equipment areas except non safety-related equipment rooms during plant normal, abnormal and accident conditions.
7.c The auxiliary building controlled area HVAC system provides conditioned air that is required to maintain the room temperature within the design limits for the safety-related rooms in the auxiliary building controlled area during plant normal, abnormal and accident conditions.	7.c Tests and analyses of the as-built auxiliary building controlled area HVAC system will be performed.	7.c A report exists and concludes that the as-built auxiliary building controlled area HVAC system is capable of providing conditioned air to maintain the room temperature within the design limits for the safety-related rooms in the auxiliary building controlled area during plant normal, abnormal and accident conditions.
8. The emergency diesel generator area HVAC system, the electrical and I&C equipment areas HVAC system and the auxiliary building controlled area HVAC system cubicle cooler fans identified in Table 2.7.3.5-1 operate automatically according to room temperature signal.	8. Tests of the as-built emergency diesel generator area HVAC system, electrical and I&C equipment areas HVAC system and auxiliary building controlled area HVAC system cubicle cooler fans will be performed using a simulated signal.	8. The as-built emergency diesel generator area HVAC system, electrical and I&C equipment areas HVAC system and auxiliary building controlled area HVAC system cubicle cooler fans identified in Table 2.7.3.5-1 operate automatically according to room temperature signal.
9. The auxiliary building controlled area emergency exhaust ACU removes particulate matter and iodine and provides a negative pressure.	9.a Testing and analysis will be performed for each ACU filter to determine filter efficiencies.	9.a A report exists and concludes that ACU filter efficiencies are equal to or greater than 99 % for all forms of iodine, and greater than or equal to 99 % for particulate matter greater than 0.3 micron.

Table 2.7.3.5-3 (6 of 7)

Design Commitment	Inspections, Tests, Analyses	Acceptance Criteria
9. (cont.)	9.b Tests will be performed on the capability of each ACU to provide a negative pressure.	9.b A test report exists and concludes that the auxiliary building controlled area emergency exhaust ACU provides a negative pressure of at least -6.35 mm (-0.25 inch) water gauge with respect to the adjacent areas within 300 seconds in each division.
10. The auxiliary building controlled area emergency exhaust ACUs start and the auxiliary building controlled area supply AHU outlet isolation dampers and the auxiliary building controlled area normal exhaust ACU inlet isolation dampers close upon receipt of an ESFAS-SIAS.	10. Tests of the as-built auxiliary building controlled area emergency exhaust ACUs, the auxiliary building controlled area supply AHU outlet isolation dampers, and the auxiliary building controlled area normal exhaust ACU inlet isolation dampers will be performed using a simulated ESFAS-SIAS.	10. The as-built auxiliary building controlled area emergency exhaust ACUs start and the as-built auxiliary building controlled area supply AHU outlet isolation dampers and the auxiliary building controlled area normal exhaust ACU inlet isolation dampers close upon receipt of a simulated ESFAS-SIAS.
11. The electrical and I&C equipment areas HVAC system provides battery room ventilation that is required to maintain hydrogen concentration within the design limit during plant normal, abnormal and accident conditions.	11. Tests and analyses of the as-built electrical and I&C equipment areas HVAC system will be performed.	11. A report exists and concludes that the as-built electrical and I&C equipment areas HVAC system is capable of providing battery room ventilation in order to maintain hydrogen concentration below 1 % by battery room volume during plant normal operations, abnormal and accident conditions.
12.a The fire dampers are installed in the fire rated barriers and have the same fire resistance rating as the barrier.	12.a Type tests, tests, a combination of type tests and analyses, or a combination of tests and analyses of fire damper rating will be performed.	12.a A report exists and concludes that the fire dampers that penetrate the fire barriers have the same fire resistance rating as the barrier.

Table 2.7.3.5-3 (7 of 7)

Design Commitment	Inspections, Tests, Analyses	Acceptance Criteria
12.b The fire dampers which are required to protect safety shutdown capability close under design air flow condition.	12.b Type tests, tests, a combination of type tests and analyses, or a combination of tests and analyses of fire damper closing will be performed under design air flow condition.	12.b A report exists and concludes that the fire dampers which are required to protect safety shutdown capability close under the design air flow condition.
12.c HVAC ducts that penetrate fire barriers have fire dampers in the HVAC ducts.	12.c An inspection will be performed to verify that fire dampers are installed in the as-built HVAC ducts that penetrate the fire barriers.	12.c Fire dampers are installed in the as-built HVAC ducts that penetrate the fire barriers.
13. The auxiliary building controlled area HVAC system has exhaust airflow rate greater than supply airflow rate to control the release of potential airborne radioactive materials from the auxiliary building controlled area during plant normal condition.	13. Tests of the as-built auxiliary building controlled area HVAC system will be performed.	13. A report exists and concludes that the as-built auxiliary building controlled area HVAC system provides design exhaust airflow rate that is greater than design supply airflow rate during plant normal condition.
14. The auxiliary building controlled area HVAC system non-metallic parts, materials, and lubricants used in safety relatedsafety-related mechanical equipment perform their safety-related function up to the end of their qualified life in the design basis harsh environmental conditions (both internal service conditions and external environmental conditions) experienced during normal operations, anticipated operational occurrences, design-basis accidents, and post accident conditions.	14. A type test or a combination of type test -and analysis will be performed on the containment air radiation monitor non-metallic parts, materials, and lubricants used in safety relatedsafety-related mechanical equipment.	14. A qualification report exists and concludes that the containment air radiation monitor non-metallic parts, materials, and lubricants used in safety relatedsafety-related mechanical equipment perform their safety relatedsafety-related function up to the end of their qualified life under the design basis harsh environmental conditions (both internal service conditions and external environmental conditions)- experienced during normal operations, anticipated operational occurrences, design-basis accidents, and post accident conditions specified in the qualification report.

Table 2.7.3.6-1

Reactor Containment Building HVAC System and
Reactor Containment Building Purge System ITAAC

Design Commitment	Inspections, Tests, Analyses	Acceptance Criteria
1. The functional arrangement of the reactor containment building HVAC system and reactor containment building purge system are as described in the Design Description of Subsections 2.7.3.6.1.1 and 2.7.3.6.1.2.	1. Inspection of the as-built system will be conducted.	1. The as-built reactor containment building HVAC system and reactor containment building purge system conforms with the functional arrangement as described in the Design Description of Subsections 2.7.3.6.1.1 and 2.7.3.6.1.2.
2.a The fire dampers are installed in the fire rated barriers and have the same fire resistance rating as the barrier.	2.a Type tests, tests, a combination of type tests and analyses, or a combination of tests and analyses of fire damper rating will be performed.	2.a A report exists and concludes that the fire dampers that penetrate the fire barriers have the same fire resistance rating as the barrier.
2.b The fire dampers which are required to protect safety shutdown capability close under design air flow condition.	2.b Type tests, tests, a combination of type tests and analyses, or a combination of tests and analyses of fire damper closing will be performed under design air flow condition.	2.b A report exists and concludes that the fire dampers which are required to protect safety shutdown capability close under the design air flow condition.
2.c HVAC ducts that penetrate fire barriers have fire dampers in the HVAC ducts.	2.c An inspection will be performed to verify that fire dampers are installed in the as-built HVAC ducts that penetrate the fire barriers.	2.c Fire dampers are installed in the as-built HVAC ducts that penetrate the fire barriers.

Table 2.7.4.1-1

New Fuel Storage ITAAC

Design Commitment	Inspections, Tests, Analyses	Acceptance Criteria
1. The functional arrangement of the new fuel storage facility including the new fuel storage racks is as described in the Design Description of Subsection 2.7.4.1.1.	1. Inspection of the as-built new fuel storage facility will be performed.	1. The as-built new fuel storage facility conforms with the functional arrangement as described in the Design Description of Subsection 2.7.4.1.1 including; - Anti-flooding provisions with drain feature - Anti-tipping provisions with anchor bolt design - Non-seismic Category I component around the pit and racks will not impact NFSP racks and stored fuel due to its failure during SSE
2. The new fuel storage racks maintain the effective multiplication factor, K_{eff}, less than or equal to the regulatory limits in 10 CFR 50.68 during normal operation and the postulated accident conditions.	2.a Inspection of the as-built new fuel storage racks will be performed based on the associated documents such as the criticality analysis report and the structural analysis report the Final Safety Analysis Report including the criticality analysis report and the mechanical analysis report.	2.a The as-built new fuel storage rack dimensions including the center-to-center spacing, the rack-to-rack spacing and the rack-to-wall spacing are consistent with the design values for dimensions and their tolerances used in the criticality analysis and the structural and seismic mechanical analysis.
	2.b Inspections will be performed to verify that the materials of the as-built new fuel storage racks conform with the criticality analysis of the new fuel storage racks.	2.b The materials of the as- built new fuel storage racks conform with the criticality analysis of the new fuel storage racks.

Table 2.7.4.2-1

Spent Fuel Storage ITAAC

Design Commitment	Inspections, Tests, Analyses	Acceptance Criteria
1. The functional arrangement of the spent fuel storage facility including the spent fuel pool liner plate, gates and racks is as described in the Design Description of Subsection 2.7.4.2.1.	1. Inspection of the as-built spent fuel storage facility will be performed.	1. The as-built spent fuel storage facility conform with the functional arrangement as described in the Design Description of Subsection 2.7.4.2.1 including; - Non-seismic Category I component around the pool and racks will not impact SFP safety-related SSC, the racks, or stored fuel due to its failure during SSE - Spent fuel pool configuration including; · locations and elevations of as-built pipes, gates, drains, openings, and anti-siphon devices in the SFP · dimensions of as-built SFP
2. The spent fuel storage racks maintain the effective multiplication factor, K_{eff}, less than or equal to the regulatory limits in 10 CFR 50.68 during normal operation and the postulated accident conditions.	2.a Inspection of the as-built spent fuel storage racks will be performed ~~based on the associated documents such as the criticality analysis report and the structural analysis report the Final Safety Analysis Report including the criticality analysis report and the mechanical analysis report.~~.	2.a The as-built spent fuel storage rack dimensions including the center-to-center spacing, the rack-to-rack spacing and the rack-to-wall spacing are consistent with the design values for dimensions including their tolerances used in the criticality analysis and the ~~structural and seismic~~ mechanical analysis.
	2.b Inspections will be performed to verify that the materials of the as-built spent fuel storage racks conform with the criticality analysis of the spent fuel storage racks.	2.b The materials including the neutron absorbing material of the ~~as built~~as-built spent fuel storage racks and their tolerances conform with the criticality analysis of the spent fuel storage racks.

Table 2.7.4.3-4 (1 of 5)

Spent Fuel Pool Cooling and Cleanup System ITAAC

Design Commitment	Inspections, Tests, Analyses	Acceptance Criteria
1. The functional arrangement of the SFPCCS is as described in the Design Description of Subsection 2.7.4.3.1 and in Table 2.7.4.3-1 and as shown in Figure 2.7.4.3-1.	1. Inspection of the as-built SFPCCS will be performed.	1. The as-built SFPCCS conforms with the functional arrangement as described in the Design Description of Subsection 2.7.4.3.1 and in Table 2.7.4.3-1 and as shown in Figure 2.7.4.3-1.
2.a The ASME Code components identified in Table 2.7.4.3-2 are designed and constructed in accordance with ASME Section III requirements.	2.a Inspection of the as-built ASME Code components identified in Table 2.7.4.3-2 will be performed and ~~as~~ documented in the ASME data report(s).	2.a The ASME Section III data report(s) exist and conclude that the as-built ASME Code components identified in Table 2.7.4.3-2 are designed and constructed in accordance with ASME Section III requirements.
2.b The ASME Code piping, including supports, identified in Table 2.7.4.3-1 is designed and constructed in accordance with ASME Section III requirements.	2.b Inspection of the as-built ASME Code piping, including supports, identified in Table 2.7.4.3-1 will be performed and ~~as~~ documented in the ASME data report(s).	2.b The ASME Section III data report(s) exist and conclude that the as-built ASME Code piping, including supports, identified in Table 2.7.4.3-1 is designed and constructed in accordance with ASME Section III requirements.
3.a Pressure boundary welds in ASME Code components identified in Table 2.7.4.3-2 meet ASME Section III requirements.	3.a Inspections of the as-built pressure boundary welds in ASME Code components identified in Table 2.7.4.3-2 will be performed in accordance with the ASME Section III.	3.a A report exists and concludes that the ASME Section III requirements are met for non-destructive examination of the as-built pressure boundary welds in ASME Code components identified in Table 2.7.4.3-2.
3.b Pressure boundary welds in ASME Code piping identified in Table 2.7.4.3-1 meet ASME Section III requirements.	3.b Inspections of the as-built pressure boundary welds in ASME Code piping identified in Table 2.7.4.3-1 will be performed in accordance with the ASME Section III.	3.b A report exists and concludes that the ASME Section III requirements are met for non-destructive examination of the as-built pressure boundary welds in ASME Code piping identified in Table 2.7.4.3-1.

Table 2.7.4.3-4 (2 of 5)

Design Commitment	Inspections, Tests, Analyses	Acceptance Criteria
4.a The ASME Code components identified in Table 2.7.4.3-2 retain their pressure boundary integrity at their design pressure.	4.a A hydrostatic test will be conducted on the as-built ASME Code components identified in Table 2.7.4.3-2 required to be hydrostatically tested by the ASME Section III.	4.a A report exists and concludes that the results of the hydrostatic test of the as-built ASME Code components identified in Table 2.7.4.3-2 conform with ASME Section III requirements.
4.b The ASME Code piping identified in Table 2.7.4.3-1 retains its pressure boundary integrity at its design pressure.	4.b A hydrostatic test will be conducted on the as-built ASME Code piping identified in Table 2.7.4.3-1 required to be hydrostatically tested by the ASME Section III.	4.b A report exists and concludes that the results of the hydrostatic test of the as-built ASME Code piping identified in Table 2.7.4.3-1 conform with ASME Section III requirements.
5.a The seismic Category I components and instruments identified in Tables 2.7.4.3-2 and 2.7.4.3-3, including the supports and anchorages, can withstand seismic design basis loads without loss of safety function.	5.a.i Inspections will be performed to verify that the as-built seismic Category I components and instruments are located in the seismic Category I structure.	5.a.i The as-built seismic Category I components and instruments identified in Tables 2.7.4.3-2 and 2.7.4.3-3 are located in the seismic Category I structure.
	5.a.ii Type tests, analyses or a combination of type tests and analyses of seismic Category I components and instruments will be performed.	5.a.ii A report exists and concludes that the seismic Category I components and instruments identified in Tables 2.7.4.3-2 and 2.7.4.3-3 can withstand seismic design basis loads without loss of safety function.
	5.a.iii Inspections will be performed to verify that the as-built seismic Category I components and instruments, including the supports and anchorages, are seismically bounded by the tested or analyzed conditions.	5.a.iii A report exists and concludes that the as-built seismic Category I components and instruments identified in Tables 2.7.4.3-2 and 2.7.4.3-3, including the supports and anchorages, are seismically bounded by the tested or analyzed conditions.
5.b The seismic Category I piping, including supports, identified in Table 2.7.4.3-1 withstands seismic design basis loads without loss of safety function.	5.b.i Inspections will be performed to verify that the as-built seismic Category I piping, including supports, is located in the seismic Category I structure(s).	5.b.i The as-built seismic Category I piping, including supports, identified in Table 2.7.4.3-1 is located in the seismic Category I structure(s).

Table 2.7.4.3-4 (3 of 5)

Design Commitment	Inspections, Tests, Analyses	Acceptance Criteria
5.b (cont.)	5.b.ii Inspections and analyses of the as-built seismic Category I piping, including supports, will be performed.	5.b.ii A report exists and concludes that the as-built seismic Category I piping, including supports, identified in Table 2.7.4.3-1 withstands seismic design basis loads without loss of its safety function.
6.a The Class 1E components and instruments identified in Tables 2.7.4.3-2 and 2.7.4.3-3 as being qualified for a harsh environment (and the associated wiring, cables, and terminations) can withstand the environmental conditions that would exist before, during, and following a design basis accident without loss of safety function for the time required to perform the safety function.	6.a.i Type tests, analyses, or a combination of type tests and analyses will be performed on Class 1E components and instruments located in a harsh environment.	6.a.i A report exists and concludes that the Class 1E components and instruments identified in Tables 2.7.4.3-2 and 2.7.4.3-3 as being qualified for a harsh environment can withstand the environmental conditions that would exist before, during, and following a design basis accident without loss of safety function for the time required to perform the safety function.
	6.a.ii Inspections will be performed on the as-built Class 1E components and instruments (and the associated wiring, cables, and terminations) located in a harsh environment.	6.a.ii A report exists and concludes that the as-built Class 1E components and instruments identified in Tables 2.7.4.3-2 and 2.7.4.3-3 and the associated wiring, cables, and terminations identified in Tables 2.7.4.3-2 and 2.7.4.3-3 as being qualified for a harsh environment (and the associated wiring, cables, and terminations) are bounded by type tests, analyses, or a combination of type tests and analyses.
6.b Each of the Class 1E components and instruments identified in Tables 2.7.4.3-2 and 2.7.4.3-3 is powered from its respective Class 1E division.	6.b Tests will be performed by providing a test signal in only one Class 1E division at a time.	6.b The test signal exists at the Class 1E components and instruments identified in Tables 2.7.4.3-2 and 2.7.4.3-3 as being powered from the Class 1E division under test.

Table 2.7.4.3-4 (4 of 5)

Design Commitment	Inspections, Tests, Analyses	Acceptance Criteria
6.c ~~Separation~~Physical separation and electrical isolation is provided (1) between Class 1E divisions, and (2) between Class 1E divisions and non-Class 1E divisions.	6.c Inspection of the as-built Class 1E divisions will be performed.	6.c Physical separation and electrical isolation exist in accordance with NRC RG 1.75 (1) between ~~these~~ Class 1E divisions, and ~~also~~ (2) between Class 1E divisions and non- Class 1E divisions.
7. Check valves identified in Table 2.7.4.3-2 perform an active safety function to change position as indicated in the table.	7. Tests of the as-built check valves will be performed under pre-operational test pressure, temperature, and fluid flow conditions.	7. Each check valve changes position as indicated in Table 2.7.4.3-2 under pre-operational test pressure, temperature, and fluid flow conditions.
8.a ~~All controls~~ Controls exist in the MCR to start and stop the SFP cooling pumps identified in Table 2.7.4.3-2.	8.a Tests will be performed using the controls in the MCR to start and stop the SFP cooling pumps.	8.a ~~All controls~~Controls in the as-built MCR start and stop the SFP cooling pumps identified in Table 2.7.4.3-2.
8.b ~~All controls~~Controls exist in the RSR to start and stop the SFP cooling pumps identified in Table 2.7.4.3-2.	8.b Tests will be performed using the controls in the RSR to start and stop the SFP cooling pumps.	8.b ~~All controls~~Controls in the as-built RSR start and stop the SFP cooling pumps identified in Table 2.7.4.3-2.
8.c ~~All d~~Displays and alarms exist and are retrievable in the MCR as defined in Tables 2.7.4.3-2 and 2.7.4.3- 3.	8.c Inspections ~~will be performed on the~~of the as-built displays and alarms in the MCR will be performed.	8.c ~~All d~~Displays and alarms exist and are retrieved in the as- built MCR as defined in Tables 2.7.4.3-2 and 2.7.4.3-3.
8.d ~~All d~~Displays and alarms exist and are retrievable in the RSR as defined in Tables 2.7.4.3-2 and 2.7.4.3- 3.	8.d Inspections ~~will be performed on the~~ of the as-built displays and alarms in the RSR will be performed.	8.d ~~All d~~Displays and alarms exist and are retrieved in the as- built RSR as defined in Tables 2.7.4.3-2 and 2.7.4.3-3.
9. The two mechanical divisions of the SFPCS are physically separated except for the cross-connect line between SFP cooling pump suction, discharge lines.	9. Inspections of the as-built mechanical divisions will be performed.	9. The two mechanical divisions of the SFPCS are physically separated by a divisional wall that is a 3-hour rated fire barrier, or by spatial separation in the spent fuel pool, except or the cross-connect line between SFP cooling pump suction, discharge lines.

Table 2.7.4.3-4 (5 of 5)

Design Commitment	Inspections, Tests, Analyses	Acceptance Criteria
10. The SFPCCS provides heat removal capacity to remove the decay heat generated by spent fuel assemblies.	10.a An analysis will be performed to verify the heat removal capacity of the SFP cooling heat exchangers.	10.a A report exists and concludes that the product of the overall heat transfer coefficient (U) and the effective heat transfer area (A) of each SFP cooling heat exchanger is greater than or equal to 4.7×10^6 Btu/hr-°F.
	10.b Test will be performed on the as-built SFP cooling pumps to confirm that the SFP cooling pumps can provide the flow rate.	10.b Each as-built SFP cooling pump delivers a flow rate at least 4,000 gpm to each as-built SFP cooling heat exchanger.
11. The SFPCCS safety-related pumps are functionally designed and qualified to perform their safety-related function under the full range of fluid flow, differential pressure, electrical ~~conditions~~, and temperature conditions up to and including design basis accident conditions.	11. A type test or a combination of type test and analysis will be performed of the SFPCCS safety-related pumps.	11. A Functional Qualification Report performed in conformance to ASME QME-1, as accepted in Regulatory Guide 1.100, exists and concludes that the SFPCCS safety-related pumps listed in Table 2.7.4.3-2 are ~~capable of performing~~ functionally designed and qualified to perform their safety- related function under the full range of fluid flow, differential pressure, electrical ~~conditions~~, and temperature conditions up to and including design basis accident conditions.
12. The SFP cooling pumps have sufficient net positive suction head (NPSH).	12. Test to measure the as-built SFP cooling pump suction pressure will be performed. Inspection and analysis to determine NPSH available to each pump will be performed based on test data and as-built data.	12. A report exists and concludes that the as-built calculated NPSH available exceeds each SFP cooling pump's required NPSH.
13. Spent fuel pool liner leak detection design provides visual indication of liner leak	13. Inspection of integrity of glass gauge to assure clarity and upstream valve position to facilitate liquid collection for leak detection.	13. A report concludes that the as-built leak detection is installed as designed; and leak detection glass gauge and valves are verified for clarity and open position to facilitate leakage inspection.

Table 2.7.4.4-2 (1 of 3)

Light Load Handling System ITAAC

Design Commitment	Inspections, Tests, Analyses	Acceptance Criteria
1. The functional arrangement of the LLHS is as described in the Design Description of Subsection 2.7.4.4.1 and in Table 2.7.4.4-1.	1. Inspection of the as-built system will be conducted.	1. The as-built LLHS conforms with the functional arrangement as described in Design Description of Subsection 2.7.4.4.1 and in Table 2.7.4.4-1.
2. The ASME Code equipment identified in Table 2.7.4.4-1 is designed and constructed in accordance with ASME Section III requirements.	2. Inspection of the as-built ASME Code equipment identified in Table 2.7.4.4-1 will be performed and ~~as~~ documented in the ASME design reports.	2. A report exists and concludes that the as-built ASME Code equipment identified in Table 2.7.4.4-1 is designed and constructed in accordance with ASME Section III requirements.
3. The ASME Code equipment identified in Table 2.7.4.4-1 retains its pressure boundary integrity at its design pressure.	3. A hydrostatic test will be conducted on the as-built ASME Code equipment identified in Table 2.7.4.4-1 required to be hydrostatically tested by the ASME Section III.	3. A report exists and concludes that the results of the hydrostatic test of the as-built ASME Code equipment identified in Table 2.7.4.4-1 conform with ASME Section III requirements.
4. The seismic Category I equipment identified in Table 2.7.4.4-1, including the supports and anchorages, withstands seismic design basis loads without loss of safety function.	4.a Inspections will be performed to verify that the as-built seismic Category I equipment is located in the seismic Category I structure.	4.a The as-built seismic Category I equipment identified in Table 2.7.4.4-1 is located in the seismic Category I structure.
	4.b Type tests, analyses or a combination of type tests and analyses of seismic Category I equipment will be performed.	4.b A report exists and concludes that the seismic Category I equipment identified in Table 2.7.4.4-1 can withstand seismic design basis loads without loss of safety function.
	4.c Inspections will be performed to verify that the as-built seismic Category I equipment, including the supports and anchorages, is seismically bounded by the tested or analyzed conditions	4.c A report exists and concludes that the as-built seismic Category I equipment identified in Tables 2.7.4.4-1, including the supports and anchorages, is seismically bounded by the tested or analyzed conditions.

Table 2.7.4.4-2 (2 of 3)

Design Commitment	Inspections, Tests, Analyses	Acceptance Criteria
5. The seismic Category II equipment identified in Table 2.7.4.4-1 retains structural integrity and does not impair the ability of a seismic Category I equipment to perform its design basis safety function during or following a safe shutdown earthquake (SSE).	5. Inspections and analyses of the as-built seismic Category II equipment will be performed.	5. A report exists and concludes that the as-built seismic Category II equipment identified Table 2.7.4.4-1 does not impair the ability of a seismic Category Ⅰ equipment to perform its design basis safety function during or following an SSE.
6. The RM, SFHM and CEACP hoists are provided with load measuring devices and are interlocked to interrupt hoisting and lowering if load limits are reached.	6. Test of the RM, SFHM and CEACP hoists will be performed to evaluate equipment response to simulated loads.	6. Load measuring devices and interlocks of the RM, SFHM and CEACP hoists interrupt hoisting and lowering when simulated load limits are reached.
7. The RM, SFHM and CEACP hoists are interlocked to limit upward hoist travel.	7. Test of the RM, SFHM and CEACP hoists will be performed to confirm that the interlock function works to limit upward hoist travel.	7. The RM, SFHM and CEACP hoists are interlocked to limit upward hoist travel.
8 The RM, SFHM and CEACP hoists are provided with mechanical stops. The mechanical stops restrict withdrawal of the spent fuel assemblies or CEAs above the minimum safe water cover depth (9 ft). This, along with the shielding provided by the refueling equipment, ensures that an operator on the refueling platform is not exposed to the radiation dose limit of 2.5 mrem/hr when at the lower limit of the normal operating water level.	8. Test of the RM, SFHM and CEACP hoists will be performed to confirm that the mechanical stops function works to limit upward hoist travel.	8. The RM, SFHM and CEACP hoists limit upward hoist travel of spent fuel assemblies, CEAs, or both to provide at least 9 ft of water cover depth.
9. During a loss of electrical power to the RM or SFHM, the RM or SFHM does not drop the fuel assembly held by its hoist.	9. Test of the RM and SFHM will be performed by removing electrical power from the loaded equipment.	9. The grapple does not open upon the loss of electrical power.

Table 2.7.4.4-2 (3 of 3)

Design Commitment	Inspections, Tests, Analyses	Acceptance Criteria
10. The new fuel elevator is interlocked to prevent from raising the elevator with a fuel assembly in the carriage assembly.	10. Test of the new fuel elevator will be performed to confirm that the interlock function works to limit travel.	10. The new fuel elevator does not raise with a fuel assembly in the carriage assembly.

Table 2.7.4.5-1 (1 of 3)

Overhead Heavy Load Handling System ITAAC

Design Commitment	Inspections, Tests, Analyses	Acceptance Criteria
1. The functional arrangement of the OHLHS is as described in the Design Description of Subsection 2.7.4.5.1.	1. Inspection of the as-built system will be conducted.	1. The as-built OHLHS conforms with the functional arrangement as described in the Design Description of subsection 2.7.4.5.1.
2. The OHLHS retains structural integrity and will not impair the ability of a seismic Category I equipment to perform its design basis safety function during or following an SSE.	2. Inspection and analyses will be performed for the as-built seismic Category II OHLHS.	2. A report exists and concludes that the as-built OHLHS retains structural integrity and does not impair the ability of a seismic Category I equipment to perform its design basis safety function during or following an SSE.
3. The containment polar crane and fuel handling area crane have seismic restraints that prevent the bridge and trolley on their respective runways with their wheels from leaving the tracks during and after an SSE.	3. Inspections, test and analyses will be performed for the as-built of the polar carne and fuel handling area crane.	3. A report exists and concludes that the as-built seismic restraints prevent bridge and trolley on their respective runways with their wheels from leaving the tracks during and after an SSE.
4. The containment polar crane has the dual reeving system and at least two holding brake system.	4. Inspection and tests will be performed on the as-built polar crane main and auxiliary hoists to verify following provisions in accordance with ASME NOG-1, Type I: • dual reeving system • at least two holding brakes • all weld joint whose failure could result in the drop of a critical load are subject to non-destructive examination (NDE) in accordance with ASME NOG-1.	4. A report exists and concludes that the as-built containment polar crane main and auxiliary hoists are a single-failure-proof cranes ~~such as~~with the following characteristics: • tolerate a single reeving system rope failure without a load drop. • are equipped with two holding brakes, each of which is set and rated at a minimum torque of 125 % of rated hoisting torque at the point of brake application. • all weld joints meet ASME NOG-1 criteria for NDE.

Table 2.7.4.5-1 (2 of 3)

Design Commitment	Inspections, Tests, Analyses	Acceptance Criteria
5. OHLHS prevents the uncontrolled lowering of a heavy load.	5. The following tests for the OHLHS will be performed in accordance with ASME NOG-1: • full-load test with a minimum of 100% of rated load in accordance with ASME NOG-1. • rated load test with a minimum of 125% of rated load in accordance with ASME NOG-1. • no-load test in accordance with ASME NOG-1.	5. A report exist exists and concludes that the as-built OHLHS allows the crane to operate in accordance with ASME NOG-1 testing for no-load, full-load, and 125% of rated power load operates with 100% of rated load and lower, stop and hold 125% of rated load.
6. The hoists of containment polar crane and the fuel handling area overhead crane are provided with two limit switches to prevent the hoisting system from two-blocking.	6. Tests of the fuel handling area overhead crane and containment polar crane hoists will be performed to confirm limit switches de-energize the hoist drive motor and the motor power supply prior to two-blocking.	6. The fuel handling area overhead crane and containment building polar crane hoists are equipped with the limit switches protective control system to that de-energize the hoist drive motor and the motor power supply prior to two-blocking.
7. The fuel handling hoist of fuel handling area overhead crane is interlocked to prevent moving new fuel over the spent fuel storage racks in the spent fuel pool.	7. Tests of fuel handling hoist of fuel handling area overhead crane will be performed to confirm the interlock function to limit travel.	7. The fuel handling hoist of fuel handling area overhead crane is limited by the interlock to prevent travel over the spent fuel storage racks in the spent fuel pool.
8. The cask handling hoist of fuel handling area overhead crane is interlocked and equipped with mechanical stops to prevent moving a cask over the spent fuel storage racks in the spent fuel pool, and interlocked to prevent moving a cask over the new fuel storage racks.	8. Tests of cask handling hoist of fuel handling area overhead crane will be performed to confirm the interlock function and mechanical stop to limit travel.	8. The cask handling hoist travel of fuel handling area overhead crane is limited by the interlock and the mechanical stops.

Table 2.7.4.5-1 (3 of 3)

Design Commitment	Inspections, Tests, Analyses	Acceptance Criteria
9. OHLHS has a control system to return to or maintain a secure holding position of critical loads in the event of a system fault.	9. Tests of the as-built OHLHS control system will be performed to assure that the as-built OHLHS returns to or maintains a secure holding position of critical loads in the event of a system fault.	9. The as-built control system includes safety devices which assure that the as-built OHLHS returns to and/or maintains a secure holding position of critical loads in the event of a system fault.

Table 2.7.5.1-1

Compressed Air System ITAAC

Design Commitment	Inspections, Tests, Analyses	Acceptance Criteria

Table 2.7.5.2-3 (1 of 2)

Fire Protection System ITAAC

Design Commitment	Inspections, Tests, Analyses	Acceptance Criteria
1. The functional arrangement of the FPS is as described in the Design Description of Subsection 2.7.5.2.1 and as shown in Figure 2.7.5.2-1.	1. Inspection of the as-built FPS will be performed.	1. The as-built FPS conforms with the functional arrangement as described in the Design Description of Subsection 2.7.5.2.1 and as shown in Figure 2.7.5.2-1.
2.a The main fire water storage tank has minimum volume for design flow rate for fire fighting during 2 hours.	2.a Inspection of the as-built main fire water storage tank will be performed.	2.a The as-built main fire water storage tank has at least 1.136×10^6 L (300,000 gal).
2.b The seismic Category I fire water storage tank has minimum volume for 2 hose station during 2 hours.	2.b Inspection of the as-built Seismic Category I fire water storage tank will be performed.	2.b The as-built seismic Category I fire water storage tank has at least 6.813×10^4 L (18,000 gal).
3.a There are three 50 percent capacity fire pumps: one pump is motor driven and two pumps are diesel driven.	3.a Test and analysis will be performed to determine design flow rate for the as-built each pump.	3.a A report exists and concludes that each fire pump provides the design flow rate to satisfy the demand of any automatic sprinkler system plus 1,900 lpm (500 gpm) for fire hoses.
3.b There are two 100 percent capacity seismic Category I motor driven fire pumps.	3.b Test and analysis will be performed to determine design flow rate for each ~~the~~ as- built ~~each~~ pump.	3.b A report exists and concludes that each seismic Category I fire pump provides the design flow rate to satisfy the demand of two fire hoses 284 lpm/each (75 gpm/each) in each area containing safe shutdown components.
4. The FPS fire water supply is available as emergency containment spray backup source for severe accident mitigation.	4. Inspection of the as-built FPS fire water supply system will be performed.	4. The as-built FPS fire water supply system has the provision to connect to the containment spray system.
5. During and after safe shutdown earthquake loading, the stand pipe system remains functional in areas containing equipment required for safe shut down.	5. An inspection and analysis will be performed of the as-built stand pipe system as documented in a seismic design report.	5. The seismic design report exists and concludes that the as-built stand pipe system remains functional in areas containing equipment required for safe shutdown during and after safe shutdown earthquake loading.

Table 2.7.5.2-3 (2 of 2)

Design Commitment	Inspections, Tests, Analyses	Acceptance Criteria
6. The fuel tank for the diesel-driven fire pump is capable of holding at least equal to 5.07 L per kW (1 gal per hp) plus 10 % volume.	6. Inspection of the diesel-driven fire tank will be performed	6. The volume of the as-built diesel fire pump fuel tank is at least equal to 5.07 L per kW (1 gal per hp) plus 10 % volume.
7. Manual pull stations or individual fire detectors provide fire detection capability and are used to initiate fire alarms.	7. Inspection and testing of the as-built manual pull stations and individual fire detectors will be performed using simulated fire conditions.	7. The as-built manual pull stations initiate fire alarms when pulled, and individual fire detectors initiate fire alarms in response to simulated fire conditions.
8.a All dDisplays and alarms required by the design exist and are retrievable in the MCR as defined in Table 2.7.5.2-2.	8.a Inspections will be performed on theof the as-built displays and alarms in the MCR will be performed.	8.a All dDisplays and alarms exist and are retrieved in the as- built MCR as defined in Table 2.7.5.2-2.
8.b All dDisplays and alarms required by the design exist and are retrievable in the RSR as defined in Table 2.7.5.2-2.	8.b Inspections will be performed on theof the as-built displays and alarms in the RSR will be performed.	8.b All dDisplays and alarms exist and are retrieved in the as- built RSR as defined in Table 2.7.5.2-2.

Table 2.7.6.1-2 (1 of 3)

Liquid Waste Management System ITAAC

Design Commitment	Inspections, Tests, Analyses	Acceptance Criteria
1. The functional arrangement of the LWMS is as described in the Design Description of Subsection 2.7.6.1.1 and in Table 2.7.6.1-1 and as shown in Figure 2.7.6.1-1.	1. Inspection of the as-built LWMS will be performed.	1. The as-built LWMS conforms with the functional arrangement as described in the Design Description of Subsection 2.7.6.1.1 and in Table 2.7.6.1-1 and as shown in Figure 2.7.6.1-1.
2. The LWMS has the sole liquid discharge line which is equipped with dual radiation monitors and an automatic discharge valve. The valve is to automatically closed upon detection of a high radioactivity level in the liquid effluent that exceeds a predetermined setpoint.	2. Tests of the as-built LWMS discharge valves will be performed using a simulated test signal.	2. The as-built LWMS discharge valves are automatically closed upon detection of a simulated high radiation test signal.
3. The LWMS uses two (2) trains of industry proven R/O technologies. The R/O trains are sized adequately to remove radionuclides to maintain radioactivity in the liquid releases within regulatory limits. Three (3) demineralizers in each demineralizer are added to polish the permeate to further remove any residual nuclides in the effluent.	3. Inspection and verification of media of the as-built R/O package will be performed per design specifications to verify that the DF and filtration efficiency of R/O package system meet or exceed the design specifications using verified test results.	3. A report concludes that the as-built R/O package has the decontamination factor and filtration efficiency equal to or greater than the design basis of the whole package including the R/O module and demineralizer module.

Table 2.7.6.1-2 (2 of 3)

Design Commitment	Inspections, Tests, Analyses	Acceptance Criteria
4. The LWMS uses two (2) sets of monitor tanks and pumps. The tanks are provided with eductors to thoroughly mix the tank content for sampling and analysis to confirm that the contamination level in the treated effluent is below the regulatory limits for discharge. Dual radiation monitors are provided to continuously monitor the radiation levels during discharge operation and alarm in the MCR and radwaste control room upon detection of a high radioactivity level.	4. Tests of the radiation monitor alarm signal will be performed to verify that the signal is annunciated in the MCR and radwaste control room using simulated test signals at the required setpoint.	4. An alarm from the radiation monitor at the liquid waste discharge line can be retrieved in the as-built MCR.
5. The LWMS components are classified as RW-IIa, RW-IIb and RW-IIc in accordance with NRC RG 1.143 and designed to the corresponding requirements in order to maintain structural integrity under the design basis loads. Component Radiation Safety Classification is summarized in Table 2.7.6.1-1.	5. Inspection will be performed for the as-built equipment per design specifications to verify that the as-built equipment construction (thicknesses and supports) and anchor bolt sizes meet or exceed the design specifications and Owner Engineer approved fabrication drawings.	5. A report concludes that the equipment classified as RW-IIa, RW-IIb and RW-IIc in Table 2.7.6.1-1 maintains structural integrity under the design basis loads.
6. Dual radiation monitors and an isolation valve are provided on the LWMS sole discharge line.	6. Inspection will be performed for the installation of dual radiation monitors and an isolation valve, and signal tests will be conducted to verify alarm, pump shut-off, and valve closure.	6. A report concludes that the as-built radiation monitors and isolation valve are installed as designed and verify alarm, pump shut-off, and valve closure by signal tests that are established consistent with the radiation monitor setpoints.
7. Leak detection design for floor drain tanks provides an alarm in MCR and RCR of liquid detection	7. Inspection of the as-built leak detection system, and signal test will be conducted to verify the alarm in the MCR and radwaste control room	7. The ~~as built~~as-built leak detection instrumentation is installed as designed; and the alarm is verified in the MCR and radwaste control room

Table 2.7.6.1-2 (3 of 3)

Design Commitment	Inspections, Tests, Analyses	Acceptance Criteria
8. Leak detection design for equipment waste tanks provides an alarm in MCR and RCR of liquid detection	8. Inspection of as-built leak detection system, and signal test will be conducted to verify alarm in MCR and radwaste control room	8. The ~~as built~~as-built leak detection instrumentation is installed as designed; and the alarm is verified in the MCR and radwaste control
9. Leak detection design for monitor tanks provides an alarm in MCR and RCR of liquid detection	9. Inspection of as-built leak detection system, and signal test will be conducted to verify alarm in radwaste control room	9. The ~~as built~~as-built leak detection instrumentation is installed as designed; and the alarm is verified in the MCR and radwaste control

Table 2.7.6.2-4 (1 of 2)

Gaseous Radwaste System ITAAC

Design Commitment	Inspections, Tests, Analyses	Acceptance Criteria
1. The functional arrangement of the GRS is as described in Design Description of Subsection 2.7.6.2.1 and in Tables 2.7.6.2-1 and 2.7.6.2-3 and as shown in Figure 2.7.6.2-1.	1. Inspection of the as-built GRS will be performed.	1. The as-built GRS conforms with the functional arrangement as described in Design Description of Subsection 2.7.6.2.1 and in Tables 2.7.6.2-1 and 2.7.6.2-3 and as shown in Figure 2.7.6.2-1.
2. The GRS charcoal delay beds contain the appropriate type, size, and mass of charcoal needed to facilitate adsorption of radionuclides (xenon and krypton gases) for decay to ensure that the gaseous releases are within the regulatory limits. Moisture instruments are provided for the protection of the charcoal delay beds.	2. Inspection and verification of media in the as-built GRS charcoal beds per design specifications will be performed to verify adsorption efficiency of media.	2. A report concludes that the as-built charcoal delay beds have the appropriate mass and the adsorption efficiency equal to or greater than the design basis of the charcoal delay beds.
3. The GRS discharge valve is closed automatically upon detection of a high radiation signal from the radiation monitor at the gaseous waste discharge. The discharge valve is also automatically closed when there is insufficient or no ventilation flow.	3. Tests will be conducted for the GRS discharge valve using simulated test signal.	3. Upon receipt of a simulated GRS high radiation test signal, the as-built GRS discharge valve is closed automatically.
4. An alarm from the gaseous waste discharge radiation monitor is ~~2~~ provided in the MCR, the RSR, and the radwaste control room.	4. Inspection will be performed for the retrievability of the alarm from the gaseous waste discharge monitor in the as-built MCR, the RSR, and the radwaste control room.	4. An alarm from gaseous waste discharge radiation monitor can be retrieved in the as-built MCR, the RSR, and the radwaste control room.
5. The nitrogen injection valve is opened automatically upon receipt of a high oxygen concentration signal above the pre-determined setpoint.	5. Tests will be conducted for the GRS nitrogen injection valve using a simulated test signal.	5. Upon receipt of a simulated high oxygen concentration test signal, the as-built nitrogen injection valve is opened automatically.

Table 2.7.6.2-4 (2 of 2)

Design Commitment	Inspections, Tests, Analyses	Acceptance Criteria
6. The GRS components are classified as RW-IIa in accordance with NRC RG 1.143 and designed to the corresponding requirements in order to maintain structural integrity under the design basis loads. Component Radiation Safety Classification is summarized in Table 2.7.6.2-3.	6. Inspection will be performed for the as-built equipment per design specifications to verify that as-built equipment construction (thicknesses and supports) and anchor bolt sizes meet design specifications and Owner Engineer approved fabrication drawings.	6. A report concludes that the equipment classified as RW-IIa in Table 2.7.6.2-3 maintains structural integrity under the design basis loads.

Table 2.7.6.3-2

Solid Waste Management System ITAAC

Design Commitment	Inspections, Tests, Analyses	Acceptance Criteria
1. The functional arrangement of the SWMS is as described in the Design Description of Subsection 2.7.6.3.1 and in Table 2.7.6.3-1.	1. Inspection of the as-built SWMS will be performed.	1. The as-built SWMS conforms with the functional arrangement as described in the Design Description of Subsection 2.7.6.3.1 and in Table 2.7.6.3-1.
2. The SWMS spent resin storage tanks listed in Table 2.7.6.3-1 have the capacity for radioactive spent resin storage.	2. Inspection and analysis of the as-built spent resin storage capability will be performed.	2. A report exists and concludes that the low activity spent resin tank and spent resin long-term tank have storage capacities of at least 22,654 L (800 ft^3) and 90,189 L (3185 ft^3), respectively, ~~the spent resin storage tanks have storage capacity~~ to store waste volume expected during normal operation including anticipated operation occurrences.
3. The SWMS provides dewatering equipment for spent resin in order to meet transportation and waste acceptance criteria for disposal.	3. Test will be performed for the as-built equipment to verify water is removed to below 1% standing water inside the spent resin disposal container using	3. A report concludes that the as-built equipment removes water to below 1% standing water inside the spent resin disposal container using clean resin.
4. The SWMS provides drying equipment for R/O concentrate in order to meet transportation and waste acceptance criteria for disposal.	4. Test will be performed for the as-built dryer using simulated sludge in a disposal drum and no gas and vapor leakage can be observed during drying test.	4. A report concludes that the as-built equipment dries simulated sludges and no gas or vapor is observed during test.
5. The SWMS components are classified as RW-IIa in accordance with NRC RG 1.143 and designed to the corresponding requirements in order to maintain structural integrity under the design basis loads. Component Radiation Safety Classification is summarized in Table 2.7.6.2-3.	5. Inspections will be performed for the as-built equipment per design specifications to verify that as-built equipment construction (thicknesses and supports) and anchor bolt sizes meet design specifications and Owner Engineer approved fabrication drawings.	5. A report concludes that the equipment classified as RW-IIa in Table 2.7.6.3-1 maintains structural integrity under the design basis loads.

Table 2.7.6.4-3 (1 of 2)

Process and Effluent Radiation Monitoring and Sampling System ITAAC

Design Commitment	Inspections, Tests, Analyses	Acceptance Criteria
1. The functional arrangement of the PERMSS is as described in the Design Description of Subsection 2.7.6.4.1 and in Table 2.7.6.4-1.	1. Inspection of the as-built PERMSS will be conducted.	1. The as-built PERMSS conforms with the functional arrangement as described in the Design Description of Subsection 2.7.6.4.1 and in Table 2.7.6.4-1.
2. The PERMSS has components that provide radiation monitoring of gaseous and liquid processing systems.	2. Inspections will be performed to verify that the as-built gaseous and liquid processing systems are provided with radiation monitoring.	2. The components of radiation monitoring exist in gaseous and liquid processing systems of the as-built PERMSS.
3. All dDisplays and alarms required by the design exist and are retrievable in the MCR and RSR as defined in Table 2.7.6.4-1.	3. Test of the as-built PERMSS will be performed on the displays and alarms in the MCR and RSR.	3. All dDisplays and alarms exist and can be retrieved in the as-built MCR and RSR as defined in Table 2.7.6.4-1.
4. Each PERMSS channel monitors the radiation level in its assigned area, and indicates its respective MCR alarm and local audible and visual alarm when the radiation level reaches a preset level.	4. Testing of each channel of the as-built PERMSS will be conducted using simulated input signals for an alarm setpoint check.	4. MCR and local alarms are initiated when the simulated radiation level reaches a preset limit.
5. The safety-related divisionalized cabinet (SRDC) of the PERMSS provides an automatic ESFAS signals for each loop including the final component, as shown on Table 2.7.6.4-2.	5. A testing of the each loop including the final component and the SRDC of the as-built PERMSS will be performed using a simulated signal by observing the final actuated component at the actuation set point to verify that the SRDC and the system function as required.	5. As-built ESFAS initiation signal from SRDC is sent through ESF-CCS group controller cabinet to the final actuated component upon detection of high radiation of the MCR intake defined in Table 2.7.6.4-2, if the simulated radiation level exceeds predetermined setpoints for control room emergency ventilation actuation signal (CREVAS).
6. The seismic Category I monitors identified in Table 2.7.6.4-1, including the supports and anchorages, can withstand seismic design basis loads without loss of safety function.	6.a. Inspections will be performed to verify that the as-built seismic Category I monitor identified in Table 2.7.6.4-1 is located in seismic Category I structure	6.a. The as-built seismic Category I monitor identified in Table 2.7.6.4-1 is located in a seismic Category I structure.

Table 2.7.6.4-3 (2 of 2)

Design Commitment	Inspections, Tests, Analyses	Acceptance Criteria
6. (cont.)	6.b. Type test, analyses, or a combination of type tests and analyses of seismic Category I monitor identified in Table 2.7.6.4-1 will be performed.	6.b. A report exists and concludes that the seismic Category I monitor identified in Table 2.7.6.4-1 withstands seismic design basis loads without loss of safety function.
	6.c. Inspections and analyses will be performed to verify that the as-built seismic Category I monitor identified in Table 2.7.6.4-1, including the supports and anchorages, is seismically bounded by the tested or analyzed conditions.	6.c. A report exists and concludes that the seismic Category I monitor identified in Table 2.7.6.4-1, including the supports and anchorages, is seismically bounded by the tested or analyzed conditions.
7. ~~Separation~~Physical separation and electrical isolation is provided (1) between Class 1E divisions, and (2) between Class 1E divisions and non- Class 1E divisions.	7. Inspection of the as-built Class 1E divisions will be performed.	7. Physical separation and electrical isolation exists in accordance with NRC RG 1.75 (1) between ~~these~~ Class 1E divisions, and ~~also~~ (2) between class 1E divisions and non-class 1E divisions.
9. The steam generator blowdown radiation monitor provides an alarm in the MCR of high radioactive contamination and isolation signal to blowdown valve	9. A signal test is conducted to verify the radiation monitor setpoint and alarm and isolation functions in the MCR.	9. Upon detection of high radiation levels above the predetermined setpoint, the steam generator blowdown monitor provides an alarm in the MCR and closes the blowdown valve, isolating the blowdown system.
10. Each monitor channel function of PERMSS identified in Table 2.7.6.4-1 is functioning.	10. Testing of each channel of the as-built PERMSS will be conducted using a radiation check source with fixed source strength to activate the channel.	10. Each monitor channel is functioning (alive) when the built-in radiation check source is remotely activated by the operator.
11. The containment air radiation monitor non-metallic parts, materials, and lubricants used in ~~safety related~~safety-related mechanical equipment perform their safety- related function up to the end of their qualified life in the design basis harsh environmental conditions (internal service conditions) experienced during normal operations, anticipated operational occurrences, design-basis accidents, and post accident conditions.	11. A type test or a combination of type test and analysis will be performed the containment air radiation monitor non-metallic parts, materials, and lubricants used in ~~safety related~~safety-related mechanical equipment.	11. A ~~qualification~~ report exists and concludes that the containment air radiation monitor non-metallic parts, materials, and lubricants used in ~~safety-related~~safety-related mechanical equipment perform their ~~safety related~~safety-related function up to the end of their qualified life under the design basis harsh environmental conditions (internal service conditions) experienced during normal operations, anticipated operational occurrences, design-basis accidents, and post accident conditions ~~specified in the qualification report~~.

Table 2.7.6.5-3 (1 of 3)

Area Radiation Monitoring System ITAAC

Design Commitment	Inspections, Tests, Analyses	Acceptance Criteria
1. The functional arrangement of the ARMS is as described in the Design Description of Subsection 2.7.6.5.1 and in Table 2.7.6.5-1.	1. Inspection of the as-built ARMS will be conducted.	1. The as-built ARMS conforms with the functional arrangement as described in the Design Description of Subsection 2.7.6.5.1 and in Table 2.7.6.5-1.
2. The ARMS identified in table 2.7.6.5-1 provides for the indication, alarm, and recording of the defined plant area radiation levels within the MCR and RSR for operating personnel.	2. Test of the as-built ARMS components will be performed using a simulated radiation signal.	2. Each of the area radiation monitors identified in Table 2.7.6.5-1 provides operating personnel with an indication and record of the radiation level which corresponds to the simulated radiation signal. MCR and RSR alarms are initiated when the simulated radiation signal reaches a preset limit.
3. The monitors provide local readout and alarm units at the detector locations.	3. Testing of local readout and alarm units at the as-built detectors will be conducted.	3. Local alarms are initiated when the simulated radiation level reaches a preset limit. Both audible and visual alarms are included for each local readout/alarm unit.
4. SeparationPhysical separation and electrical isolation is provided (1) between Class 1E division, and (2) between Class 1E divisions and non- Class 1E divisions.	4. Inspection of the as-built Class 1E divisions will be performed.	4. Physical separation and electrical isolation exists in accordance with NRC RG 1.75 (1) between these Class 1E divisions, and also (2) between Class 1E divisions and non-Class 1E divisions.
5. The seismic Category I monitors of the ARMS identified in Table 2.7.6.5-1 can withstand seismic design basis loads without loss of safety function.	5.a. Inspections will be performed to verify that the as-built seismic Category I monitor identified in Table 2.7.6.5-1 is located in a seismic Category I structure(s).	5.a. The as-built seismic Category I monitor identified in Table 2.7.6.5-1 is located in a seismic Category I structure(s).

Table 2.7.6.5-3 (2 of 3)

Design Commitment	Inspections, Tests, Analyses	Acceptance Criteria
5. (cont.)	5.b. Type test, analyses, or a combination of type tests and analyses of seismic Category I monitor identified in Table 2.7.6.5-1 will be performed.	5.b. A report exists and concludes that the seismic Category I monitor identified in Table 2.7.6.5-1 withstands seismic design basis loads without loss of safety function.
	5.c. Inspections and analyses will be performed to verify that the as-built seismic Category I monitor identified in Table 2.7.6.5-1, including the supports and anchorages, is seismically bounded by the tested or analyzed conditions.	5.c. A report exists and concludes that the seismic Category I monitor identified in Table 2.7.6.5-1, including the supports and anchorages, is seismically bounded by the tested or analyzed conditions.
6. The safety-related divisionalized cabinet (SRDC) of the ARMS provides an automatic ESFAS signals for each loop including the final component, as shown in Table 2.7.6.5-2.	6. A Testing of the each loop including the final component and the SRDC of the as-built ARMS will be performed using a simulated signal by observing the final actuated component at the actuation setpoint to verify that the SRDC and the system function as required.	6. Each as-built ESFAS initiation signal from SRDC is sent through ESF-CCS group controller cabinet to the final actuated component upon detection of high radiation of containment operating area and fuel handling area defined in Table 2.7.6.5-2, if the simulated radiation level exceeds predetermined setpoints for containment purge isolation actuation signal (CPIAS) and fuel handling area emergency ventilation actuation signal (FHEVAS).

Table 2.7.6.5-3 (3 of 3)

Design Commitment	Inspections, Tests, Analyses	Acceptance Criteria
7. The containment monitors are located in an unimpeded location for each intended function as follows: - Upper area monitor (RE-234B) is located level just below the containment polar crane for a direct, unimpeded exposure path of the entire containment free air volume. RE-233A is located to accommodate operator's easy access, but still at an elevation that provides observation of a large fraction of containment free air volume. - Lower area monitors (RE- 231A and 232B) are located directly overhead with an unimpeded view of the refueling pool to detect a fuel handling accident condition.	7. Inspections will be performed to verify that containment monitors are located in an unimpeded location for each intended function.	7. As-built containment monitors are located in an unimpeded location for each intended function described in the design commitment.
8. The Class 1E components and instruments identified in Table 2.7.6.5-1 as being qualified for a harsh environment (and the associated wiring, cables, and terminations) are capable of withstanding the environmental conditions that would exist before, during, and following a design basis accident without loss of safety function for the time required to perform the safety function.	8.a Type tests~~, analyses~~ or a combination of type tests and analyses will be performed on Class 1E components and instruments located in a harsh environment.	8.a A report exists and concludes that the Class 1E components and instruments identified in Table 2.7.6.5-1 as being qualified for a harsh environment are capable of withstanding the environmental conditions that would exist before, during, and following a design basis accident without loss of safety function for the time required to perform the safety function.
	8.b Inspections will be performed on the as-built Class 1E components and instruments (and the associated wiring, cables, and terminations) located in a harsh environment.	8.b A report exists and concludes that the as-built Class 1E components and instruments identified in Table 2.7.6.5-1 ~~and the associated wiring, cables, and terminations identified in Table 2.7.6.5-1~~ as being qualified for a harsh environment (and the associated wiring, cables, and terminations) are bounded by type tests~~, analyses,~~ or a combination of type tests and analyses.

9. Each monitor channel of ARMS identified in table 2.7.6.5-1 is functioning.	9. Testing of each channel of the as-built ARMS will be conducted using the radiation check source with fixed source strength to activate the channel.	9. Each monitor channel is functioning (alive) when the built-in radiation check source is remotely activated by the operator.

Table 2.8-2

Radiation Protection ITAAC

Design Commitment	Inspections, Tests, Analyses	Acceptance Criteria
1. Shielding design of rooms, corridors, cubicles, labyrinth access, and operating areas is commensurate with the minimum shielding requirements for significant radiation sources.	1. Inspections and analysis of the as-built shielding structure will be conducted in accordance with the shield barrier drawings to verify the materials of construction and the thicknesses of all shield walls and floors are as-built for confirmation of the adequacy of the shielding design in plant areas.	1. A report exists and concludes that the shielding materials and the thicknesses of walls and floors are as-built for the shielding of all radiation areas.
2. Ventilation systems for the radiological controlled areas are designed to keep the radioactivity concentration below the limits specified in 10 CFR Part 20, Appendix B.	2. Analysis will be performed to predict the airborne radioactivity concentrations and to confirm the ventilation design adequacy by considering ventilation flow rates and equipment leakages in the plant areas during normal operations.	2. Analysis exists and concludes that ventilation airflow in radiological controlled areas flows from areas of lower potential airborne contamination to areas of higher potential airborne contamination. The concentrations of airborne radionuclides shall not exceed the concentrations provided in 10 CFR Part 20, Appendix B.
3. Radiation shielding design is provided to protect the operators so that they couldDesign features provide radiation protection so that operators can take actions necessary to mitigate or recover from the design basis accidents.	3. Analysis will be performed to predict maximum radiation exposure to the operators during the design basis accidents.	3. A report exists and concludes that maximum radiation exposure dose to operators is less than the limits specified in GDC 19.

Table 2.9-1

Human Factors Engineering ITAAC

Design Commitment	Inspections, Tests, Analyses	Acceptance Criteria
1. The control room design incorporates HFE principles that minimize the potential for operator error.	1. An Integrated System Validation Test will be performed in accordance with the Verification and Validation Implementation Plan. ~~[Design ITAAC]~~	1. An Integrated System Validation Report exists and concludes that acceptance criteria associated with each test scenario are satisfied upon initial performance of the scenarios or upon remediation of failures.
2. The as-built control room HSIs are consistent with the final validated design specifications.	2. An inspection of the as-built control room HSIs will be performed.	2. The as-built control room HSIs conform to the validated design with no configuration deviations.

Table 2.10-1

Emergency Planning ITAAC

Design Commitment	Inspections, Tests, Analyses	Acceptance Criteria
1. The TSC has at least at least 200m² of floor space.	1. Inspection and analysis of the as-built TSC will be performed.	1. A report exists and concludes that TSC has at least 200m² of floor space.
2. The TSC is located adjacent to the MCR in the auxiliary building.	2. Inspection and analysis of the as-built TSC will be performed.	2. The TSC is close adjacent to the MCR, and the walking distance from the TSC to the MCR does not exceed two minutes.
3. The means exists for communications among the MCR, the TSC, the EOF, principal state and local emergency operations centers (EOCs), and radiological field assessment teams.	3. A test of the communication systems will be performed.	3. Communications are established among the MCR, the TSC, the EOF, principal State and local EOCs, and radiological field assessment teams.
4. The means exists for communications from the MCR, the TSC, and the EOF to the NRC headquarters and regional office EOCs (including establishment of the Emergency Response Data System (ERDS) between the onsite computer system and the NRC Operations Center.)	4. A test of the communication systems will be performed.	4. Communications are established from the MCR, the TSC and the EOF to the NRC headquarters and regional office EOCs, and an access port for ERDS is provided (including establishment of the ERDS between the onsite computer system and the NRC Operations Center).
5. The OSC is located in compound building, separate from the MCR and the TSC.	5. Inspection of the location of the as-built OSC will be performed.	5. The OSC is located in compound building, separate from the MCR and the TSC.
6. The OSC has equipment for voice communication with the MCR and the TSC.	6. An inspection of the as-built OSC will be performed, including a test of the equipment for voice communication.	6. The OSC voice communications equipment is installed, and voice transmission to and reception from the MCR and the TSC are accomplished.

Table 2.11.1-2 (1 of 2)

Containment Structure ITAAC

Design Commitment	Inspections, Tests, Analyses	Acceptance Criteria
1. The reactor cavity floor area allows for spreading of core debris, enhancing its coolability.	1. Inspections of the as-built ~~the~~ reactor cavity will be performed.	1. A report exists and concludes that the large reactor cavity area exists in the as-built reactor cavity.
2. The reactor cavity has the core debris chamber to retain core debris.	2. Inspections of the as-built reactor cavity will be performed.	2. A report exists and concludes that the core reactor cavity includes a core debris trap.
3. ~~Fill concrete slab of reactor cavity floor concrete is provided to protect against challenge to~~ The ~~fill~~ concrete filled slab of the reactor cavity floor ~~concrete~~ protects against containment liner plate melt through.	3. Inspections of the as-built reactor cavity will be performed.	3. A report exists and concludes that the core debris chamber exists in the as-built reactor cavity.
4. The containment design pressure provides over a 10% margin above the maximum calculated peak pressure for the design basis LOCA.	4. An analysis of the as-built containment pressure response to ~~a high energy line break~~ the design basis LOCA will be performed to determine the limiting peak pressure.	4. A report exists and concludes that the containment design pressure in Table 2.11.1-1 has more than 10% margin above the maximum calculated pressure for the design basis LOCA.
5. The design basis LOCA containment pressure at 24 hours after the postulated accident is less than 50 % of its calculated maximum pressure.	5. An analysis of the as-built containment pressure response to ~~a~~ the design basis LOCA will be performed to show that the pressure at 24 hours after the postulated accident is less than 50% of its calculated peak pressure.	5. A report exists and concludes that the containment pressure at 24 hours after the accident initiation for the design basis LOCA does not exceed 50% of its calculated peak pressure.
6. The calculated subcompartment peak ~~pressure does~~ differential pressures do not exceed the design differential pressures.	6. An analysis of the as-built ~~subcompartment~~ subcompartments' pressure response to a postulated line break will be performed to determine the calculated peak differential pressures ~~pressure~~.	6. A report exists and concludes that the calculated peak differential pressure does not exceed the design differential pressure for the subcompartments.

7. The as-built containment volume, heat sink areas and compositions ~~are conservative with respect to~~ bound the assumptions used in the containment pressure analyses.	7. Inspections of the as-built containment volume, heat sink areas and compositions will be performed.	7. A report exists and concludes that the as-built containment volume, heat sink areas and compositions ~~are conservative with respect to~~ bound the assumptions used in the containment pressure analyses.

Table 2.11.1-2 (2 of 2)

Design Commitment	Inspections, Tests, Analyses	Acceptance Criteria
8. The as-built subcompartment accessway dimensions are at least as large as those assumed in the subcompartment analyses.	8. Inspections of the as-built subcompartment accessway dimensions will be performed.	8. A report exists and concludes that the as-built subcompartment accessway dimensions are at least as large as those assumed in the subcompartment analyses.

Table 2.11.2-4 (1 of 6)

Containment Spray System ITAAC

Design Commitment	Inspections, Tests, Analyses	Acceptance Criteria
1. The functional arrangement of the CSS is as described in the Design Description of Subsection 2.11.2.1 and in Table 2.11.2-1 and as shown in Figure 2.11.2-1.	1. Inspection of the as-built CSS system will be conducted.	1. The as-built CSS conforms with the functional arrangement as described in the Design Description of Subsection 2.11.2.1 and in Table 2.11.2-1 and as shown in Figure 2.11.2-1.
2.a The ASME Code components identified in Table 2.11.2-2 are designed and constructed in accordance with ASME Section III requirements.	2.a Inspection of the as-built ASME Code components identified in Table 2.11.2-2 will be performed as and documented in the ASME data report(s).	2.a The ASME Section III data report(s) exist and conclude that the as-built ASME Code components identified in Table 2.11.2-2 are designed and constructed in accordance with ASME Section III requirements.
2.b The ASME Code piping, including supports, identified in Table 2.11.2-1 is designed and constructed in accordance with ASME Section III requirements.	2.b Inspection of the as-built ASME Code piping, including supports, identified in Table 2.11.2-1 will be performed and as documented in the ASME data report(s).	2.b The ASME Section III data report(s) exist and conclude that the as-built ASME Code piping, including supports, identified in Table 2.11.2-1 is designed and constructed in accordance with ASME Section III requirements.
3.a Pressure boundary welds in ASME Code components identified in Table 2.11.2-2 meet ASME Section III requirements.	3.a Inspections of the as-built pressure boundary welds in ASME Code components identified in Table 2.11.2-2 will be performed in accordance with the ASME Section III.	3.a A report exists and concludes that the ASME Section III requirements are met for non-destructive examination of the as-built pressure boundary welds in ASME Code components identified in Table 2.11.2-2.
3.b Pressure boundary welds in ASME Code piping identified in Table 2.11.2-1 meet ASME Section III requirements.	3.b Inspections of the as-built pressure boundary welds in ASME Code piping identified in Table 2.11.2-1 will be performed in accordance with the ASME Section III.	3.b A report exists and concludes that the ASME Section III requirements are met for non-destructive examination of the as-built pressure boundary welds in ASME Code piping identified in Table 2.11.2-1.

Table 2.11.2-4 (2 of 6)

Design Commitment	Inspections, Tests, Analyses	Acceptance Criteria
4.a The ASME Code components identified in Table 2.11.2-2 retain their pressure boundary integrity at their design pressure.	4.a A hydrostatic test will be conducted on the as-built ASME Code components identified in Table 2.11.2-2 required to be hydrostatically tested by the ASME Section III.	4.a A report exists and concludes that the results of the hydrostatic test of the as-built ASME Code components identified in Table 2.11.2-2 conform with ASME Section III requirements.
4.b The ASME Code piping identified in Table 2.11.2-1 retains its pressure boundary integrity at its design pressure.	4.b A hydrostatic test will be conducted on the as-built ASME Code piping identified in Table 2.11.2-1 required to be hydrostatically tested by the ASME Section III.	4.b A report exists and concludes that the results of the hydrostatic test of the as-built ASME Code piping identified in Table 2.11.2-1 conform with ASME Section III requirements.
5.a The seismic Category I components and instruments identified in Tables 2.11.2-2 and 2.11.2-3 withstand seismic design basis loads without loss of safety function.	5.a.i Inspections will be performed to verify that the as-built seismic Category I components and instruments are located in the seismic Category I structure.	5.a.i The as-built seismic Category I components and instruments identified in Tables 2.11.2-2 and 2.11.2-3 are located in a seismic Category I structure.
	5.a.ii Type tests, analyses, or a combination of type tests and analyses of seismic Category I components and instruments will be performed.	5.a.ii A report exists and concludes that the seismic Category I components and instruments identified in Tables 2.11.2-2 and 2.11.2-3 withstand seismic design basis loads without loss of safety function.
	5.a.iii Inspections will be performed to verify that the as-built seismic Category I components and instruments, including the supports and anchorages, are seismically bounded by the tested or analyzed conditions.	5.a.iii A report exists and concludes that the as-built seismic Category I components and instruments identified in Tables 2.11.2-2 and 2.11.2-3, including the supports and anchorages, are seismically bounded by the tested or analyzed conditions.
5.b The seismic Category I piping, including supports, identified in Table 2.11.2-1 withstand seismic design basis loads without loss of safety function.	5.b.i Inspections will be performed to verify that the as-built seismic Category I piping, including supports, is located in the seismic category I structure.	5.b.i The as-built seismic Category I piping, including supports, identified in Table 2.11.2-1 is located in the seismic Category I structure.

Table 2.11.2-4 (3 of 6)

Design Commitment	Inspections, Tests, Analyses	Acceptance Criteria
5.b (cont.)	5.b.ii Inspections and analyses of the as-built seismic Category I piping, including supports, will be performed.	5.b.ii A report exists and concludes that the as-built seismic Category I piping, including supports, identified in Table 2.11.2-1 withstand seismic design basis loads without loss of safety function.
6.a The Class 1E components and instruments identified in Tables 2.11.2-2 and 2.11.2-3 as being qualified for a harsh environment (and the associated wiring, cables, and terminations) withstand the environmental conditions that would exist before, during, and following a design basis accident without loss of safety function for the time required to perform the safety function.	6.a.i Type tests, analyses or a combination of type tests and analyses will be performed on Class 1E components and instruments located in a harsh environment.	6.a.i A report exists and concludes that the Class 1E components and instruments identified in Tables 2.11.2-2 and 2.11.2-3 as being qualified for a harsh environment withstand the environmental conditions that would exist before, during, and following a design basis accident without loss of safety function for the time required to perform the safety function.
	6.a.ii Inspections will be performed on the as-built Class 1E components and instruments (and the associated wiring, cables, and terminations) located in a harsh environment.	6.a.ii A report exists and concludes that the as-built Class 1E components and instruments identified in Tables 2.11.2-2 and 2.11.2-3 (and the associated wiring, cables, and terminations) identified in Table 2.11.2-2 and 2.11.2-3 as being qualified for a harsh environment (and the associated wiring, cables, and terminations) are bounded by type tests, analyses, or a combination of type tests and analyses.
6.b Each of the Class 1E components and instruments identified in Tables 2.11.2-2 and 2.11.2-3 is powered from its respective Class 1E division.	6.b Tests will be performed by providing a test signal in only one Class 1E division at a time.	6.b The test signal exists at the Class 1E components and instruments identified in Table 2.11.2-2 and 2.11.2-3 as being powered from the Class 1E division under test.
6.c Physical separation and electrical isolation Separation is provided (1) between Class 1E divisions, and (2) between Class 1E divisions and non- Class 1E divisions.	6.c Inspection of the as-built Class 1E divisions will be performed.	6.c Physical separation and electrical isolation exist in accordance with RG 1.75 (1) between these Class 1E divisions, and also (2) between Class 1E divisions and non- Class 1E divisions.

Table 2.11.2-4 (4 of 6)

Design Commitment	Inspections, Tests, Analyses	Acceptance Criteria
7.a The CSS safety-related valves are functionally designed and qualified to perform their safety-related function under the full range of fluid flow, differential pressure, electrical~~ conditions~~, and temperature conditions with debris-laden coolant fluids up to and including design basis accident conditions.	7.a.i A type test or a combination of type test and analysis will be performed of the CSS safety-related valves.	7.a.i A Functional Qualification Report performed in conformance to ASME QME-1-2007, as accepted in Regulatory Guide 1.100 Revision 3, and a report addressing valve functional operability with debris-laden coolant fluids exist and conclude that the CSS safety-related valves listed in Table 2.11.2-2 are ~~capable of performing their~~ functionally designed and qualified to perform their safety-related function under the full range of fluid flow, differential pressure, electrical~~ conditions~~, and temperature conditions with debris laden coolant fluids up to and including design basis accident conditions.
	7.a.ii A diagnostic stroke test and analysis will be performed of the CSS ~~safety related~~ safety-related valves under preoperational temperature, differential pressure, and flow conditions.	7.a.ii Each CSS safety-related valve listed in Table 2.11.2-2 strokes fully open and fully closed by remote operation (or manual operation if a manually operated valve) under preoperational temperature, differential pressure, and flow conditions. ~~with~~ Analysis based on sufficient diagnostic data demonstrates that the valves will perform at their ~~to correlate valve performance to its~~ design basis capability as established by the type test performed in accordance with 7.a.i.
	7.a.iii Tests of the as-built check valves will be performed under pre-operational test pressure, temperature, and fluid flow conditions.	7.a.iii Each check valve changes position as indicated in Table 2.11.2-2 under pre-operational test conditions.
7.b After loss of motive power, MOVs identified in Table 2.11.2-2 assume the indicated loss of motive power position.	7.b Tests of the as-built MOVs will be performed under the conditions of loss of motive power.	7.b Upon loss of motive power, each as-built MOV ~~operated valve~~ identified in Table 2.11.2-2 assumes the indicated loss of motive power position.
8.a ~~All c~~Controls exist in the MCR to start and stop the CSS pumps, and to open and close MOVs identified in Table 2.11.2-2.	8.a Tests will be performed using the controls in the MCR to start and stop the CSS pumps, and to open and close MOVs.	8.a ~~All c~~Controls in the as-built MCR start and stop the CSS pumps, and open and close MOVs identified in Table 2.11.2-2.

8.b	~~All c~~Controls exist in the RSR to start and stop the CSS pumps, and to open and close MOVs identified listed in Table 2.11.2- 2.	8.b	Tests will be performed using the controls in the RSR to start and stop the CSS pumps, and to open and close MOVs.	8.b	~~All c~~Controls in the as-built RSR start and stop the CSS pumps, and open and close MOVs identified in Table 2.11.2-2.

Table 2.11.2-4 (5 of 6)

Design Commitment	Inspections, Tests, Analyses	Acceptance Criteria
8.c All dDisplays and alarms exist and are retrievable in the MCR as defined in Tables 2.11.2-2 and 2.11.2-3.	8.c Inspections of the as-built will be performed on the displays and alarms in the MCR will be performed.	8.c All dDisplays and alarms exist and are be retrieved in the as-built MCR as defined in Tables 2.11.2-2 and 2.11.2-3.
8.d Displays and alarms exist and are retrievable in the RSR as defined in Tables 2.11.2-2 and 2.11.2-3.	8.d Inspections of the as-built will be performed on the displays and alarms in the RSR will be performed.	8.d All dDisplays and alarms exist and are retrieved in the as-built RSR as defined in Tables 2.11.2-2 and 2.11.2-3.
9. Two mechanical divisions of the CSS (A & B) are physically separated.	9. Inspection of the as-built mechanical divisions of the of the CSS will be performed.	9. Two mechanical divisions of the CSS are physically separated by a divisional wall that is a 3-hour rated fire barriers.
10. The CSS safety-related pumps are functionally designed and qualified to perform their safety-related function under the full range of fluid flow, differential pressure, electrical-conditions, and temperature conditions with debris laden coolant fluids up to and including design basis accident conditions.	10. A type test or a combination of type test and analysis will be performed of the CSS safety-related pumps.	10. A Functional Qualification Report performed in conformance to ASME QME-1, as accepted in Regulatory Guide 1.100, and a report addressing pump functional operability with debris-laden coolant fluids exist and conclude that the CSS safety-related pumps listed in Table 2.11.2-2 are capable of performing functionally designed and qualified to perform their safety-related function under the full range of fluid flow, differential pressure, electrical conditions, and temperature conditions with debris-laden coolant fluids up to and including design basis accident conditions.
11. The CSS pumps have sufficient net positive suction head (NPSH).	11. A test Test to measure the as-built CSS pump suction pressure will be performed. Inspection and analyses to determine NPSH available to each pump will be performed based on test data and as-built data.	11. A report exists and concludes that the as-built calculated NPSH available exceeds each CSS pump's NPSH required.
12. The CSS has heat removal capacity to control the containment atmosphere temperature and pressure.	12.a Analyses will be performed to determine the heat removal capacities of the each as-built CS heat exchanger.	12.a A report exists and concludes that the product of the overall heat transfer coefficient and the effective heat transfer area, UA, of each CS heat exchanger identified in Table 2.11.2-2 is greater than or equal to 7.793 × 105 cal/hr-°C (1.718 × 106 Btu/hr-°F).

	12.b A test of the as-built CS pump will be performed to measure the flow rate to the CS heat exchangers.	12.b The as-built CS pump identified in Table 2.11.2-2 delivers at least 18,927 L/min (5,000 gpm) to the CS heat exchangers.

Table 2.11.2-4 (6 of 6)

Design Commitment	Inspections, Tests, Analyses	Acceptance Criteria
13. The pumps identified in Table 2.11.2-2 can perform their safety functions under expected ranges of fluid flow, pump head, electrical ~~conditions~~, and temperature conditions up to and including design-basis conditions.	13.a Type tests or a combination of type tests and analyses of each pump identified in Table 2.11.2-2 will be performed to demonstrate the ability of the pump to perform its safety function under expected ranges of fluid flow, pump head, electrical ~~conditions~~, and temperature conditions up to and including design basis conditions.	13.a A report exists and concludes that the pumps identified in Table 2.11.2-2 can perform their safety functions under expected ranges of fluid flow, pump head, electrical ~~conditions~~, and temperature conditions up to and including design-basis conditions.
	13.b Inspections will be performed of each as-built pump identified in Table 2.11.2-2.	13.b Each as-built pump identified in Table 2.11.2-2 is bounded by the type tests, or a combination of type tests and analyses.
14. The containment heat removal function of the CSS will not be impaired by gas entrainment based on monitoring and venting at pre-determined intervals.	14.a An analysis of the potential for gas entrainment will be performed to identify specific gas intrusion mechanisms that affect each local and system high point of the as-built configuration of the CSS. The analysis will document the ~~need for~~ periodic monitoring and ~~the monitoring~~ venting interval for the as-built system based on design limits.	14.a ~~A report exists and concludes that the containment heat removal function of the CSS will not be impaired by gas entrainment. The report identifies specific gas intrusion mechanisms that affect each local and system high point. The report will document the need for periodic monitoring and the monitoring interval based on design limits.~~ A report exists and identifies the specific gas intrusion mechanisms that affect each local and system high point of the as-built configuration of the CSS and documents the required periodic monitoring and venting interval for the as-built CSS system to ensure the containment heat removal function of the CSS will not be impaired by gas entrainment.
	14.b An inspection will be performed to verify high point vents are installed in the as-built CSS based on the analysis.	14.b High point vents are installed in the CSS based on the analysis.
15. The CSS non-metallic parts, materials, and lubricants used in ~~safety related~~safety-related mechanical equipment perform their safety-related function up to the end of their qualified life in the design basis harsh environmental conditions (both internal service conditions and external environmental conditions) experienced during normal operations, anticipated operational occurrences, design-basis accidents, and post accident conditions.	15. A type test or a combination of type test and analysis will be performed of the CSS non-metallic parts, materials, and lubricants used in ~~safety related~~safety-related mechanical equipment.	15. A ~~qualification~~ report exists and concludes that the non- metallic parts, materials, and lubricants used in ~~safety related~~safety-related mechanical equipment listed in Table 2.11.2-2 perform their ~~safety related~~safety-related function up to the end of their qualified life under the design basis harsh environmental conditions (both internal service conditions and external environmental conditions) experienced during normal operations, anticipated operational occurrences, design-basis accidents, and post accident conditions~~specified in the qualification report~~.

Table 2.11.3-2 (1 of 6)

Containment Isolation System ITAAC

Design Commitment	Inspections, Tests, Analyses	Acceptance Criteria
1. The functional arrangement of the CIS is as described in the Design Description of Subsection 2.11.3.1 and in Table 2.11.3-1 and as shown in Figure 2.11.3-1.	1. Inspection of the as-built system will be conducted.	1. The as-built CIS conforms with the functional arrangement as described in the Design Description of Subsection 2.11.3.1 and in Table 2.11.3-1 and as shown in Figure 2.11.3-1.
2.a The ASME Code components identified in Table 2.11.3-1 are designed and constructed in accordance with ASME Section III requirements.	2.a Inspection of the as-built ASME Code components identified in Table 2.11.3-1 will be performed and as documented in the ASME data report(s).	2.a The ASME Section III data report(s) exist and conclude that the as-built ASME Code components identified in Table 2.11.3-1 are designed and constructed in accordance with ASME Section III requirements.
2.b The ASME Code piping, including supports, identified in Table 2.11.3-1 is designed and constructed in accordance with ASME Section III requirements.	2.b Inspection of the as-built ASME Code piping, including supports, identified in Table 2.11.3-1 will be performed and as documented in the ASME data report(s).	2.b The ASME Section III data report(s) exist and conclude that the as-built ASME Code piping, including supports, identified in Table 2.11.3-1 is designed and constructed in accordance with ASME Section III requirements.
3.a Pressure boundary welds in ASME Code components identified in Table 2.11.3-1 meet ASME Section III requirements.	3.a Inspections of the as- built pressure boundary welds in ASME Code components identified in Table 2.11.3-1 will be performed in accordance with the ASME Section III.	3.a A report exists and concludes that the ASME Section III requirements are met for non-destructive examination of the as-built pressure boundary welds in ASME Code components identified in Table 2.11.3- 1.
3.b Pressure boundary welds in ASME Code piping identified in Table 2.11.3-1 meet ASME Section III requirements.	3.b Inspections of the as- built pressure boundary welds in ASME Code piping identified in Table 2.11.3-1 will be performed in accordance with the ASME Section III.	3.b A report exists and concludes that the ASME Section III requirements are met for non-destructive examination of the as-built pressure boundary welds in ASME Code piping identified in Table 2.11.3-1.

Table 2.11.3-2 (2 of 6)

Design Commitment	Inspections, Tests, Analyses	Acceptance Criteria
4.a The ASME Code components identified in Table 2.11.3-1 retain their pressure boundary integrity at their design pressure.	4.a A hydrostatic test will be conducted on the as-built ASME Code components identified in Table 2.11.3-1 required to be hydrostatically tested by the ASME Section III.	4.a A report exists and concludes that the results of the hydrostatic test of the as-built ASME Code components identified in Table 2.11.3-1 conform with ASME Section III requirements.
4.b The ASME Code piping identified in Table 2.11.3-1 retains its pressure boundary integrity at its design pressure.	4.b A hydrostatic test will be conducted on the as-built ASME Code piping identified in Table 2.11.3-1 required to be hydrostatically tested by the ASME Section III.	4.b A report exists and concludes that the he results of the hydrostatic test of the as- built ASME Code piping identified in Table 2.11.3-1 conform with ASME Section III requirements.
5.a The seismic Category I components identified in Table 2.11.3-1 withstand seismic design basis loads without loss of safety function.	5.a.i Inspections will be performed to verify that the as-built seismic Category I components are located in the seismic Category I structure.	5.a.i The as-built seismic Category I components identified in Table 2.11.3-1 are located in a seismic Category I structure.
	5.a.ii Type tests, analyses, or a combination of type tests and analyses of seismic Category I components will be performed.	5.a.ii A report exists and concludes that the seismic Category I components identified in Table 2.11.3-1 withstand Seismic design basis loads without loss of safety function.
	5.a.iii Inspections will be performed to verify that the as-built seismic Category I components, including the supports and anchorages, are seismically bounded by the tested or analyzed conditions.	5.a.iii A report exists and concludes that the as-built seismic Category I components identified in Table 2.11.3-1, including the supports and anchorages, are seismically bounded by the tested or analyzed conditions.
5.b The seismic Category I piping, including supports, identified in Table 2.11.3-1 withstand seismic design basis loads without loss of safety function.	5.b.i Inspections will be performed to verify that the as-built seismic Category I piping, including supports, is located in the seismic Category I structure.	5.b.i The as-built seismic Category I piping, including supports, identified in Table 2.11.3-1, is located in the seismic Category I structure.

Table 2.11.3-2 (3 of 6)

Design Commitment	Inspections, Tests, Analyses	Acceptance Criteria
5.b (cont.)	5.b.ii Inspections and analyses of the as-built seismic Category I piping, including supports, will be performed.	5.b.ii A report exists and concludes that the as-built seismic Category I piping, including supports, identified in Table 2.11.3-1 withstand seismic design basis loads without a loss of safety function.
6.a The Class 1E components identified in Table 2.11.3-1 as being qualified for a harsh environment (and the associated wiring, cables, and terminations) withstand the environmental conditions that would exist before, during and following a design basis accident without loss of safety function for the time required to perform the safety function.	6.a.i Type tests, analyses or a combination of type tests and analyses will be performed on Class 1E components located in a harsh environment.	6.a.i The A report exists and concludes that the Class 1E components identified in Table 2.11.3-1 as being qualified for a harsh environment withstand the environmental conditions that would exist before, during, and following a design basis accident without loss of safety function for the time required to perform the safety function.
	6.a.ii Inspections will be performed on the as-built Class 1E components (and the associated wiring, cables, and terminations) located in a harsh environment.	6.a.ii A report exists and concludes that the as-built Class 1E components identified in Table 2.11.3-1 (and the associated wiring, cables, and terminations) identified in Table 2.11.3-1 as being qualified for a harsh environment (and the associated wiring, cables, and terminations) are bounded by type tests , analyses, or a combination of type tests and analyses.
6.b Each of the Class 1E components identified in Table 2.11.3-1 is powered from its respective Class 1E division.	6.b Tests will be performed by providing a test signal only one Class 1E division at a time.	6.b The test signal exists at the at the Class 1E components identified in Table 2.11.3-1 as being powered form the Class 1E division under test.

6.c Physical separation and electrical isolationSeparation is provided (1) between Class 1E divisions, and (2) between Class 1E divisions and non-Class 1E divisions.	6.c Inspection of the as-built Class 1E divisions will be performed.	6.c Physical separation and electrical isolation exists in accordance with NRC RG 1.75 (1) between these Class 1E divisions, and also (2) between Class 1E divisions and non- Class 1E divisions.

Table 2.11.3-2 (4 of 6)

Design Commitment	Inspections, Tests, Analyses	Acceptance Criteria
7.a The CIS safety-related valves are functionally designed and qualified to perform their safety-related function under the full range of fluid flow, differential pressure, electrical ~~conditions~~, and temperature conditions up to and including design basis accident conditions.	7.a.i A type test or a combination of type test and analysis will be performed of the CIS safety-related valves.	7.a.i A Functional Qualification Report performed in conformance to ASME QME-1-2007, as accepted in Regulatory Guide 1.100 Revision 3, exists and concludes that the CIS safety-related valves listed in Table 2.11.3-1 are ~~capable of performing~~ functionally designed and qualified to perform their safety-related function under the full range of fluid flow, differential pressure, electrical ~~conditions~~, and temperature conditions up to and including design basis accident conditions.
	7.a.ii A diagnostic stroke test and analysis will be performed of the CIS ~~safety related~~safety-related valves under preoperational temperature, differential pressure, and flow conditions.	7.a.ii Each CIS safety-related valve listed in Table 2.11.3-1 strokes fully open and fully closed by remote operation (or manual operation if a manually operated valve) under preoperational temperature, differential pressure, and flow conditions. ~~with~~ Analysis based on sufficient diagnostic data demonstrates that the valves will perform at their ~~to correlate valve performance to its~~ design-basis capability as established by the type test performed in accordance with 7.a.i.
	7.a.iii Tests of the as-built check valves will be performed under pre-operational test pressure, temperature, and fluid flow conditions.	7.a.iii Each check valve changes position as indicated in Table 2.11.3-1 under pre-operational test conditions.
7.b After loss of motive power, MOVs, AOVs, SOVs, and E/H valves identified in Table 2.11.3-1 assume the indicated loss of motive power position.	7.b Tests of the as-built MOVs, AOVs, SOVs, and E/H valves will be performed under the conditions of loss of motive power.	7.b Upon loss of motive power, each as-built MOV, AOV, SOV, or E/H valve identified in Table 2.11.3-1 assumes the indicated loss of motive power position.
8.a ~~All c~~Controls exist in the MCR to open and close MOVs, AOVs, SOVs, and E/H valves identified in Table 2.11.3-1.	8.a Tests will be performed using the controls in the MCR to open and close MOVs, AOVs, SOVs, and E/H valves.	8.a ~~All c~~Controls in the as-built MCR open and close MOVs, AOVs, SOVs, and E/H valves identified in Table 2.11.3-1.

8.b	All cControls exist in the RSR to open and close MOVs, AOVs, SOVs and E/H valves identified in Table 2.11.3-1.	8.b	Tests will be performed using the controls in the RSR to open and close MOVs, AOVs, SOVs and E/H valves.	8.b	All cControls in the as-built RSR open and close MOVs, AOVs, SOVs and E/H valves identified in Table 2.11.3-1.
8.c	All dDisplays and alarms exist and are retrievable in the MCR as defined in Table 2.11.3-1.	8.c	Inspections of the as-built will be performed on the displays and alarms in the MCR will be performed.	8.c	All dDisplays and alarms exist and are retrieved in the as-built MCR as defined in Table 2.11.3-1.
8.d	All dDisplays and alarms eexist and are retrievable in the RSR as defined in Table 2.11.3-1.	8.d	Inspections of the as-built will be performed on the displays and alarms in the RSR will be performed.	8.d	All dDisplays and alarms exist and are retrieved in the as-built RSR as defined in Table 2.11.3-1.

Table 2.11.3-2 (5 of 6)

Design Commitment	Inspections, Tests, Analyses	Acceptance Criteria
9. CIV closure times ~~are selected~~ to limit potential releases of radioactivity as low as reasonably achievable are as shown in Table 2.11.3-1.	9. Tests will be performed to verify as-built CIVs close within the isolation response times.	9. The as-built CIVs identified in Table 2.11.3-1 close within the required times.
10. The CIS provides a safety-related function of containment isolation to prevent or limit the release of fission products to the environment.	10. Tests will be performed to verify the as-built containment isolation valve leakage rates in accordance with 10 CFR Part 50, Appendix J, Type C tests.	10. The as-built containment isolation valve leak rates are less than the allowable leakage rate specified in 10 CFR Part 50, Appendix J.

Table 2.11.3-2 (6 of 6)

Design Commitment	Inspections, Tests, Analyses	Acceptance Criteria
11. MOVs, AOVs, SOVs, and E/H valves in series on the same containment penetration (whether located inside or outside containment) ~~located inside and outside the containment in series on the same penetration~~ are powered from different Class 1E divisions.	11. Inspection of the as-built MOVs, AOVs, SOVs, and E/H valves in series on the same containment penetration (whether located inside or outside containment) ~~located inside and outside the containment in series on the same penetration~~ will be performed.	11. The following MOVs, AOVs, SOVs, and E/H valves in series on the same containment penetration (whether located inside or outside containment) ~~located inside and outside the containment in series on the same penetration~~ are powered from different Class 1E divisions.

Inside containment	Outside containment
CC-V0249(MOV)	CC-V0250(MOV)
CC-V0297(MOV)	CC-V0296(MOV)
CC-V0301(MOV)	CC-V0302(MOV)
CV-V506(AOV)	CV-V505(AOV)
CV-V522(AOV)	CV-V523(AOV)
CV-V560(AOV)	CV-V561(AOV)
DE-V0005(MOV)	DE-V0006(AOV)
GW-V0001(MOV)	GW-V0002(SOV)
PR-V431(MOV)	PR-V432(MOV)
PX-V0001(SOV)	PX-V0002(SOV)
PX-V0003(SOV)	PX-V0004(SOV)
PX-V0005(SOV)	PX-V0006(SOV)
PX-V0021(SOV)	PX-V0020(SOV)
PX-V0041(MOV)	PX-V0042(MOV)
SI-V653(MOV)	SI-V655(MOV)
SI-V654(MOV)	SI-V656(MOV)
VQ-V0012(MOV)	VQ-V0011(E/H)
VQ-V0013(MOV)	VQ-V0014(E/H)
VQ-V0032(AOV)	VQ-V0031(AOV)
VQ-V0033(AOV)	VQ-V0034(AOV)
WI-V0015(MOV)	WI-V0012(AOV)

Table 2.11.4-3 (1 of 2)

Containment Hydrogen Control System ITAAC

Design Commitment	Inspections, Tests, Analyses	Acceptance Criteria
1. The functional arrangement of the CHCS is as described in the Design Description of Subsection 2.11.4.1 and in Table 2.11.4-1 and as shown in Figure 2.11.4-1.	1. Inspection of the as-built CHCS will be conducted.	1. The as-built CHCS conforms with the functional arrangement as described in the Design Description of Subsection 2.11.4.1 and in Table
2. The seismic Category I components identified in Table 2.11.4-1 withstand seismic design basis loads without loss of safety function.	2. Inspections will be performed to verify that the as-built seismic Category I components are located in the seismic Category I structure.	2. The as-built seismic Category I components identified in Table 2.11.4-1 are located in a seismic Category I structure.
3. The CHCS provides PARs complemented by HIs to control the containment hydrogen concentration to maintain containment integrity for during beyond design basis accidents.	3.a Inspection of the as-built containment for the number of PARs and hydrogen igniters and their general location, as described in Table 2.11.4-1 in the as built containment will be performed.	3.a At least thirty PARs and eight hydrogen igniters are provided inside containment.
	3.b Operability testing Testing will be performed on the PARs and hydrogen igniters. Analysis will be performed on the as-built PARs and hydrogen igniters.	3.b For hydrogen igniters, the surface temperature exceeds 1,700 °F. A report exists and concludes that during beyond design basis accidents, the hydrogen depletion rates for the installed PARS and HIs will maintain containment hydrogen concentration, both locally and globally, of less than or equal to 10 percent by volume, or avoid avoids DDT or detonation in order to maintain containment integrity. PAR depletion rate for each installed PAR is equal to or greater than that of predetermined PAR hydrogen depletion capacity. For hydrogen igniters, the surface temperature exceeds 1,700 °F.

4. Sufficient ~~The~~ electrical power ~~for~~ to operate the HIs ~~is~~can be individually -supplied from each of the following sources: the Class 1E division~~.~~, the emergency diesel generator, the AAC generator, and the Class 1E DC battery. ~~On loss of offsite power and failure of the emergency diesel generator to start or run, the HIs have the alternate power supply from the alternate alternating current (AAC) generator. Also, HIs are powered by battery back-up.~~	4. Tests will be performed on the as-built HIs.	4. ~~The~~Sufficient electrical power to operate the as-built HIs listed in Table 2.11.4-1 ~~are powered~~is individually supplied from each of the following sources: the class 1E division, the emergency diesel generator, the AAC generator, and the Class 1E DC battery.
5.a Controls exist in the MCR to start and stop the HIs identified in Table 2.11.4-1.	5.a Tests will be performed using the controls in the MCR to start and stop the HIs.	5.a Controls in the as-built MCR start and stop the hydrogen igniters listed in Table 2.11.4-1.

Table 2.11.4-3 (2 of 2)

Design Commitment	Inspections, Tests, Analyses	Acceptance Criteria
5.b Controls exist in the RSR to start and stop the HIs identified in Table 2.11.4-1.	5.b Tests will be performed using the controls in the RSR to start and stop the HIs.	5.b Controls in the as-built RSR start and stop the hydrogen igniters listed in Table 2.11.4-1.
5.c Displays and alarms for hydrogen concentration measured by a hydrogen concentration detector of the containment hydrogen monitoring system exist and are accessibleretrievable retrieved in the MCRare provided in the MCR, as defined in Table 2.11.4-2.	5.c Inspections of the as-built will be performed on the displays and alarms in the MCR will be performed.	5.c Displays and alarms exist and are accessibleretrieved retrieved in the MCR as defined in Tables 2.11.4-2.
5.d Displays and alarms for hydrogen concentration measured by a hydrogen concentration detector of the containment hydrogen monitoring system exist and are accessibleretrievable retrieved in the are provided in the RSR, as defined in Table 2.11.4-2.	5.d Inspections Inspections of the as-built will be performed on the displays and alarms in the RSR will be performed.	5.d Displays and alarms exist and are accessibleretrieved retrieved in the RSR as defined in Table 2.11.4-2.
6. The Class 1E components and instruments identified in Tables 2.11.4-1 as being qualified for a harsh environment (and the associated wiring, cables, and terminations) are capable of withstanding the environmental conditions that would exist before, during, and following a design basis accident without loss of safety function for the time required to perform the safety function.	6.a Type tests, analyses or a combination of type tests and analyses will be performed on Class 1E components and instruments located in a harsh environment.	6.a A report exists and concludes that the Class 1E components and instruments identified in Table 2.11.4-1 as being qualified for a harsh environment withstand the environmental conditions that would exist before, during, and following a design basis accident without loss of safety function for the time required to perform the safety function.
	6.b Inspections will be performed on the as-built Class 1E components and instruments (and the associated wiring, cables, and terminations) located in a harsh environment.	6.b A report exists and concludes that the as-built Class 1E components and instruments identified in Table 2.11.4-1 (and the associated wiring, cables, and terminations) identified in Table 2.11.4-1 as being qualified for a harsh environment (and the associated wiring, cables, and terminations)are bounded by type tests, analyses, or a combination of type tests and analyses.

7. The CHCS non-metallic parts, materials, and lubricants used in safety-relatedsafety-related mechanical equipment perform their safety- related function up to the end of their qualified life in the design basis harsh environmental conditions (both internal service conditions and external environmental conditions) experienced during normal operations, anticipated operational occurrences, design- basis accidents, and post accident conditions.	7. A type test or a combination of type test and analysis will be performed of the CHCS non- metallic parts, materials, and lubricants used in safety relatedsafety-related mechanical equipment.	7. A qualification report exists and concludes that the non-metallic parts, materials, and lubricants used in safety relatedsafety-related mechanical equipment listed in Table 2.11.4-1 perform their safety relatedsafety-related function up to the end of their qualified life under the design basis harsh environmental conditions (both internal service conditions and external environmental conditions) experienced during normal operations, anticipated operational occurrences, design-basis accidents, and post accident conditionsspecified in the qualification report.

Table 2.13-1

Design Reliability Assurance Program ITAAC

Design Commitment	Inspections, Tests, Analyses	Acceptance Criteria
1. For structures, systems, and components within the scope of the reliability assurance program (RAP SSCs), the design is consistent with risk insights and key assumptions.	1. An analysis will demonstrate that the initial design (for procurement and installation) of all RAP SSCs identified at the time of COL issuance (for procurement and installation) is completed in accordance with the design RAP.	1. The initial design of all RAP SSCs identified at the time of the COL issuance has been subject to the applicable reliability -assurance activities of the design RAP.